BV101 – Basic Fundamentals of Business Valuation

ASA
American Society of Appraisers™
Providing Value Worldwide

BV101 Lesson Plan Overview

- The American Society of Appraisers (ASA) emphasizes the course materials are not authoritative.
- The course is intended to be used as a foundation.
- The valuation process and approaches presented are *not the only* techniques used by appraisers.
- Valuation methods presented can be used in alternative ways.
- Course content is not to be used as a “cookbook” process to a particular appraisal assignment.

BV101 Lesson Plan Overview

- This three-day course is presented in interactive style that uses exercises to emphasize important concepts. A “certificate of completion” is issued to those who have been in attendance for the full three days of instruction.
- Students should be prepared to perform basic calculations (i.e., handheld calculator).
- Class participants likely to come from mixed backgrounds. This course intends to deal with general business valuation concepts.
- Students come from different practices and may have varying experiences, it is possible your questions or comments will enhance the understanding of other students.

BV101 Lesson 1:

Foundation of Business Valuation

BV101 Lesson 1: Foundation of BV

- ASA Business Valuation Standards
- USPAP Standards
- Revenue Rulings
- Appraisers Penalties

BV101 Lesson 1: Foundation of BV

Business Valuation Organizations (United States)

- American Society of Appraisers (ASA)
- National Association of Certified Valuators and Analysts (NACVA)
- Association of International Certified Professional Accountants (AICPA)
- International Society of Business Appraisers (ISBA)

BV101 Lesson 2:

Introduction to Business Valuation

BV101 Lesson 2: Introduction to BV

- The business valuation profession has come a long since the mid 1980s.
- Many books have been authored and published by varying individuals.
- Courts and the Internal Revenue Service have become more knowledgeable on the subject of business valuation.
- Business valuation opinions of value are not applied in a black and white approach, but rather the combination of art and science.

BV101 Lesson 2: Introduction to BV

Purposes for Business Appraisals

- There are a variety of purposes for business appraisals.
- One should not assume valuing a business for one purpose can be used for another completely different purpose.
- Example: a valuation prepared for an estate settlement versus one for financial reporting purposes.

BV101 Lesson 2: Introduction to BV

The major uses for a business valuation are:

- Estate settlement or planning
- Gifting (tax planning)
- Marital dissolutions
- Lending – Conventional or Small Business Administration (SBA)
- Financial Reporting purposes (Financial Accounting Standards Board – FASB)
- Shareholder disputes (dissolutions or minority interest oppression)
- Merger and Acquisitions
- Employee Stock Ownership Plans (ESOP)
- Purchase and/or selling

BV101 Lesson 2: Introduction to BV

Business Appraisal Referral Sources

- Accountants/CPAs
- Attorneys
- Lenders (SBA)
- Business Brokers
- Other Appraisal Disciplines (e.g., commercial real estate appraisers)
- Client referrals
- Conference presentations (other than to the BV profession)
- Company's website

BV101 Lesson 2: Introduction to BV

Commonly Valued Ownerships

- Stock can be: (i) common stock, (ii) preferred stock, (iii) voting and (iv) non-voting shares.
- Partnerships have two levels of ownership: (i) general partner(s) and (ii) limited partner(s) both owning interests.

BV101 Lesson 2: Introduction to BV

Control versus Minority Ownership

- Ownership is either on a control (majority) or minority interest.
- The basis is either “as-if freely traded basis” (marketable) or “on a closely held basis” (non-marketable) value.

BV101 Lesson 2: Introduction to BV

Control versus Minority Ownership

- Controlling interests (more than 50%)
- Majority interest in a noncontrolling formation (i.e., one 40% versus two 30% interests)
- Minority interest (less than 50%)
- Minority interest on a controlling formation (i.e., one 2% and two 49% interests)

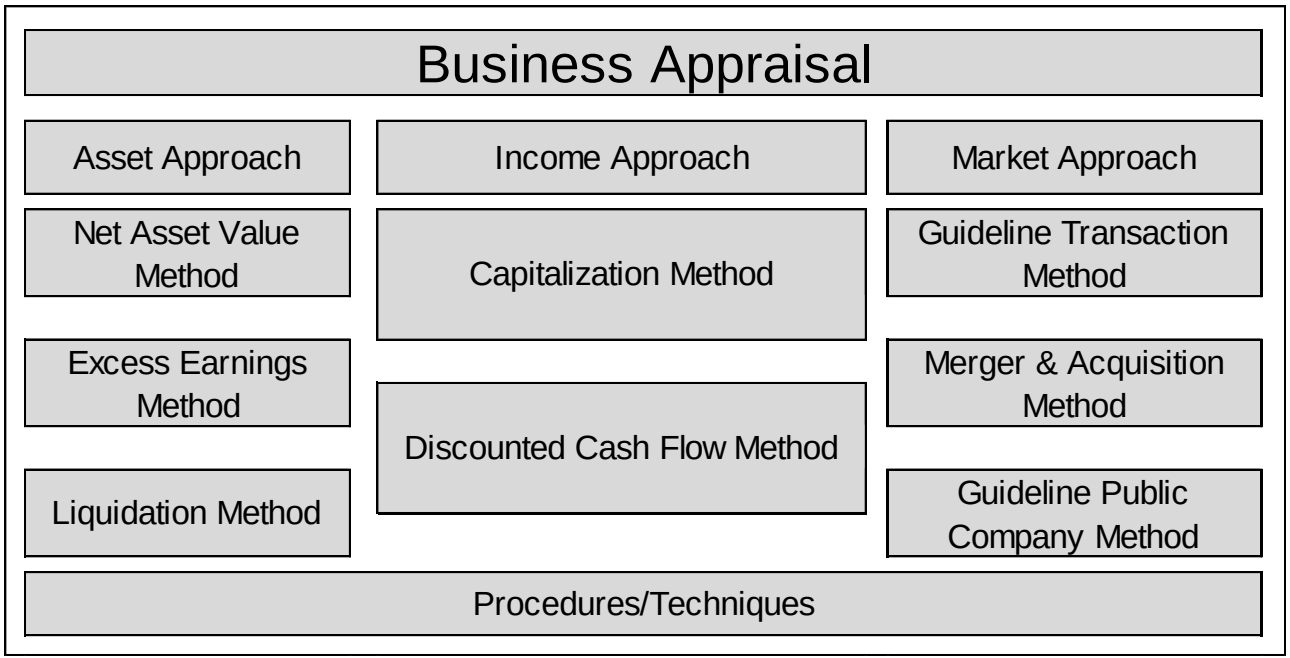
BV101 Lesson 2: Introduction to BV

Valuation Approaches and Methods

- Conceptually speaking there are three broad approaches in business valuation: the asset, income, and market approaches.
- Within valuation approaches are various valuation methods, *which are a specific way to determine value*.
- Valuation procedures are used within a method.

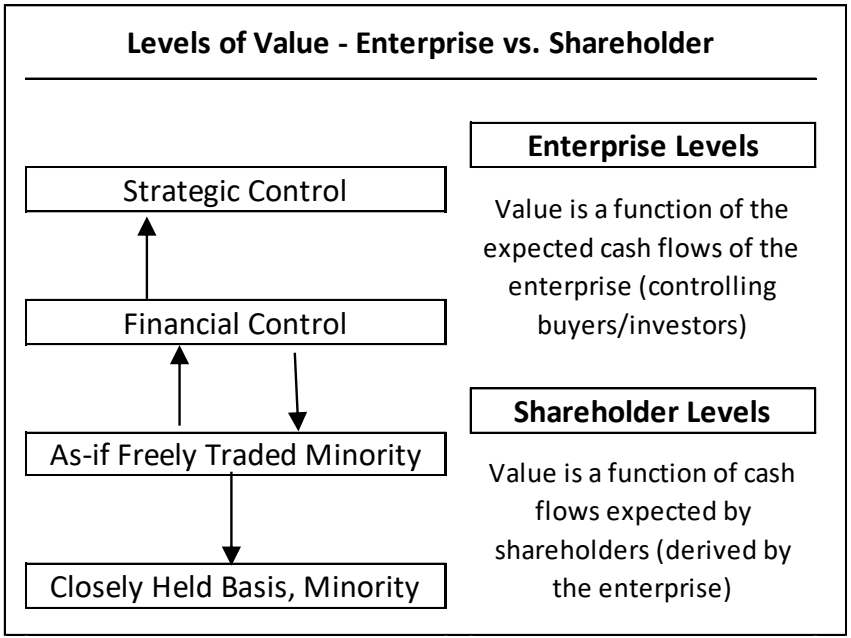
BV101 Lesson 2: Introduction to BV

Valuation Approaches and Methods



BV101 Lesson 2: Introduction to BV

Overview of Levels of Value Chart



BV101 Lesson 3:

Business Valuation Definitions and Terminology

BV101 Lesson 3: BV Definitions

Business valuation terms and meanings can be confusing. Consider the following terms; marketable and non-marketable.

- Marketable is commonly referred to as “the ability to quickly convert property to cash in a very short time period (days).”
- Non-marketable refers to the “inability to convert a business or business interest into cash within the aforementioned time period of marketability.”

BV101 Lesson 3: BV Definitions

- You may see the term “as-if freely traded” which is referring to the marketability status. IBM stock is considered marketable because you can sell a share of stock and receive your funds in a few days.

- A closely held business’ share of stock that is not traded on an exchange cannot be sold in accordance with the aforementioned example. It will generally take considerably more time to sell a share of stock in a closely held company – hence it’s non-marketable status.

BV101 Lesson 3: BV Definitions

The following are a few selected terms that will be used throughout this course.

- Asset Approach
- Income Approach
- Market Approach
- Capitalization of Earnings Method
- Capitalization Rate
- Discount Cash Flow (DCF) Method
- Discount Rate
- Guideline Public Company Method
- Guideline Transaction Method
- Excess Earnings Method
- Net Asset Value
- Premise of Value
- Noncontrolling Interest
- Discount for Lack of Control

BV101 Lesson 3: BV Definitions

continued

- Discount for Lack of Liquidity
- Discount for Lack of Marketability
- Liquidity
- Intangible Assets (e. g., Goodwill)
- Tangible Asset
- NCF to Equity
- NCF to Invested Capital
- Equity Value
- Invested Capital
- Normalized Adjustments
- Rate of Return
- Cost of Capital
- WACC
- Capital Asset Pricing Model
- Beta
- Build-up Model
- Terminal Value
- Valuation Date
- Report Date

BV101 Lesson 3: BV Definitions

continued

Standard of Value - the definition of value used in a valuation (e.g., Fair Market Value, Market Value, Fair Value, or Investment Value).

The Standard of Value affects the methods, inputs, and assumptions used by the business valuation professional.

BV101 Lesson 3: BV Definitions

Valuing Equity or Invested Capital

- Equity Value - the value of a business to its equity holders. Equity value is generally calculated as the market value of invested capital less the market value of any debt and debt equivalents, hybrid securities, and other non-equity claims.
- Market Value of Invested Capital - the sum, at market value, of a business' equity, debt and debt equivalents, hybrid securities, and non-equity claims.

BV101 Lesson 3: BV Definitions

Cash Basis or Accrual Basis of Accounting

- Many small businesses will prepare financial statements on either a cash or accrual basis.
- The difference between these two accounting procedures is simply the difference in timing.

For most businesses, accrual basis accounting provides a more realistic picture of financial operations and has better information with which to manage the business.

BV101 Lesson 3: BV Definitions

Valuation Principles

- The “economic principle of substitution” is based upon the fact that no prudent individual would pay more for an asset than the price required to obtain an equal asset of comparable utility.
- The “principle of future benefits” is the fundamental business valuation principle that states – economic value reflects anticipated future benefits.
- The “principle of alternatives” states that in any contemplated transaction, each party has alternatives to consummating the transaction.

BV101 Lesson 3: BV Definitions

Indications of Value versus Opinions of Value

- Application of the various valuation methods will produce an indication of value only.
- The various indications of value are used to form his or her final opinion of value

The appraiser's role is to mirror the market – at what point would potential buyers and sellers commence a deal? The business valuation profession is more of an art form than it is science.

BV101 Lesson 3: BV Definitions

Identification of Different Profitability Measurements

- Seller's Discretionary Earnings (SDE)
- Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)
- Earnings before Interest and Taxes (EBIT)
- Earnings before Taxes (EBT) also referred to as Pre-Tax Earnings
- Net Income (after tax concept)
- Net Cash Flow (either equity or invested capital)

BV101 Lesson 3: BV Definitions

Exercise:

Financial Measurements	Equity	Invested Capital
Sales		
Gross Profit		
Seller's Discretionary Earnings		
EBITDA		
EBIT		
Pre-Tax Earnings (including interest deduction)		
Net Income (including interest deduction)		
Net Cash Flow		

BV101 Lesson 3: BV Definitions

Exercise Solution:

Financial Measurements	Equity	Invested Capital
Sales		X
Gross Profit		X
Seller's Discretionary Earnings		X
EBITDA		X
EBIT		X
Pre-Tax Earnings (including interest deduction)	X	
Net Income (including interest deduction)	X	
Net Cash Flow	X	X

BV101 Lesson 4:

The Valuation Process

BV101 Lesson 4: Valuation Process

Steps in the valuation process

- Understand what the appraisal is going to be used for.
- Are you valuing stock or an interest?
- How many shares or what percentage?
- What is the “valuation date” or the effective “as of date” of the appraisal? At what point in time will the opinion of value apply? The effective date of the appraisal establishes the context for the opinion of value.

BV101 Lesson 4: Valuation Process

Steps in the valuation process (cont'd)

- Are there any time restraints?
- Do you have the required skills to perform the valuation?
- Prepare an engagement letter or contract.
- Gather vital information (i.e., financial, industry, economic, etc.).

BV101 Lesson 4: Valuation Process

Steps in the valuation process (cont'd)

- Analyze the data and make any necessary adjustments.
- Select the appropriate approaches, methods and reconcile into an opinion of value.
- Write and deliver the valuation report in accordance with ASA and USPAP standards.
- The date of the report indicates whether the effective date of the appraisal was prospective, current or retrospective.

BV101 Lesson 4: Valuation Process

Request for Documents

The data gathering process is probably the most important step. You are trying to clearly understand the Subject's business model.

- How do they operate internally and externally?
- What type of systems do they have in place and how efficiently are they being used?
- Can people be replaced within the system with productivity losses kept to a minimum?

BV101 Lesson 4: Valuation Process

Assembling Business Valuation Information

- Economic Information
- Industry Information
- Financial Benchmarking Data

BV101 Lesson 4: Valuation Process

Example of the income statement trend analysis and a benchmark comparison to the industry.

Industry Comparison Analysis - Historical Income Statement						
Income Statement	20X1	20X2	20X3	20X4	20X5	Industry
Gross Sales	100.0	100.0	100.0	100.0	100.0	100.0
Cost of Goods	(29.8)	(29.6)	(27.0)	(26.6)	(25.7)	(26.7)
Gross Margin	70.2	70.4	73.0	73.4	74.3	73.3
Selected Line Items						
Owner Compensation	6.4	5.7	4.8	9.3	9.3	3.8
Salary-Wages	2.9	2.7	3.2	3.2	3.4	4.1
Salary-Wage Taxes	1.2	1.1	1.0	1.2	1.4	1.6
Advertising	10.1	10.6	8.9	7.9	6.5	2.1
Rent	6.6	6.2	5.6	4.8	5.0	5.9
Depreciation & Amortization	0.8	1.1	0.4	-	1.6	2.0
Operating Expenses	47.8	49.9	41.3	42.2	44.6	52.4
EBITDA	15.8	14.5	22.1	11.2	13.5	11.9

BV101 Lesson 4: Valuation Process

Example of the income statement trend analysis and a benchmark comparison to the industry.

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Gross Margin	70.2	70.4	73.0	73.4	74.3	73.3
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BV101 Lesson 4: Valuation Process

Types of Balance Sheet Accounting Procedures

- Cash Basis Accounting
- Accrual Basis Accounting
- Modified Cash Basis Accounting

BV101 Lesson 4: Valuation Process

Example of Modified (total assets)

Types of Accounting Methods

Balance Sheet Item	*Cash*	*Modified*	*Accrual*
Cash	-	105,271	105,271
Receivables	-	25,000	25,000
Inventory	11,367	-	11,367
Total Current Assets	11,367	130,271	141,638
Total FF&E Assets	237,688	237,688	237,688
Total Accum Depreciation	(220,665)	(220,665)	(220,665)
Net FF&E Assets	17,023	17,023	17,023
Other	145,657	145,657	145,657
Total Fixed Assets	174,047	292,951	304,318

BV101 Lesson 4: Valuation Process

Example of Modified (total liabilities and equity)

Types of Accounting Methods			
Balance Sheet Item	*Cash*	*Modified*	*Accrual*
Short-Term Debt	-	-	15,000
Payables	5,715	5,715	5,715
Total Current Liabilities	5,715	5,715	20,715
Long-Term Debt	40,000	40,000	40,000
Deferred Taxes			12,500
Other	-	1,250	-
Total Long-Term Liabilities	40,000	41,250	52,500
Total Liabilities	45,715	46,965	73,215
Total Equity/Capital (Net Worth)	128,332	245,986	231,103
Liabilities & Shareholder's Equity	174,047	292,951	304,318

BV101 Lesson 4: Valuation Process

Industry Benchmark Ratio Analysis (example)

Internal Ratio Analysis and Industry Benchmarking							
Liquidity/Solvency Measurements	20X1	20X2	20X3	20X4	20X5	Industry	*Comments*
Quick Ratio	1.7	1.7	1.7	1.3	1.2	1.7	*Neutral*
Current Ratio	2.4	2.4	2.4	1.9	1.7	1.7	*Neutral*
Days Accounts Receivable	51	58	50	54	53	12	*Negative*
Days Accounts Payable	47	48	47	53	44	45	*Neutral*

One point of caution, the industry data source selected should match how that source calculated the ratio. Different sources calculate ratios slightly different.

BV101 Lesson 4: Valuation Process

Entity Structures Defined

- C Corporation
- S Corporation
- Partnership
- Sole Proprietorship
- Limited Liability Company

BV101 Lesson 5:

Introduction to the Income Approach

BV101 Lesson 5: Income Approach

The income approach has its theoretical basis in the Principal of Future Benefits, which states,

- Economic value reflects anticipated future benefits.
- No one buys a business or property simply because of what it has accomplished in the past or even what it consists of at present. Although these may be important considerations in determining what the business or other property is likely to do in the future, it is the anticipated future performance of a business that gives it economic value.

BV101 Lesson 5: Income Approach

Two conditions are required in order to use the income approach. If these conditions are not present, the appraiser should consider using other valuation methods.

- Future economic income (benefits) should be able to be forecasted with a reasonable degree of probability.

- There should be a reasonable likelihood that future operations will continue as forecasted.

BV101 Lesson 5: Income Approach

There are two commonly used methods under the income approach:

- Capitalization of earnings method (single period)
- Discounted future earnings method (multiple periods)

BV101 Lesson 5: Income Approach

Overview of Discount and Capitalization Rates

- Discount rates are used to convert anticipated future earnings streams (number of years) into present value.
- A capitalization rate is a divisor used to convert an anticipated earnings stream (sustainably earnings) into value.

