Finance Recruiting Interview Preparation

Comparables Analysis & Precedent Transactions

Session #2

Introduction & Limestone Capital Offering

Finance Interview Preparation Workshops

- "Preparing for finance recruiting isn't just skimming The Vault anymore. Students should study for recruiting like a course and do their homework, because the final exam is the interview."

  – *VP, Recruiter for Queen's*
- Like a course, there should be:
  - "Homework:" regular readings are necessary
  - Practice (mock interviews)
  - Comprehensive, accessible resources for all interested students
- The most important "exam" of a finance student's life

Limestone Capital Offering

- **4 Sessions:** Customized curriculum to prepare you to answer any technical finance questions that recruiters may throw at you
  1. Accounting, Enterprise Value
  2. Comparable Analysis & Precedents
  3. Introduction to DCFs
  4. M&A & Leveraged Buyouts

Rationale

- Candidates differentiate themselves by knowing hard M&A and LBO questions
- Queen's needs to offer comprehensive resources to continue being competitive
- You will not learn the required knowledge from class
- It is insufficient to memorize an interview guide from WSO, WSP, M&I, Vault, walk into an interview, and hope you get the same questions
- Start early!

Agenda

1 Comparable Analysis

2 Precedent Transactions

Multiples

What are multiples?

- When we buy stock, we are paying to "own" a piece of a company's cash flows
  - Although we don't receive the cash, market price should adjust to reflect changes in expectations of these projected cash flows
- Multiples: How much the market is valuing a company relative to the value stakeholders are receiving, e.g. how much cash that company is generating

Equity Multiples

- **Price / Earnings**: How much are shareholders paying for $1 of earnings?
- **Price / Book**: How much are shareholders paying for $1 of equity book value?
  - Represents book value of equity per share
- **Price / Tangible Book Value**:
  - Tangible Book Value does not include intangible assets like patents and goodwill

How long before I get my money back?

- Assume price to earnings ratio of 5
  - Paying $5 for $1 of earnings
  - 5 years before those earnings add up to original price paid

Enterprise Multiples

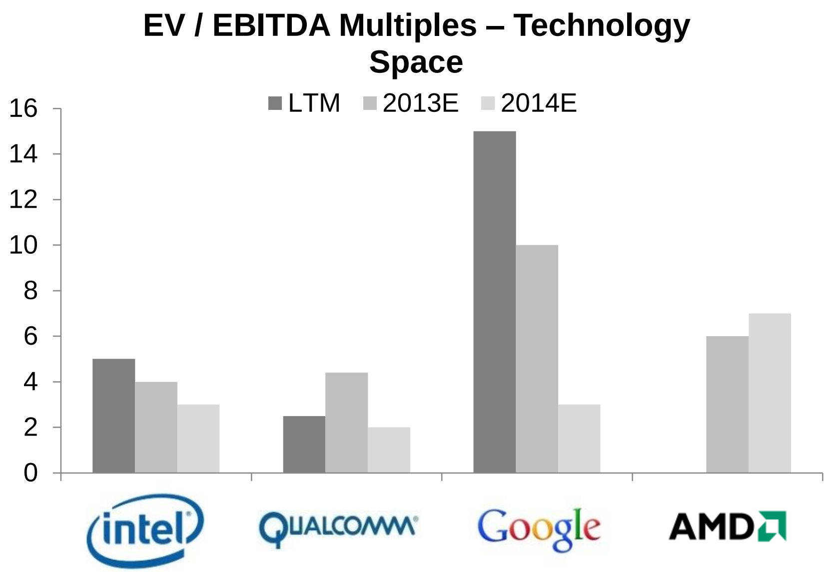
- **Enterprise Value (EV) / EBITDA**
  - How much are stakeholders (both bondholders and shareholders) paying for $1 of EBITDA generation?
- **EV / EBIT**
- **EV / Revenue**
- **EV / Unlevered Free Cash Flow**
  - Cash flow attributable to all stakeholders

Forward Multiples

Valuing Future Growth vs. Historical Growth

- Historical last twelve months (LTM) vs. projected next twelve months (NTM)
    - Historical multiples include EV / LTM EBITDA, EV / LTM Revenue, and Price / LTM EPS
    - Forward multiples include EV / NTM EBITDA, EV / NTM Revenue and Price / NTM EPS
- Price / Earnings-to-Growth (PEG):
    - P/E Ratio / Annual EPS Growth
- Most people prefer forward multiples because it accounts for projected growth
- **LTM is a poor proxy for projected growth because of:**
    - One-time charges
    - Tax (NOLs)
    - Past ≠ Future → circumstances have changed
- **Where do I get information to calculate multiples?**
    - Enterprise Value
        - Calculate yourself using balance sheet figures from 10-K's, 10-Q's, Annual / Quarterly Reports
    - LTM EBITDA
        - Calculate yourself
    - Forward looking figures (2019E EPS or EBITDA)
        - Bloomberg EEA / EEO screen

What do these mean?



