

Intrinsic Value and Valuation Multiples

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A Little Bit About Valuation

The Basic DCF Model

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

Elegant, but totally inoperable, and we got some help from Professor Gordon

The Gordon Growth Model

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

Expected Cash Flow, Risk, and Growth

1. All cash flows are reinvested in the business at r (or paid out to owners)
2. CF (earnings) grow at the constant rate of g

Two-Stage DCF Model

$$V_0 = \left[\frac{CF_1}{(1+r)^1} + \frac{CF_2}{(1+r)^2} + \frac{CF_3}{(1+r)^3} + \dots + \frac{CF_f}{(1+r)^f} \right] + \left[\frac{CF_{f+1}/(r-g)}{(1+r)^f} \right]$$

Present Value of Interim Cash Flows (PVICF) Using this portion of the basic DCF model, the analyst is not constrained by the requirement of constantly growing cash flows during the finite forecast period ending with Year f. This part of the equation is the present value of interim cash flows through the finite forecast period ending with Year f, or PVICF.

Present Value of the Terminal Value (PVTV) Using the Gordon Model, all cash flows are capitalized after Year f, assuming cash flows are growing from that point at the constant rate of g. This portion of the equation therefore represents the present value of $CF_{f+1} = CF_f \times (1 + g)$

The big question?

How should appraisers estimate the terminal value?

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

General Valuation Model

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

$$\text{Value} = \text{CF} * 1/((r) - g)$$

$$\text{Value} = \text{CF} * (M)$$

No magic

- R -15%
- G = 5%
- $1/(15\% - 5\%) = 10x$

Expected Cash Flow, Risk, and Growth

Standard of Value

The identification of the **type of value being used in a specific engagement**, e.g., fair market value, fair value, investment value.

ASA Business Valuation Standards Glossary

The standard of value sets the “rules of the game” for business appraisers.
The standard of value is a required part of every appraisal assignment definition. (Mercer)

Common Standards of Value

1. **Fair Market Value** (more than 50 years of experience in tax, business and family law settings)
2. **(Statutory) Fair Value** (defined in each jurisdiction by statute, perhaps not clearly, and interpreted judicially)
3. **(Accounting) Fair Value** (basically defined by accounting profession with guidance/pressure from regulators)
4. **Investment Value** (a kind of value that is defined by the investment preferences of a particular investor)
5. **Intrinsic Value** (what is this?)

Premise of Value

An assumption regarding the **most likely set of transactional circumstances** that may be applicable to the subject valuation; e.g., **going concern, liquidation.**

ASA Business Valuation Standards Glossary

The “GRAPES” of Fair Market Value


G

It is a **growth** world

- Price, Volume

R

It is a world of **risk & reward**

- Markets reward risk

A

It is an **alternative** investment world

- Markets, Economy, Uniqueness, Industry Integration

P

It is a **present** value world

- A dollar today is greater than a dollar tomorrow

E

It is an **expectational** world

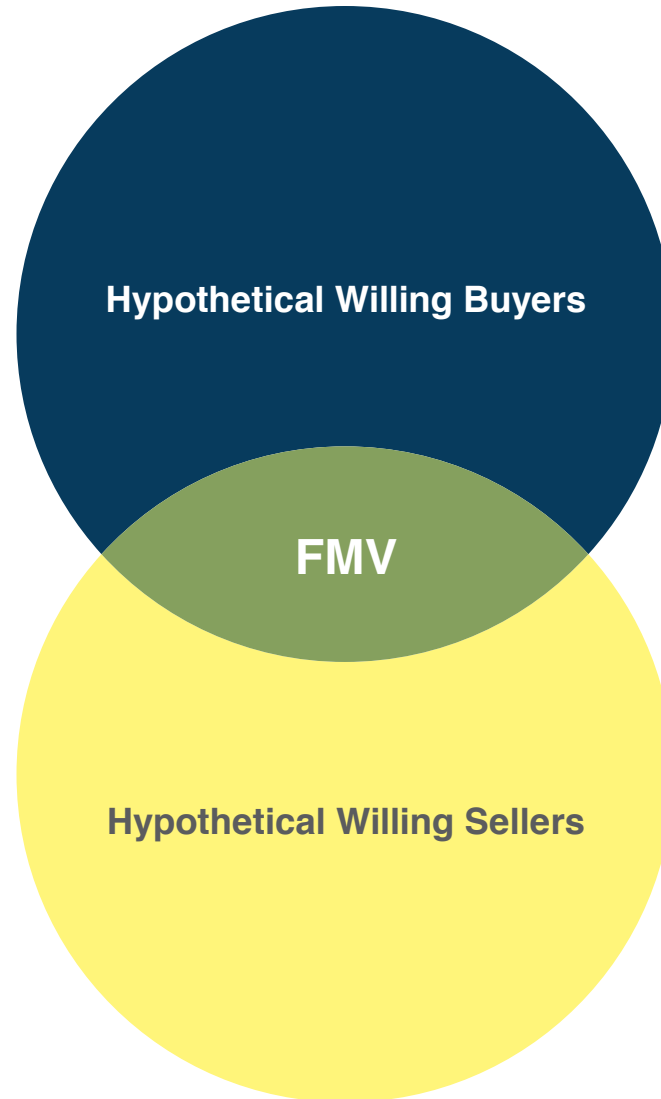
- Most business value is prospective, not historical