BV101 Lesson 5: Income Approach

Overview of Discount and Capitalization Rates

Example of the difference between rates:

Discount Rate	25.0%
Minus: Long-Term Growth Rate	-5.0%
Equals: Capitalization Rate	20.0%

BV101 Lesson 5: Income Approach

Long-Term Sustainable Growth Rate

Some factors to consider:

- Subject's historical performance
- Subject's financial outlook
- Economic implications
- Industry conditions and outlook
- Competition factors (local and national)
- Demographic and population considerations

BV101 Lesson 5: Income Approach

Long-Term Sustainable Growth Rate

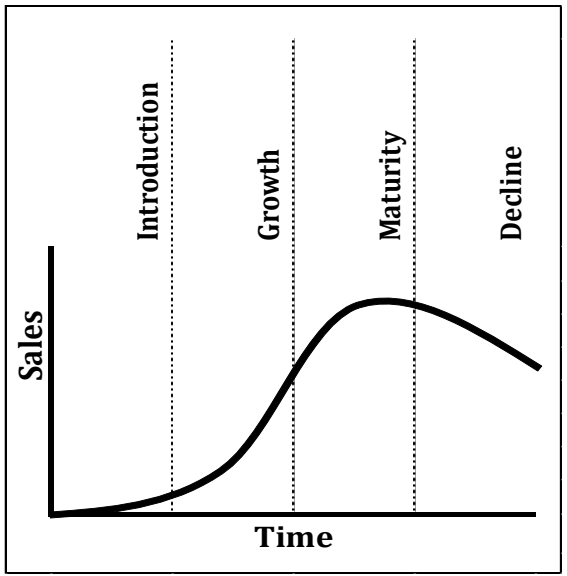
Some factors to consider:

- The range generally observed for the long-term sustainable growth rates are between 2.0% to 6.0%.
- The long-term growth rate could be zero, if the outlook for the business is stagnate.
- High growth rates for short periods should not be used as a proxy for long-term sustainable growth rates.

BV101 Lesson 5: Income Approach

Long-Term Sustainable Growth Rate

Business or product life cycle



BV101 Lesson 5: Income Approach

Long-Term Sustainable Growth Rate

It is also essential to understand that the determination of a sustainable growth rate depends upon the base of assumed ongoing earnings for:

(i) net cash flows

(ii) net income

(iii) other earnings streams

BV101 Lesson 5: Income Approach

Capitalization of Earnings Method

The capitalization of earnings method is used to convert some normalized level of ongoing benefit stream (earnings) into a present value based on a single period.

BV101 Lesson 5: Income Approach

Capitalization of Earnings Method

This method is most appropriate when the following criteria are present in the Company:

- Stable level of economic earnings stream.
- Forecasted growth in earnings are at a constant rate.
- The aforementioned is into perpetuity (a very long time).

BV101 Lesson 5: Income Approach

Capitalization of Earnings Method

The following steps are required to employ this method:

- Consider any adjustments to the financial statements, if appropriate.
- Determine whether to value equity or invested capital.
- Select an economic income stream to capitalize.
- Develop an appropriate rate of return (capitalization rate).
- Calculate the value.

BV101 Lesson 5: Income Approach

Capitalization of Earnings Method

The formula for the capitalization of earnings method is:

$$\text{Value} = \frac{\text{Benefit Stream}}{\text{Capitalization Rate}}$$

BV101 Lesson 5: Income Approach

Discounted Future Earnings Method

- The discounted future earnings method is sometimes referred to as "discounted cash flow method (DCF) or multiple-period discounting method."

- This method is more appropriate if there is either an unstable level of earnings or cash flow and the earnings growth rate is expected to change significantly (i.e., earnings are up one year but are expected to decrease the following year, etc.).

BV101 Lesson 5: Income Approach

Discount Future Earnings Method

This method requires the following steps:

- Consider any adjustments to the financial statements, if appropriate.
- Determine whether to value equity or invested capital.
- Develop a reasonable forecast for the selected earnings stream(s).
- Develop a discount rate appropriate to the selected economic income stream.
- Estimate the long-term growth rate for earnings (not sales).
- Develop a present value factor for each year of the forecast.
- Calculate the incremental values for each year and the terminal value.
- Determine whether to utilize the end-of-year or mid-year discounting convention.

BV101 Lesson 5: Income Approach

Discount Future Earnings Method

Example in tabular form

Discounted Cash Flow Method					
Selected Year	Projected Net Cash Flow	Discount Rate	Present Value Factor	Capitalization Rate	Present Value
F-1	$ 155,860	0.189	0.841		131,085
F-2	$ 152,296	0.189	0.707		107,727
F-3	$ 199,110	0.189	0.595		118,453
L-T Rate	1.03				
Terminal Year	$ 205,083	0.189	0.595	0.159	767,340
				Indication of Equity Value	1,124,605

BV101 Lesson 5: Income Approach

Discount Future Earnings Method

Common errors found when using this method:

- Always using five-years as the appropriate time frame.
- Unsupported assumptions about future events that are considerably different from historical performance.
- Not using the L-T rate for earnings to calculate the terminal period earnings stream.
- Using next periods net present value factor in the terminal period.

BV101 Lesson 5: Income Approach

Discount Future Earnings Method

Discount Future Earnings (cash flow) Method						
	F-1	F-2	F-3	F-4	F-5	Perpetuity
Earnings Stream *(5% annual growth)*	10,000	10,500	11,025	11,576	12,155	12,763
Present Value Factor *(25% discount rate)*	0.8000	0.6400	0.5120	0.4096	0.3277	0.3277
Present Value	8,000	6,720	5,645	4,742	3,983	4,182
Capitalization Rate						0.20
						20,912
Indication of Value	50,002					

Capitalization of Earnings Method	
Earnings Stream	10,000
Capitalization Rate	0.20
Indication of Value	50,000

BV101 Lesson 5: Income Approach

Capitalization of Earnings and Discount Future Earnings Method

Must understand the concepts of:

- Time value of money
- Discount rates
- Capitalization rates
- Equity capital
- Invested capital

BV101 Lesson 5: Income Approach

Time Value of Money Concept

- One of the most important concepts in business valuation is the relationship between $1 today and $1 in the future. This relationship is called the time value of money concept.

- The time value of money is based on the concept that a dollar available at the present time is worth more than the same amount in the future.

BV101 Lesson 5: Income Approach

Time Value of Money Concept

Example of calculating present value factors:

Periods	Rate	Future Value	PV Factor	Math
1	0.23	$ 1.00	0.813	1.000/1.23
2	0.23	$ 1.00	0.661	0.813/1.23
3	0.23	$ 1.00	0.537	0.661/1.23
4	0.23	$ 1.00	0.437	0.537/1.23
5	0.23	$ 1.00	0.355	0.437/1.23

BV101 Lesson 5: Income Approach

Time Value of Money Concept

Exercise:

What is the present value of $1.00 to be received *four years* from now, assuming a discount rate of 25%?

A. 0.420

B. 0.410

C. 0.395

D. 0.400

BV101 Lesson 5: Income Approach

Time Value of Money Concept

Exercise Solution:

What is the present value of $1.00 to be received *four years* from now, assuming a discount rate of 25%?

Periods	Rate	Future Value	PV Factor	Math
1	0.25	$ 1.00	0.800	1.000/1.25
2	0.25	$ 1.00	0.640	0.800/1.25
3	0.25	$ 1.00	0.512	0.640/1.25
4	0.25	$ 1.00	0.410	0.512/1.25

BV101 Lesson 5: Income Approach

Equity and Invested Capital Earnings Streams

The financial return streams selected will either be “equity” or “invested capital

	Financial Measurements	*Equity*	*Invested Capital*
	Sales	33,000	33,000
Less	Cost of Goods	(14,000)	(14,000)
Equals	Gross Profit	19,000	19,000
Less	Operating Expenses	(9,000)	(9,000)
Equals	EBITDA	10,000	10,000
Less	Non-Cash Charges	(2,500)	(2,500)
Equals	EBIT	7,500	7,500
Less	Interest Expenses	(1,200)	-
Equals	Pre-Tax Earnings	6,300	7,500
Less	Income Taxes (35%)	(2,205)	(2,625)
Equals	Net Income	4,095	4,875

BV101 Lesson 5: Income Approach

Equity and Invested Capital Earnings Streams

The economic income streams most frequently used within the income approach by business appraisers are:

- Net cash flow (equity or invested capital)
- Net income
- Pre-tax earnings

BV101 Lesson 5: Income Approach

Equity and Invested Capital Earnings Streams

- For very small type of businesses where the owner is often the only employee, seller's discretionary earnings is often used.
- As the company size increases, appraisers will generally select a better financial measurement (i.e., EBITDA, EBIT, net income, net cash flow).
- Net cash flow is the preferred income stream because it is the best proxy of the financial return to an investor in the stock of the Company. In addition, net cash flow is conceptually preferable because most of the capital market data used to develop discount rates are related to net cash flow.

BV101 Lesson 5: Income Approach

Equity and Invested Capital Earnings Streams

Net cash flow can be determined on either an “equity” capital basis or an “invested capital” basis.

	Net Cash Flow to Equity
	Net Income (after Taxes)
+	Non-cash charges (depreciation, amortization)
-	Capital expenditures
"+/-"	Changes in net working capital
"+/-"	Net changes in long-term debt
=	Net cash flow (NCF) to equity

	Net Cash Flow to Invested Capital
	Net Income (after Taxes)
+	Non-cash charges (depreciation, amortization)
-	Capital expenditures
"+/-"	Changes in net working capital
+	Interest expense (1 minus the tax rate)
=	Net cash flow (NCF) to invested capital

Components of Financial Statements

BV101 Lesson 6: Financial Statements

Anatomy of the Income Statement (sales, expenses, profits)

	For Periods Ending December 31					Common-size as a % of Gross Sales				
Income Statement	20X1	20X2	20X3	20X4	20X5	20X1	20X2	20X3	20X4	20X5
Gross Sales	1,126,664	1,146,423	1,234,789	1,332,132	1,430,363	100.0	100.0	100.0	100.0	100.0
Cost of Goods	(316,197)	(337,983)	(352,085)	(432,727)	(446,261)	(28.1)	(29.5)	(28.5)	(32.5)	(31.2)
Gross Profit	810,467	808,440	882,704	899,405	984,102	71.9	70.5	71.5	67.5	68.8
Operating Expenses	(664,043)	(643,928)	(668,193)	(742,685)	(737,346)	(58.9)	(56.2)	(54.1)	(55.8)	(51.5)
Operating Income EBIT	146,424	164,512	214,511	156,720	246,756	13.0	14.4	17.4	11.8	17.3
Interest	(3,906)	(4,305)	(1,397)	(1,695)	(2,474)	(0.3)	(0.4)	(0.1)	(0.1)	(0.2)
Other Income (Expenses)	-	-	-	-	-	-	-	-	-	-
Pre-Tax Earnings	142,518	160,207	213,114	155,025	244,282	12.6	14.0	17.3	11.6	17.1
Selected Line Items										
Rent	47,078	51,951	48,836	48,545	61,037	4.2	4.5	4.0	3.6	4.3
General & Administrative	303,746	282,563	310,334	345,658	325,832	27.0	24.6	25.1	25.9	22.8
Depreciation Expense	15,236	16,395	17,714	46,318	26,022	1.4	1.4	1.4	3.5	1.8
Misc Operating Expenses	98,756	96,521	92,478	99,357	95,235	8.8	8.4	7.5	7.5	6.7
Officer's Compensation	199,227	196,498	198,831	202,807	229,220	17.7	17.1	16.1	15.2	16.0
Total Operating Expenses	664,043	643,928	668,193	742,685	737,346	58.9	56.2	54.1	55.8	51.5

BV101 Lesson 6: Financial Statements

Anatomy of the Balance Sheet (assets, liabilities, equity)

Historical Internal Analysis of Balance Sheet

	Balance Sheet					*Common-size as a % of Total Assets*				
	20X5	20X6	20X7	20X8	20X9	20X5	20X6	20X7	20X8	20X9
Months of Operations in Year	*12*	*12*	*12*	*12*	*12*	*12*	*12*	*12*	*12*	*12*
Assets										
Cash	340,209	191,642	296,397	57,819	25,000	18.0	11.0	16.0	3.0	1.0
Receivables	786,737	875,347	879,640	1,125,630	1,496,246	41.7	50.5	47.5	59.2	62.3
Inventory	405,031	400,384	473,805	527,917	683,168	21.5	23.1	25.6	27.7	28.4
Other	72,104	49,558	17,708	44,418	50,886	3.8	2.9	1.0	2.3	2.1
Total Current Assets	1,604,081	1,516,931	1,667,550	1,755,784	2,255,300	85.0	87.4	90.0	92.3	93.8
Total FF&E Assets	1,000,000	1,100,000	1,200,000	1,250,000	1,300,000	53.0	63.4	64.8	65.7	54.1
Total Accum Depreciation	(761,591)	(882,177)	(1,014,998)	(1,103,346)	(1,151,735)	(40.3)	(50.9)	(54.8)	(58.0)	(47.9)
Net FF&E Assets	238,409	217,823	185,002	146,654	148,265	12.6	12.6	10.0	7.7	6.2
Intangible Assets (net)	-	-	-	-	-	-	-	-	-	-
Other	45,757	-	-	-	-	2.4	-	-	-	-
Total Assets	1,888,247	1,734,754	1,852,552	1,902,438	2,403,565	100.0	100.0	100.0	100.0	100.0
Liabilities										
Short-Term Debt	-	-	-	-	135,000	-	-	-	-	5.6
Payables	482,568	503,442	584,012	825,176	887,718	25.6	29.0	31.5	43.4	36.9
Other	194,306	131,878	116,370	76,647	278,571	10.3	7.6	6.3	4.0	11.6
Total Current Liabilities	676,874	635,320	700,382	901,823	1,301,289	35.8	36.6	37.8	47.4	54.1
Long-Term Debt	10,000	12,000	14,000	16,000	18,000	0.5	0.7	0.8	0.8	0.7
Loans from Shareholders	50,000	-	-	-	24,989	2.6	-	-	-	1.0
Other	23,500	20,500	15,125	5,300	3,550	1.2	1.2	0.8	0.3	0.1
Total Long-Term Liabilities	83,500	32,500	29,125	21,300	46,539	4.4	1.9	1.6	1.1	1.9
Total Liabilities	760,374	667,820	729,507	923,123	1,347,828	40.3	38.5	39.4	48.5	56.1
Stockholder's Equity										
Total Equity/Capital (Net Worth)	1,127,873	1,066,934	1,123,045	979,315	1,055,737	59.7	61.5	60.6	51.5	43.9
Liabilities & Shareholder's Equity	1,888,247	1,734,754	1,852,552	1,902,438	2,403,565	100.0	100.0	100.0	100.0	100.0

BV101 Lesson 7:

Adjusting the Financial Statements

BV101 Lesson 7: Adjusting Financial Data

- Normalizing Financial Information for BV Purposes
- Control versus Minority Interest Adjustments
- Adjustments to the Balance Sheet

BV101 Lesson 7: Adjusting Financial Data

Common Balance Sheet Adjustments

- Cash
- Accounts Receivables
- Inventory
- Prepaid Expenses
- Fixed Assets
- Depreciation
- Leasehold Improvements
- Other Assets
- Real Estate
- Intangible Assets
- Accounts Payables
- Other Expenses (accrued)
- Current & L-T Liabilities
- Future Liability Obligations
- Off Balance Sheet Items

BV101 Lesson 7: Adjusting Financial Data

Common Balance Sheet Adjustments (example)

Normalized Balance Sheet

Balance Sheet Item	20X2	Adjustment		Normalized
Cash & Cash Equivalents	9,148,979	-	*]1]*	9,148,979
Receivables	10,092,909	(175,000)	*[2]*	9,917,909
Inventory	3,578,941	(55,000)	*[3]*	3,523,941
Other	1,962,432	(250,000)	*[4]*	1,712,432
Total Current Assets	24,783,261			24,303,261
Office Furniture & Equipment	177,731	(114,256)	*[5]*	63,475
Light Vehicles	828,878	(276,293)	*[5]*	552,585
Heavy Vehicles	253,665	(95,124)	*[5]*	158,541
Trailers	58,618	(35,171)	*[5]*	23,447
Heavy Equipment	479,828	(266,571)	*[5]*	213,257
Attachments & Misc Equipment	17,919	(7,964)	*[5]*	9,955
Improv. & Capitalized Repairs	49,523	(24,762)	*[5]*	24,762
Total FF&E Assets	1,866,162			1,046,022
Total Accum Depreciation	(1,273,261)	1,273,261	*[6]*	-
Net FF&E Assets	592,901			1,046,022
Other	785,367			785,367
Total Assets	26,161,529			26,134,650

	Average Economic Life			Adjustment	
Asset Category	Avg. Years	Remaining	Expired	Percent	Amount
Office Furniture & Equipment	14	5	9	64.3%	114,256
Light Vehicles	6	4	2	33.3%	276,293
Heavy Vehicles	8	5	3	37.5%	95,124
Trailers	15	6	9	60.0%	35,171
Heavy Equipment	18	8	10	55.6%	266,571
Attachments & Misc Equipment	9	5	4	44.4%	7,964
Improv. & Capitalized Repairs	12	6	6	50.0%	24,762

BV101 Lesson 7: Adjusting Financial Data

Exercise: Your assignment is to determine the equity value for a 100% interest

Using the following assumptions:

- Cash held in the business is 25% greater than the industry benchmark average. This is considered excess cash held by the business for BV purposes.
- According to the aging of receivables report $1,250 is over 90 days old and management does not expect to collect this A/R.
- According to management 10% of inventory held is not saleable.
- An ASA accredited machinery & equipment appraiser valued the fixed assets at the fair market values as follows:
    - Machinery & Equipment $125,000
    - Furniture & Fixtures $21,000
    - Vehicles $51,500
- You discovered $15,000 of long-term debt is related to one shareholder and there is no documentation between the business and shareholder.

BV101 Lesson 7: Adjusting Financial Data

Exercise: Your assignment is to determine the equity value for a 100% interest

Answer the following questions:

- What is the value of *equity* after normalized adjustments? $_____
- What is the adjusted market value of *invested capital*? $_____

BV101 Lesson 7: Adjusting Financial Data

Exercise Solution:

Normalized Balance Sheet

Balance Sheet Item	Historical	Adjustment		Normalized
Cash	135,789	(33,947)	*[1]*	101,842
Receivables	22,657	(1,250)	*[2]*	21,407
Inventory	14,593	(1,459)	*[3]*	13,134
Total Current Assets	173,039			136,382
Machy & Equip	129,874	(4,874)	*[4]*	125,000
Furn & Fixtures	33,789	(12,789)	*[4]*	21,000
Vehicles	82,574	(31,074)	*[4]*	51,500
Lease Improv	29,874	(29,874)	*[5]*	-
Total FF&E Assets	276,111			197,500
Total Accum Depreciation	(220,665)	220,665	*[6]*	-
Net FF&E Assets	55,446			197,500
Intangible Assets	-	-		-
Total Assets	228,485			333,882
Short-Term Debt	-			-
Payables	5,715			5,715
Other	-			-
Total Current Liabilities	5,715			5,715
Long-Term Debt	40,000	(15,000)	*[7]*	25,000
Other	-			-
Total Long-Term Liabilities	40,000			25,000
Total Liabilities	45,715			30,715
Total Equity/Capital (Net Worth)	182,770		*[8]*	303,167

Invested Capital

Equity

BV101 Lesson 7: Adjusting Financial Data

Common Income Statement Adjustments

- Non-recurring Income and Expenses
- Non-operating Income and Expenses
- Owners' or Officers' Compensation
- Expensing versus Capitalizing of Assets
- Non-cash Charges (e.g., accelerated depreciation)
- Related Income and Expense (e.g., family members)

BV101 Lesson 7: Adjusting Financial Data

Quality of the financial information

This generally refers to the reliability or truthfulness of the information at hand

- Audited financial statements
- Reviewed financial statements
- Compiled financial statements
- Federal Income Tax returns
- Profit & Lost Statements prepared internally
- Shoe Box

BV101 Lesson 7: Adjusting Financial Data

How many years to normalize would be appropriate?

