290T: The Business of Software: Valuation and Exit Strategies

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Valuation

- **The key common element between these:**

Start-up/ Entry

Valuation

Exit

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Valuable Business Skills

1. **The ability to predict the future**
2. **The ability to judge people**
3. **The ability to identify the value (and its direction arrow) of a technology, product, company, market or industry**
4. **The ability to develop a valuable technology, product, company, market or industry**

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So, let's recall …

How do we value these?

- **A house?**
  - **Market comparison (comparables)**
  - **Cost**
  - **Income:**
    - **Estimated_rental_income – mortgage - taxes – maintenance * 12 * 30**
    - **Includes: risk, maintenance**
  - **What other factors could affect the sale?**
    - **Unique features of the property (house provides access to other valuable property)**
    - **Disposition of buyers**
    - **Disposition of sellers**

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How do we assess the exit value of a company?

- Cost
- Recent comparables
- Future earnings
- If they were public today, what would be their value on NASDAQ?

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Cost

- What would be the engineering effort required to replicate the code?
- Requires:
  - Detailed code inspection
  - Level of knowledge of application
  - Access to comparable engineers
- Metrics:
  - Months of staff engineering effort
    - But what caliber of engineer?
  - Quality of code
  - Quality of software architecture
  - Maturity of product: prototype, Alpha, Beta, Shippable, Robust

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How do we assess the exit value of a company?

- **Cost**
- **Recent comparables**
- **Future earnings**
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Comparables

- **What have comparable companies sold for recently?**
- **Variables of comparison:**
  - **Size:**
    - **Staff**
    - **Bookings**
    - **Revenue**
  - **Product maturity**
  - **Market segment targeted**

- **Tremendous differences based on:**
  - **Bookings vs revenue**
  - **Trailing twelve-month vs. forecasted twelve-months**

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"Textbook" Comparable Market Value

- **Surrogate Market Value based on valuation benchmarks of similar publicly traded companies (guideline companies).**
- **Price/Book Value**
- **Price/Earnings**
- **Price/Cash Flow**
- **Price/Revenues**
- **Price/EBITDA**
- **Price/EBIT**

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- **Recent comparables**
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Discounted Cash Flow Analysis

- **A method of assessing a company's value today by discounting its future cash flows**
- **Said another way, it's the Net Present Value of future cash flows**
- **Cash flow projections for MyCo, Inc.:**

in $mm	2004	2005	2006	2007	2008	2009	2010
Cash flow	**($9)**	**($4)**	**($1)**	**$2**	**$5**	**$12**	**$30**

How much is MyCo worth today?

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Discounted Cash Flow Analysis

- **First, determine the value of MyCo, Inc. today**
- **Need a discount rate**
  - **Since we're valuing the cash flow to equity of MyCo, so we want the cost of equity**

    Cost of equity = risk-free rate + premium
- **"The annual rate of return that an investor expects to earn when investing in shares of a company is known as the *cost of common equity*. "**
- **Assume God told us premium is 10%**
- **With risk-free rate = 5%, cost of equity = 15%**

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Cash flow to equity of MyCo, Inc.

- **At a discount rate of 15% and cash flows at:**

in $mm	2004	2005	2006	2007	2008	2009	2010
Cash flow	**($9)**	**($4)**	**($1)**	**$2**	**$5**	**$12**	**$30**

- **NPV = $8.59mm**
- **Any investment in MyCo with valuation <$8.59mm is a good deal**
- **However…**

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Issues

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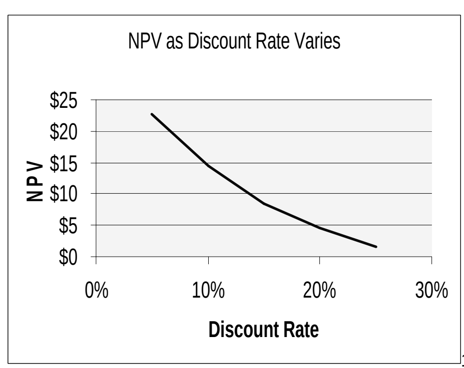
- **MyCo has a limited operating history, great uncertainty in his cash flow projections**
  → how to estimate future cash flows of a start-up?
- **What discount rate?**

