Access the Rest of the Fundamentals Course

Financial Modeling Fundamentals, Module 14: Private Company Analysis

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Overview & Key Rules of Thumb

A **private company** is one whose shares are not traded on the public stock markets.

A private company still *has* shares, but you cannot log into your stock trading account and buy those shares.

You may be able to buy a private company's shares in other ways, such as by contacting employees or investors and arranging a sale, but you won't find the company listed on the NYSE, NASDAQ, LSE, Euronext, or other exchanges.

That single difference creates or implies many others: For example, many private companies are smaller and more dependent on key individuals than public companies.

You do *not* need to learn completely new valuation methodologies to analyze private companies; you simply tweak the existing methods.

You should know a bit about private companies for *any* finance interview, but the detailed questions are more important if you're interviewing with a firm that works with mostly private companies.

For example, if you're interviewing at a technology-focused boutique bank that helps startups raise funds, these questions are important.

But if you're interviewing at a bulge-bracket bank, these questions are less important because you work with large, public companies there.

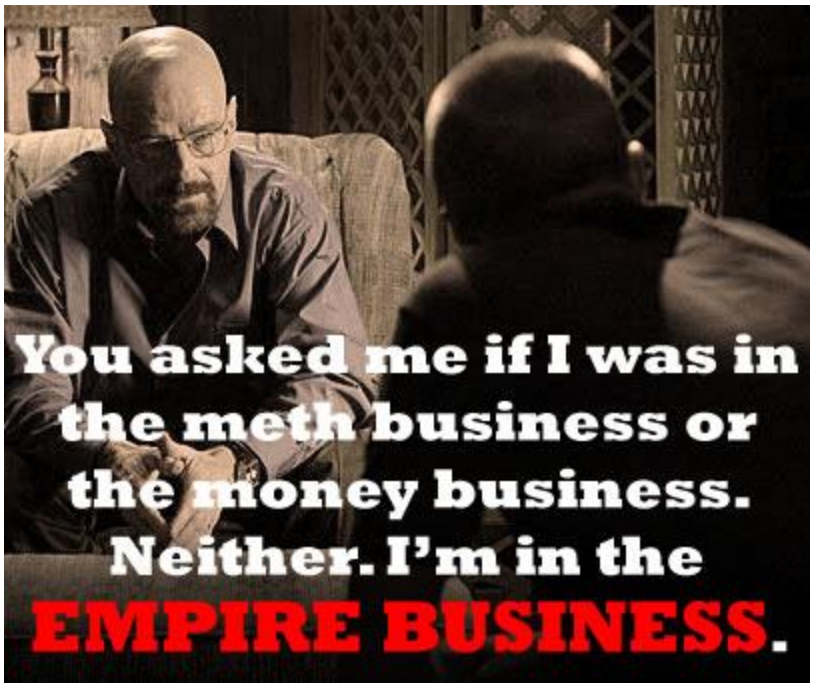
Key Rule #1: Money, Meth, and Empire Businesses

In the final season of *Breaking Bad*, Walter White's accomplice and former student Jesse Pinkman finally confronts him to ask a critical question: **Why** did he get into the business of selling crystal meth?

Was it worth all the trouble, all the death, and all the damage to his family?

If it was just about the money, couldn't he have stopped much earlier?

Walter responds with a simple statement:



Walter White admitted that he wanted to do *more* than simply earn money or create a great product; he wanted to build "an empire."

The writers of *Breaking Bad* didn't know it, but this quote also **explained the 3 main types of private companies:** Money Businesses, Meth Businesses, and Empire Businesses.

Money Businesses are true "small businesses" that are run for cash-flow purposes. The owner is heavily involved, and it would be virtually impossible to sell the company, go public, or raise money from outside investors.

Examples include a barber shop, a doctor's office, M&I and BIWS, and any other company with "Wall Street" in its title.

Meth Businesses are venture-backed startups that are aiming to get huge quickly and exit via an M&A deal or IPO.

Just as Walter White wanted to disrupt his competitors – the Mexican drug cartels – these companies also plan to disrupt the incumbents in multi-billion-dollar markets.

These companies build management teams, Boards of Directors, and corporate structures that allow them to go public or be acquired for hundreds of millions or billions of dollars.

Finally, **Empire Businesses** are private companies such as Ikea or Cargill: They have billions in revenue, tens of thousands of employees, and well-developed systems and processes.

These firms are *not* dependent on key individuals or one person's specialized skill set.

They operate like public companies, but their shares are not publicly traded, so you have to work at the company to buy or sell them.

Unlike Money Businesses, Empire Businesses will not die if the owner or founder leaves.

Unlike Meth Businesses, Empire Businesses are already profitable and cash flow-positive, but tend to grow more slowly because they operate in mature markets.

They choose *not* to be public because they don't need capital and they don't want to deal with investors.

Money Businesses have the biggest differences in accounting, valuation, and financial analysis.

You can't value a 3-person consulting firm the same way you would value McKinsey: You have to apply discounts because of the small firm's added risk and dependency on key individuals.

There may still be a few differences with Meth Businesses, and there are almost no differences with Empire Businesses.

You'll always have to calculate items like WACC and Cost of Equity differently for a private company, regardless of whether it's a Money, Meth, or Empire Business.

For example, you might look at the capital structure of comparable public companies to determine the Debt, Equity, and Preferred Stock percentages since a private company doesn't have a share price or Market Cap.

You might use the same approach for a public company as well, but the difference is that you **have** to use that approach with a private company.

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Key Rule #2: Financial Statement and Accounting Differences

Before you value or analyze *any* company, you need a **correct** version of its financial statements.

"Correct" means that the statements follow IFRS, U.S. GAAP, or local GAAP in the country and that revenue, expense, and cash flow line items are classified properly.

These points should **not** be issues for Meth Businesses (high-growth startups) or Empire Businesses (huge private companies).

If they *are* issues, run for the hills! You might be looking at another Enron.

True "small businesses," on the other hand – Money Businesses – often use non-standard accounting systems.

Here are some of the problems you'll encounter:

- **Shorter Time Periods:** These companies may not provide 5-10 years of historical data, so you might need to look at peer companies to make long-term forecasts.

- **Non-Standard Categories:** For example, the Income Statement may not start with Gross or Net Sales, and you may not see items like COGS and Operating Income.

- **Salaries and Dividends:** In many countries, salaries are taxed at higher rates than dividends. As a result, many small-business owners pay themselves low salaries and much higher "dividends" to reduce their tax burden.

  But in reality, both the owner's salary and dividends are employee compensation, and a large corporation would have to classify them this way.

- **Intermingled Personal and Business Expenses:** Many business owners deduct "travel and entertainment" expenses that are questionable (e.g., combined business and personal trips) to reduce their taxes. A large company could not get away with this.

- **"Key Person" Discount:** If a famous chef runs a restaurant for many years, and that chef leaves, what percentage of regular customers will leave? If I stop writing for M&I, how many readers and customers will leave?

- **Tax Rates:** A small business might be taxed at the owner's personal income tax rate, but if a large company acquired the business, the corporate tax rate in the country would apply.

  This change doesn't necessarily mean the tax rate will be higher or lower – it depends on the country and the size of the business.

To illustrate these problems, here are a few screenshots of **fictional, but representative financial statements** for *THIS* business (BIWS and M&I):

Income Statement:	Units:	Historical Year 1	Year 2	Year 3	Year 4	Year 5
Gross Sales by Category:						
(+) Online Courses:	$	$ 108,419	$ 263,157	$ 433,718	$ 583,030	$ 734,675
(+) Product Sales Referred by Affiliates:	$	40,392	52,631	61,087	37,859	47,706
(+) Coaching & Resume Editing Services:	$	36,140	44,534	54,978	60,575	66,789
(+) Sales to Institutions:	$	8,503	20,243	30,544	53,003	76,330
(+) Commissions from Other Products:	$	19,133	24,291	30,544	22,715	28,624
Total Gross Sales:	$	**212,587**	**404,857**	**610,871**	**757,182**	**954,123**
Commissions by Category:						
(-) Commissions Paid to Affiliates:	$	(20,196)	(26,316)	(30,544)	(18,930)	(23,853)
(-) Commissions Paid to Coaches:	$	(18,070)	(22,267)	(27,489)	(30,287)	(33,394)
(-) Commissions Paid to Sales Reps:	$	-	(8,097)	(12,217)	(21,201)	(30,532)
Total Commissions:	$	**(38,266)**	**(56,680)**	**(70,250)**	**(70,418)**	**(87,779)**
Gross Sales Less Commissions:	$	**174,321**	**348,177**	**540,621**	**686,764**	**866,344**
Fees & Refunds:						
(-) Payment Fees:	$	(6,165)	(11,336)	(17,104)	(21,201)	(26,715)
(-) Refunds:	$	(6,378)	(12,551)	(21,380)	(30,287)	(39,119)
Total Fees & Refunds:	$	**(12,543)**	**(23,887)**	**(38,485)**	**(51,488)**	**(65,834)**
Net Sales After Fees and Refunds:	$	**161,779**	**324,290**	**502,136**	**635,276**	**800,509**

Non-standard categories; should just see Gross Sales and Net Sales. Payment fees and commissions should be in COGS or Operating Expense categories.