Normalized Historical EBIT					
	20X1	20X2	20X3	20X4	20X5
Months of Operations in Year	12	12	12	12	12
Year-over-Year Growth Rate		*-2.3%*	*14.8%*	*0.5%*	*15.4%*
Gross Sales	45,531,954	44,479,923	51,051,228	51,287,827	59,181,459
Less: Cost of Goods	(38,423,060)	(37,666,431)	(42,868,279)	(43,114,817)	(48,774,630)
Gross Profit	7,108,894	6,813,492	8,182,949	8,173,010	10,406,829
Less: Operating Expenses	(2,539,598)	(2,834,167)	(2,952,855)	(3,243,627)	(3,364,463)
Earnings before Interest & Taxes	4,569,296	3,979,325	5,230,094	4,929,383	7,042,366
EBIT as % of Gross Sales	*10.0%*	*8.9%*	*10.2%*	*9.6%*	*11.9%*
Adjustments to Earnings					
Compensation Adjustment	246,581	359,784	401,598	425,987	435,297
Rent	89,091	86,266	86,451	86,643	83,847
Non Business Related Expenses	-	-	-	120,000	-
Normalized EBIT	4,904,968	4,425,375	5,718,143	5,562,013	7,561,510
Adjusted EBIT as % of Sales	*10.8%*	*9.9%*	*11.2%*	*10.8%*	*12.8%*

BV101 Lesson 7: Adjusting Financial Data

Exercise:

After the management interview and industry comparative analysis you have determined three adjustments are warranted for business valuation purposes. Your assignment is to determine the normalized net income.

- Using the following assumptions from the manual.

BV101 Lesson 7: Adjusting Financial Data

Exercise Solution:

Normalizing Historical Net Income Available to Equity	20X1	20X2	20X3
Gross Sales	2,019,874	2,159,870	2,213,697
Cost of Goods	(412,590)	(442,589)	(456,987)
Gross Profit	1,607,284	1,717,281	1,756,710
Operating Expenses	(1,157,244)	(1,236,442)	(1,264,831)
Operating Earnings (EBIT)	450,040	480,839	491,879
Interest Income (Expenses)	(16,104)	(13,224)	(16,517)
Pre-Tax Earnings available to Equity	433,936	467,615	475,362
Normalized Adjustments to Historical Years			
Personal Use of Business Assets	-	12,450	14,500
Owner's Compensation Adj.	12,953	14,904	20,323
Rent Adjustment	23,019	22,366	21,700
Normalized Pre-Tax Earnings	469,908	517,335	531,885
Less: Blended Income Taxes	(129,225)	(142,267)	(146,268)
Normalized Net Income	340,683	375,068	385,617

Owner's Compensation Adjustment	20X1	20X2	20X3
Gross Sales	2,019,874	2,159,870	2,213,697
Replacement Compensation (2.75%)	55,547	59,396	60,877
Recorded Compensation	68,500	74,300	81,200
Adjustment to Earnings	12,953	14,904	20,323

Rent Adjustment	20X1	20X2	20X3
Rent Expensed	55,000	55,000	55,000
Square Footage	1,800	1,800	1,800
Asking Rents (per sq. ft.)	17.77	18.13	18.50
Arm's Length Rent	31,981	32,634	33,300
Adjustment to Earnings	23,019	22,366	21,700

Question: How would you handle unreported income?

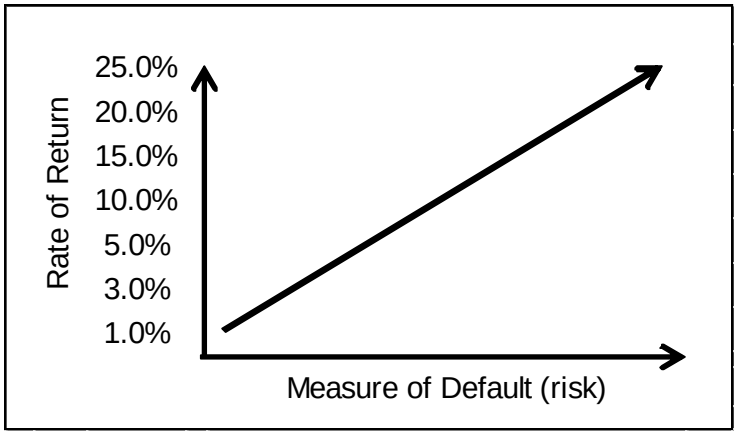
Developing Rates of Return

BV101 Lesson 8: Developing Rates

- Cost of capital rates are used in the income approach to valuation.
- Cost of capital rates are often referred to as discount or capitalization rates.
- These rates are applied to an expected stream of earnings or cash flows to arrive at an indication of value.
- Discount or capitalization rates vary among particular types of businesses and from one period of time to another.

BV101 Lesson 8: Developing Rates

- Discount or capitalization rates are expressed as a percentage.
- The more speculative a business' income stream, the higher a discount/capitalization rate (produces lower value); conversely, the more stable an income stream, produces a lower discount/capitalization rate (produces a higher value).
- This stability or non-stability (volatility) is termed "risk." All investments carry some degree of risk.



BV101 Lesson 8: Developing Rates

- Conceptually speaking, there are three common types of risk

  Business Risk is a broad concept and it relates to all factors which prevents realization of forecasted events. Any item which can impact sales, cost of goods, general and administrative expenses is a component of “business risk.”

  Example: fluctuation in sales due to economic conditions or variations in profit margins due to changes in fixed and variable expenses

BV101 Lesson 8: Developing Rates

- Conceptually speaking, there are three common types of risk

  Financial Risk relates to the single factor which prohibits anticipated sales or profitability from becoming a reality.

  In concept, financial risk relates to the manner in which assets are financed. If the asset base is financed primarily with equity, the business has minimal financial risk.

  If debt is the major financial component, the business has significant financial risk.

BV101 Lesson 8: Developing Rates

- Conceptually speaking, there are three common types of risk

  Liquidity Risk is a narrow concept. Unlike business and financial risk, liquidity risk relates to the uncertainty associated with transferring the equity interest in a business.

  Specifically, this risk relates to the uncertain length of time to sell. How long will it take to sell? What is the pool size of potential buyers?

BV101 Lesson 8: Developing Rates

How does one judge risk?

- Performing internal trending, industry benchmarking and financial ratio analysis helps to identify some of the aforementioned risks.
- If risks are deemed significant, the selected rate of return should be higher, to compensate for the added risk perceived by investors.
- The rate can be thought of as the “expected rate of return” the market demands to attract funds to a particular investment. The appraisers’ goal is to try and quantify investor expectations (forward-looking concept) for an investment in a business or business interest.

BV101 Lesson 8: Developing Rates

Data Sources for Discount & Capitalization Rates

Some commonly used sources to obtain these rates are:

- Cost of Capital Navigator (Kroll – Duff & Phelps)
- Cost of Capital Professional (Business Valuation Resources)
- Pepperdine Private Capital Markets Survey
- Implied Private Company Price Line Tool (IPCPL)

BV101 Lesson 8: Developing Rates

Discount and Capitalization Development Models

- Buildup method (BUM)
- Modified capital asset pricing model (MCAPM)
- Weighted average cost of capital (WACC)
- Inverse of market derived valuation multiples
- Factor rating model
- Risk premium guideline table

BV101 Lesson 8: Developing Rates

Discount and Capitalization Development Models

The build-up model is an additive model:

	Risk-free Rate
+	Equity Risk Premium
+	Size Risk Premium
+/-	Industry Risk Premium (optional)
+/-	Company-Specific Risk Premium
=	Cost of Equity for Net Cash Flow (discount rate)

BV101 Lesson 8: Developing Rates

Discount and Capitalization Development Models

The build-up model example:

Development of Rate of Return Applicable to Equity	
Description	Rate
Risk-Free Rate (as of the valuation date)	2.24
Equity Risk Premium	6.18
CRSP Decile Size Premium (10b)	8.41
(Optional) Industry Risk Premium	-
Company-Specific Risk Adjustments	5.00
Net Cash Flow Discount Rate (next year)	21.83
Minus: Long-Term Growth Rate	(5.00)
Net Cash Flow Capitalization Rate (next year)	16.83

BV101 Lesson 8: Developing Rates

Discount and Capitalization Development Models

Weighted Average Cost of Capital (WACC)

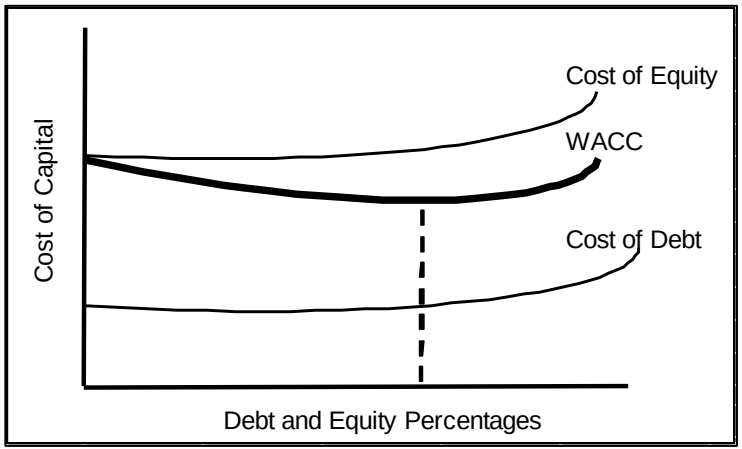
- The discount rate used to value invested capital is the WACC.
- WACC is a blended rate comprised of the cost of debt and the cost of equity.

BV101 Lesson 8: Developing Rates

Discount and Capitalization Development Models

Weighted Average Cost of Capital (WACC)

- WACC is weighted in accordance to the debt-equity mix at market values of both debt and equity.



BV101 Lesson 8: Developing Rates

Discount and Capitalization Development Models

Weighted Average Cost of Capital (WACC)

Components of WACC

- Equity cost of capital
- Cost of debt
- Income tax rate
- Equity capital structure (%)
- Debt capital structure (%)

BV101 Lesson 8: Developing Rates

Discount and Capitalization Development Models

Example of WACC

Weighted Average Cost of Capital (WACC)				
Equity Discount Rate				27.0%
Cost of Debt				6.0%
Tax Bracket				28.0%
Selected Capital Structure				
Debt %				24.0
Equity %				76.0
Computation of WACC				
Component	Tax Effect	Net Rate	Ratio	Calculation to WACC
Cost of Debt (1 minus tax rate)	0.72	4.3%	24.0	1.0
Equity Rate (Discount Rate)		27.0%	76.0	20.5
Invested Capital WACC Applicable to Net Cash Flow *(Discount Rate)*				21.56
Long-Term Growth Rate				(3.00)
WACC Applicable to Net Cash Flow *(Capitalization Rate)*				18.56

BV101 Lesson 8: Developing Rates

Discount and Capitalization Development Models

WACC debt and equity percentages

- You have two choices to make regarding the capital structure percentages (debt and equity).

  Select a capital structure from

  - Guideline market data
  - Use the business' current capital structure at market

BV101 Lesson 8: Developing Rates

Discount and Capitalization Development Models

WACC debt and equity percentages

- If you elect to use the latter, this means you will have to use an iterative process.

Developing Capital Structure for WACC (Iterative Process)			
	Metrics	Indicated FMV Value	Weighted Portion
Earnings Stream	$ 250,000		
Capitalization Rate	0.172	1,453,488	
Less: Book Value of Debt		350,000	
Estimated MV Common Equity		1,103,488	75.92%
Book Value of Debt @ Market		350,000	24.08%

BV101 Lesson 8: Developing Rates

Discount and Capitalization Development Models

Exercise: Use the following information to calculate the WACC

- Equity discount rate 25.0%
- Cost of Debt 7.2%
- Blended Tax Rate 23.5%
- Long-Term Growth Rate 5.0%
- Market Value of Equity 60.0%

What is your WACC discount rate? _____

What is your WACC capitalization rate _____

Discount and Capitalization Development Models

Exercise Solution:

Weighted Average Cost of Capital (WACC)				
Equity Discount Rate				25.0%
Cost of Debt				7.2%
Tax Bracket				23.5%
Selected Capital Structure				
Debt %				40.0
Equity %				60.0
Computation of WACC				
Component	Tax Effect	Net Rate	Ratio	Calculation to WACC
Cost of Debt (1 minus tax rate)	0.765	5.5%	40.0	2.2
Equity Rate (Discount Rate)		25.0%	60.0	15.0
Invested Capital WACC Applicable to Net Cash Flow *(Discount Rate)*				17.20
Long-Term Growth Rate				(5.00)
WACC Applicable to Net Cash Flow *(Capitalization Rate)*				12.20

BV101 Lesson 8: Developing Rates

Discount and Capitalization Development Models

Capital Asset Pricing Model (CAPM)

- The model describes the relationship between risk and expected return in pricing securities.
- This model states the price of a stock is tied to two variables, the time-value-of-money and the risk of the stock.
- The time-value-of-money is represented by the risk-free rate of return. The risk of the stock is represented by beta.

BV101 Lesson 8: Developing Rates

Discount and Capitalization Development Models

Capital Asset Pricing Model

Beta is a number that describes the relationship of a stock's returns with that of the market as a whole.

- A beta of 1.0 indicates the stock's price moves in tandem with the market.
- A beta greater than 1.0 indicates the stock's price moves in the same direction as the market but with more volatility.
- A beta lower than 1.0 indicates the stock's price moves in the same direction as the market but with less volatility.

BV101 Lesson 8: Developing Rates

Discount and Capitalization Development Models

Modified Capital Asset Pricing Model (MCAPM)

- MCAPM is used because betas do not account for all of the risks faced by those who invest in small companies.
- To better account for this additional risk, appraisers may add in components for: (i) industry; (ii) firm size; and (iii) specific company risk.
- Levered and unlevered betas

BV101 Lesson 8: Developing Rates

Discount and Capitalization Development Models

MCAPM – Levered and Unlevered Betas

Example (Unlevered Beta)

Guideline Companies					
	A	B	C	D	Average
Beta	1.20	1.40	1.50	1.60	1.43
Capital Structure					
Debt %	30.0%	36.0%	22.8%	46.6%	
Equity %	70.0%	64.0%	77.2%	53.4%	
Ratio (debt/equity)	42.9%	56.3%	29.5%	87.3%	54.0%
Income Tax Rate	40.0%	37.8%	36.8%	33.6%	37.1%
Unlevered Beta	0.95	1.04	1.26	1.01	1.07

BV101 Lesson 8: Developing Rates

Discount and Capitalization Development Models

MCAPM – Levered and Unlevered Betas

Example (Re-levered Beta)

Company's Relevered Beta		
Unlevered Industry Beta		1.07
Company's Capital Structure		
Debt %	45.0%	
Equity %	55.0%	
Ratio (debt/equity)	81.8%	
Company's Income Tax Rate	35.0%	
Company's Relevered Beta		1.63

BV101 Lesson 8: Developing Rates

Discount and Capitalization Development Models

Example MCAPM – Levered and Unlevered Betas

Risk-Free Rate		2.48
Forward Equity Risk Premium	5.50	
Company's Relevered Beta	1.63	
Beta Adjusted Equity Risk Premium		8.97
Size Premium (decile 10)		6.10
Company-Specific Risk Premium		3.00
Equity Discount Rate		20.55

BV101 Lesson 8: Developing Rates

Discount and Capitalization Development Models

Private Cost of Capital Model

- The Pepperdine Private Capital Markets Survey is the first comprehensive investigation of the major private capital market segments.
- The surveys specifically examine the behavior of senior lenders, asset-based lenders, mezzanine funds, private equity groups, venture capital firms, angel investors, factoring firms, privately-held businesses and business appraisers.

BV101 Lesson 8: Developing Rates

Discount and Capitalization Development Models

Private Cost of Capital Model

The Pepperdine Private Capital Markets Survey collects information on five broad categories in the private market:

- Banks
- Asset-based lenders
- Mezzanine investments
- Private equity investment
- Venture capital investment

BV101 Lesson 8: Developing Rates

Discount and Capitalization Development Models

Private Cost of Capital Model *Conceptual examples for estimating PCOC*

Asset	$M	Liabilities and Equity	$M	Invest. Size		Cost of Capital
Net Working Capital	0.0	Senior Debt	12.5	2.5	x	5.5%
Long-Lived Assets	35.0	Subordinated Debt (Mezz)	5.0	1.0	x	19.5%
		Equity	17.5	3.5	x	30.0%
	35.0		35.0	7.0	x	

EBITDA	$ 5
Multiple	7x
Market Value	$35.0

PCOC = [5.5% * (2.5/7)] + [19.5% * (1.0/7.0)] + [30.0% * (3.5/7.0)]

Pretax PCOC = 19.75%

Capital Type	*Market Value*	*% of Total*	*Rate*	*Tax Effect*	*Rate Factor*
Cost of Debt	$17,500,000	50.0%	6.50%	0%	3.3%
Cost of Equity	$17,500,000	50.0%	30.00%	0%	15.0%
Total	$35,000,000	Pre-tax equity cost of capital			18.3%

BV101 Lesson 8: Developing Rates

Discount and Capitalization Development Models

Market Derived Discount Rates

- Industry-specific guideline company data from the price-to-earnings ratio (multiple) plus the long-term growth rate is used to estimate a discount rate.

Formula		100.0
Divide by:	Selected Earnings Market Valuation Multiple	3.7
Equals:	Capitalization Rate	27.0
Add:	Long-Term Earnings Growth Rate	4.0
Equals:	Discount Rate	31.0

BV101 Lesson 8: Developing Rates

Discount and Capitalization Development Models

Factor Rating Model

- This is a model used when valuing very small businesses by assigning weightings to 10 different risk factors
- This model assumes a hypothetical buyer would pay somewhere in the range of 1-to-3 or 4 years' worth of discretionary earnings for a very small privately held business

BV101 Lesson 8: Developing Rates

Discount and Capitalization Development Models

Factor Rating Model

The International Business Brokers Association defines “discretionary earnings” as the earnings of a business prior to the following items:

- Income taxes
- Nonoperating income and expenses
- Nonrecurring income and expenses
- Depreciation and amortization
- Interest expense and income
- Owner’s total compensation for those services that could be provided by a sole owner/manager

BV101 Lesson 8: Developing Rates

Discount and Capitalization Development Models

Implied Private Company Pricing Line (IPCPL)

- The *Implied Private Company Pricing Line* uses small private company transaction data to solve for the cost of capital for a private company with $50 million or less in revenue.
- The model uses market evidence for developing a base discount rate with average market characteristics.
- An adjustment to the market (base) discount rate may be warranted if Subject company has more or less risk factors than the average industry benchmark comparison data.