Discount rate has a large effect on NPV



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Fast forward to 2010

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- **BigCompany Corp. is considering an acquisition of MyCo, Inc.**
- **How much should they pay?**
- **MyCo has some operating history now**

in $mm	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Cash flow	**($8)**	**($5)**	**($2)**	**$1**	**$4**	**$15**	**$30**	**$39**	**$50**	**$57**

Projecting Market Saturation

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DCF Analysis

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- **MyCo is a little more stable now, so let's reduce the premium to 5%**
- **With risk-free rate = 5%, cost of equity = 10%**
- **NPV = $75.5mm**
- **If cost of equity = 15%, NPV = $49mm**

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Issues

- **MyCo has some history, so that makes predicting future cash flows easier**
- **However, how will cash flow change with the acquisition?**
  - **Grow faster: leverage BigCompany's sales channel**
  - **Reduce: overlap with BigCompany's existing products**
- **How will discount rate change?**
  - **Lower risk: BigCompany's stability near that of US Govt**
  - **Higher risk: Core technical team of MyCo leaves to do another start-up**

The moral of the story:

Because DCF is fairly easy to compute, it may be one of many methods used to arrive at a valuation for a company, but I've never seen a valuation, high or low, that was in any way related to DCF

But if you still want to know more:

http://www.valuepro.net/approach/equity/equity.shtml

http://www.valuepro.net/approach/dcftech/dcftech.shtml

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How do we assess the exit value of a company?

- **Cost**
- **Recent comparables**
- **Future earnings**
- **If they were public today, what would be their value on NASDAQ? (really a different way of doing comparables)**

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The PEG Ratio

- **Peter Lynch, *One Up on Wall Street***
  - **"The p/e ratio of any company that's fairly priced will equal its growth rate."**
  - **I.e. Growth (as %) = P/E or**
  - **Solving for Price (per share) = Growth * Earnings**

- **Also popularized by *A Motley Fool***
- ***http://www.fool.com/***

- ***http://www.moneychimp.com/articles/valuation/peg.htm***

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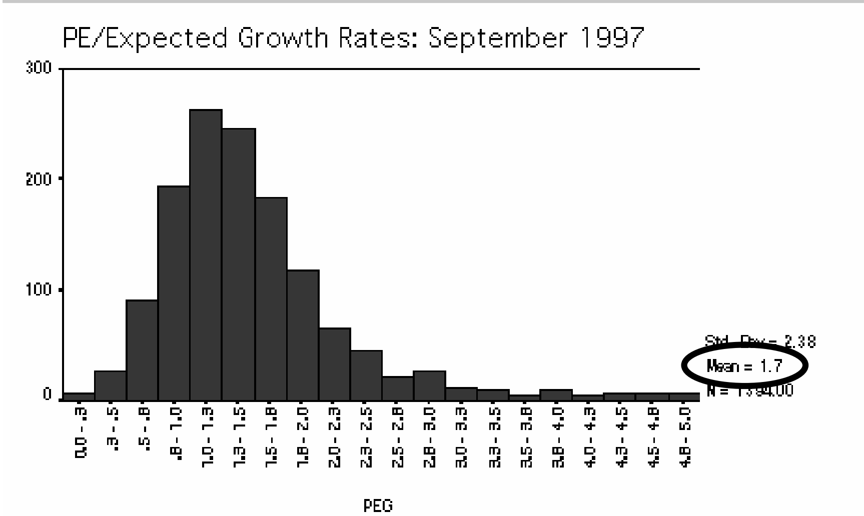
So What About This?



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O r This?