Income Statement:	Units:	Historical Year 1	Year 2	Year 3	Year 4	Year 5
Operating Expenses:						
(-) Tax, Bookkeeping & Legal Fees:	$	(1,250)	(1,500)	(1,500)	(2,000)	(2,250)
(-) Customer Support:	$	-	(30,000)	(30,000)	(45,000)	(60,000)
(-) Online Advertising:	$	-	(10,000)	(20,000)	(20,000)	(30,000)
(-) Web Design & Development:	$	(10,000)	(30,000)	(60,000)	(60,000)	(60,000)
(-) Sales Reps - Base Salaries:	$	-	(10,000)	(12,000)	(12,000)	(12,000)
(-) Marketing Staff:	$	-	-	(40,000)	(60,000)	(80,000)
(-) IT Infrastructure:	$	(2,000)	(5,000)	(10,000)	(15,000)	(20,000)
(-) Travel & Moving Expenses:	$	(5,768)	(8,798)	(6,012)	(5,123)	(6,763)
(-) Depreciation & Amortization:	$	(568)	(792)	(1,011)	(1,523)	(2,024)
(-) Product Creation:	$	-	-	(40,000)	(40,000)	(80,000)
(-) Content Creation:	$	-	-	(30,000)	(30,000)	(30,000)
Total Operating Expenses:	$	**(19,586)**	**(96,090)**	**(250,523)**	**(290,646)**	**(383,037)**
Operating Income:	$	**142,193**	**228,200**	**251,613**	**344,630**	**417,472**
(-) Income Taxes:	$	**(35,548)**	**(61,614)**	**(70,452)**	**(99,943)**	**(125,242)**
Net Income:	$	**$ 106,645**	**$ 166,586**	**$ 181,161**	**$ 244,687**	**$ 292,231**

Still have non-standard expense categories, and now there are intermingled personal and business expenses.

Tax rate of 25-30%, below corporate rate in the U.S.

Cash Flow Statement:	Units:	Historical Year 1	Year 2	Year 3	Year 4	Year 5
CASH FLOWS FROM OPERATING ACTIVITIES:						
Net Income:	$	$ 106,645	$ 166,586	$ 181,161	$ 244,687	$ 292,231
(+) Depreciation & Amortization:	$	568	792	1,011	1,523	2,024
(+/-) Change in Accounts Receivable:	$	-	(2,024)	(4,084)	(1,463)	(3,878)
(+/-) Change in Accounts Payable:	$	98	767	2,392	1,975	2,812
(+/-) Change in Accrued Expenses:	$	196	765	2,797	602	1,386
(+/-) Change in Deferred Revenue:	$	-	810	2,245	2,625	3,862
Cash Flow from Operations:	$	**107,506**	**167,696**	**185,521**	**249,948**	**298,437**
CASH FLOWS FROM INVESTING ACTIVITIES:						
(-) Capital Expenditures (CapEx):	$	(850)	(2,024)	(3,054)	(3,786)	(5,725)
(+) Sales / (-) Purchases of Other Assets:	$	(127)	(254)	(321)	(423)	(501)
Cash Flow from Investing:	$	**(977)**	**(2,278)**	**(3,375)**	**(4,209)**	**(6,226)**
CASH FLOW FROM FINANCING ACTIVITIES:						
(+/-) Change in Other Non-Current Liab.:	$	53	102	1,211	2,310	3,123
(-) Dividends or Owner Draw:	$	(80,000)	(100,000)	(120,000)	(150,000)	(200,000)
Cash Flow from Financing:	$	**(79,947)**	**(99,898)**	**(118,789)**	**(147,690)**	**(196,877)**
Net Change in Cash:	$	**26,582**	**65,519**	**63,357**	**98,049**	**95,335**
Beginning Cash Balance:	$	**25,766**	**52,348**	**117,867**	**181,225**	**279,274**
Ending Cash Balance:	$	**$ 52,348**	**$ 117,867**	**$ 181,225**	**$ 279,274**	**$ 374,608**

A large, public company could not get away with this; to make this small, private company comparable, we should re-classify this as an operating expense. No more tax savings for the owner!

To fix these financial statements, you can create standard categories and re-classify the Dividends into operating expense categories instead:

BS and CFS Drivers:	Units:	Historical Year 1	Year 2	Year 3	Year 4	Year 5
Owner Draw % Gross Sales:	$	37.6%	24.7%	19.6%	19.8%	21.0%
Dividends or Owner Draw:	$	80,000	100,000	120,000	150,000	200,000
Owner Draw - G&A Allocation:	%	25.0%	20.0%	15.0%	10.0%	10.0%
Owner Draw - S&M Allocation:	%	50.0%	50.0%	50.0%	55.0%	55.0%
Owner Draw - R&D Allocation:	%	25.0%	30.0%	35.0%	35.0%	35.0%
Owner Draw - G&A Allocation:	$	20,000	20,000	18,000	15,000	20,000
Owner Draw - S&M Allocation:	$	40,000	50,000	60,000	82,500	110,000
Owner Draw - R&D Allocation:	$	20,000	30,000	42,000	52,500	70,000

The biggest change is re-allocating the "Dividends" into operating expense categories on the Income Statement instead.

Income Statement:	Units:	Historical Year 1	Year 2	Year 3	Year 4	Year 5
Gross Sales:	$	$ 212,587	$ 404,857	$ 610,871	$ 757,182	$ 954,123
(-) Allowances & Refunds:	$	(6,378)	(12,551)	(21,380)	(30,287)	(39,119)
Net Sales:	$	**206,209**	**392,306**	**589,491**	**726,895**	**915,004**
Operating Expenses:						
(+) General & Administrative:	$	39,415	97,836	136,604	158,201	188,965
(+) Sales & Marketing:	$	78,266	126,680	202,250	244,918	319,779
(+) Research & Development:	$	20,000	30,000	112,000	122,500	180,000
(+) Depreciation & Amortization:	$	568	792	1,011	1,523	2,024
Total Operating Expenses:	$	**138,249**	**255,308**	**451,866**	**527,142**	**690,769**
Operating Income:	$	**67,961**	**136,998**	**137,625**	**199,753**	**224,235**
(+) Net Interest Income / (-) Expense:	$	-	-	-	-	-
Pre-Tax Income:	$	**67,961**	**136,998**	**137,625**	**199,753**	**224,235**
Income Taxes:	$	**35,548**	**61,614**	**70,452**	**99,943**	**125,242**
Net Income:	$	**$ 32,413**	**$ 75,384**	**$ 67,173**	**$ 99,810**	**$ 98,994**

The numbers are the same, but the categorization is more standard.

We've summed up different line items to create these new ones, allocated the "Dividend" here, and excluded the Travel & Moving Expenses.

We use the same historical taxes, but the rate changes to 35% in future periods.

As a result of these changes, the company's Net Income is **far lower**.

But that reflects reality: If a company depends heavily on its owner, you must consider the owner's compensation a part of the company's operating expenses.

This company's **cash flow** is now *higher* because we've effectively made the Dividends tax-deductible and removed one expense category (Travel & Moving Expenses).

We could have also applied a **Key Person Discount**, but we chose not to do so for several reasons:

1) We don't know if the owner/founder will continue with the business after it is sold. If this person stays for the long term, we don't necessarily need to apply a discount.

2) We don't know *the percentage* of the company's sales that are generated directly by this key person.

3) For valuation purposes, it's faster and easier to make this adjustment when calculating the company's Terminal Value in a DCF (see the next section).

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Key Rule #3: Valuation and DCF Differences

You still use the same valuation methodologies to value private companies: Comparable public companies, precedent transactions, and DCF analysis.

However, there are some methodologies that you **cannot** apply to private companies.

For example, you can't use a **premiums analysis** or **future share price analysis** because private companies do not have readily observable share prices.

But most of the differences lie in **the mechanics** rather than the methodologies:

- **Who's the Buyer?** A private company, far more so than a public company, could be worth very different amounts to different buyers or investors. You may discount a private company's value heavily if it's being sold to another private, non-diversified company, but you may not discount it at all if the company is going public.

- **Illiquidity Discounts:** Since private companies are less liquid than public companies (i.e., you can't buy and sell their shares easily), you often apply discounts of 10-30% to the

multiples from the Public Comps (and sometimes to the Precedent Transaction multiples as well).

- **DCF Analysis:** It's tougher to calculate Cost of Equity and WACC because a private company doesn't have a "current" capital structure or Market Cap, so you have to look at the capital structures of similar public companies to determine the appropriate percentages. You may also discount Terminal Value, especially if a key person is planning to leave or the company won't last forever.

Comparable Public Companies

You select comparable companies in the same way: Industry, geography, and size.

If you were valuing this M&I / BIWS business, you might use a screen like "U.S.-based, for-profit education companies with less than $500 million in revenue."

