

# Asset-Based Approach to Business Valuation—Conceptual Foundations and Practical Applications

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# Discussion Outline

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- Reasons to consider—and to apply—the asset-based approach
- Practical strengths and weaknesses of this approach
- The asset-based approach is not the cost approach
- Generally accepted asset-based approach valuation methods
- Asset accumulation method—principles and procedures
- Adjusted net asset value method—principles and procedures
- Asset accumulation method—illustrative example
- Adjusted net asset value method—illustrative example
- Cost approach to intangible asset valuation
- Analyst take-aways regarding the asset-based approach
- Summary and conclusion; questions and discussion



# Conceptual Foundation of the Asset-Based Approach

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- The asset-based approach is one of the three generally accepted business valuation approaches
- All business valuation professional standards—including the NACVA, USPAP, and SSVS standards—require the analyst to consider the asset-based approach
- The income approach and the market approach focus on the subject entity's income statement
- The asset-based approach focuses on the subject entity's balance sheet
- The income approach considers the amount of income that the owner/operator will receive from owning the operating company



# Conceptual Foundation of the Asset-Based Approach (cont.)

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- The market approach considers the price that the owner/operator would receive from a sale of the operating company (in an IPO, an M&A transaction, or other transaction)
- The asset-based approach considers the cost (including the opportunity cost) to recreate the subject operating company
- The asset-based approach simulates a business acquirer's make vs. buy investment decision:
  - the potential buyer can buy the subject operating company (at the asset-based approach value indication) or
  - the potential buyer can incur the costs (including the opportunity cost) to recreate all of the subject operating company assets (and then operate the de novo company)



# Application of the Asset-Based Approach

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- The basic formula of all asset-based approach analyses is:  
value of all of the company assets  
minus  
value of all of the company liabilities  
equals  
value of the company owners' equity
- The company's GAAP balance sheet is the starting point in the analysis; it is never the stopping point in the analysis
- Accounting "net book value" is not an asset-based approach value indication
- The asset-based approach is based on a current value measurement—not a GAAP balance—for all of the company's assets and all of the company's liabilities



# Application of the Asset-Based Approach (cont.)

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- The asset-based approach requires consideration of all of the company's asset accounts
  - Current assets
  - Real estate
  - Tangible personal property
  - Intangible assets (including goodwill)
  - Other assets
    - investment in unconsolidated subsidiaries
    - deferred income taxes
    - other operating assets
- The company's asset accounts can be valued individually or collectively

# Application of the Asset-Based Approach (cont.)

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- The term “assets” is not the same as the term “property.”
  - “Property” is a legal term.
  - Property can be privately owned, is transferable, and is subject to legal protection (usually under state law).
  - “Asset” is an accounting term.
  - An asset is recorded on a balance sheet based on GAAP guidance. An asset is owned by the entity and should provide future economic benefits to the entity.
- Not all property is recorded as an asset.
- Not all assets qualify as property.
- To simplify this discussion only, we may use the terms asset and property as synonymous.

# Application of the Asset-Based Approach (cont.)

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- The asset-based approach requires consideration of all of the company's liability accounts
  - Current liabilities
  - Long-term debt accounts
    - Bonds
    - Mortgages
    - Notes
    - Debentures
  - Other long-term liabilities
  - Pension and retirement-related liabilities
  - Other employee benefits
  - Deferred income taxes
  - Contingent liabilities
- The company's liability accounts can be valued individually or collectively



# Valuation of Assets and Liabilities

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- The analyst will value the operating company assets and liabilities by applying one or more of the generally accepted property valuation approaches:
  - Income approach
  - Market approach
  - Cost approach
- The generally accepted property valuation approaches are not the same as the generally accepted business valuation approaches.
- The generally accepted business valuation approaches are:
  - Income approach
  - Market approach
  - Asset-based approach
- The property valuation income approach is not the same analysis as the business valuation income approach.



# Valuation of Assets and Liabilities (cont.)

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- The property valuation market approach is not the same analysis as the business valuation market approach.
- The property valuation cost approach is not the same analysis as the business valuation asset-based approach.
- The analyst should value all of the company's asset and liability accounts using the same standard of value—i.e., the subject business valuation assignment standard of value:
  - Fair value
  - Fair market value
  - Investment value
  - Acquisition value
  - Owner value
  - Use value
  - User value
  - Other standard of value



# Valuation of Assets and Liabilities (cont.)

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- The analyst should value all of the company's asset and liability accounts using the same premise of value—i.e., the subject business valuation assignment premise of value:
  - Value in continued use, as a going concern
  - Value in exchange, as part of an orderly disposition
  - Value in exchange, as part of a forced liquidation
- For business valuation purposes, the analyst will typically apply the going-concern value premise of value
  - The asset-based approach is perfectly applicable to valuing a going-concern business
  - The asset-base approach does not always conclude a liquidation premise of value
  - In fact, numerous adjustments have to be made to the typical asset-based approach analysis in order to conclude a liquidation value



# Generally Accepted Business Valuation Approaches and Methods

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- There are generally accepted business valuation approaches and methods
- Income approach
  - Yield capitalization (typically called DCF) method
  - Direct capitalization method
- Market approach
  - Guideline publicly traded company method
  - Guideline merged and acquired company (or precedent transaction) method
  - Backsolve method

# Generally Accepted Business Valuation Approaches and Methods (cont.)

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- Asset-based approach
  - Asset accumulation method
  - Adjusted net asset value method
- The asset-based approach to business valuation is not the same as the cost approach to property valuation
- There are generally accepted valuation procedures within each valuation method
- There is a body of literature that documents these generally accepted business valuation approaches and methods

# Generally Accepted Tangible Property Valuation Approaches and Methods

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- There are generally accepted tangible property (RE and TPP) valuation approaches and methods
- Income approach
  - Yield capitalization method
  - Direct capitalization method
- Market approach
  - Direct sales comparison method
- Cost approach
  - Replacement cost new less depreciation method (RCNLD)
  - Reproduction cost new less depreciation method (RPCNLD)
- There are generally accepted valuation procedures within each valuation method
- There is a body of literature that documents these generally accepted property valuation approaches and methods



# Generally Accepted Intangible Asset Valuation Approaches and Methods

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- There are generally accepted intangible personal property (“IPP”) valuation approaches and methods
- Income approach methods
  - Differential income (with/without) method
  - Incremental income method
  - Greenfield method
  - Profit split method (or residual profit split method)
  - Disaggregated method
  - Distributor method
  - Residual (or excess) income method
  - Capitalized excess earnings method (“CEEM”)
  - Multiperiod excess earnings method (“MEEM”)



# Generally Accepted Intangible Asset Valuation Approaches and Methods (cont.)

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- Market approach methods
  - Relief from royalty method (“RFR”)
  - Comparable uncontrolled transactions method (“CUT”)
  - Comparable profit margin method (“CPM”)
- Cost approach methods
  - Replacement cost new less depreciation method (“RCNLD”)
  - Reproduction cost new less depreciation method (“RPCNLD”)
  - Trended historical cost less depreciation method (“THCLD”)
- There are generally accepted procedures within each valuation method
- There is a body of literature that documents these generally accepted intangible asset valuation approaches and methods



# Aggregate vs. Individual Valuation of Assets and Liabilities

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- Analysts often apply the asset-based approach by valuing each individual category of asset and liability account.
  - This method is typically called the asset accumulation (“AA”) method
  - The AA method is particularly applicable for certain business valuation purposes

# Aggregate vs. Individual Valuation of Assets and Liabilities (cont.)

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- Analysts can also apply the asset-based approach by valuing all of the subject asset and liability accounts collectively.
  - This method is typically called the adjusted net asset value (“ANAV”) method
  - The analyst makes an aggregate adjustment to recognize the total revaluation of all of the subject company assets and liabilities
  - That aggregate revaluation adjustment is often called: intangible value in the nature of goodwill
  - That aggregate revaluation adjustment is often quantified by applying a capitalized excess earnings method (“CEEM”) analysis



# Aggregate vs. Individual Valuation of Assets and Liabilities (cont.)

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- If all of the valuation variables are applied consistently, the asset-based approach should conclude the same business value indication whether the analyst applies the AA method or the ANAV method.

