

Calculating the WACC: Estimation and Evaluation

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Agenda

Objective & Context

Technique

Reconciling to Market

Objective & Context

What is the point?

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.

International Glossary of Business Valuation Terms

Valuation of a Private Company

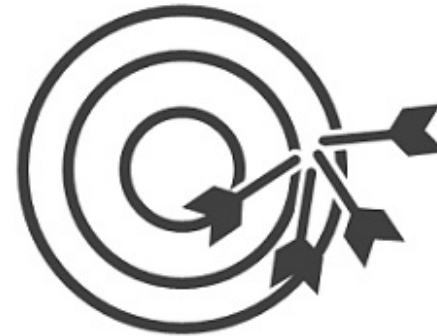
Market Approach

Drawing an analogy between the subject company and observed market transactions

Income Approach

Predicting future cash flows of the subject company and discounting to the present

What is your goal in measuring WACC?



Accuracy Vs **Precision**

Technique

How to develop estimates?

Exhibit 13
Company Name
Valuation Analysis as of MMMM DD, YYYY
Weighted Average Cost of Capital
Presented in \$000s

Cost of Equity		References and Comments	
Risk-Free Rate	0.00%	Note (1)	
Equity Risk Premium	5.50%	Note (2)	
Market / Industry / Guideline / Value Line Beta	1.00	Note (3)	
Beta Adjusted Common Stock Premium	5.50%		
Size Premium	3.67%	Note (4)	
Specific Company Risk Premium	0.00%	Note (5)	
Equity Discount Rate (Required Rate of Return)	9.17%	Rounded to: 0.01%	
Cost of Debt			
Base Cost of Debt	0.00%	Note (6)	
Applicable Spread Over Base Cost	0.00%	Note (7)	
Total Pre-tax Cost of Debt	0.00%		
Estimated Tax Rate	40.00%		
After-Tax Cost of Debt Capital	0.00%	Rounded to: 0.01%	

Weighted Average Cost of Capital (WACC)

Capital Component	Cost	Weight ⁽⁸⁾	Product	
Equity	9.17%	100.00%	9.17%	
Debt	0.00%	0.00%	0.00%	
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Memo: Implied Capital Structure⁽⁹⁾

Equity	\$0
Debt	0
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Notes

- (1): Yield on 20-year Treasury securities per Federal Reserve Statistical Release H.15.
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Normalizing the risk-free rate

Pros



Cons



- RFR is the most objective component in build-up
- Treasury market is extremely deep & liquid
- Getting to “right” answer via “wrong” route

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The Equity Risk Premium

The magnitude of the equity risk premium, or required return in excess of the risk-free rate, is a perennial question for valuation specialists

The traditional method for measuring return premiums is backward-looking

Analysts typically compare realized returns for various asset classes over long historical periods: regarding the size premium in particular, this approach has a number of shortcomings

How are Historical Returns Calculated

Value is inversely related to the magnitude of the risk premium; in other words, if the risk premium increases, value decreases, all else equal

Under the realized returns approach, the calculated premium is positively related to the change in value during the period

Exhibit 1
Realized returns compared to risk premiums

$Value_t$	<i>equals</i>	$\frac{Earnings_t}{Cap\ Rate_t}$		
$Value_0$	<i>equals</i>	$\frac{\$1,000}{10.0\%}$	<i>equals</i>	\$10,000
$Value_1$	<i>equals</i>	$\frac{\$1,000}{11.0\%}$	<i>equals</i>	\$9,091
Realized Return ₁	<i>equals</i>			-9.1%

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Size Premium

Although business appraisers apply size premiums consistently without regard to current market dynamics, there are periods when large-cap stocks deliver higher returns than small-caps

Chart 2 summarizes annual returns on large-cap (Russell 1000) and small-cap (Russell 2000) indices over the past decade

Chart 2
Historical annual returns on large and small cap stocks

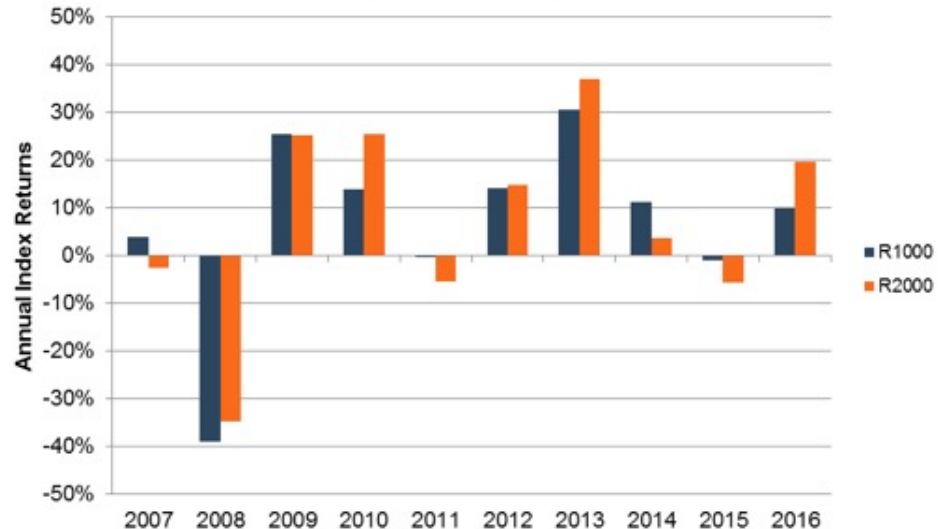


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Cost of Debt :: Terms Matter