Less than $50 million or even $10 million in revenue would be better, but hardly any public companies are that small. Here's what the set might look like:

Comparable Public Companies - U.S.-Based, For-Profit Education Companies with Less Than $500 Million USD in LTM Revenue
($ USD in Millions Except Per Share Amounts in USD as Stated)

Operating Statistics	Capitalization		Revenue			EBITDA			EBITDA Margin		
Company Name	Equity Value	Enterprise Value	LTM	Forward Year 1	Forward Year 2	LTM	Forward Year 1	Forward Year 2	LTM	Forward Year 1	Forward Year 2
Nord Anglia Education Inc	$ 1,924.7	$ 2,280.4	$ 474.6	$ 542.5	$ 616.1	$ 127.4	$ 143.6	$ 169.6	26.8%	26.5%	27.5%
Strayer Education Inc	671.1	627.6	446.0	431.6	443.6	102.4	95.6	104.3	23.0%	22.1%	23.5%
Capella Education Company	800.5	633.4	422.0	440.8	463.9	90.6	95.0	99.1	21.5%	21.6%	21.4%
American Public Education, Inc.	595.1	474.3	348.7	368.9	385.2	74.1	75.3	80.1	21.2%	20.4%	20.8%
Lincoln Educational Services Corp	52.9	77.8	330.2	320.0	339.1	(34.3)	(45.0)	(15.6)	(10.4%)	(14.1%)	(4.6%)
National American University Holdings Inc	82.1	74.7	127.8	119.6	124.2	12.7	11.1	15.2	10.0%	9.3%	12.2%
Maximum	$ 1,924.7	$ 2,280.4	$ 474.6	$ 542.5	$ 616.1	$ 127.4	$ 143.6	$ 169.6	26.8%	26.5%	27.5%
75th Percentile	768.2	632.0	440.0	438.5	458.8	99.4	95.5	103.0	22.6%	22.0%	23.0%
Median	**633.1**	**550.9**	**385.3**	**400.2**	**414.4**	**82.3**	**85.2**	**89.6**	**21.4%**	**21.0%**	**21.1%**
25th Percentile	210.3	176.9	334.9	332.2	350.6	28.1	27.2	31.4	12.8%	12.1%	14.4%
Minimum	52.9	74.7	127.8	119.6	124.2	(34.3)	(45.0)	(15.6)	(10.4%)	(14.1%)	(4.6%)

Valuation Statistics	Capitalization		Enterprise Value / Revenue			Enterprise Value / EBITDA			Price / Earnings Multiple		
Company Name	Equity Value	Enterprise Value	LTM	Forward Year 1	Forward Year 2	LTM	Forward Year 1	Forward Year 2	LTM	Forward Year 1	Forward Year 2
Nord Anglia Education Inc	$ 1,924.7	$ 2,280.4	4.8 x	4.2 x	3.7 x	17.9 x	15.9 x	13.4 x	72.9 x	31.3 x	24.6 x
Strayer Education Inc	671.1	627.6	1.4 x	1.5 x	1.4 x	6.1 x	6.6 x	6.0 x	14.5 x	18.2 x	16.2 x
Capella Education Company	800.5	633.4	1.5 x	1.4 x	1.4 x	7.0 x	6.7 x	6.4 x	21.1 x	19.0 x	17.2 x
American Public Education, Inc.	595.1	474.3	1.4 x	1.3 x	1.2 x	6.4 x	6.3 x	5.9 x	15.7 x	14.5 x	13.7 x
Lincoln Educational Services Corp	52.9	77.8	0.2 x	0.2 x	0.2 x	NM	NM	NM	NM	NM	NM
National American University Holdings Inc	82.1	74.7	0.6 x	0.6 x	0.6 x	5.9 x	6.7 x	4.9 x	23.7 x	13.6 x	12.1 x
Maximum	$ 1,924.7	$ 2,280.4	4.8 x	4.2 x	3.7 x	17.9 x	15.9 x	13.4 x	72.9 x	31.3 x	24.6 x
75th Percentile	768.2	632.0	1.5 x	1.4 x	1.4 x	7.0 x	6.7 x	6.4 x	23.7 x	19.0 x	17.2 x
Median	**633.1**	**550.9**	**1.4 x**	**1.4 x**	**1.3 x**	**6.4 x**	**6.7 x**	**6.0 x**	**21.1 x**	**18.2 x**	**16.2 x**
25th Percentile	210.3	176.9	0.8 x	0.8 x	0.8 x	6.1 x	6.6 x	5.9 x	15.7 x	14.5 x	13.7 x
Minimum	52.9	74.7	0.2 x	0.2 x	0.2 x	5.9 x	6.3 x	4.9 x	14.5 x	13.6 x	12.1 x

However, you can't take these multiples at face value: You can't compare a business with $1 million in revenue to a $400 million revenue company with hundreds of employees.

Not only are the scale and liquidity different, but the $400 million revenue company is also **far less dependent on key individual(s)**.

So, you almost always apply a "private company discount" or "illiquidity discount" to these multiples; this discount might range from 10% to 30% depending on the type of business.

If you're valuing an **Empire Business** – something like Ikea – then you might apply a much smaller discount, such as 3-5%, to account *only* for the company's lack of liquidity.

But if you're valuing a **Money Business** – a small consulting firm run by one crazy person, such as myself – then you might apply a 25%, 30%, or 50% discount to account for the lack of liquidity, the small scale, and the dependence on one crazy person:

Valuation Statistics - Capital Capable Media	Capital Capable Media LLC - Range of Valuation Multiples							Capital Capable Media LLC - Range of Implied Equity Values				
Methodology Name	Maximum Multiple	75th Percentile Multiple	Median Multiple	25th Percentile Multiple	Minimum Multiple	Applicable Company Figure	Private Company Discount	Minimum Multiple	25th Percentile Multiple	Median Multiple	75th Percentile Multiple	Maximum Multiple
Public Company Comparables:												
LTM EV / Revenue:	4.8 x	1.5 x	1.4 x	0.8 x	0.2 x	$ 915,004	30.0%	$ 557,966	$ 905,577	$1,293,243	$1,353,497	$3,484,613
Forward Year 1 EV / Revenue:	4.2 x	1.4 x	1.4 x	0.8 x	0.2 x	1,062,800	30.0%	587,952	994,426	1,419,927	1,485,642	3,534,305
Forward Year 2 EV / Revenue:	3.7 x	1.4 x	1.3 x	0.8 x	0.2 x	1,261,408	30.0%	609,685	1,076,907	1,553,490	1,645,378	3,675,304
LTM EV / EBITDA:	17.9 x	7.0 x	6.4 x	6.1 x	5.9 x	226,259	30.0%	1,336,408	1,377,968	1,420,833	1,514,629	3,242,022
Forward Year 1 EV / EBITDA:	15.9 x	6.7 x	6.7 x	6.6 x	6.3 x	272,480	30.0%	1,608,471	1,659,190	1,678,868	1,689,897	3,435,999
Forward Year 2 EV / EBITDA:	13.4 x	6.4 x	6.0 x	5.9 x	4.9 x	306,059	30.0%	1,459,317	1,675,656	1,696,178	1,776,494	3,287,701
LTM Price / Earnings:	72.9 x	23.7 x	21.1 x	15.7 x	14.5 x	98,994	30.0%	1,003,128	1,091,008	1,461,950	1,640,209	5,053,437
Forward Year 1 Price / Earnings:	31.3 x	19.0 x	18.2 x	14.5 x	13.6 x	175,665	30.0%	1,670,284	1,788,969	2,240,788	2,331,002	3,843,166
Forward Year 2 Price / Earnings:	24.6 x	17.2 x	16.2 x	13.7 x	12.1 x	197,221	30.0%	1,666,882	1,888,938	2,234,041	2,375,993	3,397,870

Our company is much smaller, has no liquidity, and is dependent on one person.

This discount tends to get smaller as the private company grows and become able to function independently.

If a **Meth Business** – a venture-backed tech startup, for example – is planning to go public, you might not apply any discount because the company is about to *be* public.

But if this same business is pursuing a sale to a private consortium, an individual, or a small investment firm, then you might apply a modest discount.

The buyer assumes more risk by acquiring a private company – even a larger and more diversified one – and it should pay a lower multiple as a result.

Precedent Transactions

You select Precedent Transactions the same way you do for public companies: Geography, industry, size, and time.

But you won't necessarily apply a private company or illiquidity discount because:

- The purchase prices in Precedent Transactions reflect **the acquisitions of entire companies**. The concept of liquid vs. illiquid shares applies to individual shares, not entire companies.

- M&A deals already include **control premiums** that reflect the extra amount buyers must pay to gain control of sellers. Even if a company is private, a buyer still has to pay extra to take control of it.

- Also, most sets of Precedent Transactions include a **mix of private and public sellers**, so you might over-compensate if you discount the multiples.

With all that said, you might still discount the multiples if the acquired companies are all much bigger than the one you're analyzing:

Valuation Statistics - Capital Capable Media	Capital Capable Media LLC - Range of Valuation Multiples							Capital Capable Media LLC - Range of Implied Equity Values				
Methodology Name	Maximum Multiple	75th Percentile Multiple	Median Multiple	25th Percentile Multiple	Minimum Multiple	Applicable Company Figure	Private Company Discount	Minimum Multiple	25th Percentile Multiple	Median Multiple	75th Percentile Multiple	Maximum Multiple
Precedent Transactions:												
LTM EV / Revenue:	2.5 x	1.7 x	1.5 x	1.4 x	0.9 x	$ 915,004	30.0%	983,525	1,303,776	1,367,826	1,495,927	2,008,329
LTM EV / EBITDA:	13.5 x	12.1 x	11.1 x	10.1 x	8.0 x	226,259	30.0%	1,674,124	2,006,725	2,165,106	2,323,488	2,545,222

We still apply a 30% discount here because these multiples were from M&A deals with *much* bigger sellers (i.e., $100 million+ revenue) that were not dependent on key individuals.

DCF Analysis – Cash Flow Projections

The basic idea still applies for private companies: You project a company's Free Cash Flow and its Terminal Value, discount both of them back to their Present Values, and add them up to estimate the company's implied value.

