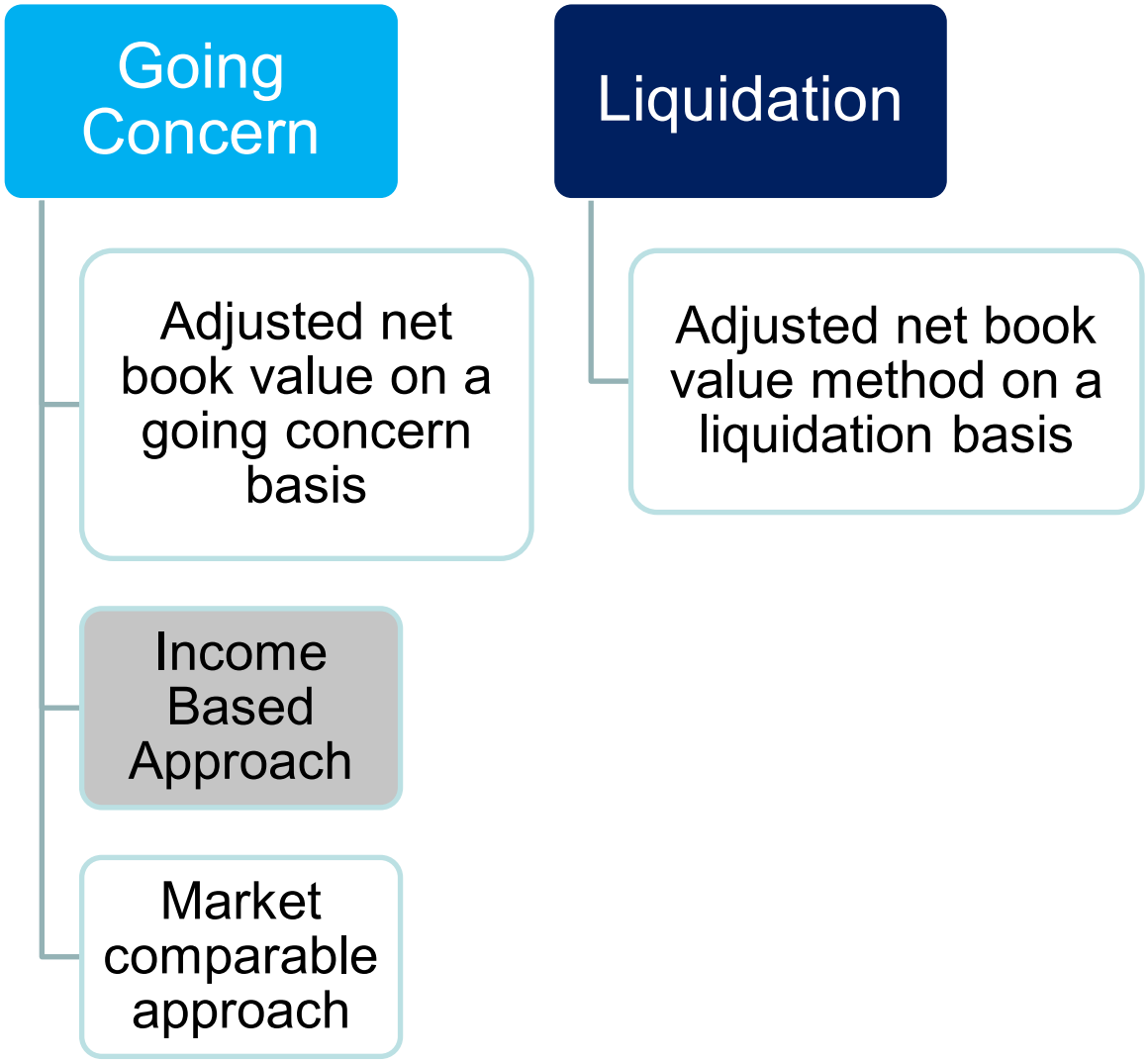
Capitalized Earnings Method

Marc Deegan, MBA,CBV

Outline

- Capitalized Earnings Method
- Cost of Capital – Determining the Multiple !

Going Concern vs. Liquidation Approach



Equity vs. Enterprise Value

- When we are valuing pre-interest cash flow ie. EBITDA or EBIT, we are valuing the company on a before debt basis

- When we are valuing after-interest cash flow ie. EBTDA or EBT, we are valuing the company on an after debt basis

- Excel sheet – Equity vs. Enterprise Value optional

Capitalized Earnings Method

- In this scenario we are using (ie. EBT) as a base (earnings before taxes) to determine the equity value of a company

- If we are valuing earnings before debt service (interest), (ie. EBIT), we are determining the enterprise value of the company or value of the shares and interest bearing debt

- Refer to comparison of Enterprise vs. Equity Values

Capitalized Earnings Method

- This is one of the methods to value a business under the “Income Based Approach”
- Basically applying a multiple to the historical average after-tax **normalized earnings** of a Company
- Looking at the balance sheet to see if there are any redundant assets

When to use this method ?