S

It is a **sane** and rational **financial** world

- Fair Market Value versus Strategic / Synergistic Value

Talk About Fair Market Value

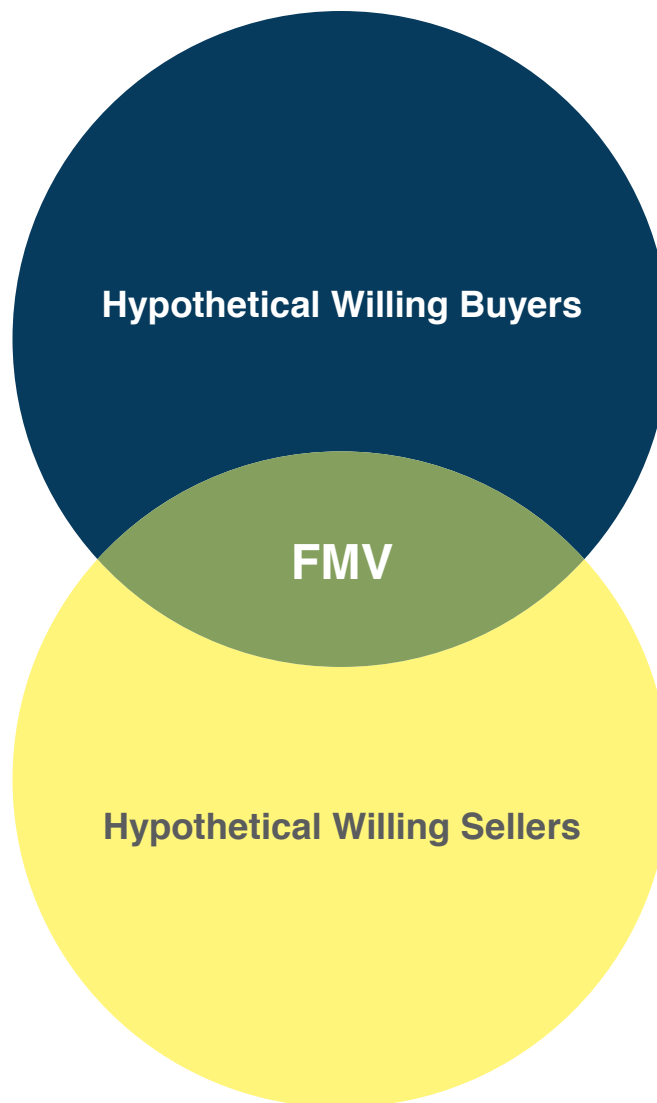


Both are able and willing to trade

Both fully (reasonably) informed

Both have financial capacity

Neither acting under compulsion



Hypothetical willing buyers