Projecting the cash flows isn't much different from what you do for public companies, but you may have to go further into the future, especially if the company is growing quickly but expected to slow down in coming years:

FCF Projections:	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Unlevered Free Cas Year 15
Revenue:	$ 1,062,800	$ 1,261,408	$ 1,494,298	$ 1,730,525	$ 1,984,064	$ 2,235,067	$ 2,473,123	$ 2,687,071	$ 2,865,787	$ 2,999,073
Growth Rate:	*16.2%*	*18.7%*	*18.5%*	*15.8%*	*14.7%*	12.7%	10.7%	8.7%	6.7%	4.7%
Operating Income (EBIT):	270,254	303,417	288,244	316,397	394,345	433,058	466,817	493,766	512,277	521,108
Operating Margin:	*25.4%*	*24.1%*	*19.3%*	*18.3%*	*19.9%*	19.4%	18.9%	18.4%	17.9%	17.4%
(-) Taxes:	(94,589)	(106,196)	(100,885)	(110,739)	(138,021)	(151,570)	(163,386)	(172,818)	(179,297)	(182,388)
NOPAT:	**175,665**	**197,221**	**187,359**	**205,658**	**256,324**	**281,488**	**303,431**	**320,948**	**332,980**	**338,720**
(+) Depreciation & Amortization:	2,226	2,642	4,719	7,286	8,443	11,175	12,366	13,435	14,329	14,995
(+/-) Change in WC:	(28,936)	(3,390)	(7,820)	(4,737)	(1,654)	7,530	7,142	6,418	5,361	3,999
(-) CapEx:	(6,677)	(9,246)	(11,011)	(14,573)	(16,886)	(22,351)	(24,731)	(26,871)	(28,658)	(29,991)
Unlevered FCF:	**142,278**	**187,227**	**173,247**	**193,634**	**246,228**	**277,842**	**298,207**	**313,931**	**324,013**	**327,723**
Growth Rate:	*N/A*	*31.6%*	*(7.5%)*	*11.8%*	*27.2%*	*12.8%*	*7.3%*	*5.3%*	*3.2%*	*1.1%*
PV of FCF:	**132,765**	**152,127**	**122,573**	**119,289**	**132,084**	**129,778**	**121,287**	**111,178**	**99,917**	**87,999**
Discount Period:	1.000	2.000	3.000	4.000	5.000	6.000	7.000	8.000	9.000	10.000
Mid-Year:	0.500	1.500	2.500	3.500	4.500	5.500	6.500	7.500	8.500	9.500

These forecasts for Years 6-10 all come directly from our 3-statement projection model for the company.

For Years 11-15, we made our own simplified, rough estimates such that the Unlevered FCF Growth Rate slows down to 1-3%, in-line with GDP growth, by the end.

If you were modeling a tech startup growing at 100% or 200%, then you might have to go even further into the future: 15 years, 20 years, or even 30 years.

A DCF makes sense only if the FCF Growth Rate in the final year of the explicit forecast period is *somewhat close* to the Terminal FCF Growth Rate.

If you end up with 15% growth in the Final Year, but the Terminal Growth Rate is 2%, that's too sharp a drop; you need to project a gradual decline down to that level.

DCF Analysis – Cost of Equity and WACC

The Discount Rate in a DCF should be **higher** for private companies.

All private companies have illiquid shares, which creates more risk, but there are other reasons why you should use a higher Discount Rate:

- **Money Businesses:** There's a ton of risk if the entire operation depends on one person or a few key individuals.

- **Meth Businesses:** What if the company isn't yet profitable, and venture capital funding dries up?

- **Empire Businesses:** There's less risk of the business failing, but there is still a modest chance that the company will need funding in the future. As a larger, slower-growing, private company, it will be harder to raise that funding.

Also, the Discount Rate may be different depending on **the potential buyers or investors.**

Will a large, public company with a wide shareholder base acquire the private company?

Will the private company go public?

Or will a single, non-diversified individual or private consortium acquire the private company?

The buyer assumes the most risk in the last scenario, so the Discount Rate should be the highest there.

But in the first 2 scenarios, the risk levels are similar to those for public companies, so you should not necessarily use a higher Discount Rate:

Buyer / Transaction Case:

1	IPO Case
1	IPO Case
2	Reverse Merger with Large Public Buyer
3	Acquisition by Private Consortium

Discount Rate is highest if the private company stays private rather than going public or becoming public.

Valuation Differences in Different Transaction Cases:

Key Assumption	Selected Case: IPO Case	Transaction Cases: 1	2	3
Discount Rate for Use in DCF Analysis:	11.0%	11.0%	11.0%	15.0%
Private Company Discount for Public Comps:	0.0%	0.0%	15.0%	15.0%

And no discount for the Public Comps' multiples when the private company is GOING public.

The Cost of Debt and Cost of Preferred Stock are straightforward: Look at comparable issuances, look at the rates the company is paying on its own issuances, or estimate the rate based on the company's credit rating and credit default spread.

No private company has a share price or current Market Cap, so you have to calculate Cost of Equity and WACC with:

1) **The Industry or Peer Company Median** – You often use this approach with public companies as well; un-lever Beta and then re-lever it based on the median Equity, Debt, and Preferred Stock percentages from the comps.

2) **The "Optimal" or Targeted Capital Structure** – If the company has indicated that it wants to use 30% Debt and 70% Equity eventually (for example), you could use those figures in the analysis.

3) **Circular Logic** – You could determine the company's "Market Cap" by finishing the valuation, calculating the Implied Equity Value, and then linking *Implied Equity Value* to the WACC calculations to determine the capital structure percentages.

   For example, if the company has $100 in Debt, and its *Implied* Equity Value from the DCF is $150, then you could feed those results into the calculations and assume that it uses 40% Debt and 60% Equity.

4) **Earnings Volatility** – To estimate Beta for a private company, you could measure the volatility of the company's earnings relative to those of the index as a whole. For example, if the company's earnings increase by 10% when earnings for the rest of the index increase by 5%, Beta might be 2.

Damodaran has also recommended using "Total Beta" to estimate Beta by linking it to the "market correlation factor" of the company and its "portfolio diversification factor."

Beta should be higher for less-diversified buyers and lower for companies that are closely correlated with the overall market.

So, if the private company is 20% correlated with the overall market, and the potential buyer has a portfolio that's 25% diversified, you might divide the median Unlevered Beta from the comps by the square root of 0.20 and multiply by (1 – 25%).

An Unlevered Beta of 1.5 would increase to 2.5 with this method since 1.5 / SQRT(0.2) * 75% = 2.5.

The Bottom Line for Beta, Cost of Equity, and WACC: In most cases, you use the median capital structure of the Public Comps to re-lever Beta, and then you calculate Cost of Equity and WACC based on this median capital structure as well:

Private Company WACC Analysis - Capital Capable Media LLC
($ USD as Stated)

Discount Rate Calculations - Assumptions	
Risk-Free Rate:	2.05%
Equity Risk Premium:	7.00%
Pre-Tax Cost of Debt:	2.45%
Cost of Preferred Stock:	–
Market Correlation (R^2) for Education Companies:	19.88%
Adjustment for Portfolio Diversification of Potential Buyer:	25.00%

Most of the Discount Rate assumptions are fairly standard; the main difference is that Cost of Equity should be significantly higher for private companies, which we accomplish with "Total Beta."

Comparable Companies - Unlevered Beta Calculation									
Name	Levered Beta	Debt	% Debt	Preferred Stock	% Preferred	Equity Value	% Equity	Tax Rate	Unlevered Beta
Nord Anglia Education Inc	0.32	$ 522.4	21.3%	$ -	–	$ 1,924.7	78.7%	40.0%	0.28
Strayer Education Inc	1.55	118.8	15.0%	-	–	671.1	85.0%	40.0%	1.40
Capella Education Company	1.11	-	–	-	–	800.5	100.0%	40.0%	1.11
American Public Education, Inc.	1.15	-	–	-	–	595.1	100.0%	40.0%	1.15
Lincoln Educational Services Corp	2.11	43.9	45.3%	-	–	52.9	54.7%	40.0%	1.41
National American University Holding:	1.25	12.3	13.0%	-	–	82.1	87.0%	40.0%	1.15
Median:	**1.20**	**$ 28.1**	**14.0%**	**$ -**	**–**	**$ 633.1**	**86.0%**	**40.0%**	**1.15**
Median "Total" Unlevered Beta:									**1.93**

We bump up the median Unlevered Beta with this "Total Beta" concept, so Cost of Equity ends up being far higher than normal.

Capital Capable Media LLC - Levered Beta & WACC Calculation									
	Unlevered Beta	Debt	% Debt	Preferred Stock	% Preferred	Equity Value	% Equity	Tax Rate	Levered Beta
"Optimal" Capital Structure:	1.93		14.0%		–		86.0%	35.0%	2.14
Cost of Equity Based on Comparables and "Optimal" Capital Structure:									**17.01%**

WACC = Cost of Equity * % Equity + Cost of Debt * % Debt * (1 - Tax Rate) + Cost of Preferred Stock * % Preferred Stock

WACC, "Optimal" Capital Structure:	**14.84%**

You might add a premium for Money Businesses, a smaller premium for Meth Businesses, and little-to-no premium for Empire Businesses due to their size and diversification.

DCF Analysis – Terminal Value

The DCF Analysis is based on the assumption that a business can operate forever as a "going concern," and that it will generate cash flow indefinitely into the future.

But is that correct?

It might be correct for Empire Businesses and some Meth Businesses, but it is **not** true for Money Businesses.