BV101 Lesson 8: Developing Rates

Discount and Capitalization Development Models

Example IPCPL Discount & Cap Rate

Sales $500,000 - IPCPL Discount Rate	23.51%
Risk Adjustment	2.00%
Company's Discount Rate	25.51%
Minus: Company's L-T Growth	-5.00%
Company's Capitalization Rate	20.51%

BV101 Lesson 8: Developing Rates

Discount and Capitalization Development Models

Example IPCPL

Private Company Cost of Capital from IPCPL		25.51%			
Forecasted Invested Capital Earnings			PV Factor		
	F-1	$175,000	0.797	=	139,431
	F-2	$150,000	0.635	=	95,221
	F-3	$157,500	0.506	=	79,661
Long-Term Growth Rate	5.00%	1.05			
	Terminal	$165,375	0.506	=	83,644
	Capitalization Rate				20.51%
	Terminal Value			=	$407,821
	Initial Indication of Value	722,134			
	Add: Cash	45,000			
	Indicated Invested Capital Value	767,134			
	Less: Certain Liabilities	(135,698)			
	Indicated Equity Value	$631,436			

BV101 Lesson 8: Developing Rates

Various Indications of Value via Different Rates

- Rates of return must be applied to the proper earnings stream.
- Appraiser must decide which earnings stream(s) to select in a given assignment.
- There will be times when EBITDA, pre-tax, net income and net cash flow earnings streams may be negative.

BV101 Lesson 8: Developing Rates

Various Indications of Value via Different Rates

Earnings and Rates of Return				
Financial Measurement	Earnings Stream	Math	Rate	Indication of Value
SDE	$167,962	times	2.75	$ 461,895
EBITDA	$123,172	times	3.75	$ 461,895
EBIT	$110,855	divided	0.24	$ 461,895
Pre-Tax Earnings	$101,617	divided	0.22	$ 461,895
Net Income	$ 92,379	divided	0.20	$ 461,895
Net Cash Flow	$ 69,284	divided	0.15	$ 461,895

BV101 Lesson 8: Developing Rates

Exercise:

Use the following case study information from the manual to develop an appropriate discount and capitalization rate

Answer:

What is the Practice's equity net cash flow discount rate? _____%

What is the equity net cash flow capitalization rate? _____%

What is your selected long-term growth rate?_____%, why? _____

BV101 Lesson 8: Developing Rates

Exercise Solution

Risk-Free Rate	2.6%
Equity Risk Premium	6.7%
Size Premium	4.5%
CSRP	4.0%
NCF Discount Rate	17.8%
Less: L-T Earnings Growth Rate	-4.0%
NCF Capitalization Rate	13.8%

Could it be more or less?

BV101 Lesson 9:

Financial Forecasting

BV101 Lesson 9: Financial Forecasting

Forecasting versus Projections

AICPA definitions of forecast and projection as having different meanings:

- A financial forecast is based upon actual conditions that are expected to exist during the forecasted period.
- A projection is based upon expected conditions given one or more hypothetical assumptions.

BV101 Lesson 9: Financial Forecasting

Forecasting versus Projections

Guide to Forecasts and Projections definitions of forecasts and projections as:

- …"financial forecasts present the entity's expected financial position, results of operations, and cash flow for a future period. A forecast is based upon assumptions that reflect conditions the responsible party expects to exist and the course of action it expects to take."
- …"financial projections present the financial position, results of operations, and cash flow for a future period that a responsible party would expect based on the occurrence of one or more hypothetical assumptions. A hypothetical assumption is one that is not necessarily expected, but is consistent with the purpose of the projections (that is, a what if?). A projection is based on assumptions that reflect conditions the responsible party expects would exist and the course of action it expects would be taken if the hypothetical assumptions occurred."

BV101 Lesson 9: Financial Forecasting

Developing Financial Projections

- Financial forecasting is difficult and time consuming.
- In some cases, the appraiser will be able to use a forecast prepared by management. If electing to use management's forecast, the appraiser needs to analyze the forecast to determine if it is reasonable.
- In the majority of cases the appraiser will have to prepare the forecasts.

BV101 Lesson 9: Financial Forecasting

Developing Financial Projections

To develop a meaningful financial forecast the following basic steps should be followed.

- Determine the number of years to be forecasted
- Develop a calculated perspective
- Select a forecasting model

BV101 Lesson 9: Financial Forecasting

Developing Financial Projections

Several techniques are available in modeling a forecast:

- Percentage Technique
- Most Likely, Best Case and Worst-Case Scenario
- Fixed & Variable Cost Technique
- Historical Weighting Technique
- Probability Weighted Expected Earnings Model

BV101 Lesson 9: Financial Forecasting

Developing Financial Projections

Percentage Technique

- The percentage technique takes into account selected line items from the income statement, as a percentage of sales.
- If the assumption is each line item will remain the same percentage of sales – you simply have to apply a capitalization of earnings method to produce an indication of value.
- Be careful not to automatically apply the same percentages for each line item – this assumption rarely occurs.

BV101 Lesson 9: Financial Forecasting

Developing Financial Projections

Percentage Technique (historical data)

	Normalized Net Cash Flow					As a Percentage of Gross Sales						
	20X5	20X6	20X7	20X8	20X9	20X5	20X6	20X7	20X8	20X9	Totals	5Y Totals
Months of Operations in Year	*12*	*12*	*12*	*12*	*12*							
Gross Sales	5,604,510	5,491,867	6,405,217	7,571,754	10,357,446	100.0%	100.0%	100.0%	100.0%	100.0%	35,430,794	100.0%
Cost of Goods	(3,763,719)	(3,763,719)	(3,763,719)	(4,763,719)	(6,763,719)	-67.2%	-68.5%	-58.8%	-62.9%	-65.3%	(22,818,595)	-64.4%
Gross Profit	1,840,791	1,728,148	2,641,498	2,808,035	3,593,727	32.8%	31.5%	41.2%	37.1%	34.7%	12,612,199	35.6%
Operating Expenses	(1,814,415)	(1,692,375)	(1,847,767)	(1,898,279)	(2,949,236)	-32.4%	-30.8%	-28.8%	-25.1%	-28.5%	(10,202,072)	-28.8%
Operating Income (EBIT)	26,376	35,773	793,731	909,756	644,491	0.5%	0.7%	12.4%	12.0%	6.2%	2,410,127	6.8%
Interest Income (Expenses)	(12,578)	(10,589)	(9,524)	(10,257)	(11,689)	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	(54,637)	-0.2%
Other Income (Expenses)	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%
Pre-Tax Earnings	13,798	25,184	784,207	899,499	632,802	0.2%	0.5%	12.2%	11.9%	6.1%	2,355,490	6.6%
Normalized Adjustments to Pre-Tax Income												
Non-Recurring Expenses	31,423	27,162	17,550	-	-	0.6%	0.5%	0.3%	0.0%	0.0%	76,135	0.2%
Owner's Perquisites	185,178	180,442	185,945	185,842	253,875	3.3%	3.3%	2.9%	2.5%	2.5%	991,282	2.8%
Rent Adjustment	12,541	5,681	(5,623)	15,620	16,520	0.2%	0.1%	-0.1%	0.2%	0.2%	44,739	0.1%
Reasonable Owner's Compensation	(26,301)	(18,546)	(5,261)	26,587	32,560	-0.5%	-0.3%	-0.1%	0.4%	0.3%	9,039	0.0%
Normalized Pre-Tax Earnings	216,639	219,923	976,818	1,127,548	935,757	3.9%	4.0%	15.3%	14.9%	9.0%	3,476,685	9.8%

BV101 Lesson 9: Financial Forecasting

Developing Financial Projections

Percentage Technique (forecasted data)

	Detailed Forecast				Calculated as % of Sales			
	5Y Historical Totals	F1	F2	F3	% 5Y	F1	F2	F3
Gross Sales	35,430,794	11,911,063	13,102,169	14,150,343	100.0%	100.0%	100.0%	100.0%
Cost of Goods	(22,818,595)	(7,671,116)	(8,438,227)	(9,113,285)	-64.4%	-64.4%	-64.4%	-64.4%
Gross Profit	12,612,199	4,239,947	4,663,942	5,037,057	35.6%	35.6%	35.6%	35.6%
Operating Expenses	(10,202,072)	(3,429,715)	(3,772,686)	(4,074,501)	-28.8%	-28.8%	-28.8%	-28.8%
Operating Income (EBIT)	2,410,127	810,232	891,256	962,556	6.8%	6.8%	6.8%	6.8%
Interest Income (Expenses)	(54,637)	(18,368)	(20,205)	(21,821)	-0.2%	-0.2%	-0.2%	-0.2%
Other Income (Expenses)	-	-	-	-	0.0%	0.0%	0.0%	0.0%
Pre-Tax Earnings	2,355,490	791,865	871,051	940,735	6.6%	6.6%	6.6%	6.6%
Selected Operating Expense Line Items								
Advertising	138,915	46,700	51,370	55,480	0.4%	0.4%	0.4%	0.4%
Bad Debts	209,209	70,332	77,365	83,554	0.6%	0.6%	0.6%	0.6%
Owner Compensation	902,068	303,256	333,581	360,268	2.5%	2.5%	2.5%	2.5%

BV101 Lesson 9: Financial Forecasting

Developing Financial Projections

Fixed and Variable Cost Technique

- The fixed and variable cost technique uses a combination of fixed and variable expenditures to develop a supportable financial forecast
- Most businesses have certain fixed expenses (or semi-fixed expenses)
- Other costs are generally variable as sales increase or decrease so do these types of expenses

BV101 Lesson 9: Financial Forecasting

Developing Financial Projections

Fixed and Variable Cost Technique (example)

Prospective Financial Forecast of Fixed & Variable on an EBITDA Structure															
	Base		*Estimated*			*Forecasted*									
	20X1	20X2	Variable %	Fixed $	Note	FY-1	FY-2	FY-3	FY-4	FY-5	FY-6	FY-7	FY-8	FY-9	FY-10
				Sales Growth %		*15.0%*	*10.0%*	*5.0%*	*5.0%*	*5.0%*	*5.0%*	*5.0%*	*5.0%*	*5.0%*	*5.0%*
Asset & Productivity Percentage (70%-80%)															
Gross Sales	100.0	416,951				479,494	527,443	553,815	581,506	610,581	641,110	673,166	706,824	742,165	779,274
Operating Expenses	(71.4)	(297,555)				(375,135)	(383,923)	(402,075)	(443,127)	(469,434)	(497,379)	(521,774)	(553,669)	(582,557)	(614,186)
Operating EBITDA	28.6	119,396				104,359	143,520	151,740	138,379	141,147	143,732	151,392	153,155	159,608	165,087
Selected Line Items					*EBITDA Growth*	*27.3%*	*5.4%*	*-9.7%*	*2.0%*	*1.8%*	*5.1%*	*1.2%*	*4.0%*	*3.3%*	
Advertising	8.7	36,346	2.0%			15,000	10,549	11,076	11,630	12,212	12,822	13,463	14,136	14,843	15,585
Owner Compensation	-	-	18.0%		1	86,309	94,940	99,687	104,671	109,905	115,400	121,170	127,228	133,590	140,269
Rent	12.5	52,000		60,960	2	60,960	62,179	63,423	64,691	65,985	67,305	68,651	70,024	71,424	72,853
Repairs/Maintenance	0.2	933	1.0%			4,795	5,274	5,538	5,815	6,106	6,411	6,732	7,068	7,422	7,793
Office Salaries	24.5	102,240		102,240	3	108,953	105,040	110,714	137,040	149,133	162,131	171,199	186,532	198,366	211,983
Payroll Taxes	2.0	8,199	0.8%		4	8,716	8,403	8,857	10,963	11,931	12,970	13,696	14,923	15,869	16,959
Travel/Meals/Entertainment	2.0	8,302	0.5%			2,397	2,637	2,769	2,908	3,053	3,206	3,366	3,534	3,711	3,896
Insurance	2.0	8,486		8,500	5	8,500	8,925	9,371	9,840	10,332	10,848	11,391	11,960	12,558	13,186
Utilities	2.0	8,435		8,500	6	8,500	9,180	9,914	10,708	11,564	12,489	13,488	14,568	15,733	16,992
Telephone	0.8	3,400		2,700	7	2,700	2,835	2,977	3,126	3,282	3,446	3,618	3,799	3,989	4,189
Professional Supplies	7.6	31,827	7.0%			33,565	36,921	38,767	40,705	42,741	44,878	47,122	49,478	51,952	54,549
Office Expenses	2.6	10,845	2.0%			9,590	10,549	11,076	11,630	12,212	12,822	13,463	14,136	14,843	15,585
Legal & Professional Fees	1.8	7,693		5,500	8	5,500	5,775	6,064	6,367	6,685	7,020	7,371	7,739	8,126	8,532
Vehicle Gas/Oil/Repairs	0.4	1,650		1,650	9	1,650	1,815	1,997	2,196	2,416	2,657	2,923	3,215	3,537	3,891
Misc	4.1	17,199		18,000	10	18,000	18,900	19,845	20,837	21,879	22,973	24,122	25,328	26,594	27,924
Total Expenses	100.0	297,555				375,135	383,923	402,075	443,127	469,434	497,379	521,774	553,669	582,557	614,186

BV101 Lesson 9: Financial Forecasting

Developing Financial Projections

Most Likely, Best Case or Worst Case Scenario Technique

Notice forecasted sales are projected to decrease as compared to actual events in Years 1 and 2.

	Actual and Estimated Amounts						Percentage Scenarios		
	Actual Year 1		Actual Year 2		Forecasted Year		Most Likely	Best Case	Worst Case
Sales	163,337	100.0%	155,067	100.0%	136,602	100.0%	100.0	100.0	100.0
Cost of Sales	20,256	12.4%	19,614	12.6%	17,212	12.6%	11.0	7.00	12.6
Gross Profit	143,081	87.6%	135,453	87.4%	119,390	87.4%	89.0	93.0	87.4
Operating Expenses									
Owner's Compensation	50,078	35.0%	47,409	35.0%	42,347	31.0%	28.0	31.0	35.0
Insurance	1,000	0.6%	1,000	0.6%	956	0.7%	0.6	0.6	0.7
Telephone	2,862	1.8%	2,948	1.9%	1,776	1.3%	1.7	1.3	1.9
General & Other	4,900	3.0%	4,652	3.0%	4,098	3.0%	3.0	3.0	3.0
Depreciation	5,553	3.4%	5,272	3.4%	4,371	3.2%	3.2	3.0	3.4
Rent	24,130	14.8%	24,876	18.4%	17,758	13.0%	15.4	13.0	18.4
Administrative Wage Total	31,975	19.6%	36,623	23.6%	18,441	13.5%	18.9	13.5	23.6
Total Operating Expenses	120,499	73.8%	122,780	79.2%	89,748	65.7%	70.8	65.4	86.0
Pre-Tax Earnings	22,582	13.8%	12,673	8.2%	29,643	21.7%	18.2	27.6	1.4

BV101 Lesson 9: Financial Forecasting

Developing Financial Projections

Historical Weighting Technique

- Historical weighting technique develops an earnings stream based on past performance of the company.
- After making normalized adjustments to each of the historical years a weighting is used as a measure of confidence the appraiser has that certain events, which have occurred in the past, might reasonably be expected to occur in the future.

BV101 Lesson 9: Financial Forecasting

Developing Financial Projections

Historical Weighting Technique

- The application of weights is applied not so much in terms of mathematics, but to allow the reader to understand the appraiser's logic for a given period or periods.
- With weights in excess of one - the appraiser is expressing more confidence in a given period over the other periods analyzed.
- Caution should be exercised, as this technique represents available earnings on an ongoing basis.

BV101 Lesson 9: Financial Forecasting

Developing Financial Projections

Historical Weighting Technique (example)

Weighted Historical Net Cash Flow Available to Equity					
	20X1	20X2	20X3	20X4	20X5
Months of Operation in Year	12	12	12	12	12
Year-over-Year Growth Rate		*-2.0%*	*16.6%*	*18.2%*	*36.8%*
Gross Sales	5,604,510	5,491,867	6,405,217	7,571,754	10,357,446
Cost of Goods	(3,763,719)	(3,763,719)	(3,763,719)	(4,763,719)	(6,763,719)
Gross Profit	1,840,791	1,728,148	2,641,498	2,808,035	3,593,727
Operating Expenses	(1,814,415)	(1,692,375)	(1,847,767)	(1,898,279)	(2,949,236)
Operating Earnings (EBIT)	26,376	35,773	793,731	909,756	644,491
Interest Income (Expenses)	(12,578)	(10,589)	(9,524)	(10,257)	(11,689)
Other Income (Expenses)	-	-	-	-	-
Pre-Tax Earnings	13,798	25,184	784,207	899,499	632,802
Pre-Tax Earnings % of Sales	*0.2%*	*0.5%*	*12.2%*	*11.9%*	*6.1%*
Normalized Adjustments to Historical Years					
Non-Recurring Expenses	31,896	22,568	178,921	-	-
Legal & Professional Fees	-	-	-	36,415	-
Personal Use of Business Assets	15,267	11,456	19,875	16,521	10,258
Compensation Adjustment	(26,987)	(15,578)	(8,951)	(16,874)	(32,574)
Total Normalized Pre-Tax Earnings	33,974	43,630	974,052	935,561	610,486
Pre-Tax Earnings % of Sales	*0.6%*	*0.8%*	*15.2%*	*12.4%*	*5.9%*
Less: Effective Income Taxes (28%)	(9,513)	(12,216)	(272,735)	(261,957)	(170,936)
Normalized Net Income	24,461	31,414	701,318	673,604	439,550
Weighting	-	-	1	2	3
Weighted Normalized Net Income	-	-	701,318	1,347,208	1,318,650
Aggregate Weighted Normalized Net Income					3,367,176
Divided by Total Weighting					6
Weighted Average Normalized Net Income					561,196
Long-Term Earnings Growth Rate					1.05
Forecasted Net Income					589,256
Cash Flow Adjustments					
Non-Cash Expenditures (depreciation & amortization), based upon actual historical charges					22,987
Capital Expenditures, based on actual historical levels					(26,487)
Changes in Long-Term Debt (+/-), for next year					-
Changes in Working Capital (+/-). based upon future expectations					(12,697)
Net Cash Flow to Equity					573,059

BV101 Lesson 9: Financial Forecasting

Developing Financial Projections

Probability Weighted Expected Earnings Model

- The first step in this model is to select the number of years to forecast

Summary of Probability Weighted Expected Earnings					
	F1	F2	F3	F4	F5
Sales	$5,612,340	$6,454,191	$7,422,320	$8,535,668	$9,816,018
Cost of Goods	(3,086,787)	(3,549,805)	(3,340,044)	(4,694,617)	(5,398,810)
Gross Profit	2,525,553	2,904,386	4,082,276	3,841,050	4,417,208
Operating Expenses	(1,995,187)	(2,294,465)	(3,224,998)	(3,034,430)	(3,489,594)
Projected Earnings	530,366	609,921	857,278	806,621	927,614

BV101 Lesson 9: Financial Forecasting

Developing Financial Projections

Probability Weighted Expected Earnings Model

- The second step is to assign “probability weightings”

Probability Weighted Expected Earnings Stream

Normalized	*697,430*	*Company's Normalized Earnings Stream*		
Year	Projected Earnings	*Growth Rate %*	Probability of Occurrence	Probability Weighted Earnings
F1	530,366	*-24.0%*	30.0%	159,110
F2	609,921	*15.0%*	35.0%	213,472
F3	857,278	*40.6%*	15.0%	128,592
F4	806,621	*-5.9%*	15.0%	120,993
F5	927,614	*15.0%*	5.0%	46,381
			100.0%	668,548

BV101 Lesson 9: Financial Forecasting

Developing Financial Projections

Balance Sheet Projections

- You ask - why would you need to forecast the balance sheet?
- If management provided the forecasted balance sheet (most likely not), are their projections reasonable for debt service, future capital expenditures and working capital requirements?

