

Private Company Valuation

- “Help! How do you value a **private company**?”
- “Noooo!!!! I really need to know how to value private companies. They must be **dramatically different**, right?”
- We get **A LOT** of questions on this topic – especially before we added coverage of private companies to our **Financial Modeling Fundamentals** course



Private Company Valuation

- To answer this question, I'm going to summarize our **10-hour-long** private company tutorials in **20 minutes** (wish me luck!)



- **Case Study #1:** Large private company

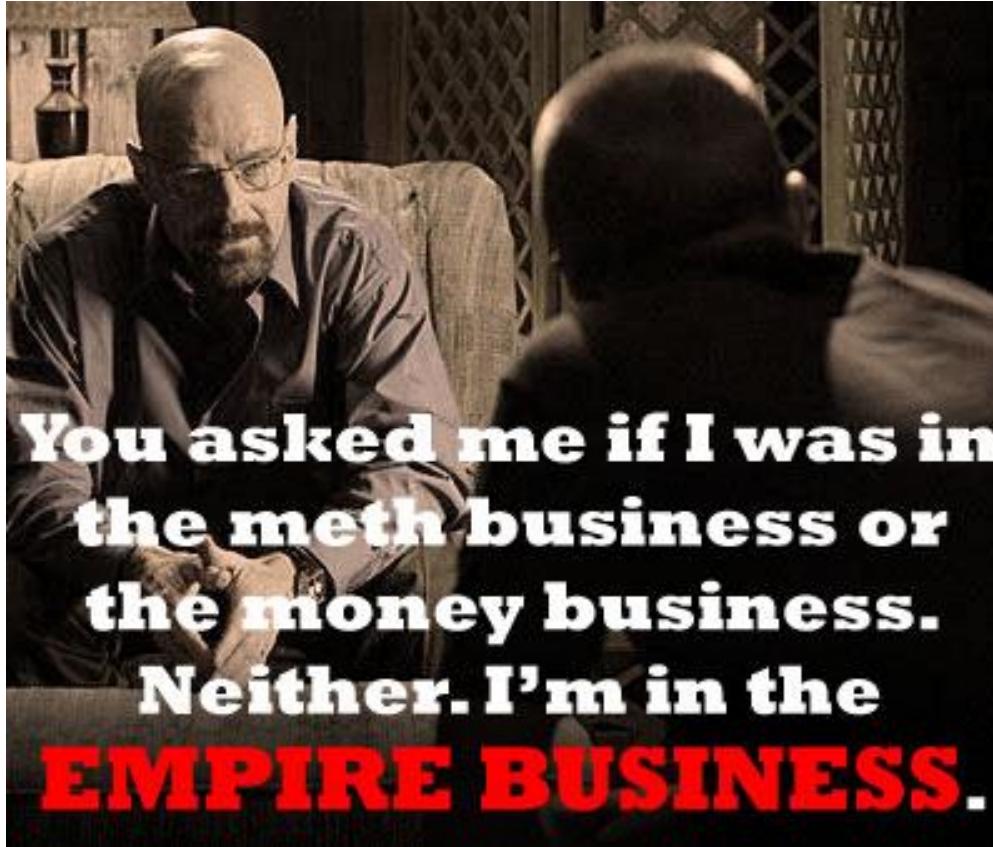


- **Case Study #2:** Actual small business



- **Starting Point:** Think about *Breaking Bad!*

Private Company Valuation



- Walt is explaining his **obsession** with crystal meth, but he also lays out **the 3 types of private companies**

3 Main Categories:

- **Money Business:** Small, family-owned business or something heavily dependent on one person



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- **Meth Business:** Venture-backed startup planning for exit



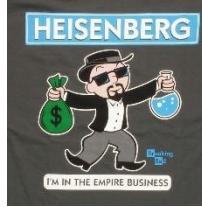
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- **Empire Business:** Large company with Board and management team; it isn't public but it could be



What About Private Companies?

- “**Empire Businesses**” (Large Private Companies): Almost the same as public co’s; minor differences
- “**Meth Businesses**” (Startups): Still very similar, but a few more differences (e.g., IPO valuation)
- “**Money Businesses**” (Small Businesses): Most differences emerge here – but you rarely work with these in IB/PE unless you’re at a small firm



What Exactly is Different?