- **Intel:** Comps make sense for a large-cap, stable, market-leader, as analysts are projecting healthy growth in EBITDA
- **Qualcomm:** Analysts are either predicting a decrease in EBITDA between LTM and 2013E, or you messed up a calculation
- **Google:** Not comparable to the rest of the universe, explaining its high multiples
- **AMD:** "nmf" represents negative LTM EBITDA

Apples-to-Apples

Multiples must be consistent

- Numerator / Denominator must be “measuring value in the same way”
  - Dividing kilometers by miles is not meaningful
- Apples-to-Apples vs. Apples-to-Oranges
  - Equity value metrics and enterprise value metrics are different
  - Value to shareholders vs. value to ALL stakeholders (shareholders, bondholders, preferred shareholders)
- Price / Revenue is not meaningful
  - Price represents the market value of equityholder’s holdings
  - Revenue goes to ALL stakeholders
- EV / Earnings is not meaningful
  - Enterprise value represents the value of the entire firm
  - Earnings represents value to shareholders since interest has been deducted

Why is EV / EBITDA generally better than P/E?

- P / E is an equity metric, while EV / EBITDA is an enterprise metric
  - P / E only looks at equity portion, ignores debt / preferred shareholders
- P / E is not capital structure neutral
  - P / E is highly dependent on leverage
  - More debt → more risk to shareholders → shareholders demand lower P / E
  - Even if debt is cheaper than equity, the P / E metric will penalize companies who choose to finance through debt
  - Using P / E to value companies violates M&M theory
- EV / EBITDA is capital structure neutral
  - The mix of equity and debt does not change EV assuming similar cost of capital
  - Doesn’t matter how you “slice the pie”, total EV is the same

Earnings vs. EBITDA Multiples

What are some issues with using earnings?

- Earnings are subject to accounting manipulation
- One-time charges, differing accounting policies, non-cash expenses, and ambiguity can affect earnings
  - e.g. Enron

Why is EBITDA a more suitable metric?

- EBITDA is capital structure neutral
- Proxy for cash flow available to all stakeholders
  - Less room for manipulation
  - Ignores D&A, a non-cash expense
  - Ignores interest expense; EBITDA is available to shareholders, bondholders, and preferred shareholders

When is P/E better than EV / EBITDA?

- If interest is a key part of a company's business
  - Banks, financial institutions
  - Mortgage lenders
- If companies in the industry have negligible debt
  - Tech companies
  - Junior mining companies
  - Volatile businesses (e.g. startups)
- If you are valuing a minority investment
  - Equity investments with <50% ownership
  - No control over enterprise, therefore enterprise multiples are inappropriate
- P / E is easier to calculate than EV / EBITDA

What are the drawbacks of using EBITDA?

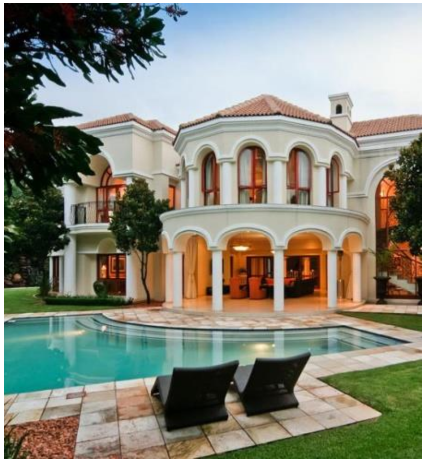
- **Incomplete proxy for cash flow**
  - Ignores change in working capital
  - Does not consider the amount of required reinvestment
- Says nothing about the quality of earnings
- Not suited for the analysis of many industries and ignores their unique attributes (Banks, O&G, RE)
- Misleading measure of liquidity
- Offers limited protection when used in indenture covenants