Impact of terms on the cost of debt

Factor	Considerations
Maturity / Amortization	Short-term debt may have a lower stated interest rate, but exposes the company to more refinancing risk. With reference to the prevailing yield curve, the rate on short-term debt should be adjusted upward to reflect the market rate on corresponding long-term debt. Amortization reduces the effective maturity of debt.
Fixed vs. floating rate	Floating rate debt will almost always have a lower interest rate at origination than comparable fixed rate debt. Using the prevailing swap rate curve, the interest on floating rate debt should be converted to a fixed-equivalent basis.
Other features	Prepayment limitations/penalties, restrictive covenants, and personal guarantees can also cause the true cost of debt to exceed the stated interest rate.

Cost of Debt :: Leverage Matters

The cost of debt is positively related to the amount of leverage

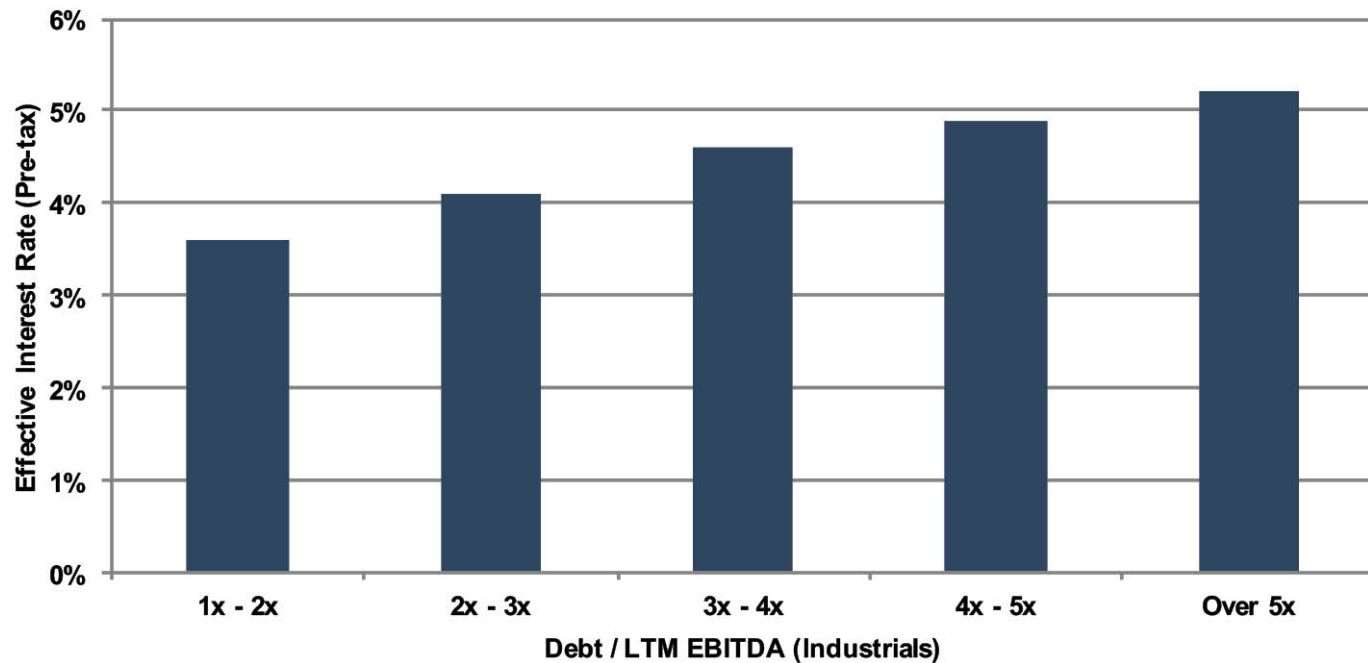


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Size Premium	3.67%	Note (4)	
Specific Company Risk Premium	0.00%	Note (5)	
Equity Discount Rate (Required Rate of Return)	9.17%	Rounded to: 0.01%	

Cost of Debt		References and Comments	
Base Cost of Debt	0.00%	Note (6)	
Applicable Spread Over Base Cost	0.00%	Note (7)	
Total Pre-tax Cost of Debt	0.00%		
Estimated Tax Rate	40.00%		
After-Tax Cost of Debt Capital	0.00%	Rounded to: 0.01%	

Weighted Average Cost of Capital (WACC)			
Capital Component	Cost	Weight ⁽⁸⁾	Product
Equity	9.17%	100.00%	9.17%
Debt	0.00%	0.00%	0.00%
Weighted Average Cost of Capital (WACC)			9.17% <i>Rounded to: 0.01%</i>

Memo: Implied Capital Structure ⁽⁹⁾	
Equity	\$0
Debt	0
Total Capital	\$0

Notes

(1): Yield on 20-year Treasury securities per Federal Reserve Statistical Release H.15.