BV101 Lesson 9: Financial Forecasting

Developing Financial Projections

Balance Sheet Projections (example of total assets)

Forecasted Balance Sheet

	Normalized	*Forecasted*				*% Driven from Sales in Forecasted*		
	20X1	20F2	20F3	20F4		20F2	20F3	20F4
Months of Operation in Year	*12*	*12*	*12*	*12*		*12*	*12*	*12*
Assets					Sales	$10,357,446	$11,393,191	$11,962,850
Cash	25,000	27,500	28,875	31,185		0.002	0.002	0.002
Receivables	1,496,246	1,645,871	1,728,164	1,866,417		0.144	0.144	0.144
Inventory	683,168	751,485	789,059	852,184		0.066	0.066	0.066
Other	50,886	55,975	58,773	63,475		0.005	0.005	0.005
Total Current Assets	2,255,300	2,480,830	2,604,871	2,813,261		0.218	0.218	0.218
Total FF&E Assets	265,000	291,500	306,075	330,561		0.026	0.026	0.026
Total Accum Depreciation	(74,476)	(81,924)	(86,020)	(92,902)		(0.007)	(0.007)	(0.007)
Net FF&E Assets	190,524	209,576	220,055	237,659		0.018	0.018	0.019
Intangible Assets (net)	-	-	-	-		-	-	-
Other	-	-	-	-		-	-	-
Total Assets	2,445,824	2,690,406	2,824,926	3,050,921		0.236	0.236	0.236

BV101 Lesson 9: Financial Forecasting

Developing Financial Projections

Internal Consistency

The appraiser should answer these basic questions.

- Are the overall financial results consistent with the selected forecasted scenario?
- Are the forecasted financial ratios consistent with sales and earnings growth? If not, why not?
- Is the return on capital consistent with industry rates?
- Does the company have the borrowing capacity to support the forecasted changes?
- Are private capital funds available to the company to support the forecasted changes?
- Does the forecast include the necessary resources to manage the forecasted changes?

BV101 Lesson 9: Financial Forecasting

Developing Financial Projections

Final Forecasting Comments

The selection of a forecasting technique or model depends on many factors. Such as:

- Context of the forecast
- Relevance of the information
- Availability of historical data
- Degree of acceptable accuracy
- Time period to be forecast
- Benefit versus time available

BV101 Lesson 9: Financial Forecasting

Developing Financial Projections

Final Forecasting Comments

- A common objection is to much long-range forecasting is that it is virtually impossible to predict with accuracy what will happen several years into the future.
- The appraiser will need to scrutinize the inputs. Uncertainty increases when a forecast is made for a period more than two years out.
- Unfortunately, most forecasting models use a smoothing average technique.

BV101 Lesson 9: Financial Forecasting

Developing Financial Projections

Exercise:

Use the following case study information from the manual to forecast and arrive at an indication of value for ABC Manufacturing using the discounted future earnings method.

BV101 Lesson 9: Financial Forecasting

Developing Financial Projections

Exercise Solution (a)

Forecasted Income Statement			
	F-1	F-2	F-3
Gross Sales	1,091,025	1,173,264	1,276,984
Cost of Goods	(342,599)	(356,734)	(366,995)
Gross Profit	748,426	816,530	909,989
Operating Expenses	(492,687)	(567,247)	(554,810)
Operating Earnings (EBIT)	255,739	249,283	355,179
Interest Income (Expenses)	-	-	-
Forecasted Pre-Tax Earnings	255,739	249,283	355,179
Converting Net Income into Net Cash Flow			
Less: Blended Income Tax Rate (38%)	(97,181)	(94,728)	(134,968)
Add: Non-Cash Charges	8,954	7,562	5,981
Less: Capital Expenditures	(10,000)	(8,000)	(6,500)
Changes in Long-Term Debt	-	-	-
Changes in Net Working Capital	(1,652)	(1,821)	(1,982)
Equals: Net Cash Flow available to Equity Earnings Stream	155,860	152,296	217,710

BV101 Lesson 9: Financial Forecasting

Developing Financial Projections **Exercise Solution (b)**

Risk-Free Rate	2.60
Equity Risk Premium	6.70
CRSP Decile Size Premium	6.60
Company-Specific Risk Adjustment	3.00
Net Cash Flow Discount Rate	18.90
Less: L-T Earnings Growth Rate	(3.00)
Net Cash Flow Capitalization Rate	15.90

BV101 Lesson 9: Financial Forecasting

Developing Financial Projections

Exercise Solution (c)

Discounted Cash Flow Method					
Selected Year	Projected Net Cash Flow	Discount Rate	Present Value Factor	Capitalization Rate	Present Value
F-1	$ 155,860	0.189	0.841		131,085
F-2	$ 152,296	0.189	0.707		107,727
F-3	$ 217,710	0.189	0.595		129,519
L-T Rate	1.03				
Terminal Year	$ 224,241	0.189	0.595	0.159	839,021
				Indication of Equity Value	1,207,352

BV101 Lesson 9: Financial Forecasting

Converting Rates of Return

Converting net cash flow rate of return to alternative earnings streams

	Earnings Stream	Ratio to NCF	NCF Cap Rate	Adjusted Cap Rate	Indicated Value
Pre-Tax Earnings	$484,478	173%	18.0%	31.2%	$ 1,555,106
Net Income	$329,445	118%	18.0%	21.2%	$ 1,555,106
Net Cash Flow	$279,919	100%	18.0%	18.0%	$ 1,555,106

Introduction to the Market Approach

BV101 Lesson 10: Market Approach

Introduction to the Market Approach

- The market approach includes an assortment of methods which uses transactional information from the market.
- The general idea is *if* one can find sufficient information regarding transactions, whether it be public companies (bought or sold on a public exchange) or private company transactions.
- Transactional market information can be found involving either minority or controlling interest.

BV101 Lesson 10: Market Approach

Introduction to the Market Approach

- Conceptually speaking, information should be for equally desirable substitute (i.e., similar investments).
- Equally desirable does not mean identical. It means equally desirable from an ownership or investment standpoint.
- Market transactional data can be considered a sampling of the marketplace from the investor's viewpoint.

BV101 Lesson 10: Market Approach

Market Based Methods

Methods generally utilized under this approach are:

- Guideline public company method
- Guideline transaction method
- Prior sales transaction method
- Buy-sell agreements
- Prior offers
- Industry “Rule of Thumb” method

BV101 Lesson 10: Market Approach

Finding Comparable Transactions

Although the only restrictive requirement as to comparable is specified in RR 59-60 is that their lines of business be the same or similar. Other considerations must be given to other relevant factors:

- Are they similar in terms of quantitative and qualitative investment characteristics?
- Has the transaction occurred under the same premise of value and standard of value?
- Is there sufficient amount of data that can be verified?
- Has the information transacted on an arm's length basis?

BV101 Lesson 10: Market Approach

Finding Comparable Transactions

The selection of companies is based on an analysis of the entity being valued. Below is an example of developing a search criteria.

- Product line similarity (i.e., by NAICS code or SIC code)
- Revenue size
- Financial performance (i.e., profitability, capital structure)
- Markets (compete within and/or sell to)
- Sales per employee
- Nature of competition
- Dividend-paying capacity

BV101 Lesson 10: Market Approach

Finding Comparable Transactions (public and private)

- Securities and Exchange Commission (EDGAR) 10-K annual report
- Websites (e.g., Yahoo! Finance)
- Databases (e.g., American Association of Individual Investors - Stock Investor Pro)
- Guideline Public Co. Comps Tool (BVR)
- Mergerstat
- PitchBook
- DealStats
- Done Deals

- DealStats
- BizComps
- Done Deals
- ValuSource Market Comps
- PeerComps
- Proprietary Databases

BV101 Lesson 10: Market Approach

Guideline Public Company Method

- Because of the very nature of most publicly traded companies used in this method, frequently this method is only useful when valuing mid-size to large closely held companies.
- Primary limitations in the use of GPCM are: (i) it is time consuming, (ii) sometimes hard to find true guideline companies, and (iii) difficult to support transferring non-control interests on an as-if freely traded basis into a control, closely held basis (non-marketable) basis.

BV101 Lesson 10: Market Approach

Guideline Public Company Method

A word of caution.

- Some professionals have the opinion there are major differences between public companies and closely held companies. The main point is these types of companies would never be sufficiently similar to use in the market approach. This results in those professionals never utilizing the guideline public company method, mainly due to these significant differences.
- There are professionals who are at the opposite end of the spectrum.
- Basically, it comes down to each professional deciding the merits or acceptability of using the guideline public company method.

BV101 Lesson 10: Market Approach

Guideline Public Company Method

Example of one model to use in identifying those guideline companies to be accepted or rejected during the initial search process

Guideline Companies Identified

Company Name	*Accepted*	*Rejected*	*Rejected Comments*
Sunoco (A Plus Convenience Stores)		X	*25 retail locations representing less than 3% of overall revenues*
7 Eleven, Inc		X	*Converted to Privately Held - no recent public market data available*
Casey's General Stores, Inc.	X		*Company is a product reseller and not a mfg.*
The Pantry, Inc	X		
Kwik Trip, Inc.		X	*Privately Held*
QuikTrip Corporation		X	*Privately Held*
Susser Holdings Corporation	X		
Valero Energy Corporation		X	*Heavily into petroleum refining and marketing*
Alimentation Couche-Tard, Inc.	X		
Flying J, Inc		X	*Privately Held*
RaceTrac Petroleum, Inc.		X	*Privately Held*
Speedway SuperAmerica, LLC		X	*Privately Held*
TravelCenters of America, Inc.		X	*Privately Held*

BV101 Lesson 10: Market Approach

Guideline Public Company Selected Financial Information

Name	The Pantry, Inc.		Casey's General Store		Alimentation Couche-Tard		Susser Holding Corp		Company	
Stock Symbol	PTRY		CASY		ANCUF		SUSS			
Number of Stores	1,638		1,531		5,878		525			
Avg Sales Per Store	$ 4,435,447		$ 3,028,796		$ 2,796,802		$ 7,486,914		$8,987,775	
Stock Price (as of Dec 22, 20X1)	$ 19.78		$ 42.97		$ 26.50		$ 13.04			
Common Shares Outstanding	22,194,000		50,899,000		53,706,712		17,018,032			
Market Capitalization - Equity	$ 438,997,320		$ 2,187,130,030		$ 1,423,227,868		$ 221,915,137			
Add: Interest Bearing Debt	759,341,000		179,331,000		741,200,000		431,306,000			
Market Value of Invested Capital	$ 1,198,338,320		$ 2,366,461,030		$ 2,164,427,868		$ 653,221,137			
									Normalized	
Date of Financial Statements	9/30/20X0		4/30/20X0		4/25/20X0		1/2/20X1		11-31-20X0	
		%		%		%		%		%
Total Revenue	7,265,262,000	*100.0*	4,637,087,000	*100.0*	16,439,600,000	*100.0*	3,930,630,000	*100.0*	8,987,775	*100.0*
Cost of Revenue	6,393,113,000	*88.0*	3,844,735,000	*82.9*	13,886,300,000	*84.5*	3,457,528,000	*88.0*	7,826,475	*87.1*
Gross Profit	872,149,000	*12.0*	792,352,000	*17.1*	2,553,300,000	*15.5*	473,102,000	*12.0*	1,161,300	*12.9*
Operating Expenses	665,554,000	*9.2*	707,873,000	*15.3*	2,318,900,000	*14.1*	365,065,000	*9.3*	864,001	*9.6*
Depreciation & Amortization	120,605,000	*1.7*	73,546,000	*1.6*	204,500,000	*1.2*	43,998,000	*1.1*	78,237	*0.9*
Interest, net	85,990,000	*1.2*	10,933,000	*0.2*	29,900,000	*0.2*	64,039,000	*1.6*	-	-
Income Before Tax (EBT)	(236,883,000)	*(3.3)*	181,582,000	*3.9*	412,200,000	*2.5*	5,783,000	*0.1*	219,062	*2.4*
Add: Interest Expense	85,990,000	*1.2*	10,933,000	*0.2*	29,900,000	*0.2*	64,039,000	*1.6*	-	-
Add: Depreciation & Amortization	120,605,000	*1.7*	73,546,000	*1.6*	204,500,000	*1.2*	43,998,000	*1.1*	78,237	*0.9*
EBITDA	(30,288,000)	*(0.4)*	266,061,000	*5.7*	646,600,000	*3.9*	113,820,000	*2.9*	297,299	*3.3*

BV101 Lesson 10: Market Approach

Guideline Public Company Method

Commonly used common equity multiples are:

- Price/sales
- Price/gross cash flow
- Price/earnings before tax
- Price/earnings
- Price/book value
- Price/dividends

BV101 Lesson 10: Market Approach

Guideline Public Company Method

Example: Assume:

Sales = $10,000,000

Number of shares = 500,000

Exchange traded price = $10.00 per share

Where: Sales per share = Sales ÷ number of shares

Price/sales multiple = Exchange traded price ÷ sales price per share

Then: Sales per share = $10,000,000 ÷ 500,000 = $20.00

Price/Sales Multiple = $10.00 ÷ $20.00 = 0.50

BV101 Lesson 10: Market Approach

Guideline Public Company Method

Commonly used invested capital multiples are:

- MVIC/sales
- MVIC/EBITDA
- MVIC/EBIT
- MVIC/net tangible asset value
- MVIC/discretionary earnings

BV101 Lesson 10: Market Approach

Guideline Public Company Method

Example: Assume:

Market value of invested capital = $12,000,000

Sales = $10,000,000

Then: Sales/MVIC = $10,000,000 ÷ $12,000,000 = 0.83

BV101 Lesson 10: Market Approach

Guideline Public Company Method

Example of tabulation of the market valuation multiples

Guideline Public Company - Valuation Multiples						
	MVIC/ Revenue	MVIC/ Gross Profit	MVIC/ Pre-Tax Income	MVIC/ EBIT	MVIC/ EBITDA	MVIC/ Total Assets
Size Adjustment to Multiples	*-4.7%*	*-4.7%*	*-4.7%*	*-4.7%*	*-4.7%*	*-4.7%*
The Pantry, Inc.	0.157	1.309	(4.819)	(8.337)	(37.690)	0.602
Casey's General Store	0.486	2.845	12.415	12.904	8.473	1.623
Alimentation Couche-Tard	0.125	0.808	5.002	5.139	3.189	0.558
Susser Holding Corp	0.158	1.315	107.603	9.821	5.467	0.681
Mean	0.232	1.569	30.050	4.882	(5.140)	0.866
Median	0.158	1.312	8.708	7.480	4.328	0.641
Standard Deviation	0.170	0.883	52.181	9.373	21.807	0.507
Coefficient of Variation	0.735	0.563	1.736	1.920	(4.242)	0.586

BV101 Lesson 10: Market Approach

Guideline Public Company Method

Example of application of the market valuation multiples

Guideline Public Company Method					
	Market Value of Invested Capital				
	Revenue	*Gross Profit*	*EBIT*	*EBITDA*	*Total Assets*
Financial Measurements	$8,987,775	$ 1,161,300	$ 219,062	$ 297,299	$ 551,180
Selected Valuation Multiple	0.220	1.466	4.896	3.347	2.552
Initial Indicated Value	1,976,600	1,702,041	1,072,481	995,178	1,406,423
Confidence Weight	15%	20%	30%	30%	5%
Weighted Value	296,490	340,408	321,744	298,553	70,321
Aggregate Weighted "Invested Capital" Value on a Freely Traded Basis					1,327,517
Minus: Liabilities					(145,438)
Indicated Fair Market Value of "Equity" on a Freely Traded Basis					1,182,079

BV101 Lesson 10: Market Approach

Guideline Public Company Method

Matching Time Periods to Measured Market Multiples

- Possible periods for comparison include:
- Most recent fiscal year
- Latest 12 months
- Last 12 trailing months
- Average of a number of past years, or the weighted average of a number of past years.

BV101 Lesson 10: Market Approach

Guideline Public Company Method

Relationship between Market Multiples and Capitalization Rates

- Market multiples are the inverse of capitalization rates.
- For example, if the P/E ratio is 15 - the equivalent capitalization rate is 6.67% (100 / 15).

BV101 Lesson 10: Market Approach

Guideline Public Company Method

Adjustments to the Financials (examples)

- Inventory of the guideline company may be priced on a LIFO basis, while the Company is priced using FIFO.
- Depreciation of the guideline company may be based on accelerated depreciation while the Company is based on straight-line depreciation (or vice versa).
- New accounting rules may have been applied by the guideline company, but not by the Company.

BV101 Lesson 10: Market Approach

Guideline Transaction Method

- The *Guideline Transaction Method* sometimes referred to as the *Merger and Acquisition Method,* uses pricing multiples derived from transactions of similar characteristics. In this method, a closely related *(example: business model)* transactions are used to estimate value.
- Business model refers to: line of business, stage in a business' life cycle, size both in sales and financial structure, etc.
- Generally, you should locate at least four to six transactions that are significantly similar to your Subject.

BV101 Lesson 10: Market Approach

Guideline Transaction Method

Example of calculating the mean and median information of the five selected “sold” companies.

Selection of Private Company Valuation Measurements

SIC Code	*Business Description*	*Guideline*	*Gross Sales*	*Price to MVIC*	*Net Income*	*EBITDA*
		Subject Company	719,895		67,670	124,981
3599	Construction Fire Sprinklers	1	591,023	615,890	67,377	159,986
3599	Commercial Install of Sprinklers	2	774,403	635,891	56,531	124,215
3599	Plumbing HVAC	3	713,954	599,721	36,412	151,696
3599	Fire Sprinklers Installer	4	978,885	574,258	44,050	136,692
3599	Fire Sprinklers Contractor	5	875,757	799,541	19,267	133,023
	Range	Low	591,023	574,258	19,267	124,215
		High	978,885	799,541	67,377	159,986
		Mean	786,804	645,060	44,727	141,122
		Median	774,403	615,890	44,050	136,692

BV101 Lesson 10: Market Approach

Guideline Transaction Method

Example of the Subject company best fits in between guidelines 1 and 2, based on net income as a percentage of sales

Private Company Valuation Multiples - Sales			
Transaction	*Gross Sales*	*Net Income % of Sales*	*Sales Valuation Multiple*
Guideline 1	591,023	11.4%	1.04
Company	719,895	9.4%	0.90
Guideline 2	774,403	7.3%	0.82
Guideline 3	713,954	5.1%	0.84
Guideline 4	978,885	4.5%	0.59
Guideline 5	875,757	2.2%	0.91

BV101 Lesson 10: Market Approach

Guideline Transaction Method

Example of the Subject company best fits in between guidelines 3 and 2, based on EBITDA as a percentage of sales

Private Company Multiples - EBITDA			
Transaction	*Gross Sales*	*EBITDA as % Sales*	*EBITDA Valuation Multiple*
Guideline 1	591,023	27.1%	3.8
Guideline 3	713,954	21.2%	4.0
Company	719,895	17.4%	4.2
Guideline 2	774,403	16.0%	5.1
Guideline 5	875,757	15.2%	6.0
Guideline 4	978,885	14.0%	4.2

BV101 Lesson 10: Market Approach

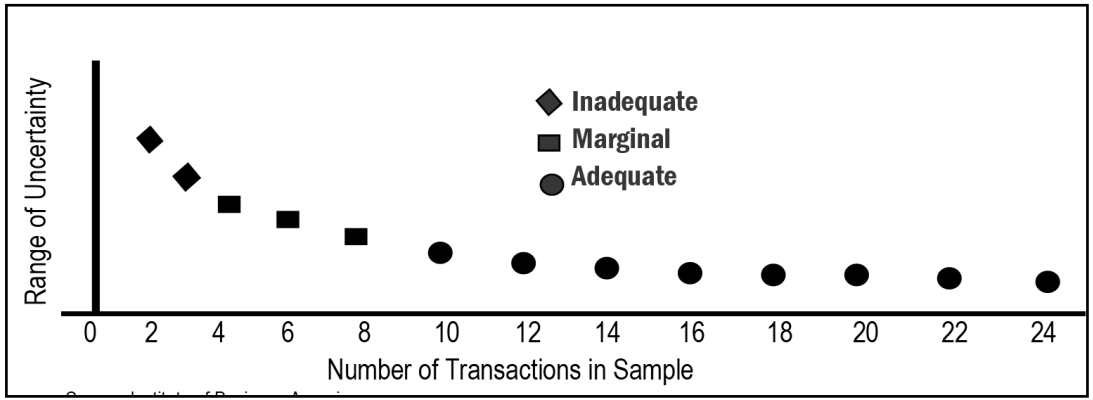
Transactional Method (direct market data method)

- This method utilizes sales of controlling interests in closely held companies to provide an indication of value.
- This method involves sampling of the market in order to identify “equally desirable substitutes.”
- Sampling theory tells us that, if we expect to have a reasonable confidence level in the results, we first must have an adequate sample of the total market.