If the owner of a 3-person consulting company gets hit by a truck, the company dies with the owner.

You can deal with this problem in 3 ways:

Option #1: Heavily Discount Terminal Value

You could still calculate Terminal Value with the normal methods (a Terminal Multiple or Terminal FCF Growth Rate), but you could then discount it to account for the "key person" risk:

Financial Assumptions for DCF:	
Discount Rate:	14.84%
"Going Concern" Discount to Terminal Value:	25.0%
Discount to Liquidation Value Terminal Value:	–

We *substantially* discount the "normal" Terminal Value with this method.

Operating Assumptions for Extended Projection Period:	
Annual Change in Revenue Growth:	(2.0%)
Minimum Revenue Growth:	4.0%
Annual Change in EBIT Margin:	(0.5%)
Minimum EBIT Margin:	15.0%
Depreciation & Amortization % Revenue:	0.5%
CapEx % Revenue:	1.0%
Change in WC % Change in Revenue:	3.0%

Terminal Value - Multiples Method:	
Baseline Terminal EBITDA Multiple:	5.7 x
Baseline Terminal Value:	$ 3,054,203
Terminal Value After "Going Concern" Discount:	2,290,652
Implied Terminal FCF Growth Rate:	(0.4%)
(+) PV of Terminal Value:	573,949
(+) Sum of PV of Free Cash Flows:	1,208,995
Implied Enterprise Value:	**1,782,945**
% of Implied EV from Terminal Value:	*32.2%*
(+) Cash & Cash-Equivalents:	407,072
(+) Equity Investments:	-
(+) Other Non-Core Assets, Net:	-
(-) Total Debt:	-
(-) Noncontrolling Interests:	-
Implied Equity Value:	**$ 2,190,017**

Terminal Value - Perpetuity Growth Method:	
Baseline Terminal FCF Growth Rate:	3.0%
Baseline Terminal Value:	$ 3,054,203
Terminal Value After "Going Concern" Discount:	2,290,652
Implied Terminal EBITDA Multiple:	4.3 x
(+) PV of Terminal Value:	573,949
(+) Sum of PV of Free Cash Flows:	1,208,995
Implied Enterprise Value:	**1,782,945**
% of Implied EV from Terminal Value:	*32.2%*
(+) Cash & Cash-Equivalents:	407,072
(+) Equity Investments:	-
(+) Other Non-Core Assets, Net:	-
(-) Total Debt:	-
(-) Noncontrolling Interests:	-
Implied Equity Value:	**$ 2,190,017**

Option #2: Estimate the Company's "Future Liquidation Value"

Even if a business fails because a key person gets hit by a truck, its Assets will still be worth *something*.

So, just like you might value a distressed company with a Liquidation Analysis, estimating each Asset's market value and then subtracting all the Liabilities, you could do the same thing to calculate Terminal Value.

You might assume that the company sells for Tangible Assets minus Liabilities, discount that value back to its Present Value, and add it to the PV of the cash flows.

If you don't have full Balance Sheet projections that run until the end of the explicit forecast period, you could take the furthest-in-the-future Liquidation Value available and add the cumulative cash flows generated after that:

Terminal Value - Liquidation Value Method:	
Final Projection Year Liquidation Value:	$ 1,431,523
Cumulative FCF Beyond Final Year:	1,541,716
Terminal Value Based on Asset Liquidation	2,973,239
Terminal Value After Discount:	2,973,239
(+) PV of Terminal Value:	744,980
(+) Sum of PV of Free Cash Flows:	1,208,995
Implied Enterprise Value:	**1,953,975**
% of Implied EV from Terminal Value:	*38.1%*
(+) Cash & Cash-Equivalents:	407,072
(+) Equity Investments:	-
(+) Other Non-Core Assets, Net:	-
(-) Total Debt:	-
(-) Noncontrolling Interests:	-
Implied Equity Value:	**$ 2,361,047**

We take the company's Liquidation Value in the final year of our projections and then forecast it to the end of a 20-year period by adding the cumulative cash flows generated over that time.

This method is the most "realistic" way to estimate Terminal Value, but it requires more than just simple cash flow projections.

Option #3: Skip Terminal Value and Assume That FCF Eventually Declines to 0

Similar to the approach in a NAV model for oil & gas companies, you could assume that the company's cash flows eventually decline to 0 – and then skip "Terminal Value" altogether.

Or, the company's cash flows could just decline to a very low level, at which point the company stops operating:

	Unlevered Free Cash Flow Projections:															
FCF Projections:	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**	**Year 11**	**Year 12**	**Year 13**	**Year 14**	**Year 15**	**Year 16**	**Year 17**	**Year 18**	**Year 19**	**Year 20**	**Year 21**
Revenue:	$ 1,062,800	$ 1,261,408	$ 1,494,298	$ 1,730,525	$ 1,984,064	$ 2,235,067	$ 2,473,123	$ 2,687,071	$ 2,865,787	$ 2,999,073						
Growth Rate:	*16.2%*	*18.7%*	*18.5%*	*15.8%*	*14.7%*	12.7%	10.7%	8.7%	6.7%	4.7%						
Operating Income (EBIT):	270,254	303,417	288,244	316,397	394,345	433,058	466,817	493,766	512,277	521,108						
Operating Margin:	*25.4%*	*24.1%*	*19.3%*	*18.3%*	*19.9%*	19.4%	18.9%	18.4%	17.9%	17.4%						
(-) Taxes:	(94,589)	(106,196)	(100,885)	(110,739)	(138,021)	(151,570)	(163,386)	(172,818)	(179,297)	(182,388)						
NOPAT:	**175,665**	**197,221**	**187,359**	**205,658**	**256,324**	**281,488**	**303,431**	**320,948**	**332,980**	**338,720**						
(+) Depreciation & Amortization:	2,226	2,642	4,719	7,286	8,443	11,175	12,366	13,435	14,329	14,995						
(+/-) Change in WC:	(28,936)	(3,390)	(7,820)	(4,737)	(1,654)	7,530	7,142	6,418	5,361	3,999						
(-) CapEx:	(6,677)	(9,246)	(11,011)	(14,573)	(16,886)	(22,351)	(24,731)	(26,871)	(28,658)	(29,991)						
Unlevered FCF:	**142,278**	**187,227**	**173,247**	**193,634**	**246,228**	**277,842**	**298,207**	**313,931**	**324,013**	**327,723**	**294,951**	**265,456**	**238,910**	**215,019**	**193,517**	**174,166**
Growth Rate:	*N/A*	*31.6%*	*(7.5%)*	*11.8%*	*27.2%*	*12.8%*	*7.3%*	*5.3%*	*3.2%*	*1.1%*	*(10.0%)*	*(10.0%)*	*(10.0%)*	*(10.0%)*	*(10.0%)*	*(10.0%)*
PV of FCF:	**132,765**	**152,127**	**122,573**	**119,289**	**132,084**	**129,778**	**121,287**	**111,178**	**99,917**	**87,999**	**68,962**	**54,044**	**42,352**	**33,190**	**26,010**	**20,384**
Discount Period:	1.000	2.000	3.000	4.000	5.000	6.000	7.000	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000
Mid-Year:	0.500	1.500	2.500	3.500	4.500	5.500	6.500	7.500	8.500	9.500	10.500	11.500	12.500	13.500	14.500	15.500

FCF starts to decline by 10% per year after Year 10 of our analysis, and we assume the company operates for another 10 years (through Year 25) and then shuts down.

That would give you a result like this in Excel:

Terminal Value - "Cease Operations" Method:	
FCF Growth / (Decline) Rate:	(10.0%)
(+) PV of Terminal Value:	290,933
(+) Sum of PV of Free Cash Flows:	1,208,995
Implied Enterprise Value:	**1,499,928**
% of Implied EV from Terminal Value:	*19.4%*
(+) Cash & Cash-Equivalents:	407,072
(+) Equity Investments:	-
(+) Other Non-Core Assets, Net:	-
(-) Total Debt:	-
(-) Noncontrolling Interests:	-
Implied Equity Value:	**$ 1,907,000**

Not a true "Terminal Value" - just represents the PV of the company's FCF in Years 15-25 of the analysis, after the initial 10-year projection period.

The Bottom Line on Terminal Value: You calculate it the standard way for Empire Businesses and Meth Businesses, but for Money Businesses, you need to discount it heavily.

You can do that in several different ways, and the best method depends on the type of business and how much of a "key person risk" there is.