# Conclusions of the Asset-Based Approach

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- The asset-based approach can be applied to conclude the following valuation objectives:
  - Subject company total assets
  - Subject company invested capital
  - Subject company total equity
  - Subject company total common equity
  - Specific block of target equity securities
- The asset-based approach can be applied in order to value operating companies—on a going-concern basis—in virtually every industry:
  - The asset-based approach is not only applicable to the valuation of asset-holding companies
  - The asset-based approach is not only applicable to conclude a liquidation value

# When to Use the Asset-Based Approach

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- There are many instances when the asset-based approach is ideally suited to the business valuation assignment.
- Situations when it is important for the client to know the values of the company's component assets include:
  - Income taxes – Conversion from C corporation status to S corporation status
  - Income taxes – Determination of solvency/insolvency regarding the recognition of COD income (or the Section 108 COD income exclusion)
  - Acquisitions – Buyer wants to estimate depreciation and amortization expense as part of a purchase price DCF valuation analysis
  - Acquisitions – Buyer may face questions from dissenting shareholders: Why is the purchase price premium so high?
  - Financing – Asset values are needed for asset-based acquisition or other financing



# When to Use the Asset-Based Approach (cont.)

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- Financing – Acquirer needs to comply with debt covenant ratios
- Property tax – Taxpayer companies that are assessed based on the unit valuation principle need to separate (taxable) tangible property from (nontaxable) intangible property
- Property tax – The taxable unit value should include only assets in place on assessment date—and exclude the value of future tangible and intangible property
- Family law – Part of the family business value may be personal goodwill (a non-marital asset)
- Family law – Part of the family business value may be from assets owned premarriage or contributed solely by one spouse



# When to Use the Asset-Based Approach (cont.)

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- Other litigation – Measure business damages due to a breach of contract (e.g., noncompetition agreement, supply agreement, customer agreement)
- Other litigation – Measure business damages due to a tort (e.g., IP infringement, condemnation/eminent domain taking of an operating company)



# Other Reasons to Apply the Asset-Based Approach

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- BV professional standards require consideration of all three generally accepted business valuation approaches
- There are times when the income approach or the market approach are not available:
  - Inadequate historical or prospective financial statements
  - Inadequate guideline public companies or M&A transactions
- The asset-based approach provides confirmatory evidence to the income approach and the market approach value indications
- The asset-based approach provides another value indication when the income approach and market approach values diverge
- The asset-based approach provides additional support to a business valuation prepared within a litigation environment





# The Asset-Based Approach Is Not the Cost Approach

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- The cost approach is a property valuation approach. It may be applied to value the company's individual asset accounts.
- The generally accepted cost approach property valuation methods include:
  - replacement cost new less depreciation ("RCNLD")
  - reproduction cost new less depreciation ("RPCNLD")
  - historical cost less depreciation ("HCLD")
- The cost approach is often used to value certain categories of tangible and intangible assets on a value in use, going-concern premise of value basis:
  - industrial and commercial real estate
  - industrial and commercial tangible personal property
  - contributory (backroom) intangible assets – computer software, product formula and designs, engineering drawings, trade secrets documentation, manuals and procedures, assembled workforce



# The Asset-Based Approach Is Not the Cost Approach (cont.)

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- The asset-based approach values all of the company assets and all of the company liabilities.
- The asset-based approach should apply the most appropriate property valuation approach to each individual asset category
- The asset-based approach should incorporate cost approach, income approach, and/or market approach analyses to value the various asset categories—and particularly the company’s intangible asset categories
- As a general guideline, the asset-based approach should apply the income approach to at least one intangible asset category

# The Asset-Based Approach Is Not the Cost Approach (cont.)

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- In particular, the asset-based approach typically applies the capitalized excess earnings method (“CEEM”) or the multiperiod excess earnings method (“MEEM”) to value either:
  - customer-related intangible assets or
  - intangible value in the nature of goodwill
- In the CEEM or MEEM analysis, the analyst typically applies a contributory asset charge (“CAC”) based on the cost approach value indications of other tangible/intangible assets; this CAC procedure (1) avoids the double counting of asset values and (2) identifies economic obsolescence (if any) in the cost approach



# The Asset-Based Approach and Asset Holding Companies

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- The asset-based approach is ideally suited for the business valuation of an investment-intensive asset holding company
- Figure 1 illustrates the general application of the asset-based approach to value an asset-holding company:

Figure 1  
Alpha Investment Holding Company  
Illustrative Assets and Liabilities

## Assets

Cash and money market instruments  
Publicly traded stocks and bonds  
Oil and gas exploration/production interests  
Land and land improvements  
Options and other derivative securities  
Total Assets

Less:

## Liabilities

Accounts payable and  
taxes payable  
Mortgages payable  
Notes payable  
Equals:  
Net asset value



# The Asset-Based Approach and Operating Companies

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- The asset-based approach may also be used in the business valuation of industrial and commercial operating companies.
- Figure 2 illustrates the general application of the asset-based approach to value an operating company.

# The Asset-Based Approach and Operating Companies

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Figure 2  
Beta Operating Company  
Illustrative Assets and Liabilities

Assets

Cash, receivables, and inventory  
Land and buildings  
Machinery and equipment  
Trademarks and trade names  
Trained and assembled workforce  
Customer (contract) relationships  
Goodwill  
Total assets

Less:

Liabilities

Accounts payable and accrued expenses  
Taxes payable  
Bonds and notes payable  
Mortgages payable  
Total liabilities  
Equals:  
Net asset value



# Valuation of Liabilities in the Asset-Based Approach

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- Analysts typically focus on the valuation of the assets in the asset-based approach valuation analysis.
- However, the valuation of the liabilities is also an important procedure in this BV approach.
- The first procedure is to understand the appropriate standard of value and the assignment purpose. The analyst may conclude a different value for the same liability if the standard of value is fair value versus fair market value versus investment value versus some other standard of value.
- If the assignment purpose is a solvency analysis prepared within a bankruptcy or other litigation context, the analyst will typically consider the recorded balances in the company liability accounts.

# Valuation of Liabilities in the Asset-Based Approach (cont.)

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- Outside of a solvency analysis, the analyst typically is more concerned with the current value of the company liabilities than with the recorded balance of the company liabilities.
- Depending on the applicable standard of value, the analyst is more concerned with an expected exchange price for the debt instruments.
- That is, how much would an investor pay to own, say, the company's note payable?
- Or, how much would the debtor have to pay to the creditor (i.e., how much would the creditor be willing to receive) to extinguish the company's note payable?



# Liability Valuation Factors

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- In the valuation of liabilities, the analyst typically considers such factors as:
  1. the debt instrument's term to maturity,
  2. the company's historical debt service record,
  3. the debt instrument's embedded interest rate versus a current market interest rate,
  4. whether the debt instrument is callable (and what are the call triggers),
  5. any security interest related to the debt,
  6. the company's current credit rating,
  7. the company's current financial condition,
  8. the company's budget or financial projections,
  9. any prepayment or other penalties related to the debt,
  10. any recent trades of guideline debt instruments,
  11. the subject debt amortization (payment) schedule, and
  12. the existence and timing of any debt balloon payments.



# Contingent Liabilities

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- In addition to recorded liabilities, analysts have to identify and value any off-balance-sheet contingent liabilities:
  - There are generally accepted methods that may be used to value contingent liabilities.
  - The analyst attempts to estimate the net present value (“NPV”) of the expected future cash payments associated with extinguishing that liability.
  - That NPV considers the expected amounts of—and the expected timing of—the future cash payments.
  - Such an NPV analysis typically considers the probabilities associated with the company’s future contingent liability payment.
  - This consideration may be quantified through either scenario analysis or a risk-adjusted present value discount rate.



# Types of Contingent Liabilities

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- Contingent liabilities may include the following types of claims against the subject company:
  1. Tax audit or other taxation-related disputes
  2. Employee-related disputes
  3. Environmental claims and other clean-up issues
  4. Tort (such as infringement) litigation claims
  5. Breach of contract litigation claims

# Information regarding Contingent Liabilities

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- Unlike liabilities that are recorded on the company's balance sheet, there is no single data source for the analyst to identify off-balance-sheet contingent liabilities.
- If such interviews are available, the analyst may interview the company's management and legal counsel.
- Analysts often review board of directors meeting minutes, company management committee meetings, and company financial plans and forecasts in order to identify contingent liabilities.

# Income Taxes in the Asset-Based Approach

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- Most companies have income taxes payable (short-term liability) and deferred income taxes (long-term liability) accounts already recorded on the balance sheet.
- The analyst has to decide if—and how much of—a built-in-gain-related tax liability should be recognized as part of the asset-based approach revaluation process.
- Whether a tax liability account is created as part of the valuation process depends on two factors:
  - The subject valuation premise of value
  - The property valuation approaches applied in the analysis



# Income Taxes in the Asset-Based Approach (cont.)

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- If the valuation premise of value is a liquidation value, an income tax liability should be recorded as part of the analysis.
- If the valuation premise of value is a going-concern value, an income tax liability may be recorded as part of the analysis, depending on which property valuation approaches are applied.
- To estimate the capital gain tax liability, the analyst needs to consider:
  - The estimated value of the tangible assets and intangible assets
  - The tax basis of the tangible assets and intangible assets
  - The estimated capital gain tax rate



# Income Taxes in the Asset-Based Approach (cont.)

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- The analyst should realize that the depreciation recapture portion of the tangible asset gain is subject to ordinary income tax rates.
- The analyst should realize that the tax basis for most intangible assets is zero.
- An income tax liability (including a BIG tax liability) is an entity liability to be considered in the liability valuation component of the asset-based valuation approach.
- An income tax liability (including a BIG tax liability) is not a valuation discount to be applied to the asset valuation component of the asset-based approach.

# Income Tax Liability Procedures

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- If the company assets are primarily valued by applying the cost approach, no income tax liability is created. A corporate acquirer does not create a tax liability when it buys (i.e., replaces or reproduces) the target company tangible assets and intangible assets.
- If the company assets are primarily valued by applying the market approach, an income tax liability should be estimated. The target company will incur an income tax liability when it sells its tangible assets and intangible assets at the appraised property values.