- **Accounting & 3-Statement Projections:** *Mostly* an issue for Money Businesses – adjustments required!
- **Valuation:** Private companies might be worth very different amounts to different buyers / investors; illiquidity and other discounts often applied
- **DCF:** No “current” capital structure and no Market Cap, so Cost of Equity and WACC are tricky



Accounting / Projections:

- **Non-GAAP / IFRS Statements:** May have to normalize the categories
- **Salaries / Dividends:** May need reclassification
- **Business / Personal:** Intermingled!
- **Tax Rates:** Personal / small-business rate may differ from corporate / acquirer's rate



“Money Business” Income Statement:

| 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 |
| 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 |

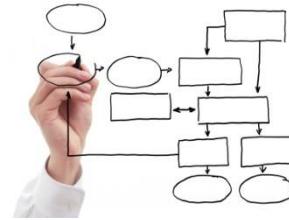
Normalized Version:

| 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 |
| Less: 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 |

- **Changes:** More normal categories, added in the owner's salary, removed personal expenses, and the tax rate will change in future periods

Valuation:

- **What's the Purpose?** Sale to private co. or individual different from sale to public co., IPO, fundraising, or spin-off
- **Illiquidity Discount:** Almost always applied to public comps used to value private companies
- **Discount Range:** Might be 10-30%? Depends on the size/scale of the company and the valuation's purpose



Public Comps:

| Valuation Statistics | Capitalization | | | Enterprise Value / Revenue | | | Enterprise Value / EBITDA | | |
|---|----------------|--------------|------------------|----------------------------|----------------|----------------|---------------------------|----------------|----------------|
| | Company Name | Equity Value | Enterprise Value | 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 |
| 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 |
| 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 |
| 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 |
| Lincoln Educational Services Corp | 52.9 | 77.8 | | 0.2 x | 0.2 x | 0.2 x | 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 |
| 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 |
| 75th Percentile | 768.2 | 632.0 | | 1.5 x | 1.4 x | 1.4 x | 7.0 x | 6.7 x | 6.4 x |
| Median | 633.1 | 550.9 | | 1.4 x | 1.4 x | 1.3 x | 6.4 x | 6.7 x | 6.0 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 |
| Minimum | 52.9 | 74.7 | | 0.2 x | 0.2 x | 0.2 x | 5.9 x | 6.3 x | 4.9 x |

- BUT... we'd need to discount these multiples for a true “small business” – a \$5 million revenue company can't be compared to a \$500 million revenue company

Public Comps:

| Valuation Statistics - Capital Capable Media LLC | | Capital Capable Media LLC - Range of Valuation Multiples | | | | | | | Capital Capable Media LLC - Range of Implied Equity Values | | | | | | | | |
|--|------------------|--|----------|-----------------|----------|------------------|---------------------------|--------------------------|--|--------------|-----------------|--------------|------------------|---------------------|-----------------|---------------------|------------------|
| Methodology Name | Maximum Multiple | 75th Percentile | | 25th Percentile | | Minimum Multiple | Applicable Company Figure | Private Company Discount | 25th Percentile | | 75th Percentile | | Minimum Multiple | Percentile Multiple | Median Multiple | Percentile Multiple | Maximum Multiple |
| | | Multiple | Multiple | Multiple | Multiple | | | | Multiple | Multiple | Multiple | 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 | | | | | |

- But you might not apply this same discount for the Precedent Transactions since they already reflect the **control premiums** paid by buyers (and the discount would be much lower for Empire Businesses)

Precedent Transactions:

- No huge differences, but you might use more “creative” metrics, especially for tech start-ups:

| Kakao Corp - Comparable M&A Transactions | | | | | | | | | | | | |
|--|--------------------------|------------|--------------|------------------|-------------|------------|---|--------------------|-----------|-----|----------------------|--|
| Acquirer Name | Target Name | Date | Transaction | | | LTM EBITDA | Monthly Active Users (MAUs) in Millions | Enterprise Value / | | | Monthly Active Users | |
| | | | Announcement | Enterprise Value | LTM Revenue | | | LTM | LTM | LTM | | |
| Facebook, Inc. | WhatsApp Inc. | 2014-02-19 | \$ 19,000.0 | \$ 20.0 | N/A | 450.0 | NM | N/A | \$ 42.22 | | | |
| Rakuten, Inc. | Viber Media Inc. | 2014-02-14 | 900.0 | 1.5 | (26.5) | 100.0 | NM | NM | 9.00 | | | |
| Zynga, Inc. | NaturalMotion Ltd. | 2014-01-30 | 527.0 | 62.0 | N/A | N/A | 8.5 x | N/A | | | N/A | |
| Facebook, Inc. (Cancelled) | Snapchat Inc (Cancelled) | 2013-11-13 | 3,000.0 | N/A | N/A | 30.0 | N/A | N/A | 100.00 | | | |
| SoftBank Corp. | Supercell Oy | 2013-10-15 | 3,000.0 | 876.0 | 464.0 | 29.4 | 3.4 x | 6.5 x | 102.04 | | | |
| Yahoo! Inc. | Tumblr, Inc. | 2013-05-20 | 1,100.0 | 13.0 | N/A | 40.0 | 84.6 x | N/A | 27.50 | | | |
| NEXON Co., Ltd. | gloops, Inc. | 2012-10-01 | 468.4 | 304.8 | 75.1 | 10.0 | 1.5 x | 6.2 x | 46.84 | | | |
| ZheBao Media Holding Group | GameABC.com | 2012-04-10 | 503.8 | 66.2 | 22.9 | 15.0 | 7.6 x | 22.0 x | 33.59 | | | |
| Facebook, Inc. | Instagram, Inc. | 2012-04-09 | 1,000.0 | N/A | N/A | 35.0 | N/A | N/A | 28.57 | | | |
| Electronic Arts Inc. | PopCap Games, Inc. | 2011-07-12 | 1,025.0 | 100.0 | N/A | 16.0 | 10.3 x | N/A | 64.06 | | | |
| Microsoft Corporation | Skype Global S.à r.l. | 2011-05-11 | 8,500.0 | 859.8 | 181.9 | 145.0 | 9.9 x | 46.7 x | 58.62 | | | |
| The Walt Disney Company | Playdom, Inc. | 2010-07-27 | 663.2 | 50.0 | N/A | 42.0 | 13.3 x | N/A | 15.79 | | | |
| Maximum | | | \$ 19,000.0 | \$ 876.0 | \$ 464.0 | 450.0 | 84.6 x | 46.7 x | \$ 102.04 | | | |
| 75th Percentile | | | 3,000.0 | 253.6 | 181.9 | 71.0 | 11.0 x | 28.1 x | 61.34 | | | |
| Median | | | 1,012.5 | 64.1 | 75.1 | 35.0 | 9.2 x | 14.2 x | 42.22 | | | |
| 25th Percentile | | | 629.2 | 27.5 | 22.9 | 22.7 | 6.6 x | 6.4 x | 28.04 | | | |
| Minimum | | | 468.4 | 1.5 | (26.5) | 10.0 | 1.5 x | 6.2 x | 9.00 | | | |

DCF Problems and Differences

- **Problem #1: The Discount Rate**
 - *Should* be higher for a private company – more risk!
 - But how do you calculate it when the company doesn't have a market cap or Beta?
- **Problem #2: Terminal Value**
 - Similar for Empire Businesses and Meth Businesses, but must be **discounted** for Money Businesses – what if the owner dies?