Valuation Summary

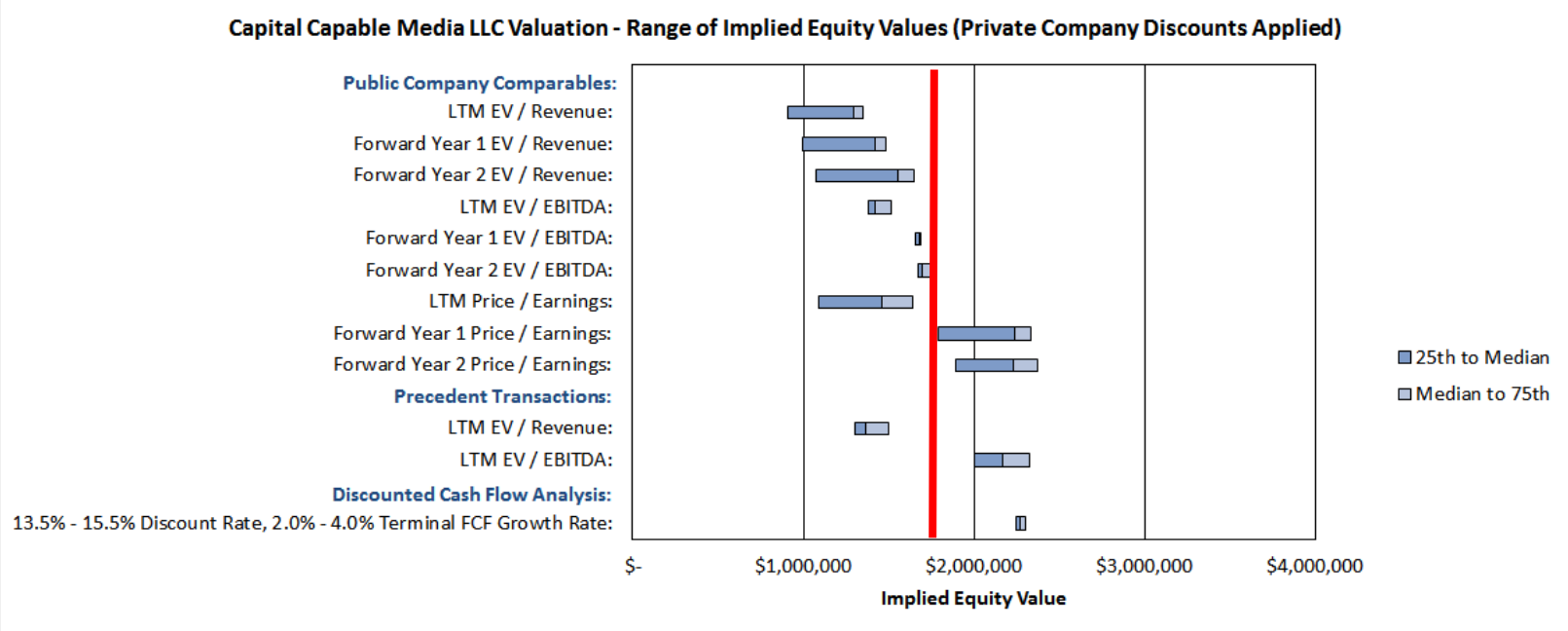
The result of all these valuation differences is simple: **Private companies should be worth less than public companies**.

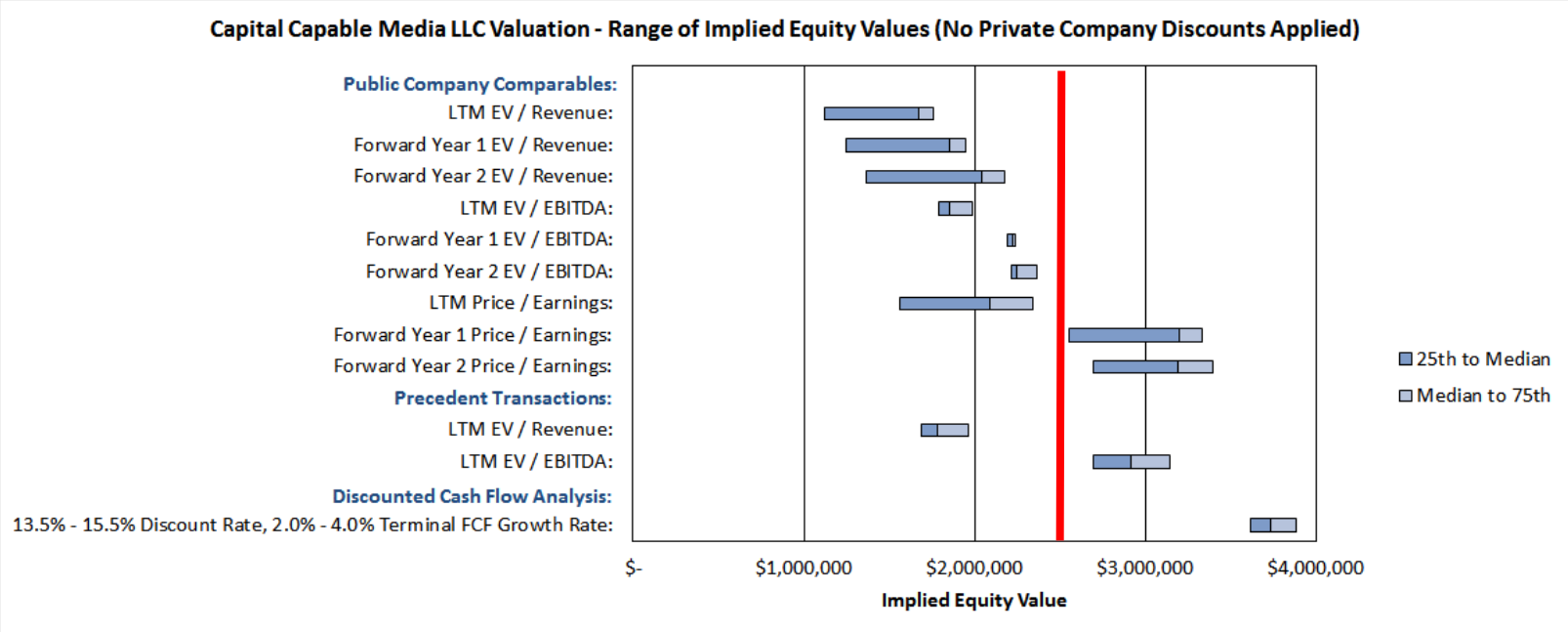
It's easy to understand why Money Businesses are less valuable: They won't be around for decades into the future.

But even venture-backed startups and large private companies tend to be worth less because of higher risk, less-diverse ownership, and lower liquidity.

There may not be a massive difference for a huge private company like Ikea, but there will still be some discount to its value as a public company.

Here's the value of this fictional BIWS / M&I private company *with* and *without* private company discounts and other adjustments:





The median Implied Equity Value is between **$2.0 million and $3.0 million** *without* these discounts and adjustments, but only around **$1.5 to $2.0 million** *with* these adjustments.

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Key Rule #4: M&A and LBO Differences

Mergers, acquisitions, and leveraged buyouts do not differ tremendously for private companies.

You may still have to adjust and reclassify the financial statements of private companies involved in these deals, and valuation still differs, but **the mechanics of merger models and leveraged buyout models are largely the same.**

If **the seller** in an M&A deal is private:

- The **purchase price** is typically based on a multiple of EBITDA, Revenue, or some other financial metric. A share-price premium doesn't make sense.

- **Earn-Outs** are very common because there's often uncertainty over the seller's ability to meet financial targets. Earn-Outs are much less common in acquisitions of public sellers.

Transaction Assumptions

Purchase Enterprise Value:	$ 825.0
Implied LTM EV / EBITDA Multiple:	13.6 x
Implied LTM EV / Revenue Multiple:	0.9 x
Share Repurchase Amount:	$ 300.0
Shares Repurchased:	4.615
Share Price for New Share Issuance:	$ 56.00
Share Price for Share Repurchase:	$ 65.00
Revenue Synergies % Combined Revenue:	0.0%
Gross Margin on Revenue Synergies:	
Annual Expense Synergies:	$ 25.0
Sensitivity Toggle for Expense Synergies:	0.0%

Fees as a % of Purchase Enterprise Value:	7.9%
Total Funds Required for Deal:	**$ 1,190.0**

	%:	Amount:	Pre-Tax Cost:	After-Tax Cost:
Cash Used:	28.6%	$ 340.0	0.1%	0.1%
Debt Issued:	49.5%	589.0	6.8%	4.2%
Shares Issued (Millions):	21.9%	4.661		4.1%
Shares Repurchased (Millions):		4.615		3.5%
Weighted Average Acquisition Cost:				3.0%
Target's "Yield" (Approximation):				3.9%

Earn-Out Based on EBITDA Target:	$ 50.0

Purchase Enterprise Value + Fees + Share Repurchased (Unusual - the buyer is repurchasing shares in this deal).

The purchase *methods* - Cash, Debt, and Stock - are still the same. Nothing changes if the seller is private.

Purchase Price based on multiples rather than a share-price premium; often just the Purchase Enterprise Value.

Earn-Outs are extremely common in acquisitions of private companies. See the M&A and Merger Model guides.

EPS accretion/dilution is still meaningful **as long as *the buyer* is public and cares about its EPS**.

And you could still look at all the other analyses you might use in any M&A deal: Contribution Analysis, IRR vs. Discount Rate, and Value Creation Analysis.

If the private seller is extremely small compared with the buyer – Google or Facebook acquiring a startup for $10 million, for example – then you skip the financial analysis because the seller isn't big enough to make an impact on the buyer.

If **the buyer** is private, then:

- It's far less likely to use Stock to fund a deal because sellers are less likely to accept illiquid shares in a private company. A private company that is clearly going to go public (e.g., pre-IPO Facebook or Google) still might be able to use Stock, but an Empire Business or Money Business cannot.

- EPS accretion/dilution *may be* less relevant depending on the type of private company. Private companies still HAVE Earnings per Share (EPS) because they still earn Net Income and have shares outstanding.

  However, they tend to care less about EPS because they don't issue public financial statements and do not have wide shareholder bases.

  As a result, you may focus more on other analyses, such as IRR vs. Discount Rate.