(2): Investors demand higher expected returns on equity investments relative to risk-free alternatives. This is supported by market evidence, as investments in large capitalization stocks (as represented by the companies in the Standard & Poor's 500 index), historically, have yielded higher total returns relative to long-term U.S. Treasury securities. The equity risk premium has been a topic of regular conversation and debate among academics, market analysts, valuation practitioners, and the like for decades. Mercer Capital regularly reviews a spectrum of studies on the equity risk premium, as well as conducting its own study. Most of these studies suggest that the appropriate large capitalization equity risk premium lies in the range of 4.0% to 7.0%. The selected equity risk premium represents a composite assumption which is consistent with this range.

(3): A beta of 1.0 has been applied under the assumption that, to the extent returns on an investment in the subject company are correlated with returns in the broad equity markets, returns on the subject investment are expected to display volatility equal to the market over time. OR A beta of XX has been applied, which is the average / median, levered / unlevered beta measure from the selected group of publicly traded guideline companies.

(4): Historically, investments in smaller capitalization common stocks have achieved a higher investment return compared to the S&P 500, or the large capitalization stocks, due to the higher level of risk associated with smaller companies. We have applied a size premium based on the observed size premium for publicly traded companies in the X decile (with market capitalizations between \$XX and \$XX million), per the 20XX Duff & Phelps Valuation Handbook: Guide to Cost of Capital (Check source on size permia tab).

(5): Returns on publicly traded stocks typically displays some degree of volatility which cannot be correlated with movements in the broad equity indices, that is, cannot be explained by the beta statistic. In addition, privately owned businesses often have specific risks that would not pertain to larger, publicly traded companies from which Ibbotson S&B Valuation Yearbook return data is derived. Specific factors pertaining to the Company include the following:

- Factor 1
- Factor 2
- Factor 3

(6): Yield on Moody's seasoned Baa corporate bonds per Federal Reserve Statistical Release H.15. OR other.

(7): INSERT SPREAD COMMENTARY.

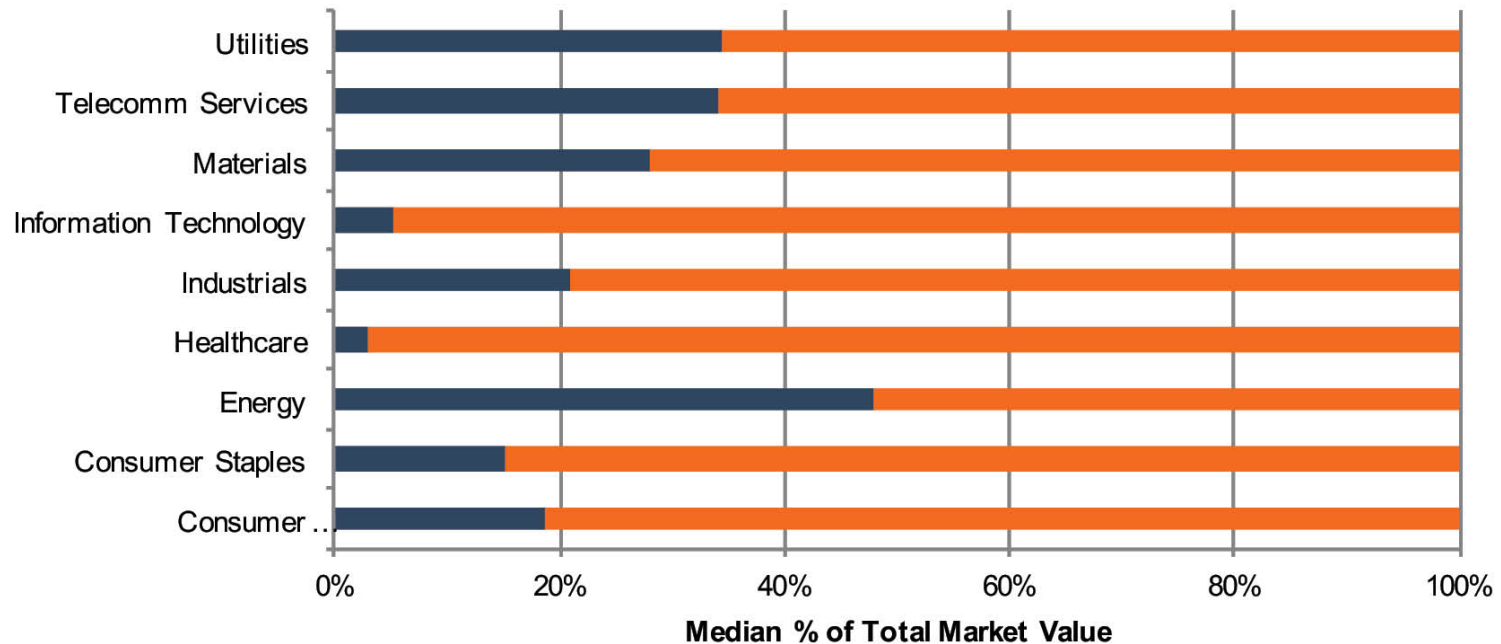
(8): The selected capital structure is based on the Company's existing capital structure OR the median guideline capital structure OR other.