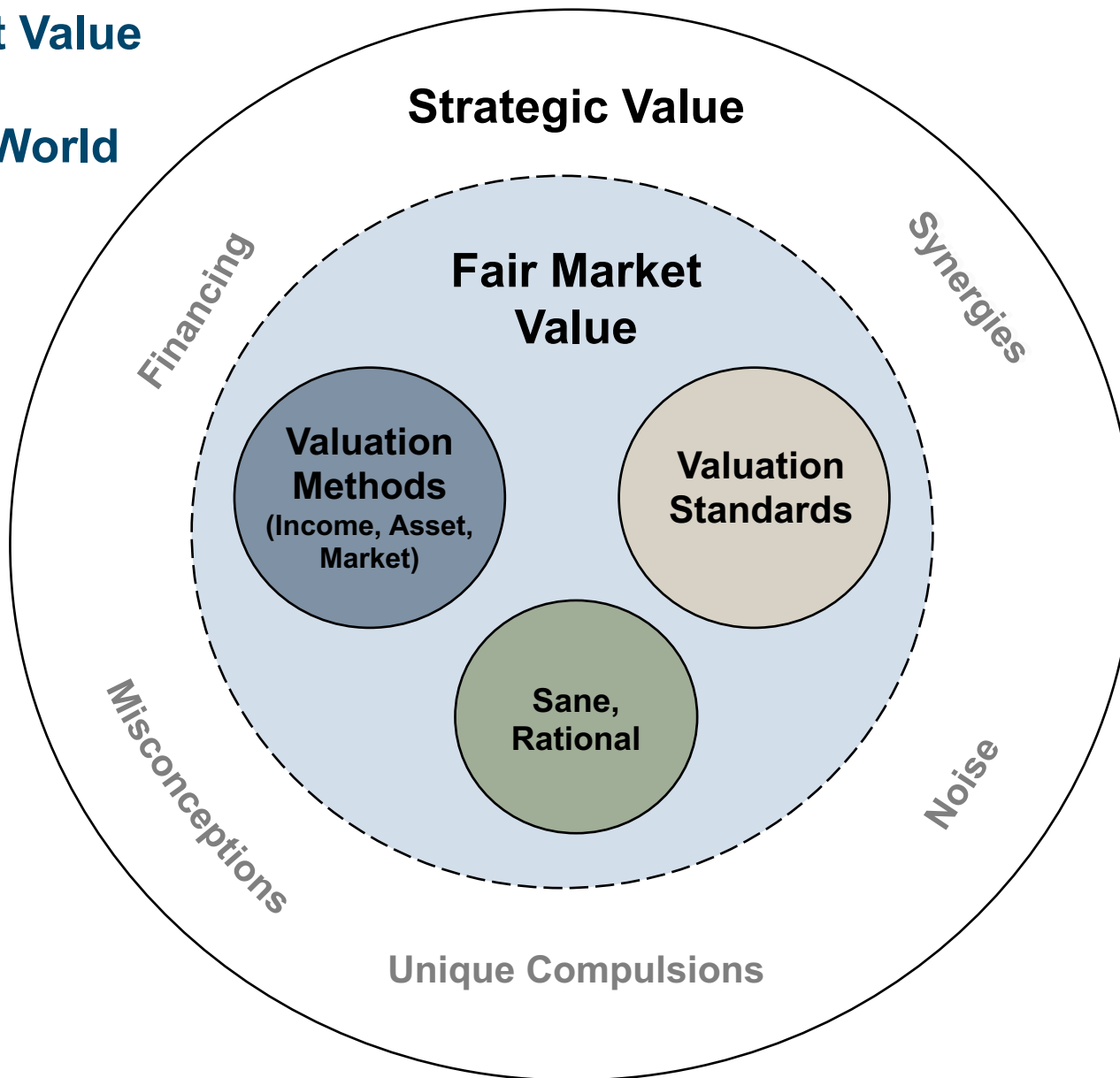
Engage in a (hypothetical) transaction for the interest for “money or money’s worth” (cash equivalent)

On the valuation date

Hypothetical willing sellers

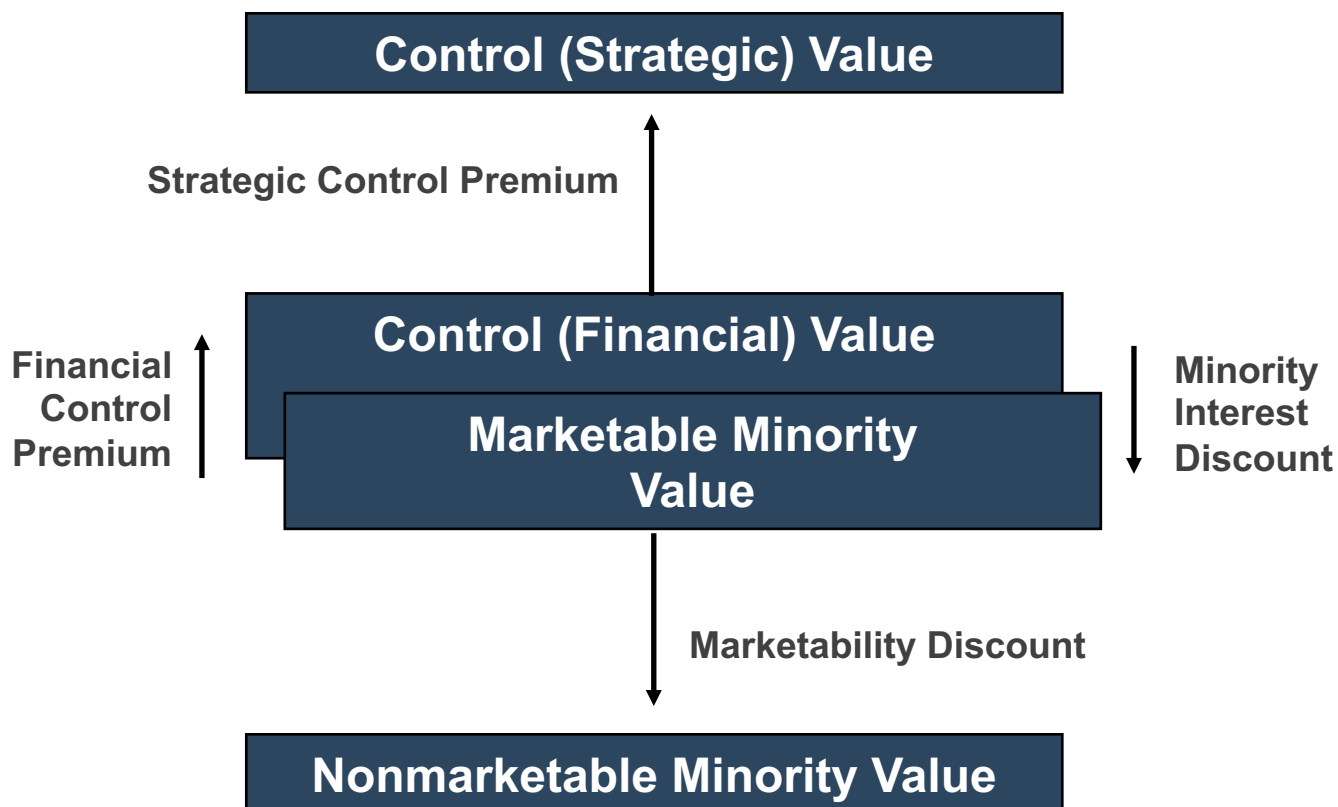
RR 59-60
ASA Business Valuation Standards

Fair Market Value vs. The Real World



Basic Levels of Value

(or, the value of what?)



