Mid term

**Calculate EV**

EV = net debt –cash + market cap + mkt value preferred + minority interest – investment in associates

**Given a schedule, calculate value**

**what is a valuation multiple**

EV/EBITDA or MC/NI (P/E)

Or transaction multiples

**what is highest between multiples (has to do with control)**

Transaction because of control premium

**diff in working cap**

**how is goodwill created**

Extract cash to pay owner, added to balance BS

**Consolidation**

Control = 100% of sales+EBITDA; only owner % of NI

Balance sheet post transaction

Cash paid = EV

Fill blanks in P&L

Prepare CF statement

Question on WAAC

WACC = D/(D+E)Kd(1-t) + E/(D+E)Ke where E=E after transaction

# Lecture 1

Private Equity:

* PE investors are organized into a pool of funds as LPs. Typically have a target and not invest in pharma, weapons, etc…
* Pool is operated by a General Partner (GP) who charged management fees
* Has a finite year (10-12yrs), during which GP acquires business, increase value and re-sells at profit
* Success ratio: cash on cash = cash at exit/cash entering
* Funds pledged and only committed once therefore low tendency to flip unless great price (to increase cash on cash ratio)

Typical firm lifecycle:

* PE firm creates buyout fund & gets committed capital from investors (ex: pension funds, endowments, etc…)
* PE firm finds target for buyout fund to acquire
* Firm finds loan and leverages buyout (~50% equity in Canada)
* Hold for 3-10 years, perform financial or operational changes to increase value
* Exit investment via IPO or sale to other PE firm or synergy
* Profits returned to investors

Typical motivations to sell:

* Want out
* Want more $ to grow
* Usually accompanied by some kind of fear/risk that might not get explicitly communicated

Characteristics of a good deal: Because increasing leverage, need to minimize risk:

* Look for boring stable/cyclical companies
* Secured cash flow
* Good margins to provide protection (or lower margins by more stable)

LBO – Seller’s point of view:

Assume CAGR 5% conservative; 8% aggressive

Business worth $100

Option 1: Conservative

* $100 -> $128
* Made 28$

Option 2; sell 60% to PE

* Leverage 50%; get $50. New structure: 50$D, 50$E
* Sell 60% to PE; receive 60% of $50 = $30; total $80 cash
* Cash earns 5% risk free $80 -> $102 (made $22)
* Business grows to $148; in the man time, debt reduced to $20 leaving $128 in equity
* Get 40% of $128 = $51 – original $20 original = made $31
* Total earning: $31+ $22 = $53 instead of original $28
* PE firm made: get 60% of $128 = $77 less original $30 = $37 (~100% return)

\*Need to ensure company growth outpaces cost of capital because of leverage

## **Financial Statements**

P&L:

|  |  |
| --- | --- |
| Revenues (Gross - net sales) | *Growth* |
|   | Less COGS |  |
| Gross Profits | *Margins* |
|   |   |  |
| Less |   |  |
|   | SG&A |  |
|   | Overheads |  |
| EBITDA | *Margins* |
| Less Adjustments |  |
| Net Income Adjusted |  |
| Capex |  |

Balance sheet

* Account Receivable: Calculated as Days Of Sales (DOS) receivables: sales = 365 = sales/day; AR/(sales/d) = days of sales
* Accounts Payables: calculated as days of COGS; but need to extract biggest driver. If Ad works, will scale with SGA instead
* If Capex < depreciation; future capex requirements could be BS (hits the cash)
* Goodwill: Difference between value of asset, and the fact that it came from an organized eco system. Asset intensive company have very little goodwill; price should be close to price of assets (Ex: crane rental company Vs. IT). EBTDA multiplier depends on asset intensity; adjust accordingly.

For forecasting:

Summarizing: everything put into 4 buckets:

* P&L items: Build a view on the business (Debt, WC and Capex is more mechanical) Up to EBTIDA (sales, cogs, SG&A)
* Debt items: Easiest to forecast; interest hits P&L as opex
* WC items: Working Capital = Cash trapped into the business; unless winding down, need to stay
	+ Receivables (days of sales)
	+ Payables (Days of COGS)
	+ Inventory: drive by COGS since not related to sales (Days of COGS)
	+ Exclude cash and short term debt since not trapped into the business.
	+ If WC increases, expense because need to throw cash into the business
	+ Target: better inventory management, or hire good bulldogs. Getting paid faster-one have more leverage on. Huge short term impact on business (WC is money left on the table when flipping a business)
* Capex items