# Income Tax Liability Procedures (cont.)

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- If the company assets are primarily valued by applying the income approach, an income tax liability may—or may not—be estimated:
  - If the income approach valuation variables are specific to the current owner/operator (i.e., value in continued use variables), then no income tax liability is created.
  - If the income approach valuation variables are representative of the next owner/willing buyer (i.e., value in exchange variables), then an income tax liability is created.
- The total estimated income tax liability based on the asset revaluations is typically recorded on the asset-based approach balance sheet as a deferred income tax liability.



# AA Method Procedures

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- The first procedure is the identification of all of the company's asset and liability categories. This procedure typically starts with the company's balance sheet.
- It is helpful to start with a balance sheet prepared as close as possible to the valuation date.
- Sometimes, the analyst simply will not have a current balance sheet available.
- In that case, the analyst has to start with a blank page and independently identify all of the company's asset categories and liability categories.

# Asset and Liability Identification

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- The analyst identifies all of the company's assets.
- This process includes all of the assets that are already recorded on the balance sheet.
- And, this process includes all of the assets that are owned and operated by the company—but that are not recorded on the balance sheet.
- Next, the analyst identifies all of the company's liabilities.
- This process includes all of the liabilities that are already recorded on the balance sheet.
- And, this process includes all of the liabilities that are either (1) not typically recorded on a balance sheet or (2) created as part of the hypothetical sale transaction.

# Asset and Liability Identification (cont.)

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- Contingent liabilities are not typically recorded on a balance sheet.
- An income tax liability related to the hypothetical asset sale and any accrued selling expenses related to the hypothetical sale transaction would be considered as liabilities.

# Asset and Liability Valuation

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- The second procedure is to value all of the identified asset and liability accounts. The analyst will restate all of the recorded asset and liability accounts to the assignment standard of value.
- The analyst will record all of the previously unrecorded assets and liabilities at the assignment standard of value.
- The analyst considers all of the generally accepted property valuation approaches in this procedure.
- The analyst ensures that the individual asset and liability accounts are restated to the same standard of value—and the same premise of value—as the business valuation assignment.

# AA Method Value Conclusion

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- The third procedure is the mathematical subtraction of the total liabilities value from the total assets value.
- This subtraction indicates the value of the company's total owners' equity.
- This value indication can be adjusted to conclude (1) the value of the invested capital or (2) the value of one class of the equity (e.g., voting common stock).
- The AA method value conclusion is typically stated as a marketable, controlling ownership interest level of value.
- To the extent that another level of value is appropriate (e.g., a nonmarketable, noncontrolling level of value) to the business valuation assignment, then the analyst applies appropriate valuation adjustments.

# Current Asset Accounts

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- Current asset accounts typically include cash, marketable securities, prepaid expenses, accounts receivable, materials and supplies, and inventory.
- The analyst performs whatever due diligence procedures that may be necessary to confirm the existence of these current asset accounts.
- The analyst restates the asset account balances to a current value as of the valuation date.
- For most current asset accounts, the value does not change materially under alternative standards of value.
- The analyst often applies a simplifying assumption: that the recorded current asset balance is representative of the intended standard of value.



# Real Estate and Tangible Personal Property

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- Real estate typically includes land, land improvements, buildings, and building improvements.
- Tangible personal property (“TPP”) includes productive machinery and equipment, tools and dies, computer and office equipment, furniture and fixtures, and vehicles and transportation equipment.
- Depending on the age of these assets, as of the valuation date, there may be a material difference between the historical cost and the current value.
- Depending on experience and expertise, the analyst may (1) perform the asset revaluation or (2) rely on property appraisals performed by third-party specialists.



# Intangible Real Property

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- The intangible real property (“IRP”) category includes the following types of assets:
  - Real property leases
  - Easements and rights of way
  - Air rights, water rights, surface use rights
  - Mineral, mining, and extraction rights
  - Building permits and development licenses
- Each of these IRP categories can be valued by various cost approach, market approach, or income approach property valuation methods.



# Intangible Personal Property

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- The intangible personal property (“IPP”) category includes the following types of assets:
  1. Customer-related intangible assets (e.g., customer contracts customer relationships)
  2. Contract-related intangible assets (e.g., licenses and permits, supplier contracts)
  3. Employee-related intangible assets (e.g., employment agreements, assembled workforce)
  4. Data-processing-related intangible assets (e.g., computer software, automated databases)
  5. Engineering-related intangible assets (e.g., engineering drawings, product formulations)
  6. Intellectual property intangible assets (e.g., patents, copyrights, trademarks)
- Each of these IPP categories can be valued by various cost approach, market approach, or income approach property valuation methods.



# Intangible Value in the Nature of Goodwill

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- This category of assets includes goodwill and going-concern value.
- If the company is a going-concern business, it probably owns goodwill.
- However, the existence of goodwill does not indicate the value of goodwill.
- A company's goodwill can have a positive value, a zero value, or a negative value.
- Analysts often apply the CEEM method to estimate the amount of intangible value in the nature of goodwill.
- The CEEM may rely on the values already assigned to the company's current assets, real estate and TPP, and IRP and IPP.



# Goodwill and CEEM

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- In the CEEM, the analyst assigns a fair rate of return to all identifiable assets. This calculation indicates the required earnings.
- The analyst compares the actual earnings to the required earnings.
- If the actual earnings exceed the required earnings, the difference (the excess earnings amount) is capitalized as an annuity in perpetuity. This positive annuity value is the value of goodwill.
- If the actual earnings are less than the required earnings, the difference (the income loss) is capitalized as an annuity in perpetuity. This negative annuity value is called economic obsolescence.

# Goodwill and CEEM (cont.)

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- This economic obsolescence (or negative goodwill) is used to reduce the values of the other identified assets.
- When the “excess earnings” are negative, the CEEM is typically called the capitalization of income loss method (or “CILM”).
- Using this CEEM or CILM application, the analyst can use the goodwill value (positive or negative) to avoid overvaluing or undervaluing the company’s total assets.
- The fact that the CEEM or the CILM consider the company income does not convert the asset-based approach into the income approach.

# Other Assets

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- The other assets category is principally composed of:
  - noncurrent financial assets and
  - excess or nonoperating assets.
- The noncurrent financial assets include deferred federal income tax (“DFIT”) and investments in unconsolidated subsidiaries.
- The value of investments in subsidiaries (or in long-term notes receivable or similar investments) will change if the analyst revalues the underlying subsidiary entity.
- The excess or nonoperating assets are usually tangible assets that are not being used by the company. Examples of this asset category include land held for investment purposes, assets of discontinued operations, or assets held for sale.



# Current Liability Accounts

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- Current liabilities often include accounts and notes payable, accrued expenses, and income taxes payable. Customer deposits are also recorded as current liabilities if they are expected to be earned during the next year.
- This account also includes the current portion of the company's long-term debt.
- Since these liabilities are all due in less than one year, there is usually little revaluation involved.
- It is typical for the analyst to include the current portion of noncurrent liabilities with the long-term debt accounts—and then revalue the entire long-term liabilities balance.

# Long-Term Liability Accounts

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- Long-term liabilities include bonds, notes, mortgages, and debentures payable.
- Depending on the applicable standard of value, these liabilities are often restated to the amount at which the liability could be extinguished as of the valuation date.
- The analyst may consider various factors, such as embedded interest rate versus current market interest rate, term to maturity, payment history, prepayment penalties, conversion features, and whether the instrument is callable.



# Contingent Liabilities

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- The analyst may have to perform a fair amount of due diligence to identify the existence of contingent liabilities.
- The analyst will often interview company management if such executives are made available as part of the valuation process.
- The analyst may enquire about employee disputes, litigation claims, contract disputes, taxation audits, and other issues, and regulatory agency reviews.
- The first procedure is to identify the liability. The second procedure is to estimate a value for the liability.
- The analyst can use many different methods to conclude a current value for these contingencies, including scenario analysis, decision tree analysis, and others.



# Contingent Liabilities (cont.)

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- All of these analyses involve estimating (1) an amount of the liability payment, (2) the timing of the liability payment, and (3) the probability of the liability payment.
- The present value of the various alternative payout events indicates the contingent liability value.

# Net Asset Value Conclusion

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- The net asset value conclusion represents a purely mathematical procedure in the AA method analysis.
- The analyst subtracts the total liability value from the total asset value to conclude the net asset value.
- The total owners' equity (or net asset value) indication is typically concluded on a marketable, controlling ownership interest level of value.
- If the valuation subject is other than 100 percent of the company's owners' equity, then the analyst will apply appropriate valuation adjustments, including:
  - discount for lack of control and
  - discount for lack of marketability.



# AAS Method Illustrative Example

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- An analyst is retained to estimate the fair market value of the total owners' equity of Gamma Company ("Gamma") as of December 31, 2020.
- The analyst decides to apply the asset-based approach and the AA method.
- The GAAP basis balance sheet as of December 31, 2020, is presented in Exhibit 1 (all numbers are in \$000s).
- Tangible assets are recorded at historical cost less depreciation.
- No internally developed intangible assets are recorded on this GAAP balance sheet.
- Exhibit 2 summarizes the AA method valuation analysis (all numbers are in \$000s).