Leveraged buyouts of private companies are even more similar to leveraged buyouts of public companies for one simple reason: *Immediately after an LBO, any company becomes private.*

So, the main difference is that the purchase price is based on a multiple of EBITDA rather than a share-price premium:

My Family Fit Pte. Ltd. - LBO Case Study Model Test
(Amounts in SGD Millions Unless Otherwise Stated)

Transaction Assumptions:

Company Name:	My Family Fit Pte. Ltd.	Selected Operating Scenario:	Base
Last Historical Year & Transaction Close Date:	2016-12-31	Minimum Cash Balance:	$ 5.0
Conversion Units:	1,000	Tax Rate:	17.0%
LTM EBITDA:	39.7	Exit Year:	FY21
Purchase EV / EBITDA Multiple:	15.0 x		
Purchase Enterprise Value:	**$ 595.1**	Year 1 Exit Multiple:	
(+) Cash:	88.2	Upside	13.0 x
(-) Debt:	(50.0)	Base	11.0 x
Purchase Equity Value:	**$ 633.3**	Downside	10.0 x
		Selected Scenario:	**11.0 x**
Management Option Pool:	5.0%		

You'll always based the purchase price on an EBITDA multiple and then back into Purchase Equity Value in a private company LBO.

Sources & Uses Schedule:

Sources of Funds:	$ M SGD	x EBITDA	% Sources
Revolver:	$ -	0.0 x	0.0%
Term Loan A:	59.5	1.5 x	9.8%
Term Loan B:	59.5	1.5 x	9.8%
Subordinated Notes:	79.3	2.0 x	13.1%
Management Rollover:	39.7	1.0 x	6.6%
Equity:	367.1	9.3 x	60.7%
Total Sources:	**$ 605.1**	**15.3 x**	**100.0%**

Uses of Funds:	$ M SGD	x EBITDA
Purchase Enterprise Value:	$ 595.1	15.0 x
Transaction Fees:	10.0	0.3 x
Total Uses:	**$ 605.1**	**15.3 x**

Ownership Details:	$ M SGD	%
Management:	$ 39.7	9.8%
Sponsor:	367.1	90.2%
Total Equity:	**$ 406.7**	**100.0%**

And as a direct result, you don't show Refinanced Debt or Excess Cash in the S&U schedule; basing the deal on Purchase Enterprise Value implicitly assumes a cash-free, debt-free transaction (i.e., the PE firm refinances and replaces the company's existing Debt and gets all its Cash).

Nothing else in the screenshot above is specific to private companies.

PE firms often grant option pools to management teams, there is often an equity rollover, and you might assume a cash-free, debt-free deal regardless of the company type.

Even if you look at the more advanced features in LBOs – dividend recaps, warrants on Mezzanine or Subordinated Notes, Earn-Outs, IPO exits, original issue discount (OID), and so on – **nothing is *different* for private companies**.

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Key Rule #5: Why the Lines Between Public and Private Have Blurred

Everything above represents the "classical" view of private companies.

It's not *wrong*, necessarily, but **it is changing**.

Just like Newtonian mechanics help up pretty well until Planck and Einstein came along and gave us quantum mechanics and special relativity, these distinctions between private and public companies help up decently until the market began to change in the mid-2000's.

Regulatory changes, market practices, and new investors have blurred the lines between public and private in the following ways:

Change #1: Startups Are Staying Private for Much Longer

"Older" tech companies like Google and Cisco often went public several years after being founded.

They did that because they had to: No late-stage investors back then would have invested hundreds of millions into cash flow-negative startups to fund their growth.

To raise that much capital, the startups had to go public.

But Facebook changed the rules, and companies like Airbnb, Uber, and Xiaomi took that trend even further with multi-billion-dollar fundraising rounds as private companies.

These types of large, late-stage startups **are more like public companies with small floats and limited financial information.**

Change #2: Secondary Markets Allow You to Buy and Sell Private Company Shares

It's no longer impossible to buy shares in private companies as an outsider: There are many online markets that allow employees of private companies to sell their shares to anyone.

Some startups even *encourage* employees to sell their shares when they raise funding.

This change affects Meth Businesses more than Money Businesses or Empire Businesses; there's still no easy way to buy shares in Ikea or a 10-person law firm.

Change #3: New Regulations Let Normal People Invest in Private Companies

In the U.S., laws such as "Reg A+" have allowed companies to raise up to $50 million from both accredited and non-accredited investors.

The FAST Act formalized rules on trading the shares of private companies.

Regulation Crowdfunding also allows companies to raise up to $1 million from "the general public" without the need to disclose much.

Beyond that, companies do need audited financial statements and public SEC reports, so private companies must *resemble* public companies even if they remain private.

Change #4: Large Asset Managers Publicly Report the Value of Their Holdings

As asset managers such as Fidelity and T. Rowe Price began to invest in startups, they also began to report the market values of their portfolio companies quite publicly.

It's still not straightforward to determine a private company's "share price," but it's much easier than it was in the past – especially if the private company is a tech startup.

If a private company wants to raise money like a public company and attract a broader investor base like a public company, it must also disclose information like a public company and handle valuation ups and downs like a public company.

What Hasn't Changed: Private Companies with No Inclination to Go Public

Most of these changes apply to tech and biotech startups; there have been fewer changes in the lower end and the upper end of the private company universe.

A small, family-owned company (a "Money Business") still won't get audited financial statements or set up strict corporate governance because it has no reason to do so.

And at the upper end, a huge private company (an "Empire Business") like Ikea, SAS, or Cargill has no reason to sell its shares, disclose more information, or raise outside capital.

So, What Makes a Company "Private"?

Rather than dividing companies into "public" and "private," you should think of it as a gradient: **Some companies are *more* public, and others are *more* private**.

Since the classifications have blurred, the valuation differences have also blurred – which means that many of the *private company adjustments* might also apply to *public companies*.

Financial Statement Analysis and Accounting

We covered some of the problems with private company financial statements earlier: Many companies don't report items in standard categories, many owners pay themselves "dividends" that are taxed at lower rates, and personal and business expenses are often intermingled.

These are common problems for private companies, but public companies may also have imperfect financial statements.

For example, some public companies misclassify items like Goodwill Impairments and Gains and Losses, and they often "invent" their own metrics, such as "Adjusted EBITDA" or "Adjusted Consolidated EBITDA" to make their financials look better.

And if the company has recorded a "non-recurring" Restructuring expense for the past 10 quarters, it's **not** a non-recurring expense.

Private Company / "Illiquidity" Discounts

Many companies achieve higher valuations in the private markets than they do in the public markets, so you can't assume that *all* private companies are worth less than their public peers.

If a private company's shares trade like those of a public company, and you can easily find its financial stats, you should **not** apply much of a discount.

On the other side, you could also apply an illiquidity discount to certain *public* companies.

For example, if the company is public, but its float is only 10% of its total shares, are its shares "liquid"?

Or if there's such limited trading volume that it's impossible to exit a large position quickly, are the company's shares "liquid"?

DCF Analysis – Terminal Value

The fact that you have to discount Terminal Value in a private company DCF demonstrates the main flaw in a DCF Analysis: **No company, public or private, lasts forever.**

A large, well-run public company usually lasts longer than a family-run wine shop, but the lifespan of all public companies is finite.

Historically, most multinational corporations have lasted for 40-50 years, which may seem like a small difference vs. "infinity":

Discount Rate:	10.0%
FCF Growth Rate:	3.0%
Initial FCF in Terminal Period:	$ 100
Terminal Value:	**$ 1,429**
What If It Dies After 50 Years?	**$ 1,375**
What If It Dies After 40 Years?	**$ 1,326**

This may seem like a small discrepancy, but we're assuming that FCF keeps *growing* through Year 40 or 50...

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
Free Cash Flow:	$ 100	$ 103	$ 106	$ 109	$ 113	$ 116	$ 119	$ 123	$ 127

But if a company dies after 40-50 years, its cash flow will **not** keep growing by 3% per year and then suddenly drop to 0 after Year 40 or Year 50.

More realistically, FCF growth will decline after the first 10 years, and FCF will start declining midway through the period as the company shrinks:

Discount Rate:	10.0%
FCF Growth Rate:	3.0%
Initial FCF in Terminal Period:	$ 100
Traditional Terminal Value:	**$ 1,429**
FCF Growth After Year 10:	1.5%
FCF Growth After Year 25:	(3.0%)
What If It Dies After 50 Years?	**$ 1,217**
What If It Dies After 40 Years?	**$ 1,205**

The more realistic assumption is that FCF Growth will slow down and then turn negative as the business shrinks.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
Free Cash Flow:	$ 100	$ 103	$ 106	$ 109	$ 113	$ 116	$ 119	$ 123	$ 127

If that happens, the discrepancy is more like 15-20%, which is significant.

And if the company goes out of business more quickly, the discrepancy will be even greater.

For purposes of *interviews and case studies*, you still have to understand and use Terminal Value in a DCF.

But in real life, you may want to consider alternatives: You might discount the Terminal Value for especially high-risk companies, you might use the company's Future Liquidation Value, or you might skip Terminal Value and assume the company eventually shuts down.

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Interview Questions

You're unlikely to receive detailed questions on private companies unless you're interviewing at a firm that specializes in them (e.g., a boutique bank that does private placements for small, private oil & gas companies).

However, you could easily get questions on the **high-level differences** between public and private companies, even if you're interviewing in a group that never works with private companies.

So, we wanted to present a few interview questions you might receive, even though this topic is far less important than the "core concepts" of accounting, valuation/DCF analysis, merger models, and LBO models.