Comparable Company Analysis: Overview

Overview

- Looking at similar companies and seeing how they are valued on a multiples basis
  - Common multiples include EV / EBITDA, EV / Revenue, P / E, P / TBV
- Taking the average (median) multiple
  - e.g. 6.0x EV / EBITDA
- Apply to target company's metric to get implied valuation
  - Target company's EBITDA is $5 mm
  - 6.0 x $5 mm = $30 mm implied value

A Visual



Valuing a House

- Similar to valuing a house
- Look at how much surrounding houses are worth relative to square feet (or other metric)
- Find median price-to-square feet multiple
- Apply this multiple to number of square feet in target house to get implied valuation

Issues

- Are mansions comparable to a shack?
  - Size must be comparable
- What other features might affect how much houses are worth?
  - Number of garage doors?
  - Number of bedrooms? Bathrooms?
  - Furnished?
  - Have the owners taken good care of it?
- Should price-to-square-feet be the only multiple?

Source: SEC Filings

Comparable Company Analysis Process

Step 1: Selecting the Universe

- Operational Characteristics
  - Industry
  - Products
  - Business Segments – is this a pure play?
  - Location (Legal / Operational)
  - Listing Market – U.S.? Canada? Shanghai?
  - Cyclicality
  - Customers
  - Distribution channels
- Financial Characteristics
  - Size (Market Capitalization / EV)
  - Leverage (Debt)
  - Projected growth
  - Risk profile
  - Shareholder base

Step 2: "Spread the Comps"

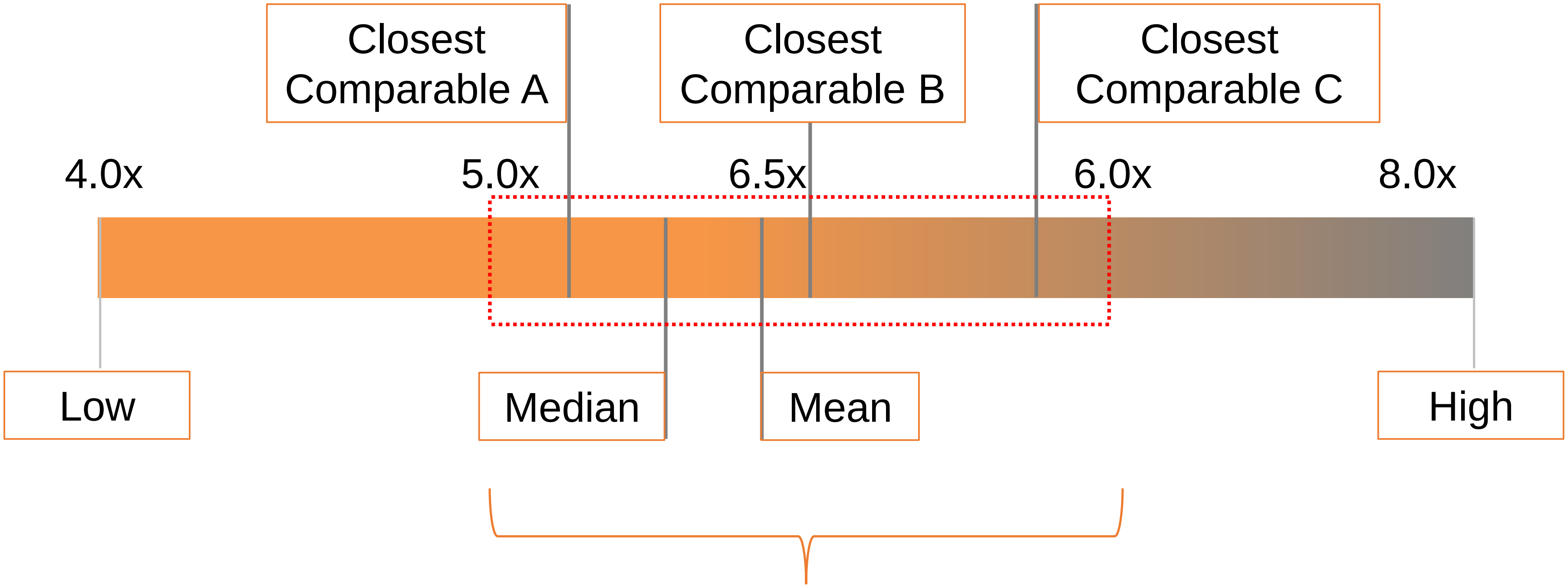
- Process of pulling comparable company data, from sources such as
  - Bloomberg
  - Capital IQ
  - U.S. Companies: 10-K, 10-Q, MD&A
  - Canadian Companies: Annual / Quarterly Reports, MD&A, AIF
  - Oil & Gas Companies: NI 43-101
  - Mining Companies: NI 51-101
  - Financial Institutions: OSFI website
- Issues with quick & dirty sources (Bloomberg & CapIQ)
  - EV calculation almost always "wrong"