Exhibit 1  
Gamma Company  
Historical Cost Balance Sheet  
As of December 31, 2020  
(in \$000s)

<u>Assets:</u>		<u>Liabilities and Owners' Equity:</u>	
Current Assets:		Current Liabilities:	
Cash	1,000	Accounts Payable	4,000
Accounts Receivable	4,000	Accrued Expenses	4,000
Inventory	<u>5,000</u>	Current Portion of Long-Term Debt	<u>4,000</u>
	10,000		12,000
Real Estate and Equipment:		Long-Term Liabilities:	
Land and Buildings	10,000	Notes Payable	10,000
Machinery and Equipment	10,000	Mortgages Payable	<u>8,000</u>
			18,000
Other Assets:		Total Liabilities	<u>30,000</u>
Investment in Subsidiary	<u>10,000</u>		
Total Assets	<u>40,000</u>	Total Owners' Equity	<u>10,000</u>
		Total Liabilities and Owners' Equity	<u>40,000</u>

# AA Method Illustrative Example (cont.)

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- First, the analyst considers all current asset accounts.
- Based on an analysis of the aged accounts receivable balance, the analyst revalued this account from \$4,000 to \$3,000.
- The analyst restated the inventory balance from the \$5,000 LIFO accounting convention to a \$6,000 replacement cost value.
- Second, the analyst considers all of the real estate and TPP.
- The analyst applied the cost approach and the RCNLD method to value both the real estate and the TPP.
- Based on the RCNLD analysis, the analyst estimated the real estate fair market value at \$13,000—compared to the balance sheet NBV of \$10,000.

# AA Method Illustrative Example (cont.)

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- Based on the RCNLD analysis, the analyst estimated the TPP fair market value at \$12,000—compared to the balance sheet NBV of \$10,000.
- Third, the analyst separately valued the Gamma unconsolidated ownership interest in its subsidiary, Omega.
- The analyst used the market approach and the guideline publicly traded company (“GPTC”) method to value the Omega total equity at \$20,000.
- Gamma owns 40 percent of the Omega equity.
- The analyst valued the Gamma ownership interest at \$8,000.
- This \$8,000 fair market value estimate represents a value decrement compared to the \$10,000 carrying value of this investment.

# AA Method Illustrative Example (cont.)

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- Fourth, the analyst performed a comprehensive due diligence analysis to identify all of the Gamma IRP and IPP.
- This due diligence revealed the following intangible asset: internally developed computer software, customer contracts (for, let's say, for construction projects in progress), and a trained and assembled workforce.
- Gamma uses its computer software for all administrative and project management functions.
- The analyst applied the cost approach and the RCNLD method to estimate a \$7,000 software fair market value.



# AA Method Illustrative Example (cont.)

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- Over the years, Gamma has assembled an executive, technical, and operations staff of considerable experience and expertise. The analyst applied the cost approach and the RCNLD method to estimate the \$3,000 fair market value of the assembled workforce.
- Gamma has several dozen customer projects in various stages of completion. The analyst applied the income approach and the MEEM to value the customer contracts.
- Working with Gamma management, the analyst projected the remaining profit (measured as net cash flow) to be earned on each contract.
- The analyst present valued that future cash flow projection at the Gamma 10 percent weighted average cost of capital (“WACC”).

# AA Method Illustrative Example (cont.)

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- This analysis indicated a \$5,000 fair market value for this customer-related intangible asset.
- The analyst applied the income approach and the CEEM to estimate the goodwill fair market value.
- The analyst concluded the fair market value of the working capital assets (current assets minus current liabilities), real estate and TPP, and identifiable intangible assets.
- The analyst assigned a fair rate of return (based on the WACC) to this total asset value to conclude the required earnings.
- The analyst compared the actual earnings (measured as EBIT in this application) to this required earnings level.

# AA Method Illustrative Example (cont.)

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- Based on this comparison, Gamma generated a small amount of excess earnings.
- The analyst capitalized these excess earnings as an annuity in perpetuity to conclude a \$2,000 goodwill fair market value.
- Fifth, the analyst moved from the asset side to the liability side of the balance sheet. The analyst next considered the current liability accounts.
- The analyst concluded that the recorded balances for accounts payable (\$4,000) and accrued expenses (\$4,000) indicated the fair market values of those accounts.
- The analysis included the current portion of long-term debt in the valuation of the noncurrent liabilities.

# AA Method Illustrative Example (cont.)

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- Sixth, the analyst considered the notes payable and mortgage payable.
- The analyst concluded that the embedded interest rates on these debt instruments were sufficiently close to current market interest rates so that no liability revaluation was required.
- The analyst included the current portion of long-term debt in the noncurrent liability account.
- Seventh, the analyst performed due diligence to identify any contingent liabilities.
- The analyst identified several litigation claims against Gamma, all related to previous projects.

# AA Method Illustrative Example (cont.)

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- The analyst worked with management and legal counsel to estimate expected future claim payment amounts, including probabilities and timing of payments.
- The analyst calculated a present value of the mathematical (probability weighted) expectation of future claims payments of \$10,000.
- Eighth, since most of the Gamma assets were valued by applying the cost approach (based on a value in continued use premise of value), the analyst concluded that there would be no income tax liability created as part of this valuation analysis.
- Ninth, the analyst calculated the Gamma net asset value as presented in Exhibit 2.

# AA Method Illustrative Example (cont.)

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- The analyst concluded the fair market value of all of the assets (both tangible and intangible) of \$60,000.
- The analyst concluded the fair market value of all of the liabilities (both recorded and contingent) of \$40,000.
- The difference between these two value indications is the total owners' equity fair market value.
- Tenth, as indicated in Exhibit 2, the analyst concluded \$20,000 as the total owners' equity fair market value.



Exhibit 2  
Gamma Company  
Fair Market Value Balance Sheet  
As of December 31, 2020  
(in \$000s)

<u>Assets:</u>		<u>Liabilities and Owners' Equity:</u>	
Current Assets:		Current Liabilities:	
Cash	1,000	Accounts Payable	4,000
Accounts Receivable	3,000	Accrued Expenses	<u>4,000</u>
Inventory	<u>6,000</u>		8,000
	10,000	Long-Term Liabilities:	
Real Estate and Equipment:		Notes Payable	10,000
Land and Buildings	13,000	Accrued Expenses	<u>12,000</u>
Machinery and Equipment	<u>12,000</u>		22,000
	25,000		
Other Assets:			
Investment in Subsidiary	8,000		
Intangible Assets:		<u>Contingent Liabilities:</u>	
Internally Developed Computer Software	7,000	Litigation Claims	<u>10,000</u>
Trained and Assembled Workforce	3,000		
Customer Construction Contracts	5,000	Total Liabilities	<u>40,000</u>
Intangible Value in the Nature of Goodwill	<u>2,000</u>		
	17,000	Total Owners' Equity	<u>20,000</u>
Total Assets	<u>60,000</u>	Total Liabilities and Owners' Equity	<u>60,000</u>



# ANAV Method Introduction

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- The ANAV method is not the same analysis as the so-called net book value (“NBV”) method.
- The NBV method is not a generally accepted business valuation method at all. Rather, the NBV “method” is a financial accounting calculation.
- In the so-called NBV method, the analyst relies entirely on data from the company’s financial statements, without the application of valuation analyses or professional judgment.
- Calculating NBV, the analyst subtracts the recorded amount of liabilities (both current and noncurrent) from the recorded amount of assets (both current and noncurrent).
- This calculation provides what is often called the NBV.



# ANAV Method Introduction (cont.)

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- This NBV calculation describes the mathematical relationships between the assets and the liabilities recorded on the balance sheet.
- For a GAAP balance sheet, these accounts are typically recorded on a historical cost basis.
- That historical cost basis is typically not indicative of the current value of the company owners' equity.
- In contrast, the ANAV method may start with the NBV of the company assets and liabilities. Then, the analyst applies professional judgment and employs a series of valuation procedures.
- The result is a current value of the company owners' equity.

# ANAV Methodology

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- First, the analyst typically starts with the GAAP-based balance sheet.
- The analyst typically will use the balance sheet dated closest to the valuation date.
- Second, the analyst identifies any nonoperating or excess assets reported on the balance sheet.
- Such assets may include vacant land or other assets held for investment purposes. That category may also include assets that are not necessary for the business but that are enjoyed primarily by the business owners.
- This asset category may include a private aircraft or a vacation home owned by the company.
- Nonoperating assets sometimes include the tangible assets of discontinued operations that are being held for disposal.

# ANAV Methodology (cont.)

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- Third, the analyst lists all of the reported account balances for the following categories of business operating assets:
  - Working capital assets
  - Tangible assets (including land, buildings, and equipment)
  - Intangible assets (including any recorded intangible assets)
  - Other assets (such as deferred income taxes and unconsolidated investments)
- The sum of these asset balances represents the amount of the company's total net operating assets.
- The total operating assets is typically analyzed net of the current liabilities accounts.
- For this purpose, the current liability component of any long-term debt is excluded.