High-Level Private Company Differences, Accounting, and Deals

The first few questions in this category are the most likely ones in interviews. Beyond these, you're unlikely to get detailed questions on financial statement or M&A/LBO differences.

1. How are private companies different from public companies?

Private companies do not have shares that you can buy and sell on the stock market; as a result, their liquidity is far lower, and they don't have the same reporting requirements as public companies.

Private companies often have non-standard financial statements that you must adjust, and you often discount valuations and DCF analyses for private companies due to a lack of liquidity, dependence on key people, and, in some cases, a much smaller scale than public companies.

In M&A and leveraged buyout deals, the purchase price for a private company is linked to an Enterprise Value-based valuation multiple rather than a share-price premium.

2. What are the different types of private companies?

The main 3 types of private companies are: 1) True "small businesses," which depend on key individuals; 2) Venture-backed startups; and 3) Large, established companies that are run more like public companies.

You make the most adjustments for small businesses, fewer adjustments for venture-backed startups, and even fewer adjustments for large, established companies that are managed like public companies.

3. How might you adjust a private company's financial statements in a valuation or deal analysis?

First, note that you make major adjustments only for "small business" private companies; you don't need to adjust as much for venture-backed startups or large, established private companies because they should already have GAAP/IFRS-compliant statements.

For small businesses, you often re-classify revenue and expenses into more standard categories (e.g., Revenue, COGS, SG&A, R&D, and S&M), you re-classify the "Owner's Draw" or "Dividends" as employee compensation, and you remove intermingled personal expenses.

You may also apply a different tax rate, such as the acquirer's tax rate or the standard rate for public companies, if the small business has been paying taxes at the owner's personal rate.

Finally, you might apply a "Key Person Discount" where you assume that a few individuals are responsible for a percentage of the company's sales and that if they leave, those sales disappear.

4. Will a private company be more or less valuable after you make these adjustments?

It depends on *which* adjustments you make.

For example, a higher tax rate will make the company *less valuable* because it will reduce the company's Net Income and Free Cash Flow.

But re-classifying Dividends as employee salaries will make the company *more valuable* by making more expenses tax-deductible (Net Income will be lower, but FCF will be higher).

All these adjustments, when applied together, *tend* to make private companies less valuable because of the greater risk associated with them.

5. When might you apply a "Key Person Discount" to a company's financial projections?

To apply this discount, you have to be *very certain* that a key person or group is responsible for a significant percentage of the company's sales (e.g., a famous chef in a restaurant).

And you also need to know the *specific* percentage of sales for which this person is responsible.

Finally, you should have some indication that this key person might leave the company in the future. If that doesn't seem likely, it's harder to justify this discount.

If you have all that information, then you might apply this discount by reducing the company's sales by a certain percentage in future periods.

6. How might an acquisition of a private company be different from one of a public company?

The mechanics are the same: You still combine the financial statements, create Goodwill based on the Equity Purchase Price minus the seller's Book Value, factor in the new shares, new interest on Debt, and foregone interest on Cash, and you still calculate EPS accretion/dilution.

The main difference is that the purchase price is based on a multiple, such as EV / EBITDA or EV / Revenue, instead of a share-price premium.

Also, buyers frequently pay Earn-Outs to private sellers so that they can defer some of the purchase price and make it contingent on the seller achieving certain financial goals.

7. How might a leveraged buyout of a private company be different?

The mechanics are the same: You still assume a certain percentage of Debt and Equity, you still project the statements, you still build a Debt Schedule, and you still calculate the IRR(s) and MoM multiple(s) in the same way.

The difference is that the initial purchase price is based on an EBITDA multiple rather than a share-price premium, and, as a result, you often assume that the private company is acquired on a "Cash-free, Debt-free basis."

In other words, you use its Purchase Enterprise Value in the Uses side of the Sources & Uses schedule, and you assume that its Debt is refinanced and that the PE firm receives its Cash.

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Valuation and DCF Differences

You could easily get questions about valuation and DCF analysis for private companies, but as with the previous section, the first few questions here are more likely than the rest.

Some of these questions are also more "academic" in nature, which makes them less likely in interviews.

1. At a high level, how is private company valuation different?

You have to **discount** the output of certain methodologies heavily because private companies have illiquid shares, they tend to be smaller than public companies, and they are often dependent on key individuals.

You almost always apply discounts to the multiples from Public Comps, you use higher Discount Rates in a DCF, and you may discount Terminal Value as well.

Also, methodologies such as Future Share Price Analysis and Premiums Analysis no longer apply because private companies do not have share prices.

These differences apply mostly to true "small businesses"; valuation for a huge private company with a Board of Directors and advanced systems and controls would be similar.

2. Why might a private company be worth different amounts to different potential buyers?

An acquired company is *always* worth different amounts to different potential buyers.

"Strategic" buyers (normal companies) are almost always willing to pay more than financial sponsors (private equity firms) because they can realize revenue and expense synergies.

With private companies, though, the **diversification** of the buyer also factors in: A non-diversified buyer, such as an individual or family consortium, takes on far more risk in acquiring a private company than a large, public company does.

The large, public company has a wide shareholder base, and each shareholder presumably has a diversified portfolio. As a result, you tend to apply less of a discount when such a company is the acquirer.

You also apply less of a discount (or no discount at all) if the private company is planning to go public shortly.

3. In which scenarios you would apply LESS of a discount to a private company valuation?

You would apply less of a discount if the private company is planning to go public soon and will have more liquidity as a result.

Also, you would apply less of a discount if a large, public company wants to acquire the private company, and you're valuing the target from the perspective of that public company.

Finally, you would also apply less of a discount if the private company is a venture-backed startup or a large business that is *not* dependent on key individuals.

4. Intuitively, why should a private company be worth less than a public company?

Private companies have illiquid shares and tend not to have the same corporate governance and controls as public companies.

Also, many private companies depend on key individuals and are more like "practices" (e.g., a doctor's office) than real businesses.

Finally, buyers assume more risk when acquiring private companies because these private companies are rarely diversified to the same extent as large, public companies are.

5. Why might you apply a "private company discount" to the multiples from a set of Public Comps, and what might that discount be?

For all the reasons mentioned above: Illiquid shares, lack of scale and proper controls, non-diversified shareholders, and dependence on key individuals.

The standard discount ranges from 10% to 30%, but it could be as low as 3-5% if it's a huge private company that operates more like a public company or as high as 50% if it's effectively a one-person business.

6. Would you also apply a discount to the multiples from Precedent Transactions?

You could apply a similar to discount to these multiples, but it's less common because most sets of Precedent Transactions already include a mix of public and private sellers.

Also, the purchase prices reflect the acquisitions of entire companies; the liquidity of the shares matters less in those cases.

Finally, the purchase prices for M&A deals should already reflect control premiums – the extra amounts buyers must pay to gain control of sellers.

If you discount the multiples too much, you might end up ignoring these control premiums.

7. Which components of the Discount Rate calculation in a DCF change for private companies?

You still calculate the Risk-Free Rate, Equity Risk Premium, Cost of Debt, and Cost of Preferred Stock in the same ways.

But the Cost of Equity changes because private companies do not have share prices or market caps, and their Equity tends to be riskier than that of public companies.

So, you often use higher values for Beta when calculating Cost of Equity, and you use the median capital structure of the comparable public companies when re-levering Beta and calculating WACC at the end.

8. How can you calculate Beta in a DCF for a private company?

You can always *un-lever Beta based on the comparable public companies*.

The question is, how do you *re-lever* Beta based on the capital structure of the company you are analyzing?

To do that, you could use the median Equity, Debt, and Preferred Stock percentages from the comparable companies, you could use the company's "optimal" or targeted capital structure, or you could create a circular calculation where the valuation output feeds into the company's Equity percentage.

Finally, you could also estimate Beta by tracking the company's earnings volatility against the earnings volatility for an appropriate index (e.g., if S&P earnings decline by 5% when your company's decline by 5% and they rise by 5% when your company's earnings rise by 5%, then Beta might be 1.0).

9. Why might you apply a premium when calculating Beta for a private company?

You might increase Beta beyond the levels implied by the normal un-levering and re-levering process if the **potential buyer is not diversified** (e.g., an individual or private consortium).

You can use "Total Beta" (a concept from Damodaran) to estimate the proper figure.

When you do this, Beta will be higher for less-diversified buyers and higher for companies in sectors that are *not* closely correlated with the market.

You might divide the normal re-levered Beta by a market correlation factor and then multiply it by (1 – Buyer's Diversification Factor) so that the "Total Beta" is higher than the standard figure.

10. How would you calculate Terminal Value in a DCF for a private company?

You *calculate* Terminal Value in the same way – a Terminal Multiple or Terminal FCF Growth Rate – but you might apply a substantial discount depending on the company (more likely for true "small businesses").

You could also skip the traditional Terminal Value calculation and base it on the company's "Future Liquidation Value," or you could assume that the company's FCF eventually declines to 0 as it goes out of business.

11. On average, how much less should a private company be worth compared with its public company peers?

This question is impossible to answer because it depends on the *type* of private company and how different it is from publicly traded peer companies.

There should not be much of a discount for large, private companies with management teams and solid controls and governance; the discount might be 5-10% because their shares are still less liquid than those of public companies.

There will be more of a discount for venture-backed startups because the risk is higher, and there will be even more of a discount for true "small businesses" because the risk is higher *and* they are usually dependent on key individuals.

If the interviewer demands a number, you might say that small businesses should be worth 30-50% less, but that is a very rough guess.

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