Step 3: Establishing the Multiple Range

Step 4: Finding Implied Valuation

See upcoming slides for step 3 and 4

Establishing the Multiple Range



Selected Multiple Range

Comparable Companies Output

Sample Comparable Companies Universe for Universal Insurance Holdings (NYSE:UVE)

		Price/Earnings			Price/Book	Price/Tangible Book	Dividend Yield	ROE
	Equity Value	LTM	2017E	2018E	LTM	LTM	LTM	LTM
Florida Insurance Companies								
HCI Group	$361	13.0x	12.5x	9.2x	1.4x	1.4x	3.7%	14.8%
Heritage Insurance Holdings Inc	$343	10.7x	13.2x	6.0x	1.0x	1.2x	2.0%	9.5%
Federated National Holding Company	$181	nmf	11.2x	6.2x	0.8x	nmf	2.3%	(1.1%)
Florida Insurance Adj. Average		11.8x	12.3x	7.2x	1.1x	1.3x	2.7%	7.7%
U.S. Regional Insurance Companies								
Cincinnati Financial Corp	$12,520	26.9x	26.6x	24.5x	1.7x	1.7x	2.6%	8.1%
American Financial Group	$9,020	15.1x	15.3x	14.8x	1.7x	1.8x	3.7%	15.4%
Hanover Insurance Group	$4,080	21.6x	17.0x	13.3x	1.4x	1.5x	2.1%	6.6%
RLI Corp	$2,410	27.7x	27.2x	27.6x	2.8x	3.0x	5.2%	11.2%
Safety Insurance Group Inc	$1,100	18.6x	18.1x	17.4x	1.6x	nmf	4.0%	9.2%
United Fire Group Inc	$1,050	26.4x	26.3x	18.4x	1.1x	1.1x	2.5%	4.9%
United Insurance Holdings Corp	$677	nmf	10.5x	8.1x	1.3x	1.7x	1.5%	1.0%
U.S. Regional Insurance Adj. Average		22.7x	20.7x	17.7x	1.5x	1.8x	3.0%	8.0%
Overall Adj. Average		14.6x	14.4x	9.8x	1.2x	1.4x	2.8%	7.8%
Universal Insurance Holdings	$720	7.5x	6.6x	6.1x	1.7x	1.7x	3.3%	26.2%

- Common to have multiple "sub-universes" and assign weights accordingly
- Include metrics that drive industry multiples:
  - i.e. Revenue Growth, ROE, ROA, Dividend Yield etc.
  - Companies may be trading at a "discount" due to inferior fundamentals
- Why is the company we are trying to analyze not included in the comps set average?
- What would "nmf" mean?

Implied Valuation

Sample Implied Valuation: Briggs & Stratton (NYSE:BGG)