(9): Based on the concluded total capital value calculated in the following exhibit.



Capital Structure :: Industry is a Clue

Excluding financials, the median capital structure among the Russell 2000 companies is 14% debt / 86% equity; however, structure varies by industry



Source: Capital IQ, Mercer Capital analysis

■ % Debt ■ % Equity

Capital Structure :: Fundamentals Matter

Qualitative considerations influencing the target capital structure

Factor	Considerations
Capital Intensity	To what extent is the value of the enterprise attributable to assets that have value outside the operations of the business? Or, is value primarily attributable to company-specific intangible assets that are difficult to use as collateral?
Life Cycle	Has the company reached a point of maturity at which cash flows are predictable and sufficient for debt service? Or, is the company in a rapid growth phase in which reinvestment needs are high?
Size	Does the company have sufficient scale to borrow funds at attractive rates and on desirable terms? Or, is the company too small to generate competition among multiple lenders?
Operating Risk	Is the company's operating expense base primarily variable, such that operating margins can be preserved during a period of soft revenues? Or, are the company's operating expenses primarily fixed, leading to more dramatic swings in period-to-period earnings?

Exhibit 13

Company Name

Valuation Analysis as of MMMM DD, YYYY

Weighted Average Cost of Capital

Presented in \$000s

Cost of Equity		References and Comments
Risk-Free Rate	0.00%	Note (1)
Equity Risk Premium	5.50%	Note (2)
Market / Industry / Guideline / Value Line Bet	1.00	Note (3)
Beta Adjusted Common Stock Premium	5.50%	
Size Premium	3.67%	Note (4)
Specific Company Risk Premium	0.00%	Note (5)
Equity Discount Rate (Required Rate of Return)	9.17%	Rounded to: 0.01%

Cost of Debt		
Base Cost of Debt	0.00%	Note (6)
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Total Pre-tax Cost of Debt	0.00%	
Estimated Tax Rate	40.00%	
After-Tax Cost of Debt Capital	0.00%	Rounded to: 0.01%

Weighted Average Cost of Capital (WACC)			
Capital Component	Cost	Weight ⁽⁸⁾	Product
Equity	9.17%	100.00%	9.17%
Debt	0.00%	0.00%	0.00%
Weighted Average Cost of Capital (WACC)			9.17%

Rounded to: 0.01%

Memo: Implied Capital Structure ⁽⁹⁾	
Equity	\$0
Debt	0
Total Capital	\$0

- Notes**
- (1): Yield on 20-year Treasury securities per Federal Reserve Statistical Release H.15.
- (2): Investors demand higher expected returns on equity investments relative to risk-free alternatives. This is supported by market evidence, as investments in large capitalization stocks (as represented by the companies in the Standard & Poor's 500 index), historically, have yielded higher total returns relative to long-term U.S. Treasury securities. The equity risk premium has been a topic of regular conversation and debate among academics, market analysts, valuation practitioners, and the like for decades. Mercer Capital regularly reviews a spectrum of studies on the equity risk premium, as well as conducting its own study. Most of these studies suggest that the appropriate large capitalization equity risk premium lies in the range of 4.0% to 7.0%. The selected equity risk premium represents a composite assumption which is consistent with this range.
- (3): A beta of 1.0 has been applied under the assumption that, to the extent returns on an investment in the subject company are correlated with returns in the broad equity markets, returns on the subject investment are expected to display volatility equal to the market over time. OR A beta of XX has been applied, which is the average / median, levered / unlevered beta measure from the selected group of publicly traded guideline companies.
- (4): Historically, investments in smaller capitalization common stocks have achieved a higher investment return compared to the S&P 500, or the large capitalization stocks, due to the higher level of risk associated with smaller companies. We have applied a size premium based on the observed size premium for publicly traded companies in the X decile (with market capitalizations between \$XX and \$XX million), per the 20XX Duff & Phelps Valuation Handbook: Guide to Cost of Capital (Check source on size premia tab).
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 - Factor 1
 - Factor 2
 - Factor 3
- (6): Yield on Moody's seasoned Baa corporate bonds per Federal Reserve Statistical Release H.15. OR other.
- (7): INSERT SPREAD COMMENTARY.
- (8): The selected capital structure is based on the Company's existing capital structure OR the median guideline capital structure OR other.
- (9): Based on the concluded total capital value calculated in the following exhibit.