“Value”

“Value” is a mercurial term; the term has numerous, distinct meanings. The various meanings are not interchangeable. The meaning of the term, “value,” depends on what is being valued, who is interested, and why it is being valued.

Howell v. Howell, 31 Va. App.(2000)

Intrinsic Value in Virginia

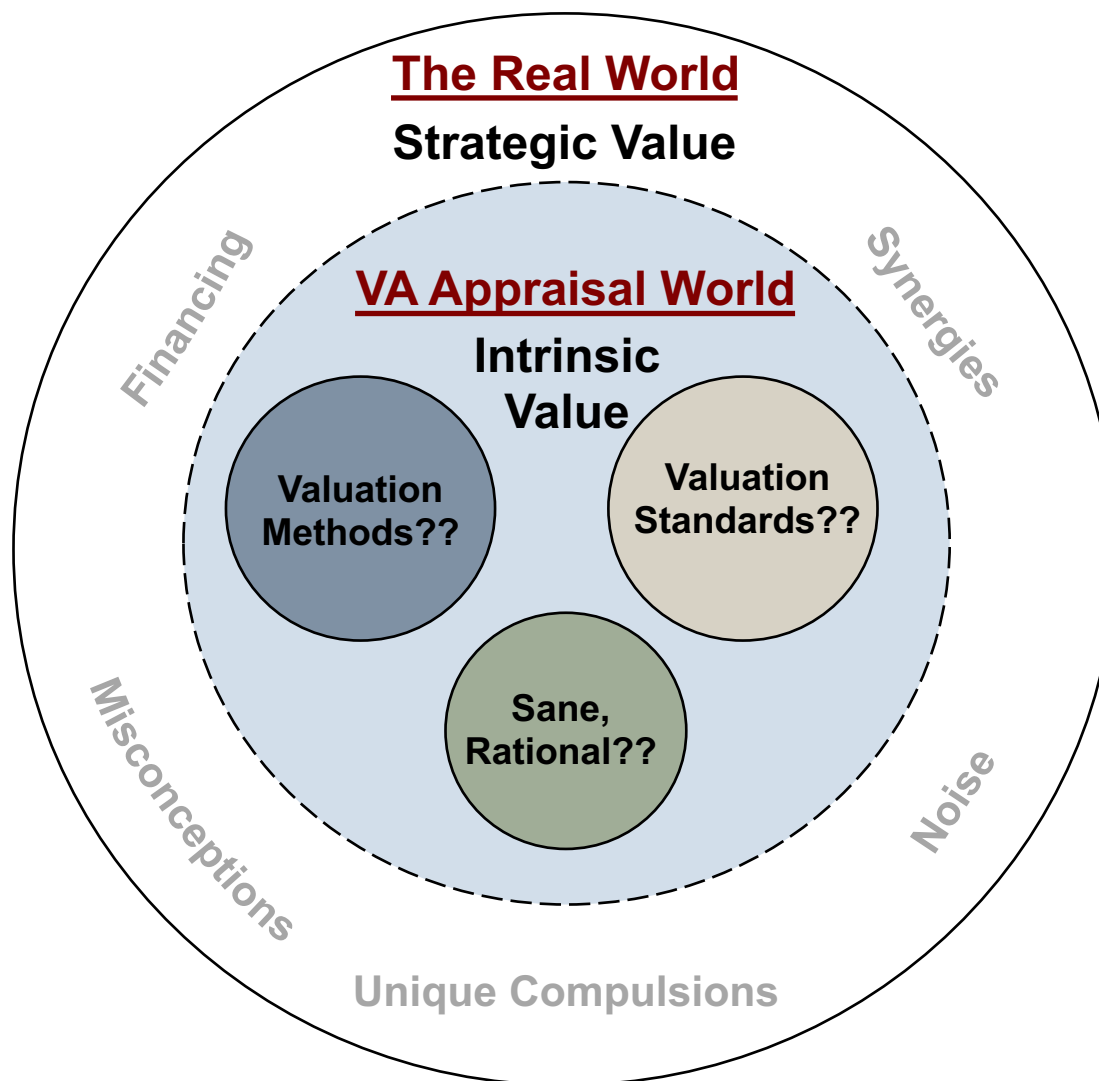
The value that an investor considers, on the basis of an evaluation of available facts, to be the “true” or “real” value that will become the market value when other investors reach the same conclusion.