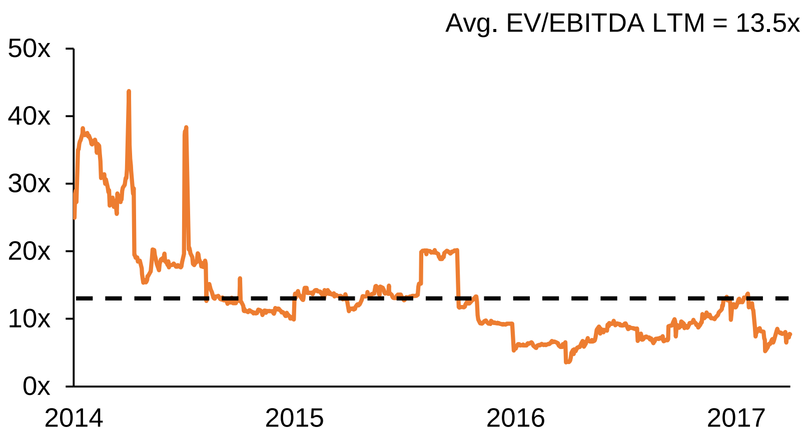
	Multiple			Implied Share Price			Implied Return		
Metic	Lower Limit	Mean	Upper Limit	Lower Limit	Mean	Upper Limit	Lower Limit	Mean	Upper Limit
P / LTM EPS	18.3x	20.3x	22.3x	$24.08	$26.72	$29.35	2.5%	13.7%	24.9%
P / 2017E EPS	17.8x	19.4x	20.9x	$24.66	$26.78	$28.91	4.9%	14.0%	23.0%
P / 2018E EPS	16.0x	17.2x	18.4x	$25.58	$27.53	$29.49	8.8%	17.2%	25.5%
EV / LTM EBITDA	10.7x	11.3x	12.0x	$34.71	$37.01	$39.31	47.7%	57.5%	67.3%
EV / 2017E EBITDA	10.0x	10.3x	10.6x	$35.48	$36.75	$38.02	51.0%	56.4%	61.8%
EV / 2018E EBITDA	9.4x	9.6x	9.9x	$36.06	$37.10	$38.13	53.5%	57.9%	62.3%
Avg. Implied Share Price				**$30.09**	**$31.98**	**$33.87**	**28.1%**	**36.1%**	**44.1%**

Finding an Implied Valuation

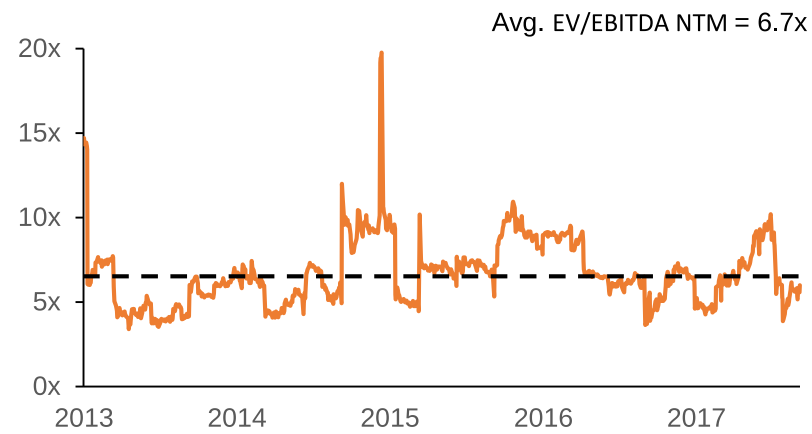
- Take median multiple (e.g. EV / 2018E EBITDA, P / 2018E EPS)
- Multiply by the company's corresponding metric (e.g. 2018E EBITDA, 2018E EPS)
- Valuation is typically presented in a range (low & high)
  - "Low" does not mean taking the minimum
  - Can use upper/lower quartiles or add/subtract the standard deviation of the multiples
- How would I find an implied valuation from an EV multiple?
  - Equity Value = Enterprise Value – Debt – Minority Interest – Preferred Equity + Cash
- **If a company is trading at a discount, does that mean it is undervalued?**