# ANAV Methodology (cont.)

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- The total net operating assets should equal the total long-term debt (including the current portion of that debt) plus the total owners' equity recorded on the balance sheet.
- Fourth, the analyst begins the aggregate revaluation of all of the total net assets.
- The typical aggregate valuation method is the CEEM.
- This CEEM intangible value in the nature of goodwill represents the total value increment (or value decrement) compared to the recorded cost-based net operating assets.
- This CEEM calculation may not represent the same goodwill that would be indicated by the AA method.
- For the AA method, goodwill represents an individual intangible asset.

# ANAV Methodology (cont.)

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- In the CEEM, intangible value in the nature of goodwill typically includes all of the following:
  1. The total revaluation (above the cost-based accounting balance) of the recorded tangible assets
  2. The total revaluation (above the cost-based accounting balance) of all of the recorded intangible assets
  3. The total valuation of all of the identifiable but unrecorded intangible assets
  4. The valuation of any remaining business value in excess of the value increment associated with the company's recorded tangible assets, recorded intangible assets, and unrecorded intangible assets

# ANAV Methodology (cont.)

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- In the CEEM, the value conclusion represents more than the value of the residual goodwill.
- The CEEM conclusion represents an aggregate revaluation of all of the recorded balance sheet accounts.
- For this reason, the CEEM conclusion is often referred to as intangible value in the nature of goodwill.
- That name is intended to distinguish the CEEM goodwill from the residual goodwill that is concluded in the AA method.
- The CEEM involves multiplying a fair rate of return by the net operating assets balance.
- The product of this multiplication is called the required earnings.

# ANAV Methodology (cont.)

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- The analyst compares the required earnings to the actual earnings.
- If the actual earnings exceed the required earnings, the company is generating excess earnings.
- The excess earnings are typically capitalized as an annuity in perpetuity.
- The capitalized excess earnings represents the intangible value in the nature of goodwill.
- Fifth, the analyst adds the net operating assets balance to the CEEM goodwill balance.
- This summation represents the value for all of the company's net assets (i.e., total assets minus current liabilities).

# ANAV Methodology (cont.)

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- The analyst subtracts the long-term debt from the net asset value. The remainder of that subtraction is the value of the owners' equity.
- Sixth, as a final procedure, the analyst adds the value of any excess or nonoperating assets to the value of the net operating assets—to conclude a total business value.
- This total business value typically represents the sum of (1) the long-term debt and (2) the owners' equity.
- The analyst should consider if any contingent liability adjustment or income tax liability adjustment that needs to be made to the total business value indication.
- The value of the company owners' equity is: the total business value minus the long-term debt value (and any contingent liability or transaction-related tax liability).



# How to Handle Negative Goodwill

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- Based on the CEEM, it is possible to calculate a negative figure for the intangible value in the nature of goodwill. This result will occur any time the required earnings are greater than the expected actual earnings.
- When the company is generating deficit earnings (instead of excess earnings), the capitalization of the earnings deficiency will indicate negative goodwill.
- The CEEM-derived negative goodwill should be eliminated by reducing the concluded value of the previously valued tangible assets and identifiable intangible assets.
- The negative goodwill is an indication that the company is experiencing economic obsolescence.
- When the CEEM concludes negative goodwill—or economic obsolescence—the CEEM method is typically called the CILM.

# How to Handle Negative Goodwill (cont.)

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- Economic obsolescence occurs when a company does not earn a fair rate of return on the cost of its tangible assets and intangible assets.
- The existence (and measurement) of economic obsolescence indicates that the subject assets valued by any cost approach method should be decreased (by the amount of the economic obsolescence).
- The analyst will decrease the value of all of the cost-approach-measured assets (both tangible and intangible) until the economic obsolescence is reduced to zero.

# CEEM Negative Goodwill

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- Let's assume that the CEEM—or the CILM—analysis indicates a \$1 million negative goodwill.
- Let's assume that the analyst previously valued other company tangible and intangible assets applying the cost approach and the RCNLD method.
- The sum of all of the other cost-approach-derived asset values is \$10 million.
- The analyst would reduce the cost-approach-derived asset values by 10 percent (\$1 million economic obsolescence divided by \$10 million total RCNLD).
- The resulting cost approach value conclusions—after economic obsolescence—would be \$9 million. At a \$9 million total tangible and intangible asset value conclusion, the CEEM—or the CILM—analysis should indicate \$0 of goodwill—and \$0 of remaining economic obsolescence.



# ANAV Method Illustrative Example— No Individual Asset Revaluation

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- Let's assume an analyst is retained to estimate the value of 100 percent of the Delta Company ("Delta") owners' equity as of December 31, 2020.
- The assignment is to conclude the fair market value of the Delta total owners' equity on a marketable, controlling ownership interest basis.
- The analyst decides to apply the asset-based approach and the ANAV method.
- The analyst revalues the owners/ equity in the aggregate using the CEEM to conclude the total intangible value in the nature of goodwill.
- Exhibit 3 presents the Delta historical cost-based balance sheet as of December 31, 2020 (all numbers are in \$000s).

Exhibit 3  
Delta Company  
Historical Cost Balance Sheet  
As of December 31, 2020  
(in \$000s)

<u>Assets:</u>		<u>Liabilities and Owners' Equity:</u>	
Current Assets:		Current Liabilities:	
Cash	2,000	Accounts Payable	2,000
Accounts Receivable	3,000	Wages Payable	2,000
Inventory	<u>5,000</u>	Taxes Payable	<u>2,000</u>
Total Current Assets	10,000	Total Current Liabilities	6,000
Property, Plant, and Equipment:		Long-Term Liabilities:	
Land	10,000	Notes Payable	14,000
Buildings	20,000	Mortgages Payable	<u>10,000</u>
Equipment	<u>30,000</u>	Total Long-Term Liabilities	<u>24,000</u>
Less: Accumulated Depreciation	<u>(20,000)</u>	Owners' Equity:	
Property, Plant, and Equipment Net	<u>40,000</u>	Total Owners' Equity	<u>20,000</u>
Total Assets	<u>50,000</u>	Total Liabilities and Owners' Equity	<u>50,000</u>

# No Individual Asset Revaluation (cont.)

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- The analyst worked with management, performed a due diligence analysis, and concluded that the next period normalized EBIT will be \$9 million.
- The analyst concluded that EBIT was the appropriate measure of operating income to use in the CEEM.
- The analyst concluded that the appropriate fair rate of return on all of the tangible and intangible assets is 15 percent.
- The analyst selected this rate of return based on the Delta WACC.
- The analyst concluded a zero percent expected long-term growth rate in excess earnings.
- The analyst concluded a 15 percent direct capitalization rate (15% WACC minus 0% LTG rate).

# No Individual Asset Revaluation (cont.)

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- Exhibit 4 presents the CEEM analysis.
- In this application of the ANAV method, the analyst will not revalue any of the assets—either the recorded tangible assets or the unrecorded intangible assets.
- The analyst applies the CEEM analysis based on the GAAP basis balance sheet accounts.
- Finally, the analyst prepared the ANAV method balance sheet as of December 31, 2020.
- The analyst adjusted the GAAP-based balance sheet for the CEEM aggregate asset revaluation analysis. This ANAV balance sheet is presented in Exhibit 5.

Exhibit 4  
Delta Company  
Adjusted Net Asset Value Method Analysis  
Intangible Value in the Nature of Goodwill  
As of December 31, 2020  
(in \$000s)

<b>Delta Account Balances</b>	<b>Analysis</b>	<b>Fair Rate of Return</b>	<b>Required Earnings</b>
Working Capital Assets [a]	4,000	15%	600
Property, Plant, and Equipment	<u>40,000</u>	15%	6,000
Total Assets	44,000		
<b>Excess Earnings Analysis</b>			
Delta Next Period Normalized Earnings	9,000		
– Delta Required Earnings	<u>6,600</u>		
= Delta Excess Earnings	2,400		
<b>Capitalized Excess Earnings Analysis</b>			
Delta Excess Earnings	2,400		
÷ Direct Capitalization Rate	<u>15%</u>		
= Capitalized Excess Earnings	<u>16,000</u>		
Intangible Value in the Nature of Goodwill	<u>16,000</u>		

[a] Working capital assets = current assets minus current liabilities.