The Bad/Good News

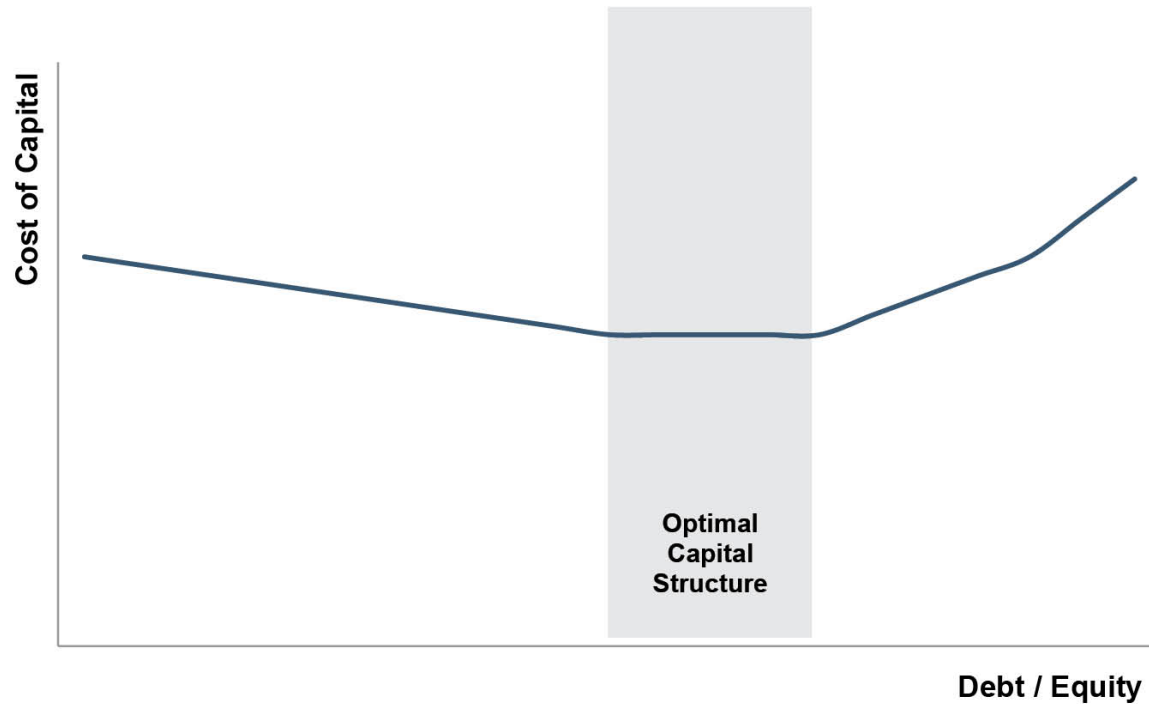
$$WACC = f(x_1, x_2, x_3, \dots, judgment)$$



$$WACC = f(judgment)$$

The Bad/Good News

While the Nominal Cost of Debt is Lower than that of Equity, the Use of Debt Increases the Risk of Both Debt and Equity, Eventually Increasing the Overall Cost of Capital



Reconciling to Market

Arriving at an estimate that “fits”

Some Premises & Theses

1. For private operating companies, enterprise value (equity plus debt less cash) is the relevant perspective on value for market participants
2. Since the existing capital structure is replaced in its entirety in nearly all private company transactions, buyers and sellers think about enterprise value, not the value of equity in the seller's capital structure
3. The relevant discount rate for measuring enterprise value is the weighted average cost of capital, not the equity discount rate
4. As a result, business appraisers would probably do well to think about the overall WACC rather than on a single component of the capital structure

Some Premises & Theses

5. Realized returns can be reliably measured only for public companies
6. As a result, size premiums have historically been calculated by comparing realized returns on small public company stocks to those on large company stocks
7. However, the middle market and lower middle market companies that business appraisers value are often smaller than small cap public companies, which may be distressed, ignored by institutional investors, or otherwise subject to specific risk factors that render them unsuitable as a basis for measurement
8. As a result, measuring the WACC applicable to lower middle market companies has proven vexing and appraisers need a different (market-driven) perspective

Switch to Forward-Looking Approach

In this presentation, we summarize an “ex ante” analysis of the size premium applicable in measuring the WACCs for lower middle market companies

Over the past decade, researchers have begun to advocate various forward-looking equity risk premium models in an attempt to alleviate some of the weaknesses associated with the realized returns approach, particularly the impact of a secular increase in valuation multiples over the past six decades

What Others Have Done

One such method, focused on small businesses, is referred to as the Implied Private Company Pricing Line

Professor Aswath Damodaran has advocated a similar approach for estimating the equity risk premium for public companies

What We're Going to Do

Our procedure is straightforward:

- First, we analyze relevant data on small- and mid-cap public companies, calculating implied WACCs based on current valuation multiples
- Second, we infer WACCs on lower middle market private companies using aggregate transaction data from GF Data
- The resulting differences provide a measure of the size premium applicable to lower middle market companies (at the level of the WACC)

Implied WACC for Small Cap Public Companies

Defining the Population

To derive the implied WACCs for public companies, we analyze data from Capital IQ for the companies in the S&P 1000 (the combination of the S&P 400 mid-cap index and the S&P 600 small-cap index) as of January 26, 2017

Eliminating financial companies (for which enterprise value is not a relevant basis of measurement) and companies with negative EBITDA (indicating a measure of financial distress), we are left with a sample of 755 companies, with enterprise values ranging from \$147 million to \$18.6 billion

Population Characteristics

The exhibit below summarizes relevant performance measures for broad industry groups. The industry groupings were made to promote comparability to GF Data industry measures.

Exhibit 3

Public Company Median Measures (S&P 1000)

Industry Grouping	EBITDA Margin	Est 2-yr Revenue Growth	Est 2-yr EBITDA Growth	CapEx as % of Revenue	NWC as % of Revenue	Fwd EBITDA Multiple	LTM EBITDA Multiple
Retail	10.4%	3.4%	4.2%	3.6%	2.3%	8.4x	9.3x
Media & Telecom	20.8%	2.5%	1.8%	5.5%	-0.3%	8.0x	9.2x
Manufacturing	14.1%	4.2%	7.1%	3.1%	15.2%	10.1x	12.0x
Health Care Services	11.5%	9.7%	10.4%	2.0%	3.6%	11.6x	14.4x
Distribution	4.9%	3.5%	6.4%	0.7%	16.1%	9.4x	11.0x
Business Services	14.5%	4.0%	5.6%	2.6%	2.6%	10.7x	12.8x
Overall Group	13.9%	3.9%	6.5%	3.2%	9.6%	10.0x	11.6x

Model Specs

Using a basic five-period discounted cash flow model, we then calculate the implied WACC for each industry grouping

The exhibit to the right illustrates the application of the model for the overall group

Exhibit 4

Discounted Cash Flow Model for Calculating Implied WACC

LTM EBITDA Margin	13.9%						
Est Revenue Growth Rate (2-Yr)	3.9%						
Est EBITDA Growth Rate (2-Yr)	6.5%						
CapEx as % of Revenue	3.2%						
Net Working Capital / Revenue	9.6%						
Effective Tax Rate	32.0%	<i>Median effective tax rate for public group</i>					
Long-term Growth Rate	2.5%						
	LTM	Year 1	Year 2	Year 3	Year 4	Year 5	Terminal
Revenue	\$1,000.0	\$1,039.0	\$1,079.5	\$1,116.6	\$1,149.7	\$1,178.5	
Growth Rate		3.9%	3.9%	3.4%	3.0%	2.5%	
EBITDA	\$139.0	\$148.0	\$157.7	\$163.1	\$167.9	\$172.1	
Growth Rate		6.5%	6.5%	3.4%	3.0%	2.5%	
Margin	13.9%	14.2%	14.6%	14.6%	14.6%	14.6%	
Capital Expenditures	32.0	33.2	34.5	35.7	36.8	37.7	
As % of Revenue	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	
Net Working Capital	96.0	99.7	103.6	107.2	110.4	113.1	
As % of Revenue	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%	
EBITDA - CapEx		\$114.8	\$123.1	\$127.3	\$131.1	\$134.4	
less: Pro Forma Taxes		(36.7)	(39.4)	(40.7)	(42.0)	(43.0)	
Net Operating Profit after Tax		\$78.1	\$83.7	\$86.6	\$89.2	\$91.4	
less: Incremental Working Capital		(3.7)	(3.9)	(3.6)	(3.2)	(2.8)	
Net Cash Flow		\$74.3	\$79.8	\$83.0	\$86.0	\$88.6	\$1,621.1
Discounting Periods		0.5	1.5	2.5	3.5	4.5	4.5
Present Value Factors	8.1%	0.9618	0.8897	0.8230	0.7613	0.7042	0.7042
Present Value of Cash Flows		\$71.5	\$71.0	\$68.3	\$65.5	\$62.4	\$1,141.6
Indicated Enterprise Value		\$1,480.3					
Multiple of Forward EBITDA		10.0x					

Note - Assumes that Capital Expenditures = Depreciation

Which Side of the Balance Sheet Determines WACC?