Analysis of Historical Multiples

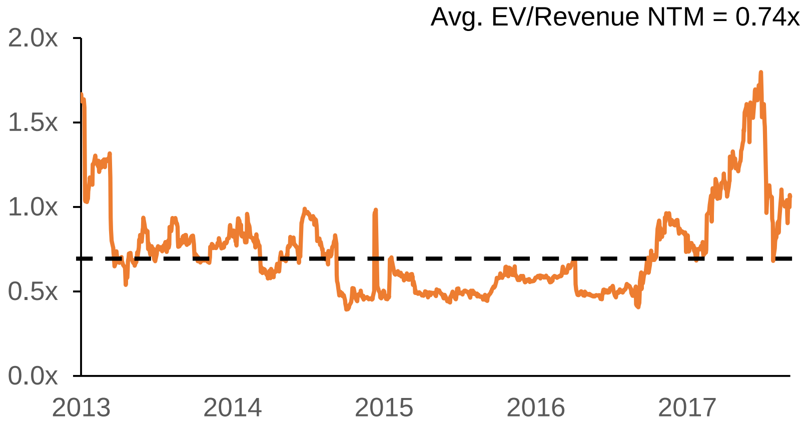
Historic EV/EBITDA LTM



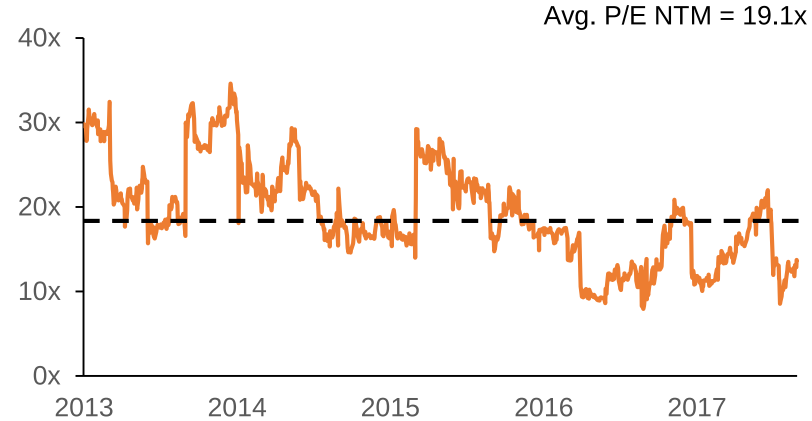
Historic EV/EBITDA NTM



Historic EV/Revenue NTM



Historic P/E NTM



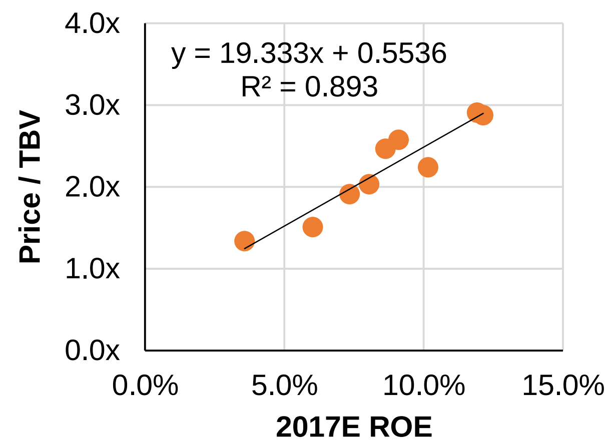
Regression Analysis

Sample P/TBV x ROE Regression Analysis for FCB Financial Holdings (NYSE:FCB)

						ROE		
Ticker	**Name**	**Price**	**Mkt. Cap.**	**TBV per Share**	**P/TBV**	**LTM**	**2017E**	**2018E**
LTXB US Equity	LegacyTexas Financial Group In	42.44	2,032	14.75	2.9x	11.5%	12.1%	12.4%
CFFN US Equity	Capitol Federal Financial Inc	14.95	2,063	9.92	1.5x	6.0%	6.0%	6.5%
BANR US Equity	Banner Corp	59.39	1,966	31.06	1.9x	6.6%	7.3%	7.9%
FIBK US Equity	First Interstate BancSystem In	43.55	1,960	16.92	2.6x	9.9%	9.1%	10.2%
CBF US Equity	Capital Bank Financial Corp	40.15	2,079	19.77	2.0x	5.1%	8.0%	7.9%
UCBI US Equity	United Community Banks Inc/GA	28.84	2,083	12.87	2.2x	9.6%	10.2%	10.5%
EGBN US Equity	Eagle Bancorp Inc	62.85	2,144	21.61	2.9x	12.4%	11.9%	11.8%
AF US Equity	Astoria Financial Corp	18.48	1,871	13.82	1.3x	4.0%	3.6%	3.5%
SFNC US Equity	Simmons First National Corp	59.05	1,851	23.97	2.5x	8.8%	8.6%	9.0%
	Average	**41.08**	**2,005**	**18.30**	**2.2x**	**8.2%**	**8.5%**	**8.9%**
	Median	**42.44**	**2,032**	**16.92**	**2.2x**	**8.8%**	**8.6%**	**9.0%**
FCB US Equity	**FCB Financial Holdings Inc**	**48.80**	**2,020**	**21.78**	**2.2x**	**10.8%**	**11.6%**	**12.1%**

FCB's P/TBV is positively correlated with its return on equity

	LTM	2017E	2018E
Regression Intercept	0.74	0.55	0.53
Regression Coefficient	17.87	19.33	18.92
Return on Equity	10.8%	11.6%	12.1%
P / TBV	**2.7x**	**2.8x**	**2.8x**
TBV	21.78	21.78	21.78
Price	**57.93**	**60.82**	**61.38**
% Upside	*19%*	*25%*	*26%*