BV101 Lesson 10: Market Approach

Transactional Method (direct market data method)

- Quantities in excess of 10 greatly enhance the appraiser's ability to determine the market



BV101 Lesson 10: Market Approach

Transactional Method (direct market data method)

Advantages of this method:

- It is based on actual transactions between seller and buyer.
- Provides direct market evidence. Remember the appraiser is trying to mirror the market or what could be expected to happen in the marketplace.
- Transactional data is generally for 100% controlling interests.
- Most closely held companies are small to mid-size and the databases utilized generally contain information from companies that have sold in this size range.

BV101 Lesson 10: Market Approach

Transactional Method (direct market data method)

Disadvantages of this method:

- Limitation of information for each transaction.
- Dates of the transaction may be older than one would like. Ray Miles has done extensive research into transactions over extended periods and demonstrated that the date of the transaction does not materially affect most industries. The conclusion reached by his research indicated valuation multiples do not appear to be time-sensitive, since inflation affects not only the sales prices, but also the gross and profits of the business.
- Not always known what was included in the transaction. Some appraisers believe inventory is not included. There is not universal agreement that accounts receivables are included in the sale.

BV101 Lesson 10: Market Approach

Transactional Method (direct market data method)

Disadvantages of this method:

- In some databases the transactions excluded cash, receivables and most liabilities, but this assumption may not always be correct for some industries.
- Not all transactions are for 100% cash. Some have seller financing, which requires adjusting the information to an all-cash equivalent.
- In some cases, a transaction may have unexplained financial results and an appraiser may decide to exclude it from further consideration.

However, despite the aforementioned advantages and disadvantages, the underlying fact remains there is evidence of actual transactions in companies that more than likely similar to the Subject company, in terms of size, management style, profitability, etc.

BV101 Lesson 10: Market Approach

Transactional Method (direct market data method)

Converting Market Data into Valuation Multiples (example)

Example: $1,890,000 sold price / $1,258,794 Sales = 1.5 multiple

BV101 Lesson 10: Market Approach

Transactional Method (direct market data method)

Converting Market Data into Valuation Multiples (example)

Private Transactional Data

Market Transactional Data						as a % of Gross Sales			Market Value of Invested Capital			
SIC Code	Gross Sales	SDE	EBITDA	Assets	Sold Price	SDE	EBITDA	Assets	Price/ Sales Ratio	Price/ SDE Ratio	Price/ EBITDA Ratio	Price/ Asset Ratio
1234	5,900,000	730,000	680,000	1,150,012	2,200,000	12.4%	11.5%	19.5%	0.37	3.01	3.24	1.91
1234	5,300,467	671,198	571,198	694,560	2,266,915	12.7%	10.8%	13.1%	0.43	3.38	3.97	3.26
1234	3,067,599	370,273	380,273	295,460	1,050,000	12.1%	12.4%	9.6%	0.34	2.84	2.76	3.55
1234	1,656,115	290,456	145,632	214,896	875,000	17.5%	8.8%	13.0%	0.53	3.01	6.01	4.07
1234	1,650,000	326,000	109,450	200,000	915,620	19.8%	6.6%	12.1%	0.55	2.81	8.37	4.58
1234	1,542,619	548,600	129,456	187,560	1,740,000	35.6%	8.4%	12.2%	1.13	3.17	13.44	3.17
Mean	2,446,060	469,402	269,908	307,496	1,415,060	22.0%	11.0%	11.9%	0.67	3.05	6.51	6.57
Median	2,027,728	487,299	242,135	215,263	1,300,184	19.3%	10.8%	11.5%	0.59	3.14	6.20	4.60
	Company's Financial Measurements					*Subject's Calculated %*						
	1,758,000	315,478	235,600	258,741		17.9%	13.4%	14.7%				
									Standard Deviation	*0.32*	*0.59*	*3.21*	*5.22*
									STD/Mean equals Coefficient of Variation	*0.48*	*0.19*	*0.49*	*0.79*

BV101 Lesson 10: Market Approach

Prior Transactions

- Prior sales transaction method looks at internal company transactions that have occurred in the past.
- This method is one of the most reliable methods for valuing a closely held business, if the information is available.
- This method requires that prior transactions of the Subject's company were made under economic circumstances similar to those on the valuation date and that they were at arm's length.

BV101 Lesson 10: Market Approach

Buy-Sell Agreements

- Buy-sell agreements may specifically state how value is to be determined for the business or interest.
- A buy-sell agreement is a binding agreement between owners of a business.
- The agreement generally governs how ownership interests will be handled if an owner chooses to leave the business, dies, or is forced out.

BV101 Lesson 10: Market Approach

Prior Offers

This method uses prior offers in which interests in the Subject Company's stock were not sold.

This method requires:

- That such prior offers be bona fide.
- That the offer had the financial capability to complete the transaction.
- The offer was on an arm's-length basis.
- That there is enough information available to calculate a cash equivalent price and valuation multiples.

BV101 Lesson 10: Market Approach

Industry Rule of Thumb

The American Society of Appraisers provides guidance in their business valuation standards, which states:

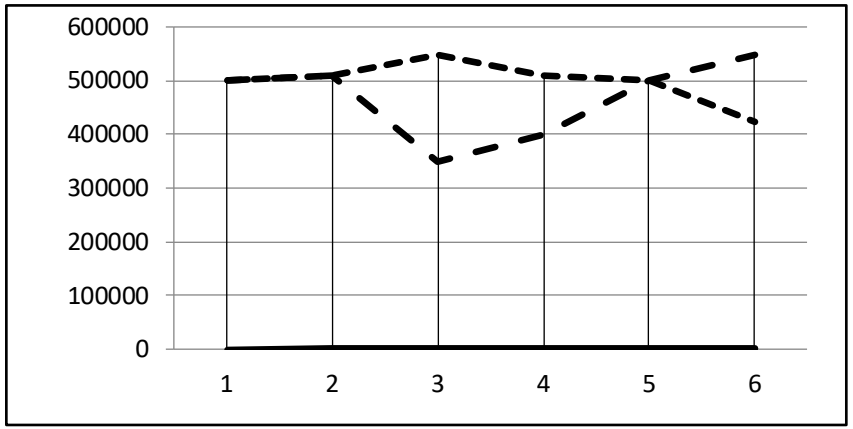
> "Rules of thumb may provide insight into the value of a business, business ownership interest, security or intangible asset.
>
> However, value indications derived from the use of rules of thumb should not be given substantial weight unless they are supported by other valuation methods and it can be established that knowledgeable buyers and sellers place substantial reliance on them."

BV101 Lesson 10: Market Approach

Industry Rule of Thumb

As you can imagine, if a rule of thumb was incorrectly used, your final conclusion of value could be seriously inaccurate.

Assume years 1 through 5 are historical financial data points and year 6 is the financial forecast, where would you apply the market multiple?



BV101 Lesson 10: Market Approach

Exercise: Market Approach

Your assignment is to value a 100% interest in ABC Physical Therapy Clinic using the direct market data method.

- Answer questions A thru H

BV101 Lesson 10: Market Approach

Exercise Solution (a, b,c,d)

Direct Market Data Method

SIC	NAICS	Business Description	Annual Sales ($000's)	SDE ($000's)	SDE % of Sales	Sale Price ($000's)	Price to Annual Sales	Price to SDE	Percent Down
8049	621340	Physical Therapy	$493	$143	29.0%	$150	0.304	1.05	100%
8049	621340	Physical Therapy	$173	$74	42.8%	$115	0.665	1.55	100%
8049	621340	Physical Therapy	$503	$123	24.5%	$245	0.487	1.99	100%
8049	621340	Physical Therapy	$571	$68	11.9%	$165	0.289	2.43	100%
8049	621340	Speech Therapy	$164	$104	63.4%	$56	0.341	0.54	100%
8049	621340	Physical Therapy	$516	$114	22.1%	$110	0.213	0.97	100%
8049	621340	Physical Therapy	$516	$114	22.1%	$110	0.213	0.97	100%
8049	621340	Physical Therapy	$469	$168	35.8%	$283	0.603	1.69	100%
8049	621340	Speech Therapy	$324	$121	37.3%	$177	0.546	1.46	100%
8049	621340	Physical Therapy	$321	$93	29.0%	$249	0.776	2.68	100%
8049	621340	Physical Therapy	$680	$286	42.1%	$400	0.588	1.40	100%
		Count	11	11	11	11	11	11	11
		Low	$164,000	$68,000	11.9%	$56,000	0.213	0.54	
		High	$680,000	$286,000	63.4%	$400,000	0.776	2.68	
		Mean	$430,000	$128,000	32.7%	$187,273	0.457	1.52	
		Median	$493,000	$114,000	29.0%	$165,000	0.487	1.46	

BV101 Lesson 10: Market Approach

Exercise Solution (e, g)

	Sales	SDE	SDE %
COMPANY	$ 476,821	$154,599	32.4%
Selected Multiple	0.50	1.50	
Indicated Values	$ 238,411	$231,899	
Weightings	40%	60%	
Wgt. Values	$ 95,364	$139,139	
Aggregated Weighted Values			$ 234,503
Packaging Adjustments			
Add: Cash			25,000
Add: Accounts Receivables			13,598
Add/Minus: Other			-
Invested Capital Value for a 100% Interest			$ 273,101

SDE Calculation	
9,851	Interest
7,539	Depreciation
5,000	Amortization
9,222	Pre-Tax Earnings
31,612	Equals EBITDA
122,987	Owner's Comp
154,599	Equals SDE

BV101 Lesson 10: Market Approach

Characteristics of Value

The ownership characteristic of an indicated value consists of two components: interest and basis. An ownership interest is either a control or a minority interest while the basis is either as-if freely traded value or on a closely held marketable value (commonly referred to as non-marketable).

- Guideline Public Company Method – Interest and Basis
- Guideline Transaction Method - Interest and Basis

BV101 Lesson 10: Market Approach

Strengths and Weaknesses of Market-Based Methods

- Guideline Public Company Method
- Guideline Transaction Method

BV101 Lesson 10: Market Approach

Adjusting Terms to Cash Equivalent Market Valuation Multiples

- If the valuation assignment is to determine fair market value, the definition is as “cash or cash equivalent.”
- So, if any transaction has terms or some percentage as seller financing - this does not have the same meaning as an all-cash transaction.

BV101 Lesson 10: Market Approach

Adjusting Terms to Cash Equivalent Market Valuation Multiples

Assume for a minute the following transaction states: (i) gross sales of $2 million; (ii) sales price of $785,000; (iii) $600k down payment; (iv) seller financing in five equal annual payments; and (v) interest rate of 8.0% over the term. The resulting price-to-sales market valuation multiple changes from 0.39 to 0.36.

	Term Price	Cash Price
Gross Sales	2,000,000	2,000,000
Sales Price	785,000	727,584
Valuation Multiple	0.39	0.36

BV101 Lesson 10: Market Approach

Adjusting Terms to Cash Equivalent Market Valuation Multiples

Example of converting terms to an all-cash sale.

Five Annual Payments @	8.0%		
	Seller Financing		$ 285,000
1	57,000	$0.926	52,778
2	57,000	$0.857	48,868
3	57,000	$0.794	45,248
4	57,000	$0.735	41,897
5	57,000	$0.681	38,793
		Present Value	227,584

The present value figure is added to the down payment amount of $500,000. This total produces a cash equivalent selling price.

227,584	Present Value of Terms
500,000	Down Payment
727,584	Cash Selling Price

BV101 Lesson 10: Market Approach

Adjusting Terms to Cash Equivalent Market Valuation Multiples

While the adjustment to cash equivalent value seems fairly straight forward, many other factors should be given attention when converting to a cash equivalent value in this example, various factors, like:

(i) lack of marketability of the note;

(ii) lack of formal documentation by the debtor;

(iii) uncertainty regarding the legal entity bearing liability; and

(iv) unusual payment schedule (say annually or quarterly payments) should be considered.

BV101 Lesson 10: Market Approach

Other Common Adjustments

- When utilizing the various databases containing closely held "sold" transactions, additional adjustments are required to the initial indication of value

DealStats Transaction Database		
Market Value of Invested Capital Valuation Multiples		
	Sales	EBITDA
Company's Normalized Financial Measurements	$2,500,000	$150,000
Selected Market Valuation Multiple	0.25x	3.50x
Initial Indication of Value	$ 625,000	$525,000
Confidence Weightings	0.40	0.60
Weighted Values	250,000	315,000
Total Weighted Values from Selected Financial Measurements		$565,000
Packaging Adjustments		
Plus: Cash		15,000
Plus: Accounts Receivable		25,000
Plus: Pre-paid Expenses		1,265
Indication of Invested Capital Value, for a 100% Interest, on a Closely Held Basis		606,265
Less: Liabilities		$ (58,000)
Indication of 100% Equity for a 100% Interest, on a Closely Held Basis		$548,265

BV101 Lesson 11:

Introduction to the Asset Approach

BV101 Lesson 11: Asset Approach

- This approach adjusts all assets and liabilities, both tangible and intangible, to their fair market value.
- The adjusted value reflects an appropriate premise of value, generally going concern or liquidation.
- Commonly used valuation methods under the asset approach include the:
    - Net asset value method
    - Excess earnings method
    - Liquidation value method

BV101 Lesson 11: Asset Approach

Net Asset Value Method

Assets and liabilities are revalued to their current (as of valuation date) fair market value, as nearly as can be estimated

This method requires the following steps:

- Obtain the Subject's historical financial statements
- Adjust the historical financial statements, if appropriate
- Adjust for unrecorded assets and liabilities
- Tax effecting adjustments to the balance sheet, if appropriate
- Estimate the operating value

BV101 Lesson 11: Asset Approach

Net Asset Value Method

- Adjusting the Balance Sheet

  A business appraiser needs to investigate whether assets reflected on the balance sheet are nonoperating or excess assets, and whether a business has operating assets which are not reflected on the balance sheet.

BV101 Lesson 11: Asset Approach

Net Asset Value Method

- Adjusting the Balance Sheet

  Common net asset adjustments include:

  - Marketable securities
  - Accounts receivable
  - Inventory
  - Related party transactions (receivables and payables)
  - Property and equipment
  - Intangible assets
  - Interest-bearing debt
  - Non-interest-bearing debt

BV101 Lesson 11: Asset Approach

Exercise

Complete the exercise by normalizing the balance sheet from the information provided in the manual.

Answer: What is the adjusted equity value? _____

BV101 Lesson 11: Asset Approach

Exercise Solution

Normalized Balance Sheet

Balance Sheet Item	Historical	Adjustment		Normalized
Cash	25,000	-		25,000
Receivables	1,496,246	(74,812)	*[1]*	1,421,434
Inventory	683,168	(136,634)	*[2]*	546,534
Other	50,886	-		50,886
Total Current Assets	2,255,300	(211,446)		2,043,854
Machy & Equip	1,356,789	(356,789)	*[3]*	1,000,000
Furn & Fixtures	89,456	(25,456)	*[3]*	64,000
Vehicles	178,956	(53,956)	*[3]*	125,000
Lease Improv	25,000	(25,000)	*[4]*	-
Total FF&E Assets	1,650,201			1,189,000
Total Accum Depreciation	(1,151,735)	1,151,735	*[5]*	-
Net FF&E Assets	498,466			1,189,000
Intangible Assets	-	-		-
Total Assets	2,753,766	479,088	*[6]*	3,232,854
Short-Term Debt	135,000	-		135,000
Payables	887,718	-		887,718
Other	278,571	-		278,571
Total Current Liabilities	1,301,289	-		1,301,289
Long-Term Debt	350,201	-		350,201
Other	3,550	-		3,550
Total Long-Term Liabilities	353,751	-		353,751
Total Liabilities	1,655,040	-		1,655,040
Total Equity/Capital (Net Worth)	1,098,726	479,088	*[7]*	1,577,814

BV101 Lesson 11: Asset Approach

Valuing Intangible Assets

Examples of intangible assets include:

- Market related - Non-compete agreement, trademark, trade names
- Customer related - Customer lists, mailing lists
- Contract based - Employment contracts, royalty agreements, licensing agreements, servicing contracts
- Technology related - Engineering drawings, operational manuals, patents, technical documentation
- Data processing related - Databases, chip masks computer software, MIS systems

BV101 Lesson 11: Asset Approach

Tax Effecting Adjustments

- Tax effecting adjustments on the balance sheet are performed for divorces, pass-through entities and estate tax matters.
- This issue is commonly referred to as trapped-in capital gains or built-in gains.

BV101 Lesson 11: Asset Approach

Tax Effecting Adjustments

- A controversial issue arises as some appraisers believe the amount of the discount should always be 100% of the potential liability.
- Others believe that it depends on the circumstances of each case.
- While other appraisers frequently adjust the balance sheet for potential tax liability thus eliminating the need for a separate and controversial trapped-in capital gains discount.

BV101 Lesson 11: Asset Approach

Tax Effecting Adjustments

Example of developing one solution to the trapped-in capital gains tax issue

Step One:

Fair Market Value - Fixed Assets	1,189,000
Fixed Assets Remaining Basis (booked)	(498,466)
Trapped-In Capital Gains	690,534
Effective Tax Rate	28.5%
Trapped-In Tax Liability	196,802

BV101 Lesson 11: Asset Approach

Tax Effect Adjustments

Example of developing one solution to the trapped-in capital gains tax issue

Step Two:

Discount for Trapped-In Capital Gains					
Scenario	Trapped-In Tax Liability	Holding Period	Present Value Factor	Probability	Weighted Average
Near-Term Sale	196,802	2	0.667	20.0%	26,272
Mid-Term Sale	196,802	5	0.364	50.0%	35,817
Long-Term Sale	196,802	10	0.132	30.0%	7,822
			Weighted Average Trapped-In Capital Gains Tax		69,912
			Fair Market Value - Fixed Assets		1,189,000
			Applicable Trapped-In Capital Gains Tax Discount		5.88%

BV101 Lesson 11: Asset Approach

Valuing Goodwill (i.e., intangible asset)

- One method of valuing intangible assets is by applying the excess earnings method.
- The excess earnings method of valuation is widely used for measuring the goodwill or intangible value of a business, not the entire company.