**Exhibit 5**  
**Delta Company**  
**Asset-Based Approach Business Valuation**  
**Adjusted Net Asset Value Method Analysis**  
**As of December 31, 2020**  
**(in \$000s)**

<u>Assets:</u>		<u>Liabilities and Owners' Equity:</u>	
Current Assets:		Current Liabilities:	
Cash	2,000	Accounts Payable	2,000
Accounts Receivable	3,000	Wages Payable	2,000
Inventory	<u>5,000</u>	Taxes Payable	<u>2,000</u>
Total Current Assets	10,000	Total Current Liabilities	6,000
Property, Plant, and Equipment:		Long-Term Liabilities:	
Land	10,000	Notes Payable	14,000
Buildings	20,000	Mortgages Payable	<u>10,000</u>
Equipment	<u>30,000</u>	Total Long-Term Liabilities	<u>24,000</u>
Less: Accumulated Depreciation			
Property, Plant, and Equipment Net	<u>40,000</u>		
Intangible Assets:		Owners' Equity:	
Intangible Value in the Nature of Goodwill	<u>16,000</u>	Total Owners' Equity	<u>36,000</u>
Total Assets:	<u>66,000</u>	Total Liabilities and Owners' Equity:	<u>66,000</u>



# ANAV Method Illustrative Example— Tangible Asset Valuation

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- The analyst is retained to estimate the value of 100 percent of the Epsilon Company (“Epsilon”) owners’ equity as of December 31, 2020. The assignment calls for a fair market value standard of value and a marketable, controlling ownership interest level of value. Epsilon has the same GAAP-based balance sheet as Delta.
- The analyst performs a due diligence and estimates that Epsilon will generate \$9 million of EBIT next year.
- The analyst decides to use EBIT as the appropriate income metric to measure any excess earnings.
- The analyst performs a WACC analysis and concludes that 15 percent is the appropriate rate of return on assets.
- The analyst again concludes a zero expected long-term growth rate in excess earnings.



# ANAV Method Illustrative Example— Tangible Asset Valuation (cont.)

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- The analyst concluded a 15 percent direct capitalization rate (15% WACC minus 0% LTG rate).
- The analyst is able to revalue certain of the assets that are already recorded on the Epsilon balance sheet.
- The analyst performs a market approach analysis to value the inventory. The analyst estimated the expected selling price of the inventory less the corresponding expected selling expense.
- The analyst concluded a \$6 million inventory fair market value.
- Epsilon management provided contemporaneous appraisals of the company's property, plant, and equipment.

# ANAV Method Illustrative Example— Tangible Asset Valuation (cont.)

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- Based on the market approach (and a sales comparison method analysis), the site (i.e., land) fair market value was \$12 million.
- Based on the cost approach (and an RCNLD method analysis), the building fair market value was \$14 million and the equipment fair market value was \$24 million.
- All of these assets (including the inventory) were valued based on a going-concern premise of value.
- In this example, the analyst could have applied different required rates of return to each asset category.
- For example, the analyst could have applied a lower (than 15 percent) rate of return to the inventory and tangible assets. Then the analyst would have applied a higher (than 15 percent) direct capitalization rate as part of the goodwill valuation.



# ANAV Method Illustrative Example— Tangible Asset Valuation (cont.)

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- Using such a procedure, the analyst would have to ensure that the weighted average return on assets (“WARA”) equals the WACC in the CEEM analysis.
- To simplify this example, let’s assume that the analyst consistently used the 15 percent Epsilon WACC as the required rate of return on all assets in this CEEM.
- Since the analyst received or performed current valuations of certain of the asset accounts, the analyst used these valuations in the ANAV method analysis.
- The analyst did not have valuations for any of the Epsilon intangible assets.
- Based on the Epsilon historical cost balance sheet and the current values for the inventory and the tangible assets, the analyst performed the CEEM analysis summarized in Exhibit 6.



Exhibit 6  
Epsilon Company  
Adjusted Net Asset Value Method Analysis  
Intangible Value in the Nature of Goodwill  
As of December 31, 2020  
(in \$000s)

<b>Epsilon Account Balances</b>	<b>Analysis</b>	<b>Fair Rate of Return</b>	<b>Required Earnings</b>
Working Capital Assets [a]	5,000	15%	750
Property, Plant, and Equipment [b]	<u>50,000</u>	15%	<u>7,500</u>
Total Assets	55,000		8,250
<b>Excess Earnings Analysis</b>			
Epsilon Next Period Normalized Earnings	9,000		
– Epsilon Required Earnings	<u>8,250</u>		
= Epsilon Excess Earnings	750		
<b>Capitalized Excess Earnings Analysis</b>			
Epsilon Excess Earnings	750		
÷ Direct Capitalization Rate	<u>15%</u>		
= Capitalized Excess Earnings	<u>5,000</u>		
Intangible Value in the Nature of Goodwill	<u>5,000</u>		

[a] Working capital includes \$11 million of current assets less \$6 million of current liabilities.

[b] Property, plant, and equipment includes \$12 million of land, \$14 million of buildings, and \$24 million of equipment.



# Tangible Asset Valuation (cont.)

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- The analyst prepared the ANAV method balance sheet as of December 31, 2020.
- The analyst adjusted the GAAP-based balance sheet for both (1) the results of the separately valued individual asset accounts and (2) the conclusions of the CEEM analysis.
- The Epsilon ANAV balance sheet is presented in Exhibit 7.

Exhibit 7  
 Epsilon Company  
 Asset-Based Approach Business Valuation  
 Adjusted Net Asset Value Method Analysis  
 As of December 31, 2020  
 (in \$000s)

<u>Assets:</u>		<u>Liabilities and Owners' Equity:</u>	
Current Assets:		Current Liabilities:	
Cash	2,000	Accounts Payable	2,000
Accounts Receivable	3,000	Wages Payable	2,000
Inventory	<u>6,000</u>	Taxes Payable	<u>2,000</u>
Total Current Assets	11,000	Total Current Liabilities	6,000
Property, Plant, and Equipment:		Long-Term Liabilities:	
Land	12,000	Notes Payable	14,000
Buildings	14,000	Mortgages Payable	<u>10,000</u>
Equipment	<u>24,000</u>	Total Long-Term Liabilities	<u>24,000</u>
Property, Plant, and Equipment	<u>50,000</u>		
Intangible Assets:		Owners' Equity:	
Intangible Value in the Nature of Goodwill	<u>5,000</u>	Total Owners' Equity	<u>36,000</u>
Total Assets	<u>66,000</u>	Total Liabilities and Owners' Equity	<u>66,000</u>





# ANAV Method Illustrative Example—Negative Goodwill (Economic Obsolescence)

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- The analyst is again retained to estimate the value of 100 percent of the Zeta Company (“Zeta”) owners’ equity as of December 31, 2020.
- The assignment calls for a fair market value standard of value and a marketable, controlling ownership interest level of value.
- The Zeta December 31, 2020, historical cost basis balance sheet is the same as the Delta balance sheet.
- The analyst performs a due diligence and concludes the same valuation variable used in the prior two examples with regard to WACC, expected long-term growth rate in excess earnings, and direct capitalization rate.



# ANAV Method Illustrative Example—Negative Goodwill (Economic Obsolescence) (cont.)

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- The analyst has the opportunity to discretely appraise certain asset categories.
- Applying the same market approach analysis, the analyst values the inventory at \$6,000.
- Zeta management provides the current fair market value appraisals of the property, plant, and equipment.
- The site (i.e., land) is valued at \$12,000 applying the market approach, and the building is valued at \$14,000 applying the cost approach.
- This time, Zeta management provides the analyst with a \$30,000 appraisal for the company's equipment.

# ANAV Method Illustrative Example—Negative Goodwill (Economic Obsolescence) (cont.)

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- That \$30,000 fair market value conclusion is based on the cost approach and an RCNLD method analysis.
- The analyst applied the inventory and the tangible asset valuations in the ANAV method.
- The analyst did not have access to any intangible asset valuations.
- Based on the historical cost balance sheet and the current valuations for the inventory and the tangible assets, the analyst performed the CEEM/CILM analysis presented in Exhibit 8.

Exhibit 8  
Zeta Company  
Adjusted Net Asset Value Method Analysis  
Intangible Value in the Nature of Goodwill  
As of December 31, 2020  
(in \$000s)

Capitalized Excess Earnings Method/Capitalization of Income Loss Method Valuation Analysis:

<b>Zeta Account Balances</b>	<b>Analysis</b>	<b>Fair Rate of Return</b>	<b>Required Earnings</b>
Working Capital Assets [a]	5,000	15%	750
Property, Plant, and Equipment [b]	<u>56,000</u>	15%	<u>8,400</u>
Total Assets	61,000		9,150
<b>Excess Earnings/Income Loss Analysis</b>			
Zeta Next Period Normalized Earnings	9,000		
– Zeta Required Earnings	<u>9,150</u>		
= Zeta Income Loss	(150)		
<b>Capitalized Income Loss Method Analysis</b>			
Zeta Income Loss	(150)		
÷ Direct Capitalization Rate	<u>15%</u>		
= Capitalized Income Loss	<u>(1,000)</u>		
Intangible Value in the Nature of Goodwill	<u>(1,000)</u>		

[a] Working capital includes \$11 million of current assets less \$6 million of current liabilities.

[b] Property, plant, and equipment includes \$12 million of land, \$14 million of buildings, and \$30 million of equipment.



# ANAV Method Illustrative Example—Negative Goodwill (Economic Obsolescence) (cont.)

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- Since the “excess earnings” results in an income loss, the CEEM/CILM indicates the existence of economic obsolescence.
- The analyst reflects the economic obsolescence by recognizing a proportional value decrease in all tangible assets and intangible assets that were valued by the cost approach.
- In the Zeta valuation, none of the working capital accounts are valued by reference to the cost approach.
- No identifiable intangible assets were valued in this example.
- Therefore, the analyst considered the Zeta tangible asset accounts.