Company Name	Price	EPS	PE Ratio	Growth Rate	PEG Ratio
Adobe Systems	$ 42.13	$ 2.04	20.65	19.50%	1.06
Autodesk Inc.	$ 40.00	$ 0.95	42.11	17.00%	2.48
Automatic Data Proc.	$ 56.06	$ 1.83	30.64	14.00%	2.19
BAKKA Inc.	$ 26.75	$ 1.05	25.55	29.50%	0.87
BMC Software	$ 68.50	$ 1.60	42.81	23.50%	1.82
BancTec Inc.	$ 24.75	$ 1.76	14.06	18.50%	0.76
Broderbund Software	$ 30.75	$ 1.67	18.41	6.50%	2.83
Ceridian Corp.	$ 44.63	$ 2.25	19.83	10.50%	1.89
Comdisco Inc.	$ 31.31	$ 1.33	23.49	17.00%	1.38
Computer Associates	$ 52.56	$ 1.69	31.05	20.00%	1.55
Computer Sciences	$ 86.31	$ 2.91	29.66	16.00%	1.85
Corel Corp.	$ 2.19	$ (0.16)	NA	4.50%	NA
Electronic Data Sys.	$ 40.50	$ 2.07	19.57	12.00%	1.63
First Data Corp.	$ 28.88	$ 1.37	21.08	15.50%	1.36
Fiserv Inc.	$ 48.19	$ 1.34	35.96	19.50%	1.84
Gartner Group 'A'	$ 31.56	$ 0.51	61.89	36.50%	1.70
Informix Corp.	$ 6.16	$ 0.63	9.77	8.00%	1.22
Mentor Graphics	$ 9.56	$ 0.52	18.39	9.50%	1.94
Microsoft Corp.	$ 144.69	$ 2.63	55.01	27.00%	2.04
National Data Corp.	$ 34.63	$ 1.38	25.09	26.50%	0.95
Network Assoc.	$ 49.75	$ 0.92	54.08	52.00%	1.04
Novell Inc.	$ 8.34	$ 0.31	26.92	6.00%	4.49
Oracle Corp.	$ 30.25	$ 0.84	36.01	25.50%	1.41
Parametric Technology	$ 48.81	$ 1.19	41.02	31.50%	1.30
Paychex Inc.	$ 41.44	$ 0.70	59.20	27.00%	2.19
PeopleSoft	$ 68.38	$ 0.46	148.64	43.00%	3.46
Policy Mgmt. Sys.	$ 67.44	$ 2.37	28.45	20.50%	1.39
Sterling Commerce	$ 35.75	$ 0.99	36.11	24.50%	1.47
Sterling Software	$ 39.13	$ 1.80	21.74	9.50%	2.29
SunGard Data Sys.	$ 27.69	$ 0.80	34.83	19.00%	1.83
Sybase Inc.	$ 13.50	$ (0.40)	NA	29.50%	NA
Symantec Corp.	$ 25.94	$ 0.78	33.25	33.00%	1.01
System Software	$ 14.50	$ (0.76)	NA	45.50%	NA
Average			**35.51**	**21.74%**	**1.77**

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Many Other Factors Impact "pro forma" PEG

- **Diminish earnings (increase PEG >1)**
  - **One time charges**
    - **Restructuring**
    - **Retirement and employee severance**
    - **Law suit settlement**
- **"Unjustly" increase earnings or otherwise diminish PEG**
  - **Including returns from investments**
  - **Unstable performance record, didn't warn wall street last time they missed a quarter**
- **Many others**
- **Warning on Pro Forma numbers:**
  - **http://www.fool.com/news/foth/2001/foth011207.htm**

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OK

- **So now do we know how to determine the probable exit value of a company**
  - **For an IPO?**
  - **As an acquisition?**

- **Not at all! What did we forget?**
- **Buyers and Sellers!!**

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Buyers and Sellers

- **How many sellers have a comparable product?**
- **Disposition of seller**
  - **Doesn't want to sell**
  - **Willing to sell, but in no hurry**
  - **In the mood to sell**
  - **Anxious to sell**
- **How many buyers are there?**
- **Disposition of the buyer**
  - **Disinterested**
  - **Interested, but passively so**
  - **Actively interested**
  - **MUST HAVE!**

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Who are these at an acquisition EXIT?

- **Who are the sellers?**
  - **The stock-holders in the company:**
    - **Management**
    - **Employees**
    - **Board**
    - **Investors**
- **Who are the buyers?**
  - **Other companies – Acquisition (or Merger)**

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Who are these at an IPO EXIT?