Source: Company Filings

Industry Specific Multiples

Consumers / Retail

EV / EBITDAR

Healthcare / Pharma / Biotech

EV / Researchers or Scientists

Energy

EV / mboe / d (production) P / NAV
EV / 2P Reserves P / DACF

Financial Institutions

Price to Book EV / AUM
P / Tangible Book

Metals & Mining

EV / tonnes / d (production) P / NAV
EV / Reserves

Real Estate

P / FFO P / NAV
P / AFFO

Technology, Media, Telecom

EV / Users EV / FCF
EV / Revenue

Natural Resources

- P / NAV for mining and energy
- NAV is a DCF on each company's assets using a different discount rate for each project
- EV / Production
- Production measured in BOE / Day (barrels of oil equivalent) or Tons / Day (metric tons)
- EV / Reserves
- EV / Proven Reserves (1P)
- EV / Proven & Probable (2P)
- 1P → 90%, 2P → 50%, 3p → 10%

FIG & Real Estate

- P / B, P / TBV and P / E for banks
  - TBV = Tangible Book Value
- EV / AUM for asset management
  - AUM = Assets Under Management

Real Estate

- P / FFO for REITS
  - FFO = Funds from Operations
  - Net Income + D&A
- P / AFFO
  - AFFO = Adjusted Funds from Ops
  - Net Income + Rent Increases + Certain CAPEX

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Agenda

1	Comparable Analysis
2	Precedent Transactions

Precedent Transactions

A Comparables Analysis Focusing on Transactions

Comparable Transactions Analysis

- Comparable transaction analysis - looks at historical transactions
- Similar multiples, but EV is based on Transaction Value (TV) as opposed to market-implied EV
  - TV / EBITDA, TV / Revenue
- Valuation derived from precedents will typically be higher than comparables and DCF because of control premium
- Control premium**:**
  - Synergies
  - Ability to control timing of cash flows
  - Ability to change management and improve the business

Selecting Precedent Transactions

- Sector / Industry
- Products and Services
- Customers Served
- Distribution Channel.
- Geography

Valuing a House Example Recalled

- Precedents are similar to valuing your house based on how much surrounding houses were bought for on a price-to-square-feet basis
- Many more screening criteria and qualitative factors to analyze, including:
  - Time of deal announcement / closing
    - A transaction pre-2008 is not comparable to a transaction post-crisis
    - Private equity firms were willing to pay much higher premium as credit markets were loose and more liquid
  - Type of acquirer
    - A strategic buyer is able to pay a much higher premium due to ability to realize perceived synergies post-acquisitions, as opposed to a private equity firm / financial buyer, which cannot
  - Transaction type
    - Friendly? Hostile?
    - Was acquirer public or private? Was target public or private?