Consolidation:

* If control, take 100% of sales, EBTDA and NI AFTER subtracting minority interest
* Since controlling SH takes 100%; any other minority SH take 0% of sales and EBTDA; get paid via minority interest therefore adjust NI distribution

Schedules:

* Debt Schedule: BoP + issues – repaid = EoP (for BS); calculate interest for P&L
* WC Schedule: AR as DSO; AP and inventory as DoC; changes in WC = hits cash
* Investment schedule: PP&E BoP + Maintenance&Growth CAPEX – depreciation = PP&E EoP (for BS)

Acquisition:

* Pay debt (cash’ = cash-debt)
* Ingest purchase (issue new debt, add equity)
* Pay purchase price = EV – net debt (when you buy, pay everything, but previous owner only owned equity in the business)
* Adjust cash balance (remove purchase price)
* Set new D/E as proposed financing
* Adjust GW (make asset balance with new capital structure)

EV: Debt free cash free value of business

EV = Net Debt (Debt-cash) + Equity (Mkt value of common + preferred shares) + Off balance sheet liability + Minority interest - investment in associate

Conflicts with pre-paids/deferred revenues:

* Conflict:
	+ I am paying for revenues, I should have it but I won't therefore I need to adjust the cash
	+ You will always have deferred; part of working capital because it will be renewed. Part of working capital, if at a normal level. Not bad for SW company since no costs of delivery associated.
* First ask for the whole, counter with part of WC, agree middle of the road - get compensated for costs of delivery

Different financing Sources Available: From most expensive and most risky to less expensive less risky

* Equity: Cushion for debt investors
* Subordinate debt: Called subs
	+ Secondary lending, riskier (13-18%)
	+ Currently can borrow 3 x EBTDA for mid-market, bigger companies can go further.
	+ In QC, really cheap (Lots of investors like CDPQ, investissement QC, and FTQ that love subordinate debt); Max subordinate ~1 turn of EBDTA.
* Senior debt:
	+ Cheapest source of capital (bank, subject to covenants)
	+ Typically require minimum 40% equity cushion or 3xEBITDA
	+ ~5%
* Subventions

PIK: Payment in Kind: debt where interest accrue on capital owed is only pay full amount at end.

Free Cash flow formula:

 EBTITDA

 Less:

 Reinvestment into the business (CAPEX + WC)

 Tax (less tax plus depreciation tax shield)

FCF = [EBITDA (1-t)] – [Capex – dWC] – [D&A(t)]

Discount Rate : WACC : D/(D+E) [Kd(1-t)] + E/(D+E) [Ke]

E = amount of equity you are about to pay, not existing market cap

# Valuation Methods

Multiples:

* Easy to implement
* Imprecise
* Subject to error by comparable (less risky if large)
* If everyone benefits: EV/EBITDA (Most common)
* If only SH benefit: Equity (Market cap in public) / NI
	+ MC = # shares \* P/share
	+ NI = # shares \* E/Share
	+ => P/E

Transaction Multiples:

* Age where market conditions change drastically. Small cycles. 5 years ago full recessions
* Will be higher than EV/EBITDA or P/E multiples because only reflects transactions of whole company, pay control premium. Typically, add 15% to regular multiple for control premium, here it is embedded.
* Here because price paid was for transaction, always transfer of control. Whereas multiples is not control transaction

DCF:

Terminal value = final CF \* (1+g)/(discount rate – g)

LBO:

VC

Looking for: (team, pain, TAM)

* Great team: Ensure you have done market research – 30 customer calls. Pricing, where does it comes from
* Big Idea – must be disrupting. What you are proposing doesn’t exist, fixing pain. Pickups phone and call a prospect customers, must be excited to hear about it. Only way you will get a good exit. Ex – new CRM, not disrupting; SAP might buy you for 3M if costs them 5M to build and integrate new feature, but not disrupting market (ex:
	+ network management in the cloud – after Cisco.
	+ MAthlab – low cost – punch them on the face.
	+ DRs go online, upload medical images and collaborate
* Look for business model that are capital efficient. What is CAC (Customer acquisition cost, sales conversion ~1%). Or if medical device; cost of acquisition 30k$, web delivered ~5$
* Big TAM (Total addressable market). Ex: Mathlab. Have the ability to build a large company. Need every company to be ~100M$ exit value. Bigger market, more latitude you have to test strategy and navigate. How to deal with competitions. Either top down (Market -> players/market share -> how much we can capture), then bottom up (#users -> paying X per seat -> roll up to validate)
	+ Could be a case where there isn’t TAM. Have to go to companies, evangelize. Super tough.