- Used when a business is a viable going concern
- Future earnings are not expected to fluctuate from maintainable earnings – history of stable earnings
- No large unusual capital expenditures
- Amortization and capital expenditures expected to be minor/insignificant

When to use this method ?

- Sustaining capital reinvestment (capex) closely approximates amortization expense (example)
- Sustaining capital reinvestment (capex) is amount required to invest in capital assets to maintain sales
- I usually take a 5 year average of capex and amortization and compare the two results
- Typically the capitalized earnings method works well for :
  - Distribution companies
  - Service companies

When to use this method ?

Example 1- Earnings method appropriate

5 yr average capital expenditure = 110,000

Amortization expense = 100,000

Example 2 – Earnings method not appropriate

5 yr average capital expenditure = 100,000

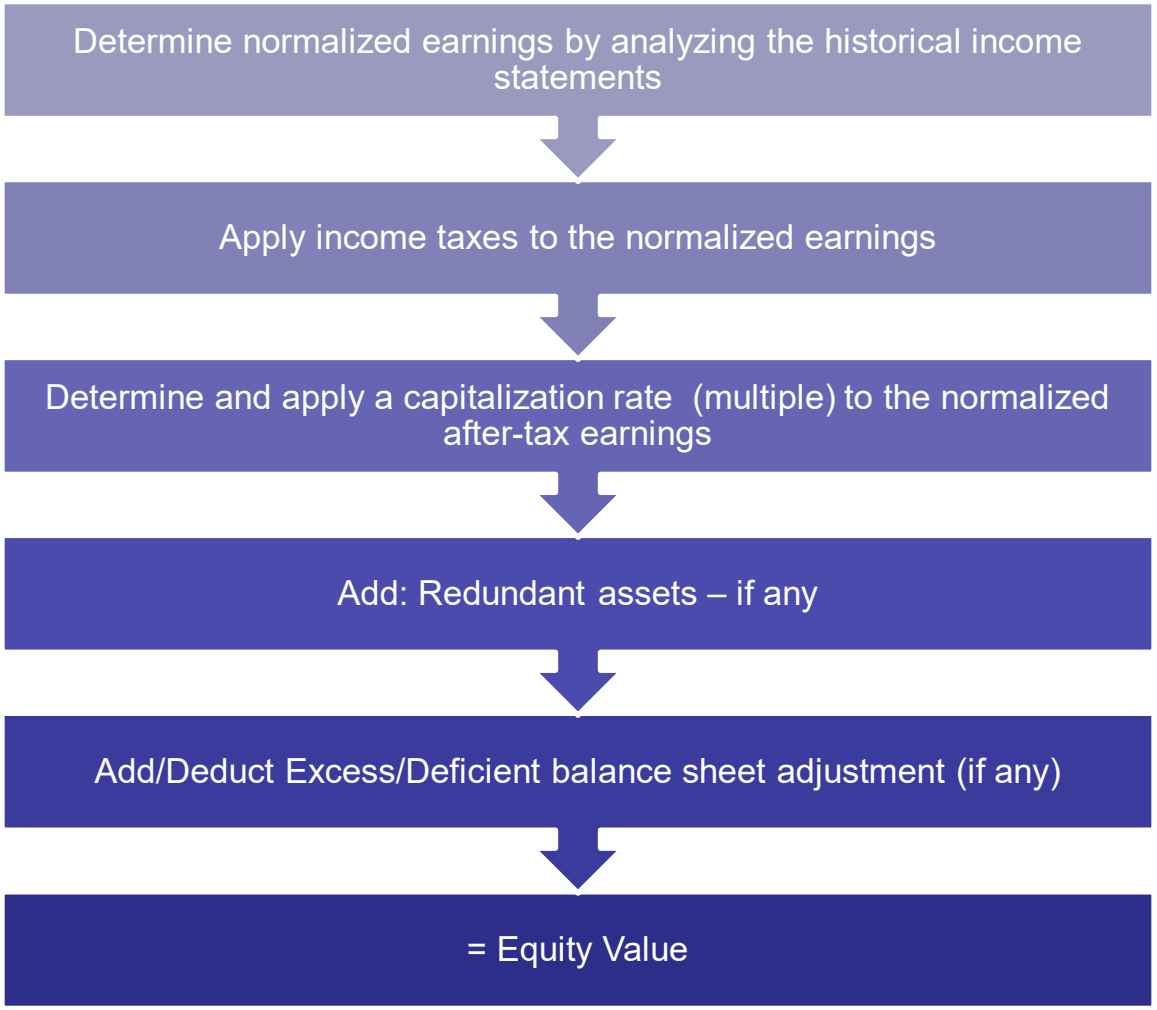
Company plans a major expansion project for next year cost = $700,000