ASA Business Valuation Standards Glossary

[1] Intrinsic value is a very subjective concept that looks to the worth of the property to the parties. The methods of valuation must take into consideration the parties themselves and the different situations in which they exist... Commonly, one party will continue to enjoy the benefits of the property, while the other must relinquish all future benefits. **[2] Still, its intrinsic value must be translated into a monetary amount. [3] The parties must rely on accepted methods of valuation, but the particular method of valuing, and the precise application of that method to the singular facts of the case must vary with the myriad situations that exist between married couples. (emphasis added)**

Howell v. Howell, 31 Va. App. 332, 338 (2000)

Intrinsic Value vs. The Appraisal World



“...The *methods of valuation must take into consideration the parties themselves and the different situations in which they exist...*”

Commonly, one party will continue to enjoy the benefits of the property, while the other must relinquish all future benefits.”

“[The Court] found the discounts [for lack of marketability and minority interest] inappropriate because no transfer of the partnership interest was foreseeable and no one in the firm, nor any group within it, exercised majority control.”

What is it?

The pitcher wound up and threw a mighty fast ball. The catcher caught the ball. After a moment, both he and the batter looked at the umpire and one asked, “Well, what was it, a ball or a strike?”

The umpire thought for a second and then replied,
“It isn’t a darned thing until I say what it is!”

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The appraisers put their opinions before a judge in Virginia. After a moment, one of them asked, “Well, Your Honor, what is intrinsic value?”

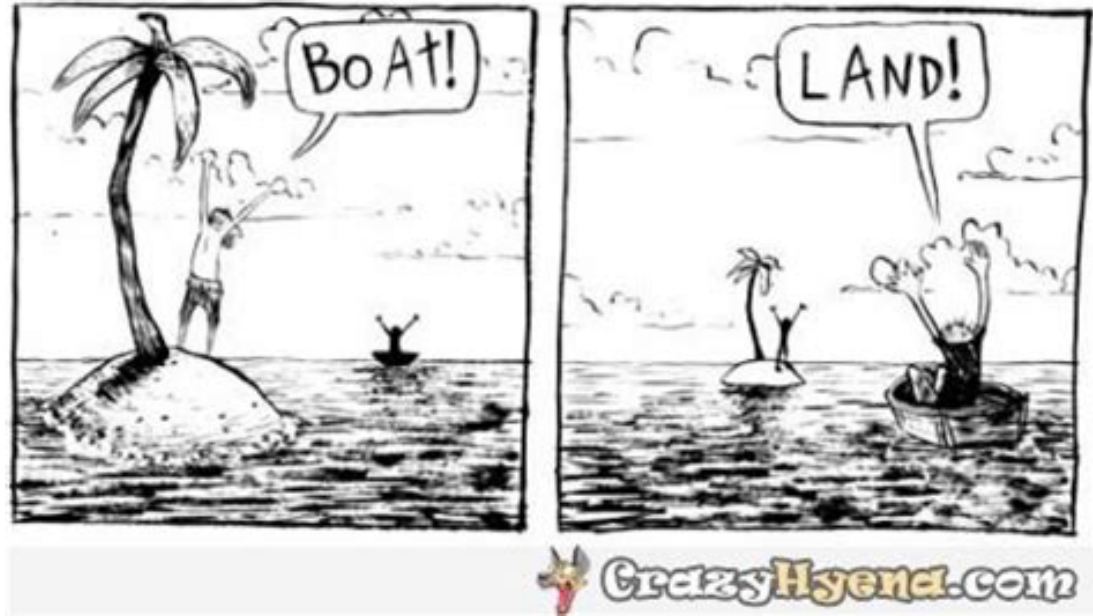
The judge waited a moment and then replied,
“It isn’t a darned thing until I say what it is!”

Intrinsic Value

We understand that the standard of value in matrimonial cases in Virginia is one of “intrinsic value.” That value has been defined by some as analogous to “fair value” because of the rejection of minority interest and marketability discounts in the *Howell* decision. **[Discussions with several VA business appraisers]**

“Fair value” in the absence of discounts is the statutory/judicially interpreted standard of value in many jurisdictions and is analogous to “fair market value” at the “financial control level of value.” That is a possible workable definition as a standard of value. **[Mercer]**