Deal:

* How do you value it. Entrepreneur says invest 2M I’ll give you 2%. Business plan never works out. Hint-VC doesn’t know winners in their own portfolio. Fund:
	+ 100M$. Do 25 deals
	+ 5 fail right away
	+ Our of 20 left (best case)
		- 1@5-10x
		- 2@3-5x
		- Rest: Break Even
	+ After invest, will have Series A, B, then 100M from the Valley -> getting squeezed. Therefore need to start at ~15-25%, since will get diluted along the way
* Kick in 1M$, take 25%. Truth is, idea without capital is nothing. Focus on getting idea off the ground rather than valuate it. Either it will work, or will not work. But value will be off. See usually 3 guys and an idea (back of a napkin)
* How to deal with competition – drop term sheet within a week and lock up deal. Good for VC because lock you up, but bad for entrepreneur because while doing diligence, can’t see others.
* Early stages, VC wants a board seat. To provide discipline, governance (product roadmap, sales, hiring) – help company focus. Then help with strategic thinking. Brainstorm, how are we going to market, what strategies to get leverage. When sit on BOD, have fiduciary duty to that company. Can never make a decision based on self-interest. IN partnership, decide as a firm how much capital want to invest. Conflict, can never take an action that could harm a company (ex: inbound offer to be acquired-right thing for company to do, but VC firm might want to hold. Or Need more capital, but VC not interested in re-investing)
* Priced, agreed on value, next:
* Paper the deal. Term sheet Take preferred shares. (more voting, secured dividends, enhances voting rights). Assign voting to preferred but not to common (in case common if family/friends, don’t want them on the board). Dividends: make it cumulative to protect capital.
	+ Liquidation preference:
		- 1x is industry standard. 1x goes to VC, remaining equity goes to preferred and common. Think of stack; only meaningful if above 1X; otherwise, looking at recovery of capital.
		- Used to close negotiation gap between entrepreneur and VC vision of the value. Ex: entrepreneut thinks 100M, VC thinks 35M. VC offers 3x liquidation. Problem, disconnect - even if company 3x; entrepreneur doesn’t get a dime. Entrepreneur will try to hit it off the park, VC wants to hit 3rd base – creates disconnect and ungovernable company. Recommendation, 3X offer is NFG. Also, since go early stage, any right ask for, every new rounds of financing will ask for 3x.
	+ Shooting for 30% IRR. Should return 2-3X of the fund.
	+ (go to NVCA website, has template term sheet- shows every variant of clauses)
	+ IN the event of a down-round: ratchet mechanisms – VC gets less diluted
	+ Drag along term – vast majority of board; force investors to convert even if they don’t want to
* Salary for founding team: Idea – join startup get less salary but get options. Issue in the Valley because shortage of expertize. Moved now – salaries in startups are closer to market
* Want to hit valuation inflexion point. Give you 1M$, where does it get you? (ex, once hit 1M users at $5, will be worth xxx)

Lots more big exits in US.

Who are typical LPs: In US, pensions, endowment funds from universities and wealthy. In Canada, few corps (except OpenText and Cisco), but mostly governments bodies. Govt come in, start innovate, attract foreign investors then retrace. So far bad returns.

Canada-commodity based economy, but need to look long term; what’s next.

Govt: typically don’t invest unless you don’t invest. Your job it to topup. When there is a situation, never be aggressive unless creating jobs in QC.

Standard terms, raise 100M, partners invest 1M each.

Fund economics: when setup fun, need to show hurl rate (ex: need to grow by 6% per year), on capital deployed, not on size of the fund. They committed, but only when invested. If sell company early in fund cycle, allowed to re-invest it.

Options for everybody. Founding ownership gets squeezed down. All employees, typically get ~20% equity in options. Make 4yr Options vesting every year.

If ever start a company, if you have 3 partners @1/3, do the vesting anyways over 4 years anyways. Otherwise, partner gets offer; leaves. If vested, still have some shares loft to attract more employees. Otherwise, every time issue shares, diluting investments. EX: leave after 2 years, vested ½ but have worked for it; other ½ of his options stays in company.

Data: on average – seed to exit ~7-9 years. Need to have a long term view.

Trouble: Don’t see lots of big ideas. Things that are a feature, not a disruptor.

Things missing in Canada:

* Not enough entrepreneurs
* Need to see more data points ppl make money. When you see creation of wealth and success, motivated to take risks