- **Who are the sellers?**
  - **The stock-holders in the company:**
    - **Management**
    - **Employees**
    - **Board**
    - **Investors**
- **Who are the buyers?**
  - **Investment Banks → "your first sale is always to the sales force. " I Banks are your sales force in an IPO**
  - **Mutual fund companies**
  - **Portfolio managers**
  - **Hedge funds**
  - **The public**

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Selling Dispositions in an Acquisition

- What is the attitude of these?
  - Management
    - uncertain of their future?
    - Or planning to stay the course until IPO?
    - Does the offered acquisition price EXCEED their expectations of private wealth?
  - Employees
    - Are they getting restless? (>4 years, “cheap” options have already vested, time to move on!)
    - Or do they love this job and never want to leave?
  - Board
    - Hardened sales negotiators or just looking for a “good price”?
  - Investors
    - Are the VCs worried about the viability of the company?
    - Are they needed to show some returns?
    - Or are they “IPO or BUST”!!

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Buying Dispositions in an Acquisition

- Moderate interest
  - We can sell this through our sales pipeline
  - This would fill out our product portfolio
- Strong Interest
  - Our customers are asking us for this solution and if we don’t offer it someone else will!
- Very strong interest
  - This is a (potentially successful) product targeted toward a key emerging market in our business
  - We absolutely need this solution for our product portfolio
  - We absolutely need to enter this new market for growth
  - We absolutely need this revenue generator while we pursue other speculative markets

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Mergers and Acquisitions

- There are a number of factors that motivate a post-IPO company to engage in mergers (two companies of comparable size merging) and acquisitions (a larger company acquiring a smaller company for stock, cash, or mixture)
- Wall Street's means of valuation of high tech companies
- Strategic opportunities between the two companies
- Increasing economies of scale
- Increasing clout with:
  - Suppliers (not so relevant in software)
  - Distributors (or diminishing costs of distribution)
  - Customers – especially true if competitors are merging
  - Wall Street, stock holders – bigger companies get more notice
- "Buying" an installed customer base

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11 Ways to Bungle an Acquisition

1. Perform inadequate due diligence
   1. technical– you don't get the products and technology you thought you would
   2. financial – true balance sheet is very different than expected
   3. managerial – that future BU manager that you were excited about getting in the acquisition turns out to be incapable of managing a lemonade stand
2. Focus only on future strategic opportunities, not on the immediate reality
3. Failing to get the operational management on board for "team fit"
   1. Acquiring company's BU doesn't understand why he owns this
   2. Acquired company's team doesn't understand why they fit in this BU
4. Presuming that additional cash will come from somewhere to remedy deficiencies discovered during due diligence
5. Over-managing the acquired company – morale of acquired company is crushed
6. Under-managing the acquired company – morale of the acquired company is crushed "why did you buy us?"
7. Acquire too early – market hasn't matured yet, worse than paying for the R&D
8. Acquire too late – market is saturated, corporate growth rate is diminished

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Selling Dispositions in an IPO

- Not so relevant is setting IPO price
- Bigger question is “do we want to go IPO now?”
- Are we really ready to answer to stockholders and analysts every quarter?

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Buying Dispositions in an IPO

- Moderate interest
  - Buyers: buy at the right price
- Strong Interest
  - Investment bank: We want this IPO on our list
  - Other buyers: good buy!!
- Very strong interest
  - Investment bank: This will be the IPO of the year – we have to get in!!
  - Other buyers: Looks like A HOT STOCK!

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Summary

All of these help to determine a company's exit value

- **Cost**
- **Recent comparables**
- **Future earnings**
- **If they were public today, what would be their value on NASDAQ?**

But as in start-up valuation, it's the disposition of the buyers and sellers that will have the greatest impact on the final value achieved

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HW Assignment now on Web

Date: **Company Name** **Analyst:**

Brief Description

Current Management

Stock Price Chart (since IPO, including splits)

Corporate History
(including founding date, significant corp events)

Nov-03	Company founded
Feb-04	Hired CEO
Oct-04	Beta shipped
Dec-04	FCS

Business Model

About the Founders

Principal Revenue Sources

Funding History
Series A
Series B
etc.

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