**Perspective
is Difficult
For
Everyone!**

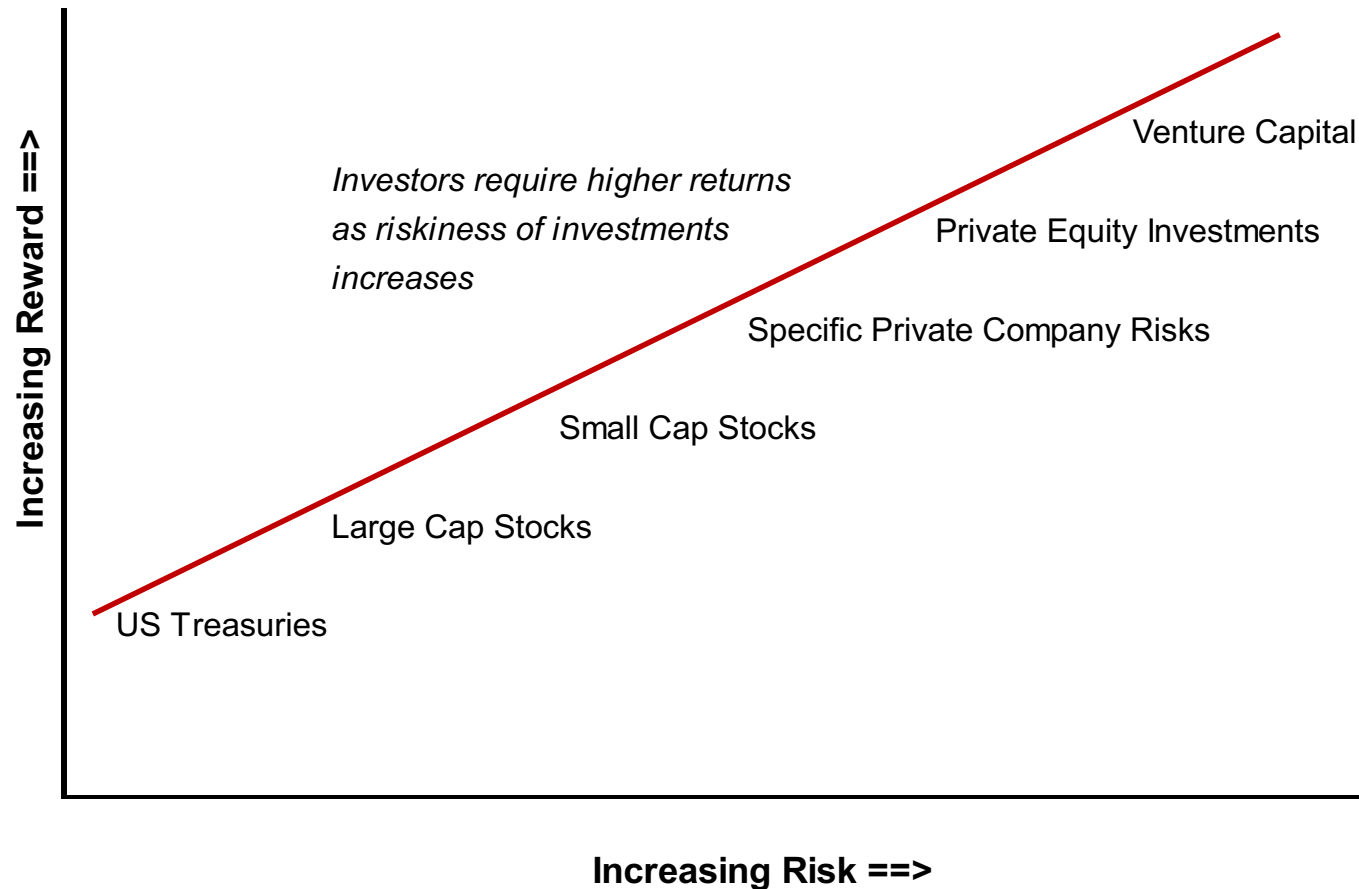


A True Story (about a Lawyer)



Testifying About Discount Rates with Credibility

Relationship Between Risk and Reward in the Markets



Very Basics of Value

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

$$\text{Multiple} = 1 / (R - G)$$

How Are Companies Finance?

Equity Capital. Appropriate returns to equity owners (who invest money into the company and expect returns on their investments according to their risks)

Plus

Debt Capital. Appropriate returns to debt holders (who **lend** money to the company and expect to get repaid before any equity investors receive a return)