A company's portfolio of projects is financed with a mix of debt and equity



Results by Industry

Exhibit 5

Implied WACC for Public Companies by Industry Grouping

	Mid and Small Cap Publics (S&P 1000)						
	Retail	Media & Telecom	Manu- facturing	Health Care Services	Distribution	Business Services	Overall
Companies in Sample	80	22	402	10	36	144	755
Implied WACC Analysis							
Sector-Specific Inputs							
Forward EBITDA Multiple	8.4x	8.0x	10.1x	11.6x	9.4x	10.7x	10.0x
LTM EBITDA Margin	10.4%	20.8%	14.1%	11.5%	4.9%	14.5%	13.9%
Est. 2-yr Revenue Growth	3.4%	2.5%	4.2%	9.7%	3.5%	4.0%	3.9%
Est. 2-yr EBITDA Growth	4.2%	1.8%	7.1%	10.4%	6.4%	5.6%	6.5%
CapEx as % of Revenue	3.6%	5.5%	3.1%	2.0%	0.7%	2.6%	3.2%
Working Capital as % of Revenue	2.3%	-0.3%	15.2%	3.6%	16.1%	2.6%	9.6%
Global Inputs							
Long-term Revenue Growth (Y5+)	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Effective Tax Rate	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%
Implied WACC	8.1%	9.0%	8.1%	8.2%	8.4%	8.1%	8.1%

Results by Industry

The most conspicuous observation from Exhibit 5 is that the WACCs for the public companies are more tightly clustered than the valuation multiples

This is encouraging, as it indicates that variation in company-specific attributes that affect cash flow exerts greater influence over valuation multiples than variation in the WACC

Excluding the Media & Telecom subgroup, the median observed EBITDA multiples range from 8.4x to 11.6x, while the implied WACCs range only from 8.1% to 8.4%

Implied WACC for Lower Middle Market Companies

Implied WACC for Lower Middle Market Companies

We next calculate the implied WACC for lower middle market companies based on transactional data compiled by GF Data

In addition to transaction multiples, GF Data publishes very useful data on capital structure and financing costs

Since forward earnings estimates, capital expenditures, and working capital data for the companies in the GF Data set are not available, we assume that the relevant performance measures for the corresponding public company groups are applicable to the private companies

Implied WACC for Lower Middle Market Companies

Exhibit 6

Implied WACC for Public Companies by Industry Grouping

Lower Middle Market (GF Data Aggregates)

Implied WACC Analysis

Sector-Specific Inputs

	Retail	Media & Telecom	Manu- facturing	Health Care Services	Distribution	Business Services	Overall
Reported EBITDA Multiple	6.1x	7.3x	6.3x	7.5x	6.9x	7.6x	7.0x
LTM EBITDA Margin	10.4%	20.8%	14.1%	11.5%	4.9%	14.5%	13.9%
Est. 2-yr Revenue Growth	3.4%	2.5%	4.2%	9.7%	3.5%	4.0%	3.9%
Est. 2-yr EBITDA Growth	4.2%	1.8%	7.1%	10.4%	6.4%	5.6%	6.5%
CapEx as % of Revenue	3.6%	5.5%	3.1%	2.0%	0.7%	2.6%	3.2%
Working Capital as % of Revenue	2.3%	-0.3%	15.2%	3.6%	16.1%	2.6%	9.6%

Global Inputs

Long-term Revenue Growth (Y5+)	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Effective Tax Rate	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%

Implied WACC

Implied WACC	10.3%	9.6%	11.5%	11.3%	10.5%	10.5%	10.6%
<i>Implied Size Premiums</i>	2.2%	0.6%	3.4%	3.1%	2.1%	2.4%	2.5%

Note - Reported EBITDA multiples from GF Data Resources (YTD 2016 aggregates from November 2016 report)

Results of Private Company Analysis

Excluding the Media & Telecom sector, the implied size premiums for the various industry groupings are between 2.1% and 3.1%, with the overall market at 2.5%

Again, these are size premiums relative to the WACC, not the cost of equity. On an absolute basis, the implied WACCs range from 10.3% to 11.5%

Size Differences within the Lower Middle Market

Size Differences within the Lower Middle Market

In addition to the industry breakdowns, GF Data segregates the universe of observed transactions by size

As expected, within the lower middle market universe, valuation multiples are positively related to size, with the average EBITDA multiple on \$100 million to \$250 million transactions (8.9x) exceeding that on \$10 million to \$25 million transactions (6.0x)

Applying the same procedure to this data yields additional color regarding the size premiums applicable to lower middle market companies, as summarized in Exhibit 7

Exhibit 7

Implied Size Premiums within the Lower Middle Market

	S&P 1000 Overall	Lower Middle Market			
		\$100 to \$250	\$50 to \$100	\$25 to \$50	\$10 to \$25
Implied WACC Analysis					
Sector-Specific Inputs					
Fwd / Reported EBITDA Multiple	10.0x	8.9x	7.6x	6.5x	6.0x
LTM EBITDA Margin	13.9%	13.9%	13.9%	13.9%	13.9%
Est. 2-yr Revenue Growth	3.9%	3.9%	3.9%	3.9%	3.9%
Est. 2-yr EBITDA Growth	6.5%	6.5%	6.5%	6.5%	6.5%
CapEx as % of Revenue	3.2%	3.2%	3.2%	3.2%	3.2%
Working Capital as % of Revenue	9.6%	9.6%	9.6%	9.6%	9.6%
Global Inputs					
Long-term Revenue Growth (Y5+)	2.5%	2.5%	2.5%	2.5%	2.5%
Effective Tax Rate	32.0%	32.0%	32.0%	32.0%	32.0%
Implied WACC	8.1%	8.8%	9.9%	11.2%	12.0%
<i>Implied Size Premium</i>		0.7%	1.8%	3.1%	3.9%