BV101 Lesson 11: Asset Approach

Valuing Goodwill (i.e., intangible asset)

- The excess earnings method was first promulgated in Appeals and Review Memorandum 34.
- The method was updated and restated in Revenue Ruling 68-609. The IRS does not favor this method as they indicate this method should only be used when no better method exists.
- Dr. Shannon Pratt states, “Despite the IRS position, the excess earnings method remains one of the most popular methods to value small businesses and professional practices.” (see Valuing a Business, Sixth Edition)

BV101 Lesson 11: Asset Approach

Excess Earnings Method

1) Estimate a normalized level of income (net cash flow, pre-tax income, net income).
2) Determine the market value of the net tangible assets.
3) Develop a reasonable rate of return (as of the valuation date) on the market value of the net tangible assets based on the Company's blended assets (debt and equity) mix.
4) Multiply the net tangible asset rate of return by the net tangible assets of the Company. This amount is the reasonable return on those assets.
5) Subtract the calculated amount for Step 4 from next year's earnings stream. This figure is the excess earnings attributable to intangible assets.
6) Determine an appropriate capitalization rate applicable to the excess earnings.
7) Capitalize the excess earnings amount by dividing the excess earnings (step 5) by the capitalization rate developed in Step 6. This figure is the estimated intangible asset value.

BV101 Lesson 11: Asset Approach

Excess Earnings Method

Step 1: Normalized Level of Income

- Revenue Ruling 68-609 does not specify a definition of income.
- The general trend has been to use net cash flow; however, many appraisers use net income or earnings before taxes.
- Care should be taken to ensure there is consistency between the level of economic income selected and the required rate of return selected for net tangible assets and the capitalization rate for intangible assets.

BV101 Lesson 11: Asset Approach

Excess Earnings Method

Step 2: Net Tangible Asset Value

There is general agreement that:

- Net tangible asset values are based on fair market value and on a going concern premise of value.
- Nonoperating and excess assets should be removed from the balance sheet when determining net tangible asset value.

BV101 Lesson 11: Asset Approach

Excess Earnings Method

Step 2: Net Tangible Asset Value

There is *no* general accepted agreement to net of what:

- Gross assets less accumulated depreciation (i.e., assets adjusted to market value less economic depreciation)
- Current assets plus property and equipment less current liabilities
- Current assets plus property and equipment less all liabilities

"The most common interpretation of the term net tangible asset value is net current value of the financial assets and the tangible assets less current liabilities only."

BV101 Lesson 11: Asset Approach

Excess Earnings Method

Step 3: Required Rate of Return on Net Tangible Assets

- Rate of return developed for net tangible equity should reflect the risks associated with investing in a business' net tangible assets.
- Debt and equity from the balance sheet form the blended "debt-to-equity" risk of the business.

BV101 Lesson 11: Asset Approach

Excess Earnings Method

Step 3: Required Rate of Return on Net Tangible Assets

- A reasonable rate of return must use a Company's overall estimated equity rate as a function in developing this rate (since debt and equity are used by lenders in setting the Company's interest rates)

	Fair Market Value	Loan Percentage	Loan Amount
Accounts Receivables	2,494,564	85.0%	2,120,379
Inventory	2,726,257	75.0%	2,044,693
Fixed Assets	987,351	60.0%	592,411
Other Assets	273,774	40.0%	109,510
Less: Existing Debt			(1,185,000)
Remaining Borrowing Capacity	6,481,946	56.8%	3,681,992
Market Borrowing Rate	4.00%		
One minus Blended Tax Rate	60.0%		
Required Return on Debt	2.40%	56.8%	1.4%
Required Return on Equity Investment	20.0%	43.2%	8.6%
Developed Rate of Return on Net Tangible Assets			10.0%

BV101 Lesson 11: Asset Approach

Excess Earnings Method

Steps 4 and 5: Calculation

4) Multiply the net tangible asset rate of return by the net tangible assets of the Company. This amount is the reasonable return on those assets.

5) Subtract the calculated amount for Step 4 from next year's earnings stream. This figure is the excess earnings attributable to intangible assets.

BV101 Lesson 11: Asset Approach

Excess Earnings Method

Step 6: Develop an Intangible Asset Rate of Return

- If the Subject's blended capitalization rate for net tangible assets is say 10%, and the overall blended (debt and equity) equity discount rate is 20%, then the estimated intangible asset rate of return must exceed the business' equity discount rate.

- Why, you ask? Intangibles by their very nature are a riskier investment, as such, should command a higher rate of return to compensate for this added risk.

Excess Earnings Method

Step 6: Develop an Intangible Asset Rate of Return

- One method for developing an excess earnings capitalization rate is an iterative process

Reasonableness of the Selected Intangible Asset Rate

	Indicated Values	Indicated FMV Value	Weighted Portion	Rates	Weighted Rate
Tangibles	1,598,905	3,014,430	0.530	10.0%	5.3%
Intangibles	1,415,525	3,014,430	0.470	30.0%	14.1%
			Weighted Overall Rate of Return		19.4%

BV101 Lesson 11: Asset Approach

Excess Earnings Method

Step 7: Application of the Excess Earnings Method

Projected Equity Earnings Stream (after-tax)		265,000
Fair Market Value of Net Tangible Assets	1,150,762	
Multiplied by: Rate of Return on Net Tangible Assets	10.0%	
		(115,105)
Available Excess Earnings		149,895
Divided by: Selected Intangible Assets Yield Rate		30.0%
Equals: Indicated Value of Intangible Assets		499,649

- Recall, the excess earnings method is used only to value the intangible assets.

BV101 Lesson 11: Asset Approach

Example of combining the Net Asset Value and Excess Earnings Methods

Net Tangible Asset/Excess Earrings Method			
	Fair Market Value	Loan Percentage	Loan Amount
Accounts Receivables	2,494,564	70.0%	1,746,195
Inventory	2,726,257	50.0%	1,363,129
Fixed Assets	987,351	40.0%	394,940
Other Assets	273,774	20.0%	54,755
Less: Existing Debt			(1,185,000)
Remaining Borrowing Capacity	6,481,946	36.6%	2,374,019
Market Borrowing Rate	4.00%		
One minus Blended Tax Rate	60.0%		
Required Return on Debt	2.40%	36.6%	0.9%
Required Return on Equity Investment	20.0%	63.4%	12.7%
Developed Rate of Return on Net Tangible Assets			13.6%
Excess Earnings Calculation			
Projected Equity Earnings Stream (after-tax)			265,000
Fair Market Value of Net Tangible Assets		1,150,762	
Multiplied by: Rate of Return on Net Tangible Assets		13.6%	
			(155,974)
Available Excess Earnings			109,026
Divided by: Selected Intangible Assets Yield Rate			30.0%
Equals: Indicated Value of Intangible Assets			363,420
Add: Fair Market Value of Net Tangible Assets			1,150,762
Initial Indication of Fair Market Value by Excess Earnings Method			1,514,182
Add: Nonoperating Assets			390,000
Total Indicated Equity Value			1,904,182

BV101 Lesson 11: Asset Approach

Negative Goodwill (i.e., intangible asset value)

- There are times when an earnings stream is not large enough and your calculations may produce a negative figure – meaning a negative intangible asset value.
- Intangible assets of a business either have positive intangible asset value or no intangible asset value.
- The notion of negative intangible asset value is not supported in the market place.
- A hypothetical willing seller would not pay a buyer for a negative intangible asset value position. The business either has intangible asset value or it does not.

BV101 Lesson 11: Asset Approach

Liquidation Value Method

- The liquidation value method is actually a premise of value under the adjusted net asset method.
- Liquidation value assumes the discontinuance of the Subject's business or an interest held in the business.
- The liquidation value method generally involves several complex steps and analyses.

BV101 Lesson 11: Asset Approach

Strengths and Weaknesses of Asset-based Methods

Net Asset Value Method

- Accepted by the courts
- May be more important if valuing an asset-intense business
- Useful when valuing a control interest
- May be expensive if tangible asset appraisals are required
- May be expensive if intangible asset valuations are required
- Difficult to apply to minority ownership interests
- Less useful if valuing an intangible intense business

BV101 Lesson 11: Asset Approach

Strengths and Weaknesses of Asset-based Methods

Excess Earnings Method

- Simple to understand
- Accepted by the courts for professional practices and small businesses
- Disagreement within the profession concerning how this method should be implemented

BV101 Lesson 11: Asset Approach

Characteristics of Value

Net Cash Value Method

- Interest and basis

Excess Earnings Method

- Interest and basis

Common Errors

- Net Cash Value Method
- Excess Earnings Method

Discounts and Premiums

BV101 Lesson 12: Discounts and Premiums

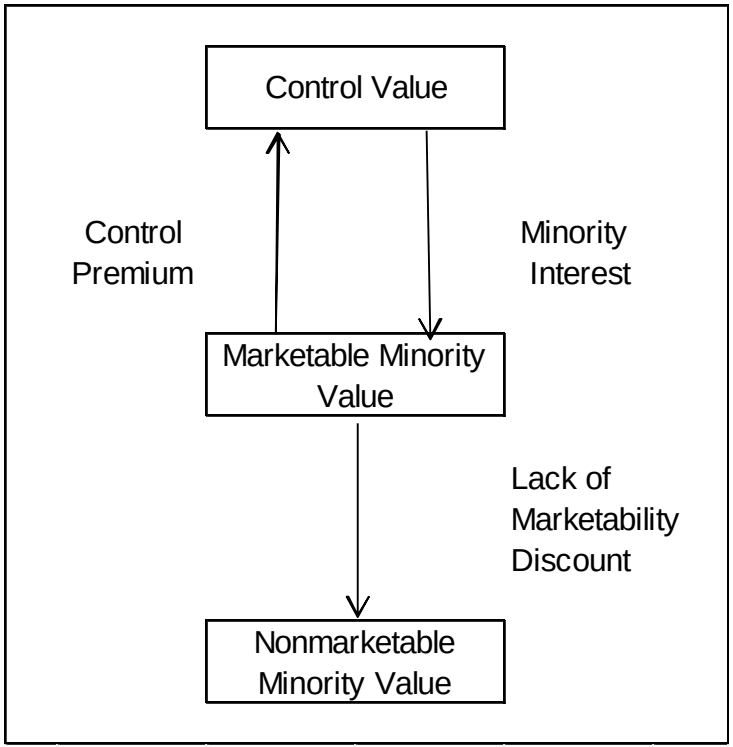
There are many types of premiums and discounts that could be applied in any given valuation assignment.

The most common are:

- Discount for lack of marketability
- Discount for lack of control
- Control premium

BV101 Lesson 12: Discounts and Premiums

Note: The level of premium or discount is case specific and can only be determined after all of the relevant facts to the particular interest are considered.



BV101 Lesson 12: Discounts and Premiums

Application of Discounts

- Discounts are applied multipliable rather than additive

$100.00			Indicated 100% Control Value
$ (20.00)		20%	Less: Lack of Control Discount
$ 80.00			Equals: Minority Value prior to DLOM
$ (24.00)		30%	Less: Lack of Marketability Discount
$ 56.00			Equals: Minority Interest Value on a Closely Held Basis
44%	v.	50%	Difference

BV101 Lesson 12: Discounts and Premiums

Discount for Lack of Marketability

- A discount for lack of marketability has two components, transferability and liquidity.
- Transferability denotes the right to sell an asset in a market within a reasonable time frame at relatively low transactional costs, along with minimal effect on its value. Transferability is limited by ownership agreement, lack of disclosure, and the time and cost to rectify it.
- Liquidity denotes the ability to convert an asset into cash without diminishing its value. Liquidity is a spectrum. A block with high liquidity will have low transaction costs, a short liquidation period and minimal discounts (i.e., bid-ask spread). A block with low liquidity will have the opposite characteristic. Liquidity is limited by the absence of a ready market, which reduces realizable value due to exposure time, large bid-ask spreads, and a limited buyer pool, increasing price risk.

BV101 Lesson 12: Discounts and Premiums

Discount for Lack of Control

On a conceptual basis, a discount for lack of control (also referred to as a minority interest discount) is commonly used to reflect:

> "an amount or percentage deducted from the pro rata share of value of one hundred percent (100%) of an equity interest in a business to reflect the absence of some or all of the powers of control."

BV101 Lesson 12: Discounts and Premiums

Discount for Lack of Control

- A discount for lack of control refers to a shareholder's position in a business enterprise, which is less than 50% plus one share or an inadequate block of shares to exercise de facto operating control of the said business enterprise in cases where there are many shareholders.
- The absence of the power to control a company's direction, assets, or any aspect of its future results is a less marketable ownership interest than a control position in the company.
- Therefore, a discount for lack of control is taken from the pro rata share to reflect the absence of the power of control.

BV101 Lesson 12: Discounts and Premiums

Discount for Lack of Control

- At the present time, no direct evidence is available regarding the magnitude of discounts for lack of control for operating companies.
- Since no direct evidence is available, business appraisers have commonly estimated discounts for lack of control indirectly from control premium studies.
- Control premiums are derived from the public markets or partnerships.

BV101 Lesson 12: Discounts and Premiums

Discount for Lack of Control

The equation for the average implied DLOC is:

DLOC = 1- (1 ÷ (1+ average control premium))

Example: If the selected control premium is 29%, what is the implied DLOC is 22.5%

1.00 plus .29 equals 1.29
1.00 divided by 1.29 equals 0.7752
1.00 minus 0.7752 equals 22.5%

BV101 Lesson 12: Discounts and Premiums

Voting versus Nonvoting Stock

- When a small block of voting stock holds a controlling interest in a company, they generally have no obligation to offer non-control shareholders the same price per share.
- When there is a large number of both voting and nonvoting shares, the price differential is usually less than 5%, absent a takeover scenario, with no study indicating a discount of over 10%.

BV101 Lesson 12: Discounts and Premiums

Key Person Discount

- Consideration should be given in the case of replacing a “key” person or any effect on future earnings that may result from any loss of the departing “key” person.
- The discount can be quantified by the length of time and investment necessary to replace the key person and rebuild the business (i.e., the present value of management’s estimates in forecasting lost customers/revenue, recruiting costs and time to ramp revenue back up as an estimate of the true discount (value) associated with the key person).
- Note: Appraisers frequently adjust the forecasted income statement for key person risk thus eliminating the need for a key person discount.

BV101 Lesson 12: Discounts and Premiums

Environmental and Litigation Discounts

- Claims against companies for environmental concerns (e.g., mining, gas stations, etc.) are for potential remediation costs.
- Litigation discounts account for unfavorable judgments that may impact the future of the business.

BV101 Lesson 12: Discounts and Premiums

Errors in Applying Discounts and Premiums

- Assuming the discounted future earnings and capitalization of earnings methods will always produce a minority interest value.
- Assuming the guideline public company method will always produce a minority interest value.
- Valuing underlying assets rather than stock or partnership interest.
- Using minority interest marketability discount data to quantify marketability discounts for controlling interests.
- Conducting inadequate analysis of relevant factors.
- Quantifying discounts or premiums based on past court cases.

BV101 Lesson 13:

Reconciliation of Values

BV101 Lesson 13: Reconciliation of Values

- Conceptually speaking, the valuation methods employed created a range of values.
- This range should be within a meaningful range of the low to high values. If not, the appraiser should review the data and explain why the range is so wide.
- Value, for business valuation purposes, is considered a range of values; however, nearly everyone wants value expressed as a single dollar amount.

BV101 Lesson 13: Reconciliation of Values

- Assuming the valuation assignment is to conclude with a single dollar value, or more commonly referred to as the appraisers final “opinion of value.”

- The reconciliation process requires the appraiser to consider each method and the level of confidence the appraiser has in each method toward the final opinion of value.

BV101 Lesson 13: Reconciliation of Values

- Each valuation method utilized in the valuation assignment will more than likely produce different indications of values.
- Remember, each of the three valuation approaches uses a different perspective in reaching a value.
- The appraiser should consider:

(i) the degree of reliability of the information;

(ii) the level of appropriateness from each method; and

(iii) the spread of indicated values employed by each method.

BV101 Lesson 13: Reconciliation of Values

- The reconciliation process expresses the appraiser's confidence level for each method employed during the valuation exercise.
- Revenue Ruling 59-60 states: *"…no useful purpose is served by taking an average...and basing the valuation on the results." Such a process excludes active consideration of other pertinent factors, and the end result cannot be supported by a realistic application of the significant facts in the case except by mere chance."*

BV101 Lesson 13: Reconciliation of Values

Example of Mathematical Weighting Support

Reconciliation of Indicated Values

Valuation Method	Value and Basis Indicated by Method	Adjustments in Degree of		Adjusted Value and Basis	Weighted Confidence Level	Weighted Component Value
		Control	Marketability			
Capitalization of Earnings	3,325,000 Freely Traded, Minority	N/A	-0.10	2,992,500 Closely Held, Control	0.60	$ 1,795,500
Guideline Transaction	3,287,000 Closely Held, Control	N/A	N/A	3,287,000 Closely Held, Control	0.30	$ 986,100
Net Assets Value/Excess Earning	2,751,000 Closely Held, Control	N/A	N/A	2,751,000 Closely Held, Control	0.10	$ 275,100
				Initial Indication of Value		$ 3,056,700
				Add: Excessive Inventory Amount		62,415
				FMV of a 100% Equity Interest on a Closely Held Basis *(Rounded)*		$ 3,100,000

BV101 Lesson 13: Reconciliation of Values

Willing Buyer and Willing Seller

- Consider for a moment the term “value.” Value by its very nature is a vague term mainly because it has different meaning in a variety of situations.
- Under the fair market value definition, the assigned value is the amount at which property would change hands between a willing buyer and a willing seller when the former is not under compulsion to buy and the latter is not under any compulsion to sell, both parties having reasonable knowledge of the relevant facts.
- As the appraiser you must answer - would the willing buyer/investor buy it for that value and would the willing seller sell it for that value?

ASA's Principles of Valuation Courses

Overview of Principles of Valuation Courses

- BV201 Introduction to Business Valuation – Market Approach
- BV202 Introduction to Business Valuation – Income Approach
- BV203 Introduction to Business Valuation – Asset Approach – Discounts & Premiums
- BV204 Advanced Topics in Business Valuation

Implicit Valuation Methods

Exercise 1

You have been retained to value a 100% interest for the purpose of an estate settlement. The deceased owns all of the “C” corporation shares of common stock. The corporation has been profitable for many years, most recent sales were $1.8 million. Company historical growth approximates 4% and management expects the same to continue. The business is asset-intense. Indicate which method(s) would you anticipate using for this valuation assignment?