Capital expenditure is found on the cash flow statement

Amortization is found on the income statement and cash flow statement

Steps to the Capitalized Earnings Method

Income Based Approach – Capitalized Earnings Method



Example – Capitalized Earnings Method

	Low	High
Normalized EBT step 1	337,500	412,500
Less: taxes step 2	-64,125	-78,375
Normalized after-tax earnings	273,375	334,125
Capitalization rate step 3 20% to 22% (1/20% = 5, 1/22% = 4.5)	5	4.5
	1,366,875	1,503,563
add: loan receivable - family member step 4	300,000	300,000
Calculated FMV (rounded)	**$1,670,000**	**$1,800,000**

Step # 1 – Determine Maintainable Earnings

- Starting point is the historical financial statements of the Company
- Typically look at 5 years for our analysis or less if relatively stable earnings
- Start with the income statement and the earnings before income taxes (EBT)
- In some cases the income statement may contain non-recurring, non-operating expenses, non-arm's length transactions

Step # 1 – Determine Maintainable Earnings (cont'd)

- Adjust for non-recurring expenses, typically one-time expenses such as:
  - Moving expenses
  - Consulting fees related to a special project (IT purchase, financing)
  - Professional fees related to special work or litigation

- Adjust for non-operating expenses that do not relate to the normal operations of the Company such as :
  - Director's life insurance
  - Interest earned on marketable securities or loans receivable
  - Gains/losses on disposal of capital assets

Step # 1 – Determine Maintainable Earnings (cont'd)

- Some other examples are as follows:
  - Excess management compensation
  - Compensation to family members who are not involved in the operations of the Company
  - Related party expenses – rent, management fees, sales and purchases

- Determine a weighing of the annual normalized earnings to establish **a range** of maintainable earnings of the Company

Step # 1 – Determine Maintainable Earnings (cont'd)

- Trying to establish a range (typically +/- 5% to 10%) to show a Low and a High
- We do this because as valuators it is difficult to say that a company is valued at **$8,540,325**. There is always a margin of error and judgment. So we provide a range of $8,000,000 to $9,000,000.
- You are also trying to detect any trends when establishing your range of normalized earnings

Step # 1 – Determine Maintainable Earnings (cont'd)

Example 1

2014	2013	2012	2011
1,000,000	900,000	800,000	700,000

Increasing trend , may be appropriate to choose a weighted average of all the years, similar logic for decreasing trend

Example 2

2012	2011	2010	2009
500,000	900,000	600,000	700,000

No trend, a straight-line average of all the years

- **YOU NEED TO EXPLAIN YOUR ASSUMPTIONS !**

Example – Step # 1 (cont'd)

- The summary balance sheet of Bagel Inc. is as follows:

Current assets	600,000
Equipment	500,000
Loan receivable – family member	300,000
	1,400,000
Liabilities	(400,000)
Shareholders Equity	1,000,000

Example – Step # 1

	2014	2013	2012	2011
Sales	$3,000,000	$3,500,000	$3,000,000	$2,500,000
GM	$1,200,000	$1,400,000	$1,100,000	$900,000
GM %	40%	40%	37%	36%
Expenses	$1,000,000	$1,100,000	$1,000,000	$1,100,000
Earnings before taxes (EBT)	$200,000	$300,000	$100,000	-$200,000

EBT = Earnings before tax

- Family run Company "I Love Bagels Inc." is a bagel distributor established in 1995
- Shareholder remuneration was $350k in each of the years. Industry benchmark is $200k
- The Company moved in 2014 and incurred moving costs of $100k
- The Company was involved in a litigation in 2011 with non-recurring legal fees of $70k
- The Company received a settlement from the litigation of $125k in 2013
- The Company has a loan receivable of $300k from a family member
- Typical capitalization rates for earnings range from 20% to 22%