Precedent Transactions

Sample Output

Precedent Transactions Analysis for Microsoft

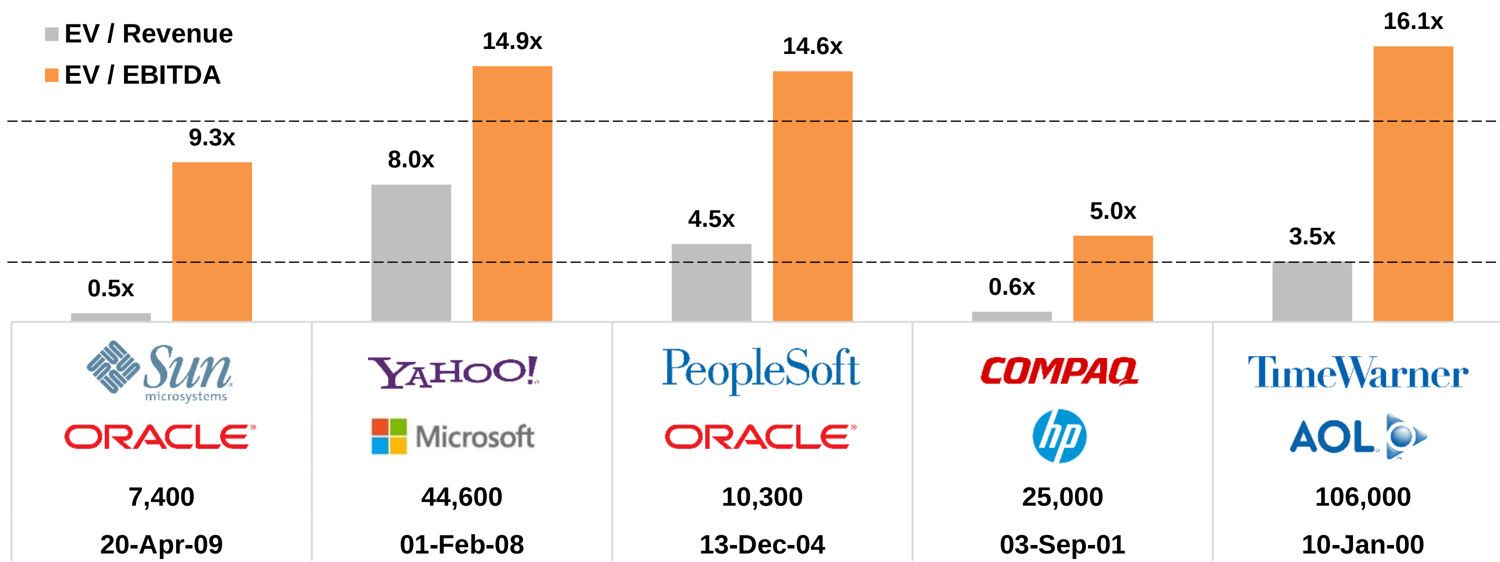
Target		Acquiror		Transaction			
Company	**Type**	**Company**	**Type**	**Date**	**Transaction EV**	**EV/EBITDA**	**EV/Revenue**
Sun Microsystems	Computer Systems	Oracle	Enterprise Software	20-Apr-09	7,400	9.3x	0.5x
Yahoo!	Interent Services	Microsoft	Computer Electronics/Software	01-Feb-08	44,600	14.9x	8.0x
PeopleSoft	Enterprise Software	Oracle	Enterprise Software	13-Dec-04	10,300	14.6x	4.5x
Compaq	Computer Hardware/Software	Hewlett-Packard	Computer Hardware/Software	03-Sep-01	25,000	5.0x	0.6x
Time Warner	Media	AOL	Technology & Media	10-Jan-00	106,000	16.1x	3.5x
Median						**14.6x**	**3.5x**

Target

Acquirer

TEV ($MM)

Date



Precedent Transactions
Advantages and Disadvantages

Advantages

1. **Market-based**
   - Based on actual acquisition multiples paid for comparable companies
   - Recent transactions reflect current market trends, economic conditions, etc.
2. **Simple to use**
   - Recent, key transactions provide a benchmark acquisition multiples
3. **Objective**
   - Based on actual acquisitions, does not make assumptions about the future

Disadvantages

1. **Time lag**
   - Markets could be very different during the time the acquisition took place
2. **Lack of comparable acquisitions**
   - May be difficult to find recent acquisitions with similar deal terms, line of business, financial ratios, scale, context, etc.
3. **Information could be hard to find**
   - Private and / or small transactions sometimes have very little data
4. **Each acquisition is unique**
   - Different deal terms
   - Different motivations, plans to turn around business
   - Different synergies to be realized

Popular Interview Questions

Precedents-Based Questions

- **How do you screen for precedents?**
  - Size
  - Time
  - Industry
  - Geography
  - Metrics/Premiums
  - Sponsor/Strategic
  - Consideration
  - Ownership Stake
- **Why would a company with similar growth and profitability to its comps be valued at a premium?**
  - Earnings beat in the quarter well above expectations
  - Some kind of competitive advantage over others – patent, asset, etc…
  - More market share
  - Won litigation
- **Would a strategic buyer or financial sponsor be willing to pay more?**
  - Typically, strategic due to synergy realization
  - Sponsors could have portfolio companies that may benefit
- **Two companies have exact same financial profile and are bought by the same acquirer, but EBITDA multiple for one transaction is twice the multiple of the other transaction – how could this happen?**
  - Once process was more competitive than the other
  - One company had a depressed stock price/bad news
  - Consideration; mix of cash/stock/debt
- **What is the EBITDA margin of these two transactions?**
  - Transaction 1:
    - EV/Revenue: 2x
    - EV/EBITDA: 10x
  - Transaction 2:
    - EV/Revenue: 4x
    - EV/EBITDA: 20x