Equals

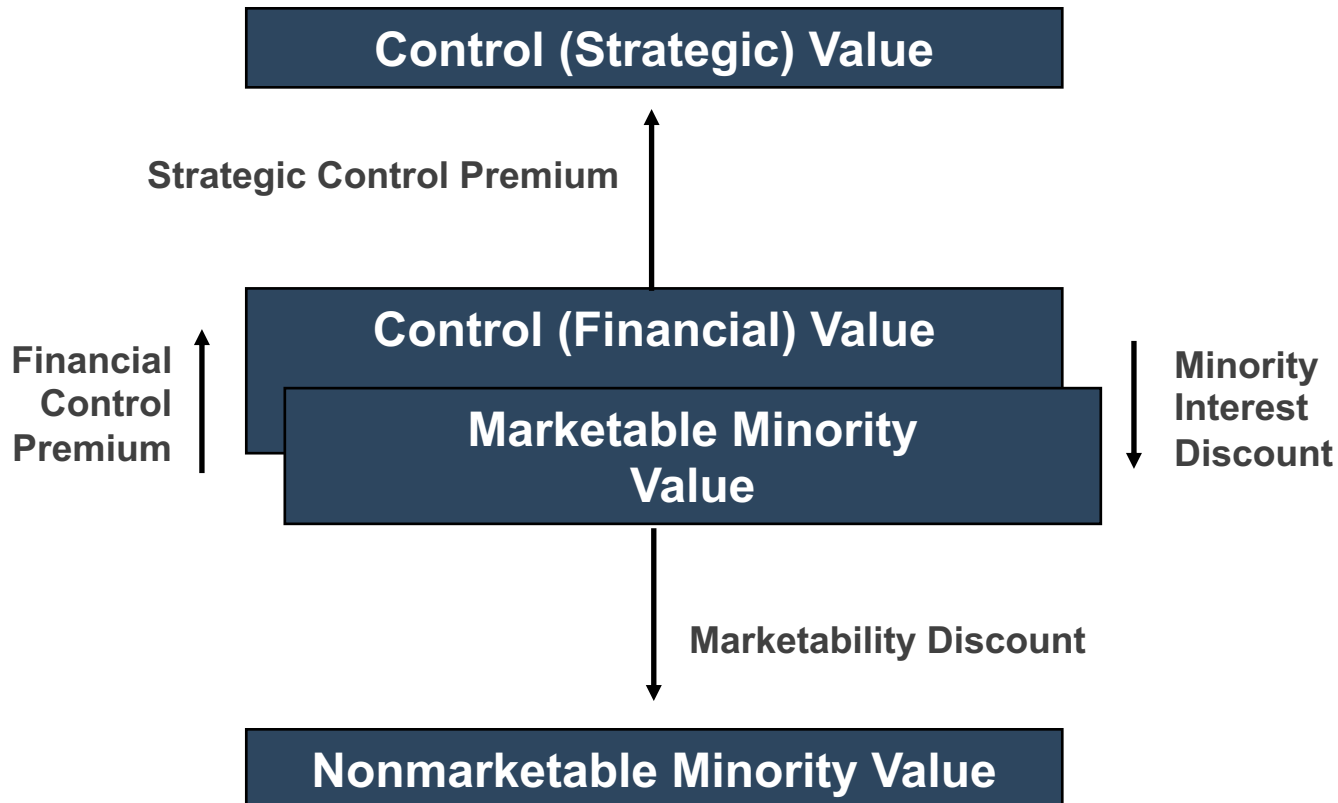
Cost of Total Capital invested in a company

The Company and Its Situation

- Company operates in healthcare services space
- \$15 million in revenues last twelve months
- Earnings of \$2.5 million (EBITDA)
- 16.7% EBITDA margin
- Not capital intensive
- Nice, attractive business
- Owner/spouse owns 80% of the business
- “Intrinsic Value”
 - Financial control (not strategic) is “level of value” in the context of “Fair Market Value”

Basic Levels of Value

(or, the value of what?)



“Building” an Equity (Company) Discount Rate

Components of Discount Rate		Rates/Yields	
US Treasuries (20 Years)	1	3.00%	<i>From the Market</i>
Market Return of Large Cap Stocks Over Treasuries	2	5.50%	<i>Appraiser studies</i>
"Beta" or Riskiness of Industry Relative to the Markets Overall	3	<u>1.10</u>	<i>>1 Higher Risk <1 Lower Risk</i>
Market Premium Adjusted for "Beta" Factor	4	6.05%	<i>#2 x #3</i>
Market Return of Smaller Cap Stocks Over Large Cap Stocks	5	5.00%	<i>Appraiser analysis</i>
Premium for Specific, Private Company Risk	6	2.00%	<i>Appraiser judgment</i>
Equity Discount Rate (Required Return)	7	16.05%	<i>Sum of the above</i>

The Cost of Debt (Borrowing)

Components of Cost of Debt		Rates/Yields	
Base Corporate Borrowing Rate	8	4.50%	<i>From the Market</i>
Premium for Small Company	9	3.00%	<i>Appraiser studies</i>
Pre-Tax Cost of Debt	10	7.50%	<i>#8 + #9</i>
Corporate Tax Rate	11	26.00%	<i>State and Federal Rate</i>
After-Tax Cost of Debt	12	5.55%	

Note: The Cost of Equity is greater than the Cost of Debt

Weighted Average Cost of Capital

Components of WACC			Weights for Equity/Debt	Weighted Costs
Equity Discount Rate	13	16.05%	75%	12.04%
After-Tax Cost of Debt	14	5.55%	25%	1.39%
Weighted Average Cost of Capital (WACC)	15			13.43%

What does this mean?

Developing Multiples for Valuation

Components of Multiples		Rates/Yields/Multiples	
Weighted Average Cost of Capital	16	13.43%	<i>Calculated by appraiser</i>
Less: Expected Long-Term Growth	17	-3.50%	<i>Appraiser assumption</i>
Debt-Free After-Tax Capitalization Rate	18	9.93%	<i>#16 + #17</i>
Divide by (1 - Tax Rate)	19	26.00%	<i>Appraiser assumption</i>
Debt-Free Pre-Tax Capitalization Rate (EBIT)	20	13.41%	<i>#18 / (1 - #19)</i>
EBIT Multiple (1 / EBIT Cap Rate)	21	7.5	<i>1 / #20</i>
EBITDA Depreciation Factor	22	1.1	<i>Appraiser assumption</i>
EBITDA Multiple	23	6.8	<i>#21 / #22</i>

What does this mean?