# ANAV Method Illustrative Example—Negative Goodwill (Economic Obsolescence) (cont.)

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- The site (i.e., land) was valued by reference to the market approach, so no economic obsolescence adjustment is necessary.
- The building and equipment were both valued by the cost approach and the RCNLD method.
- The analyst will have to make an economic obsolescence adjustment to the building and equipment values.
- This economic obsolescence adjustment is summarized in Exhibit 9.

Exhibit 9  
Zeta Company  
Recognition of Economic Obsolescence  
As of December 31, 2020  
(in \$000s)

Assets Valued by Applying the Cost Approach	RCNLD Indication	Economic Obsolescence Amount	Economic Obsolescence %	Economic Obsolescence by Asset Category	Asset Fair Market Value
Buildings	14,000		2.3 [a]	(300)	13,700
Equipment	<u>30,000</u>		2.3 [a]	<u>(700)</u>	<u>29,300</u>
Total Cost Approach Assets	<u>44,000</u>	<u>(1,000)</u>	2.3 [a]	<u>(1,000)</u>	<u>43,000</u>

[a] The 2.3 percent economic obsolescence percent is calculated as \$1 million economic obsolescence \$44 million total RCNLD.

# ANAV Method Illustrative Example—Negative Goodwill (Economic Obsolescence) (cont.)

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- Based on the allocation of economic obsolescence, the final fair market value for the buildings is \$13,700 and for the equipment is \$29,300.
- The analyst applies these values in the ANAV analysis.
- After this recognition of economic obsolescence, the CEEM/CILM analysis will conclude no positive goodwill—and no negative goodwill.
- Finally, the analyst prepared the ANAV method balance sheet as of the December 31, 2020.
- The analyst adjusted the GAAP-based balance sheet for both (1) the results of the separately valued individual asset accounts and (2) the conclusion of the CEEM/CILM analysis (requiring an adjustment for economic obsolescence).
- The Zeta ANAV method balance sheet is presented in Exhibit 10.





**Exhibit 10**  
**Zeta Company**  
**Asset-Based Approach Business Valuation**  
**Adjusted Net Asset Value Method Analysis**  
**As of December 31, 2020**  
**(in \$000s)**

<u>Assets:</u>		<u>Liabilities and Owners' Equity:</u>	
Current Assets:		Current Liabilities:	
Cash	2,000	Accounts Payable	2,000
Accounts Receivable	3,000	Wages Payable	2,000
Inventory	<u>6,000</u>	Taxes Payable	<u>2,000</u>
Total Current Assets	11,000	Total Current Liabilities	6,000
Property, Plant, and Equipment:		Long-Term Liabilities:	
Land	12,000	Notes Payable	14,000
Buildings	13,700	Mortgages Payable	<u>10,000</u>
Equipment	<u>29,300</u>	Total Long-Term Liabilities	<u>24,000</u>
Property, Plant, and Equipment	<u>55,000</u>	Owners' Equity:	
		Total Owners' Equity	<u>36,000</u>
Total Assets:	<u>66,000</u>	Total Liabilities and Owners' Equity:	<u>66,000</u>



# Intangible Asset Valuations and Fair Value Measurements

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- Intangible asset valuations are judgment-based analyses
  - The analyst applies professional judgment to select and apply any generally accepted valuation approaches, methods, and procedures
- Intangible asset fair value measurements are rules-based analyses
  - The analyst follows the professional guidance of FASB ASC 820, *Fair Value Measurements*
- In FVMs, analysts typically comply with the *Mandatory Performance Framework*
  - Compliance with the MPF is required for analysts who hold the Certified in Enterprise and Intangible Valuations (“CEIV”) credential
  - Compliance with the MPF is considered a best practice for all CPAs and other valuation analysts



# Intangible Asset Valuations and Fair Value Measurements (cont.)

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- In addition, to the MPF, the *Application of the Mandatory Performance Framework for the Certified in Entity and Intangible Valuations Credential* (“AMPF”) provides specific guidance on applying the MPF to FVMs
- The AMPF includes specific guidance related to various FVM topics, including:
  - The application of the TAB adjustment
  - Derivation of the discount rate
  - Application of valuation discounts and premiums
  - Useful economic life measurement
  - Assembled workforce valuation
  - Reconciliation of alternative intangible asset value indications

# Generally Accepted Intangible Asset Valuation Approaches

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- Intangible asset valuation methods may be categorized into three generally accepted valuation approaches
- Some of the typical income approach, market approach, and cost approach methods follow
- Income approach methods
  - Multiperiod excess earnings method
  - Capitalized excess earnings method
  - Incremental income method
  - Differential income method
  - Profit split method
- Market approach methods
  - Relief from royalty method
  - Direct sales comparison method
- Cost approach methods
  - Replacement cost new less depreciation method
  - Reproduction cost new less depreciation method
  - Trended historical cost less depreciation method



# Data Gathering and Due Diligence Procedures

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- Some data gathering and due diligence procedures relate to all intangible asset valuation approaches
- The analyst considers the following intangible asset development and current use information:
  - The owner/operator's historical and prospective financial statements
  - The owner/operator's historical and prospective intangible asset development and maintenance costs
  - Any current and expected owner/operator resource/capacity constraints

# Data Gathering and Due Diligence Procedures (cont.)

---

- A description of intangible asset economic benefits to the current owner/operator:
  - Any associated revenue increase (product unit price/volume, market size/position)
  - Any associated expense decrease (product returns; cost of goods sold; selling, general, and administrative; research and development)
  - Any associated investment decrease (inventory and capital expenditures)
  - Any associated risk decrease (the existence of any intangible asset licenses or contracts, a decrease in cost of capital components, intangible asset defensive use)
  - Any assessment of the impact of the intangible asset on the owner/operator's strategic/competitive strengths, weaknesses, opportunities, and threats



# Reasons to Apply the Cost Approach

---

- The cost approach may be applicable when income approach and/or market approach data are not available
- Certain intangible assets lend themselves to application of the cost approach:
  - Recently developed (as in, relatively new) intangible assets
  - Intangible assets that are fungible or may be easily exchanged or substituted
  - Intangible assets for which the owner/operator's historical development cost data are available
  - Intangible assets that are operated by an owner with the expertise to assist the analyst to estimate current development cost
  - Intangible assets that are operated by an owner with the expertise to assist the analyst to estimate (1) UEL and (2) obsolescence
  - Intangible assets that are used (or used up) in the production of income but which themselves do not produce any income; examples of such contributory intangible assets include product formulae, employee or workstation training/operator manuals, operating procedures, computer software, an assembled workforce)



# Reasons to Apply the Cost Approach (cont.)

- When selecting the cost approach, the analyst should consider whether there are sufficient reliable data available to estimate:
  - A current cost measurement (such as replacement cost new or reproduction cost new) and
  - All components of depreciation and obsolescence (including economic obsolescence)
- The obsolescence estimate often involves an analysis of the intangible asset's UEL





**Forensic & Valuation Services Practice Aid**

# Best Practices in Intangible Asset Valuation – Cost Approach Methods and Procedures

AICPA Business Valuations Committee

April 2021



**Willamette Management Associates**  
A CITIZENS COMPANY

# Cost Approach Valuation Methods

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- Replacement cost new less depreciation method (“RCNLD”)
  - The hypothetical asset replaces the functionality or the utility of the actual intangible asset
  - Functionality is an engineering concept
  - Utility is an economic concept
  - The new replacement intangible asset does not compete with the actual/seasoned intangible asset
- Reproduction cost new less depreciation method (“RPCNLD”)
  - Assumes a duplicate of the actual intangible asset
  - All current obsolescence is included in the reproduction intangible asset



# Cost Approach Valuation Methods (cont.)

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- Trended historical cost less depreciation method (“THCLD”)
  - Assumes comprehensive historical cost data are available
  - Assumes a duplication of intangible asset development costs—  
inflated to current costs
  - One indication of RPCNLD
- All cost approach methods attempt to reflect a willing buyer/market participant's make versus buy decision
- All cost approach methods estimate the future costs avoided by buying the seasoned intangible asset—and not the historical costs incurred to develop the seasoned intangible asset



# Current Cost Metrics

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- All intangible asset cost measurements should consider all cost components, including:
  - Direct costs (such as materials, labor, and supplies)
  - Indirect costs (such as engineering and design expenses and legal and consulting fees)
  - Developer's profit (e.g., a profit margin percentage applied to the direct cost and indirect cost investment)
  - An opportunity cost/entrepreneurial incentive (a measure of lost income or other opportunity cost during the development period)



# Depreciation/Obsolescence Metrics

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- All cost approach analyses should consider all property depreciation components:
  - Physical deterioration
  - Functional obsolescence
  - External obsolescence
- Consideration of physical deterioration in an intangible asset analysis
- Consideration of functional obsolescence in an intangible asset analysis
  - Excess capital costs
  - Excess operating costs
- Consideration of external obsolescence in an intangible asset analysis
  - Locational obsolescence
  - Economic obsolescence