X	Method
_____	Capitalization of Earnings Method
_____	Discounted Cash Flow Method
_____	Net Asset Value Method
_____	Excess Earnings Method
_____	Guideline Public Company Method
_____	Merger & Acquisition Method
_____	Guideline Transaction Method
_____	Liquidation Method

Implicit Valuation Methods

Exercise 1: Solution

X	Method
x	Capitalization of Earnings Method
	Discounted Cash Flow Method
x	Net Asset Value Method
x	Excess Earnings Method
	Guideline Public Company Method
x	Merger & Acquisition Method
x	Guideline Transaction Method
	Liquidation Method

Implicit Valuation Methods

Exercise 2

You have been retained to value a 30% interest in a service-related business for use in the 100% owner gifting his son the 30% interest. The company's annual sales and profitability have been volatile over the past five years and the next few years management expects the same results for sales and profits. The most recent annual sales were $500,000 with profits estimated at 8.0% of sales.

X	Method
_____	Capitalization of Earnings Method
_____	Discounted Cash Flow Method
_____	Net Asset Value Method
_____	Excess Earnings Method
_____	Guideline Public Company Method
_____	Merger & Acquisition Method
_____	Guideline Transaction Method
_____	Liquidation Method

Implicit Valuation Methods

Exercise 2: Solution

X	Method
	Capitalization of Earnings Method
x	Discounted Cash Flow Method
	Net Asset Value Method
	Excess Earnings Method
	Guideline Public Company Method
x	Merger & Acquisition Method
x	Guideline Transaction Method
	Liquidation Method

Implicit Valuation Methods

Exercise 3

You have been retained to determine the fair market value of a very profitable “C” corporation having annual sales in the range of $25 to $30 million, which manufacture wood indoor furniture. Annual profits, as a percentage of sales, average around 16% over the last six years. Management is estimating profits to increase by 15% next year and 10% the following year before a short decrease due to supply chain issue that are expected to occur. Long-term sustainable sales growth is estimated at 3%. The reason for the valuation of the company is for a possible sale.

X	Method
_____	Capitalization of Earnings Method
_____	Discounted Cash Flow Method
_____	Net Asset Value Method
_____	Excess Earnings Method
_____	Guideline Public Company Method
_____	Merger & Acquisition Method
_____	Guideline Transaction Method
_____	Liquidation Method

Implicit Valuation Methods

Exercise 3: Solution

X	Method
	Capitalization of Earnings Method
x	Discounted Cash Flow Method
x	Net Asset Value Method
x	Excess Earnings Method
x	Guideline Public Company Method
x	Merger & Acquisition Method
	Guideline Transaction Method
	Liquidation Method

Implicit Valuation Methods

Exercise 4

A law firm hired you to value 1,000 shares of common stock the only shares issued and outstanding for divorce purposes. The attorney directed you to value the shares at fair market value. The restaurant supply business has been slightly profitable with modest annual sales increases over the past ten-years. Bottom line, the businesses profits have kept up with annual inflation. Future solvency is not a concern. The company maintains a high level of inventory for customers.

X	Method
_____	Capitalization of Earnings Method
_____	Discounted Cash Flow Method
_____	Net Asset Value Method
_____	Excess Earnings Method
_____	Guideline Public Company Method
_____	Merger & Acquisition Method
_____	Guideline Transaction Method
_____	Liquidation Method

Implicit Valuation Methods

Exercise 4: Solution

X	Method
x	Capitalization of Earnings Method
	Discounted Cash Flow Method
x	Net Asset Value Method
x	Excess Earnings Method
	Guideline Public Company Method
	Merger & Acquisition Method
x	Guideline Transaction Method
x	Liquidation Method

Case Study

Overview of Dr. Albert Nielsen's Dental Practice

- Income Statement
- Balance Sheet
- Ratios Analysis
- Normalizing the Income Statement
- Normalizing the Balance Sheet
- Forecasting Net Income
- Forecasting Net Cash Flow
- Developing Cost of Capital Rates
- Applying the Income and Market Approaches
- Reconciliation of Indicated Values

Case Study

Overview of Income Statement

	For Periods Ending December 31					Common-size as a % of Net Sales				
Income Statement	20X1	20X2	20X3	20X4	20X5	20X1	20X2	20X3	20X4	20X5
Net Sales	1,226,664	1,246,423	1,334,789	1,432,132	1,530,363	100.0	100.0	100.0	100.0	100.0
Cost of Goods	(416,197)	(437,983)	(452,085)	(532,727)	(546,261)	(33.9)	(35.1)	(33.9)	(37.2)	(35.7)
Gross Profit	810,467	808,440	882,704	899,405	984,102	66.1	64.9	66.1	62.8	64.3
Operating Expenses	(565,287)	(547,407)	(575,715)	(643,328)	(642,111)	(46.1)	(43.9)	(43.1)	(44.9)	(42.0)
Operating Income EBIT	245,180	261,033	306,989	256,077	341,991	20.0	20.9	23.0	17.9	22.3
Interest	(3,906)	(4,305)	(1,397)	(1,695)	(2,474)	(0.3)	(0.3)	(0.1)	(0.1)	(0.2)
Other Income (Expenses)	-	-	-	-	-	-	-	-	-	-
Pre-Tax Earnings	241,274	256,728	305,592	254,382	339,517	19.7	20.6	22.9	17.8	22.2
Selected Line Items										
Rent	47,078	51,951	48,836	48,545	61,037	3.8	4.2	3.7	3.4	4.0
General & Administrative	303,746	282,563	310,334	345,658	325,832	24.8	22.7	23.2	24.1	21.3
Depreciation Expense	15,236	16,395	17,714	46,318	26,022	1.2	1.3	1.3	3.2	1.7
Officer's Compensation	199,227	196,498	198,831	202,807	229,220	16.2	15.8	14.9	14.2	15.0
Total Operating Expenses	565,287	547,407	575,715	643,328	642,111	46.1	43.9	43.1	44.9	42.0

Case Study

Overview of Balance Sheet

Balance Sheet	For Periods Ending December 31					Common-size as a % of Total Assets				
Assets	20X1	20X2	20X3	20X4	20X5	20X1	20X2	20X3	20X4	20X5
Cash	15,076	25,627	32,734	36,094	33,063	13.2	20.9	27.5	25.2	22.8
Receivables	12,563	9,632	10,874	8,312	5,937	11.0	7.9	9.1	5.8	4.1
Inventory	1,289	1,681	1,479	890	1,189	1.1	1.4	1.2	0.6	0.8
Current Assets	28,928	36,940	45,087	45,296	40,189	25.3	30.1	37.9	31.7	27.7
Total Fixed Assets	335,085	351,798	357,759	427,933	460,851	293.1	286.8	300.5	299.0	318.0
Total Accum Depreciation	(249,689)	(266,084)	(283,798)	(330,116)	(356,138)	(218.4)	(216.9)	(238.4)	(230.7)	(245.8)
Net Fixed Assets	85,396	85,714	73,961	97,817	104,713	74.7	69.9	62.1	68.3	72.3
Total Assets	114,324	122,654	119,048	143,113	144,902	100.0	100.0	100.0	100.0	100.0
Liabilities										
Payables	17,906	13,891	10,945	16,413	12,987	15.7	11.3	9.2	11.5	9.0
Short-Term Debt	9,480	12,987	16,348	13,652	21,715	8.3	10.6	13.7	9.5	15.0
Current Liabilities	27,386	26,878	27,293	30,065	34,702	24.0	21.9	22.9	21.0	23.9
Long-Term Liabilities	75,386	88,785	61,579	66,214	91,256	65.9	72.4	51.7	46.3	63.0
Total Liabilities	102,772	115,663	88,872	96,279	125,958	89.9	94.3	74.7	67.3	86.9
Equity	11,552	6,991	30,176	46,834	18,944	10.1	5.7	25.3	32.7	13.1
Liabilities & Equity	114,324	122,654	119,048	143,113	144,902	100.0	100.0	100.0	100.0	100.0

Case Study

Overview of Ratio Analysis

Item	*Formula*	20X1	20X2	20X3	20X4	20X5	Industry
Current Ratio	*Current Assets / Cur Liab.*	1.06	1.37	1.65	1.51	1.16	1.44
Long-term debt to total assets	*L-T Debt / Total Assets*	65.9%	72.4%	51.7%	46.3%	63.0%	31.5%
Total debt to total assets	*Total Debt / Total Assets*	89.9%	94.3%	74.7%	67.3%	86.9%	45.4%
Total Assets to Sales	*Total Assets / Annual Sales*	9.3%	9.8%	8.9%	10.0%	9.5%	10.8%
Operating Expenses to Sales	*Operating Expenses / Sales*	46.1%	43.9%	43.1%	44.9%	42.0%	52.8%
Depreciation to Sales	*Depreciation / Sales*	1.2%	1.3%	1.3%	3.2%	1.7%	1.2%

Case Study: Solutions

Normalized Adjustment Exercise

	20X1		20X2		20X3		20X4		20X5	
Net Sales	1,226,664	*100.0%*	1,246,423	*100.0%*	1,334,789	*100.0%*	1,432,132	*100.0%*	1,530,363	*100.0%*
Cost of Goods	(416,197)	*-33.9%*	(437,983)	*-35.1%*	(452,085)	*-33.9%*	(532,727)	*-37.2%*	(546,261)	*-35.7%*
Gross Profit	810,467	*66.1%*	808,440	*64.9%*	882,704	*66.1%*	899,405	*62.8%*	984,102	*64.3%*
Operating Expenses	(565,287)	*-46.1%*	(547,407)	*-43.9%*	(575,715)	*-43.1%*	(643,328)	*-44.9%*	(642,111)	*-42.0%*
Operating Income EBIT	245,180	*20.0%*	261,033	*20.9%*	306,989	*23.0%*	256,077	*17.9%*	341,991	*22.3%*
Interest	(3,906)	*-0.3%*	(4,305)	*-0.3%*	(1,397)	*-0.1%*	(1,695)	*-0.1%*	(2,474)	*-0.2%*
Pre-Tax Earnings	241,274	*19.7%*	256,728	*20.6%*	305,592	*22.9%*	254,382	*17.8%*	339,517	*22.2%*
				Normalized Adjustments						
Rent	-		-		-		-		10,000	
Depreciation	-		-		-		20,000		-	
Compensation	(21,573)		(27,858)		(41,431)		(54,977)		(46,245)	
Total Adjustments	(21,573)		(27,858)		(41,431)		(34,977)		(36,245)	
Normalized Pre-Tax Earnings	219,701		228,870		264,161		219,405		303,272	

Compensation Adjustment

Net Sales	1,226,664		1,246,423		1,334,789		1,432,132		1,530,363	
Compensation @ Market	220,800	*18%*	224,356	*18%*	240,262	*18%*	257,784	*18%*	275,465	*18%*
Recorded Compensation	199,227		196,498		198,831		202,807		229,220	
Adjustments to Earnings	(21,573)		(27,858)		(41,431)		(54,977)		(46,245)	

Case Study: Solutions

Normalized Adjustment Exercise

	20X1		20X2		20X3		20X4		20X5	
Net Sales	1,226,664	*100.0%*	1,246,423	*100.0%*	1,334,789	*100.0%*	1,432,132	*100.0%*	1,530,363	*100.0%*
Cost of Goods	(416,197)	*-33.9%*	(437,983)	*-35.1%*	(452,085)	*-33.9%*	(532,727)	*-37.2%*	(546,261)	*-35.7%*
Gross Profit	810,467	*66.1%*	808,440	*64.9%*	882,704	*66.1%*	899,405	*62.8%*	984,102	*64.3%*
Operating Expenses	(565,287)	*-46.1%*	(547,407)	*-43.9%*	(575,715)	*-43.1%*	(643,328)	*-44.9%*	(642,111)	*-42.0%*
Operating Income EBIT	245,180	*20.0%*	261,033	*20.9%*	306,989	*23.0%*	256,077	*17.9%*	341,991	*22.3%*
Interest	(3,906)	*-0.3%*	(4,305)	*-0.3%*	(1,397)	*-0.1%*	(1,695)	*-0.1%*	(2,474)	*-0.2%*
Pre-Tax Earnings	241,274	*19.7%*	256,728	*20.6%*	305,592	*22.9%*	254,382	*17.8%*	339,517	*22.2%*
				Normalized Adjustments						
Rent	-		-		-		-		10,000	
Depreciation	-		-		-		20,000		-	
Compensation	(21,573)		(27,858)		(41,431)		(54,977)		(46,245)	
Total Adjustments	(21,573)		(27,858)		(41,431)		(34,977)		(36,245)	
Normalized Pre-Tax Earnings	219,701		228,870		264,161		219,405		303,272	

Normalized Data	20X1		20X2		20X3		20X4		20X5	
Net Sales	1,226,664	100.0%	1,246,423	100.0%	1,334,789	100.0%	1,432,132	100.0%	1,530,363	100.0%
Cost of Goods	(416,197)	-33.9%	(437,983)	-35.1%	(452,085)	-33.9%	(532,727)	-37.2%	(546,261)	-35.7%
Gross Profit	810,467		808,440		882,704		899,405		984,102	
Operating Expenses	(586,860)	-47.8%	(575,265)	-46.2%	(617,146)	-46.2%	(678,305)	-47.4%	(678,356)	-44.3%
Operating Income EBIT	223,607	20.0%	233,175	20.9%	265,558	23.0%	221,100	17.9%	305,746	22.3%
Interest	(3,906)		(4,305)		(1,397)		(1,695)		(2,474)	
Pre-Tax Earnings	219,701	17.9%	228,870	18.4%	264,161	19.8%	219,405	15.3%	303,272	19.8%

Case Study: Solutions

Forecasted Net Income Exercise

	F1		F2		F3	
Sales Growth Rate	*-10.0%*		*6.0%*		*6.0%*	
Net Sales	1,377,327		1,459,966		1,547,564	
Cost of Goods	(482,064)	35.0%	(510,988)	35.0%	(541,647)	35.0%
Gross Profit	895,262		948,978		1,005,917	
Operating Expenses [1]	(661,117)	48.0%	(671,584)	46.0%	(711,880)	46.0%
EBIT	234,146		277,394		294,037	
Interest Income (Expense)	(3,000)		(1,000)		(500)	
Pre-Tax Earnings	231,146		276,394		293,537	
Less: Tax Expense	(64,721)	28.0%	(77,390)	28.0%	(82,190)	28%
Forecasted Net Income	166,425		199,003		211,347	

[1] F1 48% was selected as sales decrease & generally op exp don't necessarily follow. F2 and F3 was the average over the last five years.

Case Study: Solutions

Forecasted Net Cash Flow Exercise

	F1		F2		F3	
Net Sales	1,377,327		1,459,966		1,547,564	
Forecasted Net Income	166,425		199,003		211,347	
Add: Depreciation Expense	17,905	1.3%	18,980	1.3%	20,118	1.3%
Capital Expenditures (110% of Dep)	(19,696)		(20,878)		(22,130)	
Net Changes in Working Capital	(7,842)		1,590		(6,977)	
Net Changes in Long-Term Debt	5,500		(2,500)		(1,200)	
Net Cash Flow to Equity	162,292	11.8%	196,195	13.4%	201,158	13.0%

	H20X5	F1	F2	F3
Current Assets	40,189	26,574	29,635	31,568
Current Liabilities	34,702	13,245	17,896	12,852
	5,487	13,329	11,739	18,716
Net Changes in Working Capital		(7,842)	1,590	(6,977)

Discuss reasons why CapX and depreciation in the terminal year could be closer - but not equal

Case Study: Solutions

Development of an appropriate discount and capitalization rate

Risk Free	2.6%
Equity Risk Premium	6.7%
Size Premium	6.6%
CSRP	4.0%
Equity Discount Rate	19.9%
Earnings LT Growth	-4.0%
Equity Capitalization Rate	15.9%

Class discussion on selecting a CSRP

- Practice has more debt as compared to the industry ratios.
- Sole operator.

Case Study: Solutions

Discounted Future Earnings Method Indication of Value

Discounted Future Earnings Method - Equity Model					
Selected Year	Projected Net Cash Flow	Discount Rate	Present Value Factor	Capitalization Rate	Present Value
F1	$ 162,292	0.199	0.834		135,356
F2	$ 196,195	0.199	0.696		136,474
F3	$ 201,158	0.199	0.580		116,702
Terminal Year	$ 209,204	0.199	0.580	0.159	763,336
				Indication of Value	1,151,869

Case Study: Solutions

Adjusted Net Asset Value Method Exercise

Balance Sheet			
Assets	2009	Adjustment	Normalized
Cash	33,063	-	33,063
Receivables	5,937	(1,137)	4,800
Inventory	1,189	311	1,500
Current Assets	40,189		39,363
Total Fixed Assets	460,851	(85,851)	375,000
Total Accum Depreciation	(356,138)	356,138	-
Net Fixed Assets	104,713		375,000
Total Assets	144,902		414,363
Liabilities			
Payables	12,987	-	12,987
Short-Term Debt	21,715	-	21,715
Current Liabilities	34,702	-	34,702
Long-Term Liabilities	91,256	-	91,256
Total Liabilities	125,958	-	125,958
Equity	18,944	269,461	288,405
Liabilities & Equity	144,902		414,363

Case Study: Solutions

Direct Market Data Method - Sales Measurement and SDE Measurement

Most Recent Financials

20X5	Subject SDE
Sales	1,530,363
Adj. EBIT	305,746
Depreciation	26,022
Owner's Comp	275,465
Equals: SDE	607,233
SDE % Sales	39.7%

Forecasted Financials

F1	Subject SDE
Sales	1,377,327
Adj. EBIT	234,146
Depreciation	17,905
Owner's Comp	247,919
Equals: SDE	499,970
SDE % Sales	36.3%

Note: Owner's Compensation is 18% of sales – so if sales decline compensation follows

Case Study: Solutions

Example using *last year's sales and SDE*

100% "equity" value, after "packaging adjustments"

Guideline Transaction Method - Historical Data		
	Sales	SDE
Practice's Normalized Financial Measurements	$1,530,363	$ 607,233
Selected Market Valuation Multiple	0.72x	2.40x
Initial Indication of Value	$1,101,861	$ 1,457,359
Confidence Weightings	0.40	0.60
Weighted Values	440,745	874,416
Total Weighted Values from Selected Financial Measurements		$ 1,315,160
Packaging Adjustments		
Plus: Cash		33,063
Plus: Accounts Receivable		4,800
Less: Liabilities		$ (125,958)
Indication of 100% Equity for a Controlling Interest, Closely Held Basis		$ 1,227,065

Case Study: Solutions

Example using *forecasted sales and SDE*

100% “equity” value, after “packaging adjustments”

Guideline Transaction Method - Forecasted Data		
	Sales	SDE
Practice's Forecasted Financial Measurements	$1,377,327	$ 499,970
Selected Market Valuation Multiple	0.72x	2.40x
Initial Indication of Value	$ 991,675	$ 1,199,927
Confidence Weightings	0.40	0.60
Weighted Values	396,670	719,956
Total Weighted Values from Selected Financial Measurements		$ 1,116,626
Packaging Adjustments		
Plus: Cash		33,063
Plus: Accounts Receivable		4,800
Less: Liabilities		$ (125,958)
Indication of 100% Equity for a Controlling Interest, Closely Held Basis		$ 1,028,531

Case Study: Solutions

Reconciliation of Values

Reconciliation of Indicated Values

Valuation Method	Interest and Basis Indicated by Method	Weighted Confidence Level	Weighted Component Value
Discounted Future Earnings	1,151,869 Control, Closely Held	0.60	$ 691,121
Guideline Transaction	1,227,065 Control, Closely Held	0.40	$ 490,826
Adjusted Net Asset	288,405 Control, Closely Held	0.00	$ -
FMV of a 100% Equity Interest on a Closely Held Basis *(Rounded)*			$ 1,200,000

Always Round

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