Range of Evidence Presented to Court

Components of Multiples	Mercer's Conclusion	Lowball Expert	Highball Expert
Weighted Average Cost of Capital	13.43%	18.00%	11.00%
Less: Expected Long-Term Growth	-3.50%	-2.00%	-5.00%
Debt-Free After-Tax Capitalization Rate	9.93%	16.00%	6.00%
Divide by (1 - Tax Rate)	26.00%	26.00%	26.00%
Debt-Free Pre-Tax Capitalization Rate (EBIT)	13.41%	21.62%	8.11%
EBIT Multiple (1 / EBIT Cap Rate)	7.5	4.6	12.3
EBITDA Depreciation Factor	1.10	1.25	1.02
EBITDA Multiple <i>(Difference to Mercer)</i>	6.8	3.7 -45%	12.1 78%

Pepperdine Study 2018

Relevant (Summary) Market Evidence

Average deal multiples on transactions from the prior twelve months as observed by respondents varied from 4.3 on the small deals to 9.5 for the large deals. These multiples are higher than last year.

Table 31. Median Deal Multiples by EBITDA Size of Company

EBITDA	Manufacturing	Construction & engineering	Consumer goods & services	Wholesale & distribution	Business services	Basic materials & energy	Healthcare & biotech	Information technology	Financial services	Media & entertainment	Avg
\$0K - \$999K EBITDA	3.5	3.8	4.8	3.8	4.3	2.5	6.0	5.5	6.0	2.5	4.3
\$1M - \$4.99M EBITDA	5.5	5.0	5.8	5.0	5.5	4.5	6.5	5.8	6.0	6.5	5.6
\$5M - \$9.99M EBITDA	6.5	6.5	7.5	6.0	5.8	5.0	6.5	6.3	6.5	7.0	6.4
\$10M - \$24.99M EBITDA	6.8	6.5	7.5	7.3	6.5	5.5	8.0	8.0	6.8	11.0	7.4
\$25M - \$49.99M EBITDA	9.0	n/a	9.5	n/a	7.3	6.5	11.0	9.0	8.3	n/a	8.7
\$50M+ EBITDA	10.0	n/a	11.0	n/a	8.8	7.5	11.0	10.0	8.3	n/a	9.5

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\$1M - \$4.99M EBITDA	5.5	5.0	5.8	5.0	5.5	4.5	6.5	5.8	6.0	6.5	5.6
\$5M - \$9.99M EBITDA	6.5	6.5	7.5	6.0	5.8	5.0	6.5	6.3	6.5	7.0	6.4
\$10M - \$24.99M EBITDA	6.8	6.5	7.5	7.3	6.5	5.5	8.0	8.0	6.8	11.0	7.4
\$25M - \$49.99M EBITDA	9.0	n/a	9.5	n/a	7.3	6.5	11.0	9.0	8.3	n/a	8.7
\$50M+ EBITDA	10.0	n/a	11.0	n/a	8.8	7.5	11.0	10.0	8.3	n/a	9.5

3.7x
??

12.1x
??

Questions for Attorneys and Triers of Fact

1. Is the business appraiser **qualified** by background, experience, and credentials?
2. Has he/she written an **understandable and believable report** regarding the subject business asset? [Have you read the report?]
3. Do the individual **assumptions** for the discount rate/multiple seem **reasonable**?
4. Do all appraiser **judgments** appear to head in one direction, or is the approach **balanced**?
5. Every capitalization rate is, in effect, a multiple that converts an income measure into value. Has the appraiser calculated other relevant multiples to **illustrate the reasonableness** of his multiple or conclusion? Like multiples of revenue, EBIT, EBITDA or others?
6. Has the **appraiser “proven” the reasonableness** of his/her multiple based on references to available market information or other corroborative information?

In the final analysis, **if you can't understand the methodology** and the assumptions made, and if you cannot believe it to be reasonable, then **don't stand for it.**

Otherwise, don't kill the reasonable messenger because you have other equitable issues to resolve...

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Z. Christopher Mercer, FASA, CFA, ABAR, is the founder and chief executive officer of Mercer Capital.

Chris began his valuation career in the late 1970s. He has prepared, overseen, or contributed to hundreds of valuation engagements. Chris has served on the boards of directors of several private companies and one public company and is an expert in business ownership transition plans. He is also an expert in buy-sell agreement disputes.

Chris has extensive experience in litigation engagements including statutory fair value cases, divorce, and numerous other matters where valuation issues are in question. He is also an expert in buy-sell agreement disputes.

A prolific writer, Chris has authored some of the foundational texts of the business valuation profession and is a frequent speaker on business valuation issues for business and professional groups.

Questions?

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