Example Step # 1- Normalized EBT

	2014	2013	2012	2011
Sales	$3,000,000	$3,500,000	$3,000,000	$2,500,000
Earnings before taxes (a)	$200,000	$300,000	$100,000	-$200,000
Adjustments				
Management compensation	150,000	150,000	150,000	150,000
Moving expense	100,000			
Settlement revenue		- 125,000		
Legal fees				70,000
Total adjustments (b)	250,000	25,000	150,000	220,000
Normalized EBT (a + b)	**450,000**	**325,000**	**250,000**	**20,000**

Step # 1 - Range of Maintainable EBT

	2014	2013	2012	2011
Normalized EBT	450,000	325,000	250,000	20,000
Straightline average	261,250			
Weighted average 2011 to 2014	329,500			
Weighted average 2012 to 2014	375,000			
Selected range (+/- 10%) (based on 2012 to 2014)	337,500 to 412,500			

We are assuming that this range of earnings is representative of the future annual normalized earnings going forward

Step # 2 – Apply income taxes to the maintainable earnings

- For the purpose of our class the income tax rates will be provided to you

- In an exam it is safe to use Quebec corporate tax rates of 19% on income up to $500,000 and 26.9% on income higher than $500,000, unless otherwise indicated

Example – Capitalized Earnings Method

	Low	High
Normalized EBT step 1	337,500	412,500
Less: taxes step 2	-64,125	-78,375
Normalized after-tax earnings	273,375	334,125
Capitalization rate step 3 20% to 22% (1/20% = 5, 1/22% = 4.5)	5	4.5
	1,366,875	1,503,563
add: loan receivable - family member step 4	300,000	300,000
Calculated FMV (rounded)	**$1,670,000**	**$1,800,000**

Step # 3 – Determine and apply a capitalization rate

- The capitalization rate is the rate of return required by an investor to invest in an asset. It is a reflection of the underlying risk of that asset:

Inverse of rate of return = multiple 1/20% = 5 x

The 20% is the rate of return less a growth rate (22% - 2%)

Sample rates of return (ROR):

- Term deposit = 2% multiple = 1/2% = 50 x earnings
- Investment in shares of Tim Hortons = 5.5% multiple = 1/5.5% = 18 x earnings
- Investment in ABC private co. = 20% multiple = 1/20% = 5 x earnings

Risk vs. Reward

The higher the percieved risk, the higher the required rate of return, the lower the multiple will be:

Investment	Rate of return	Multiple
Term deposit	2%	50 X
Tim Hortons shares	5.5%	18 X
ABC co shares	20%	5 X

Risk vs. Reward

The multiple is the inverse of the capitalization rate - a direct function of the risk of the investment

Rate of return	Multiple	# of years for payback
12.5%	8.0 X	8.0
20%	5.0 X	5.0
40%	2.5 X	2.5

Example – Capitalized Earnings Method

	Low	High
Normalized EBT step 1	337,500	412,500
Less: taxes step 2	-64,125	-78,375
Normalized after-tax earnings	273,375	334,125
Capitalization rate step 3 20% to 22% (1/20% = 5, 1/22% = 4.5)	5	4.5
	1,366,875	1,503,563
add: loan receivable - family member step 4	300,000	300,000
Calculated FMV (rounded)	**$1,670,000**	**$1,800,000**

4 Review the Balance Sheet for Redundant Assets

- Redundant assets are generally defined as:

  "Assets that are not required for the ongoing business operations or the day-to-day operations of the business."

- In most cases, in the context of a transaction, a vendor would cash in on the assets prior to closing.
- Some examples of redundant assets include:
  - Marketable securities/Investments
  - Realizable value of insurance policies
  - Unused land
  - Loans receivable

Step # 4 – Review the balance sheet for redundant assets

- These assets do not contribute to the earnings of a Company as they are not used in the operations
- Example: Loan receivable – family member (on our balance sheet) of $300,000. We are not a bank, lending money is not part of our core operations. We do not need this loan to continue to operate the company
- In most cases the value of the redundant assets are added back to the capitalized earnings of a Company to arrive at the value of the equity/shares

Example – Capitalized Earnings Method

	Low	High
Normalized EBT step 1	337,500	412,500
Less: taxes step 2	-64,125	-78,375
Normalized after-tax earnings	273,375	334,125
Capitalization rate step 3 20% to 22% (1/20% = 5, 1/22% = 4.5)	5	4.5
	1,366,875	1,503,563
add: loan receivable - family member step 4	300,000	300,000
Calculated FMV (rounded)	**$1,670,000**	**$1,800,000**

Example – Step # 1

- The balance sheet of Bagel Inc. is as follows:

Note: Assumption that assets and liabilities are at FMV

Current assets	600,000
Equipment	500,000
Loan receivable – family member	300,000
	1,400,000
Liabilities	(400,000)
Shareholders Equity	1,000,000