Source: Capital IQ, GF Data, Mercer Capital analysis

The traditional build-up computation of the WACC is subject to a host of variables that can have a material impact on the overall conclusion of the WACC

- Different estimates regarding the risk-free rate
- market risk premium, size premium
- specific-company risk
- cost of debt, tax rate
- and capital structure can result in significantly different estimates of the WACC

Potential Shortcomings

To be sure, the implied WACCs presented are also dependent upon multiple assumptions. While we're comfortable with the overall reasonableness of these assumptions, others are certainly possible

- For example, if the assumed long-term growth rate is higher, the implied WACCs will also be higher

It is also possible that the GF Data – like all transaction data sets – is subject to a selection bias, as it includes data only on companies that actually transacted. Perhaps more attractive companies having lower costs of capital are more likely to transact. That is ultimately very hard to know

Adjusting growth rates and margins to conform more closely to the GF Data statistics would increase the implied lower middle market WACCs on Exhibits 6 and 7 between 100 and 200 basis points

As expected, the observed capital structures at acquisition use more financial leverage than the typical public company

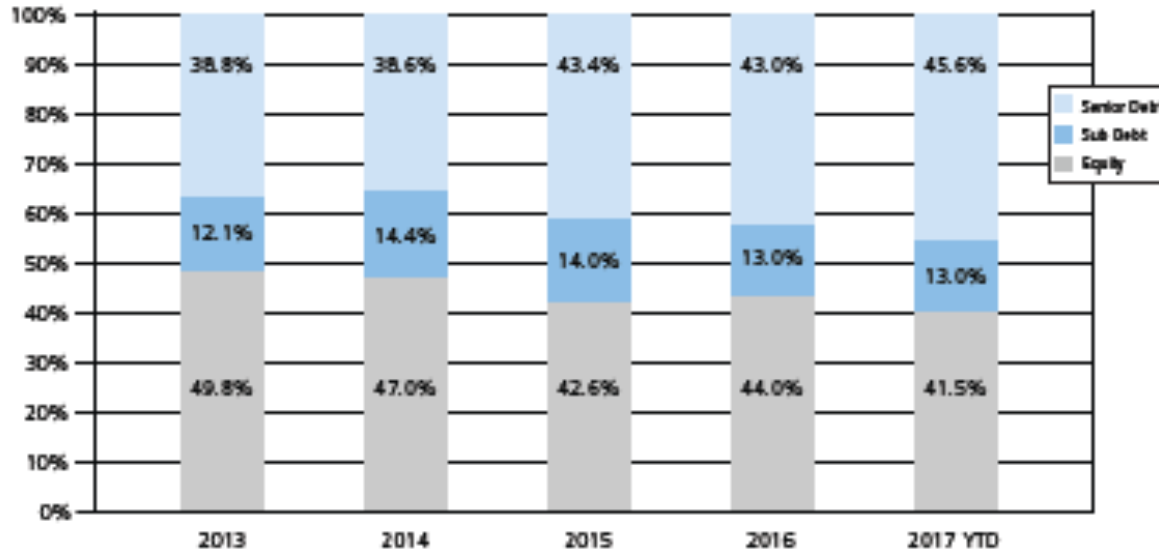
While the lower middle market capital structures may be expected to moderate over time, the capital structure discrepancy ultimately confirms the decision to focus on the WACC, rather than the cost of individual components, each of which will vary with leverage levels

The analysis assumes that the implied WACCs are optimal for the companies transacted

Transaction Capital Structures

CHART 13

EQUITY AND DEBT CONTRIBUTION BY YEAR



GF SOURCE: GF DATA®

Conclusions

Don't forget why you are measuring WACC

Accuracy should trump precision

Income and market approaches should talk to one another

Assess reasonableness with reference to available market data

About the Speaker



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Travis W. Harms, CFA, CPA/ABV, is Senior Vice President of Mercer Capital. He also leads the firm's Financial Reporting Valuation Group and Private Equity industry team.

Travis's practice focuses on providing public and private clients with fair value opinions and related assistance pertaining to goodwill and other intangible assets, stock-based compensation, and illiquid financial assets. Travis performs valuations used for tax compliance, ESOP compliance, and other purposes for clients in a wide range of industries.

Travis is also a frequent speaker on fair value accounting topics to audiences across the U.S. Travis is a member of The Appraisal Foundation's working group to address best practices for control premiums. He co-authored the book *Business Valuation: An Integrated Theory*, Second Edition, and is a regular contributor to Mercer Capital's *Financial Reporting Blog*.

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