The Discount Rate

- **Cost of Equity and WACC:**
 - Use industry average or comps' average capital structure?
 - Use firm's "Optimal" capital structure?
 - Circular logic, where DCF output is fed into company's "Market Cap"? (Not recommended)
 - Track volatility of earnings for Beta? (Questionable)

The Discount Rate

| Comparable Companies - Unlevered Beta Calculation | | | | | | | | | | |
|---|---------|----------|--------|-----------|-------------|------------|----------|----------|------|-----------|
| Name | Levered | | | Preferred | | | Equity | | | Unlevered |
| | Beta | Debt | % Debt | Stock | % Preferred | Value | % Equity | Tax Rate | 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 Holdings I | 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 |

| Capital Capable Media LLC - Levered Beta & WACC Calculation | | | | | | | | | |
|--|-----------|------|--------|-----------|-------------|-------|----------|----------|--------|
| | Unlevered | | | Preferred | | | Equity | | |
| | Beta | Debt | % Debt | Stock | % Preferred | Value | % Equity | Tax Rate | 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% |
|------------------------------------|--------|

- Many approaches, but you'll likely end up just using the **median capital structure of the comps for this**

Terminal Value

- **Terminal Value:** May not make sense for a true small business – can it really operate “forever”?
- **Option #1:** Heavily discount the Terminal Value
- **Option #2:** Skip and project FCF far into the future
- **Option #3:** Terminal Value = Liquidation Value



Terminal Value

Terminal Value - Perpetuity Growth Method:

| | |
|---|---------------------|
| Baseline Terminal FCF Growth Rate: | 3.0% |
| Baseline Terminal Value: | \$ 3,054,203 |
| Terminal Value After Discount: | 2,290,652 |
| Implied Terminal EBITDA Multiple: | 4.3 x |
| PV of Terminal Value: | 573,949 |
| Sum of PV of Free Cash Flows: | 1,272,949 |
| Implied Enterprise Value: | 1,846,899 |
| <i>% of Implied EV from Terminal Value:</i> | <i>31.1%</i> |
| Plus: Cash & Cash-Equivalents: | 407,072 |
| Plus: Equity Investments: | - |
| Plus: Other Non-Core Assets, Net: | - |
| Plus: Net Operating Losses: | - |
| Less: Total Debt: | - |
| Less: Noncontrolling Interests: | - |
| Implied Equity Value: | \$ 2,253,971 |

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: | 1,272,949 |
| Implied Enterprise Value: | 2,017,929 |
| <i>% of Implied EV from Terminal Value:</i> | <i>36.9%</i> |
| Plus: Cash & Cash-Equivalents: | 407,072 |
| Plus: Equity Investments: | - |
| Plus: Other Non-Core Assets, Net: | - |
| Plus: Net Operating Losses: | - |
| Less: Total Debt: | - |
| Less: Noncontrolling Interests: | - |
| Implied Equity Value: | \$ 2,425,001 |

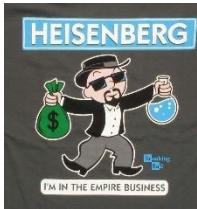
Terminal Value - "Cease Operations" Method:

| | |
|---|---------------------|
| FCF Growth / (Decline) Rate: | (10.0%) |
| Sum of PV of FCF Beyond Year 15: | 290,933 |
| Sum of PV of Free Cash Flows: | 1,272,949 |
| Implied Enterprise Value: | 1,563,882 |
| <i>% of Implied EV from FCF Beyond Year 15:</i> | <i>18.6%</i> |
| Plus: Cash & Cash-Equivalents: | 407,072 |
| Plus: Equity Investments: | - |
| Plus: Other Non-Core Assets, Net: | - |
| Plus: Net Operating Losses: | - |
| Less: Total Debt: | - |
| Less: Noncontrolling Interests: | - |
| Implied Equity Value: | \$ 1,970,954 |

- **End Result:** The company will *not* be worth as much as a public company, particularly far into the future

Final Thoughts

- **Private Companies:** What *type* of company is it, and what is the *purpose* of your analysis?
- **Empire Business:** Few differences; minor discounts
- **Meth Business:** Greater discounts/adjustments
- **Money Business:** Significant discounts to comps' multiples, Terminal Value in a DCF, etc.



Final Thoughts

- **No new methodologies**, multiples, etc. – just variations and tweaks of old ones 
- **Basic Point:** Private companies < Public companies 
- **Accounting:** Tweak and reclassify the statements 
- **Valuation / DCF:** Illiquidity discounts, rough estimates for Discount Rate, and discounted Terminal Value 