Goodwill and Intangibles

- Goodwill is the difference between the FMV of the shares of the Company and the adjusted net book value (Balance sheet at FMV)

	Low	High
Range of FMV (previous slide)	1,670,000	1,800,000
Adjusted net assets	1,000,000	1,000,000
Goodwill	670,000	800,000

NET TRADE WORKING CAPITAL ADJUSTMENTS

(NOT REQUIRED – See Appendix)

EXAMPLE

Wrap Up – Capitalized Earnings Method

- You need to understand when to use this method
- Capitalized earnings method works best when the earnings of the Company are relatively stable and amortization expense is a good indicator of required sustaining capital reinvestment
- Look at the different methods in a step by step fashion. Try and understand the logic behind these methods
- Works best when historical earnings is a good representation of the future earnings

Wrap Up – Capitalized Earnings Method

- With all Valuation Methods you need to state your assumptions
- Redundant assets do not contribute to the earnings of the company, therefore added back to capitalized earnings to arrive at FMV
- In most cases you will be provided with the capitalization rate in your questions

NET TRADE WORKING CAPITAL ADJUSTMENTS

(NOT REQUIRED – See Appendix)

Balance Sheet Adjustment

- You would be surprised how many people miss this calculation or do not consider it when valuing a company
- Need to consider the capital structure of a company as a component of the overall valuation .
- Common source for industry benchmarking is the Risk Management Association (RMA) annual statement studies
- In the real world you also need to consider how much you can margin/borrow on the assets.

My Car

- I sell you my car for market value - $30,000
- Is the market value higher if I include 4 winter tires and mats ? Yes – maybe $31,500
- Is the market value lower if you need to replace the brakes and shocks? Yes – maybe $28,000
- Same idea with the balance sheet, you may have excess assets (winter tires) that increase value or deficiencies (faulty brakes/shocks) that would lower the value

Net Trade Working Capital Adjustments

- Net trade current assets – net trade current liabilities (working capital)
- **Net trade current assets** include:
    - Accounts receivable
    - Inventories
    - Prepaid expenses
    - Deposits
    - May include cash – just not the excess portion
    - Others

Net Trade Working Capital Adjustments

- Net trade current assets – net trade current liabilities (working capital)
- **Net trade current liabilities** include:
    - Accounts payable
    - Accrued expenses
    - Income taxes payable
    - Sales taxes payable
    - Others
- Does not include interest bearing debt

Net Trade Working Capital Adjustments

- A typical M&A transaction would be:

Enterprise value (debt free basis)

Adjustment to working capital (excess or deficiency)

Net Trade Working Capital Adjustments

Accounts receivable	$1,500,000
Inventories	700,000
Prepaid expenses	50,000
Trade Assets (a)	2,250,000
Accounts payable	1,200,000
Income taxes payable	175,000
Sales taxes payable	25,000
Trade liabilities (b)	1,400,000
Net Trade working capital	**850,000**

Net Trade Working Capital Adjustments

- How do we know if the $850,000 net trade working capital (NTWC) is sufficient?
- Look at historical balance sheets to derive a trend of NTWC
- You can show NTWC as a % of sales
- You can benchmark NTWC as a % of sales today vs. historical balance sheets
- You can benchmark NTWC as a % of sales with industry standards
- You can look at public companies in the same industry as a benchmark

Net Trade Working Capital Adjustments

	2014	2013	2012	2011
Sales	9,000,000	11,000,000	10,000,000	12,000,000
NTWC	850,000	1,200,000	1,300,000	1,550,000
As a % of sales	9%	11%	13%	13%
Average 4 years	12%			
Industry avg	12%			
Actual NTWC	850,000			
Required NTWC	1,080,000	(12% x 9,000,000)		
Deficiency	- 230,000	(impact = lower the value of the company)		

Example – Capitalized Earnings Method

	Low	High
Normalized EBT step 1	337,500	412,500
Less: taxes step 2	-64,125	-78,375
Normalized after-tax earnings	273,375	334,125
Capitalization rate step 3 20% to 22% (1/20% = 5, 1/22% = 4.5)	5	4.5
	1,366,875	1,503,563
add: loan receivable - family member step 4	300,000	300,000
deduct: Balance sheet adjustment step 5	-230,000	-230,000
Equity value (rounded)	**$1,440,000**	**$1,570,000**

NTWC Adjustment

- In the previous example the Company required an investment of $230,000 to prop up the NTWC
  (decrease value)

- If the NTWC requirement was 8% of sales, this would result in an excess of $130,000
  (increase value)

- These adjustments are usually considered when closing a real life acquisition!