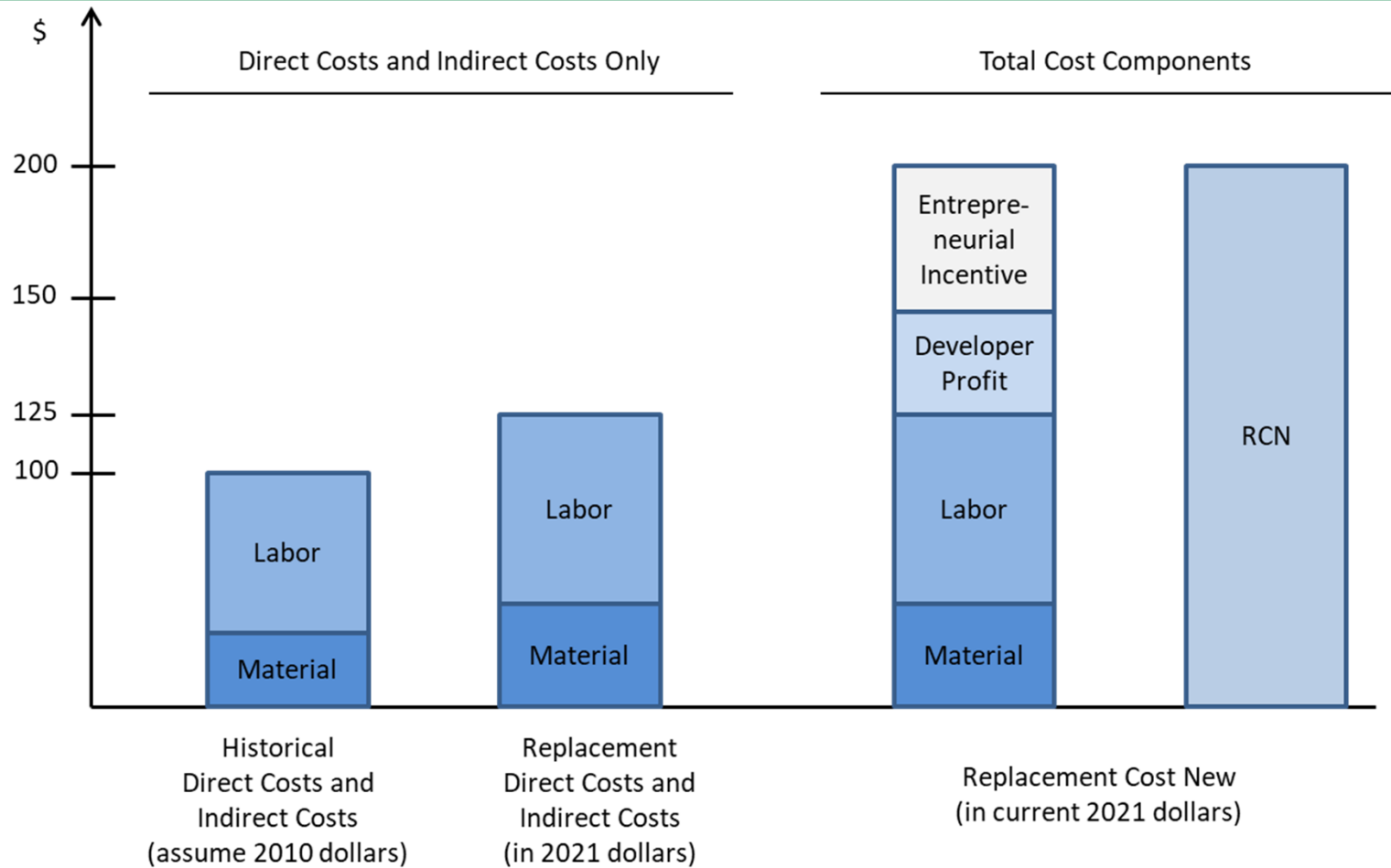
# Intangible Asset UEL Analysis— Depreciation

---

- Some factors that the analyst may consider in the intangible asset UEL analysis include:
  - Legal factors
  - Regulatory factors
  - Contractual factors
  - Functional factors
  - Technological factors
  - Economic factors
  - Analytical factors
- The analyst typically considers each of the factors that influence the intangible asset UEL
- Typically, the factor that indicates the shortest UEL deserves primary consideration in the UEL estimate



# Comparison of Historical Cost to RCN in the Intangible Asset Development Process



Typically, the owner/operator's accounting data capture (at most) the direct costs and indirect costs associated with the subject intangible asset historical development

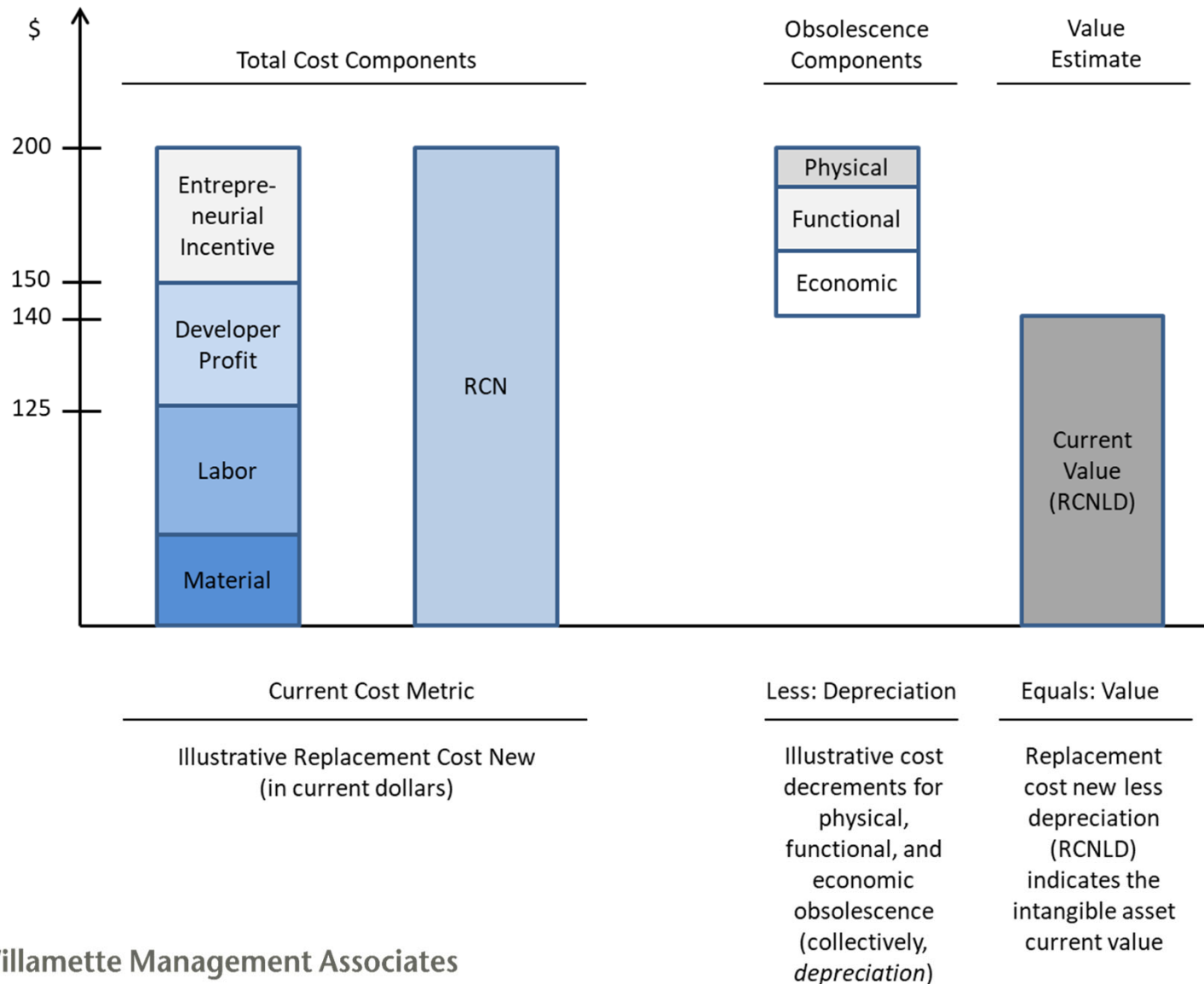
The replacement cost new considers: direct costs, indirect costs, developer's profit, and entrepreneurial incentive (or opportunity cost) associated with the replacement intangible asset



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# Comparison of RCN to Current Value in the Intangible Asset Development Process





# Illustrative Example

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- The not-for-profit Eta Hospital intends to purchase the physician-owned Theta Group internal medicine practice
- The Eta board retains the analyst to ensure that Eta does not pay more than FMV for the Theta assets
- The analyst has to estimate the FMV of all of the Eta assets as of the December 31, 2020, valuation date
- One of the practice intangible assets is the Theta 50-person assembled workforce
- The analyst decides to apply the cost approach and the RCNLD method to estimate the FMV of the Theta workforce of 10 physicians, 20 clinical staff, and 20 administrative staff

Theta Group  
Trained and Assembled Workforce  
Cost Approach, RCNLD Method  
Replacement Cost New  
as of December 31, 2020

Theta Assembled Workforce Employee Component	No. of Employees	Average Salary	Other Costs Factor	Full Absorption Cost	Percent of the Total Annual (Full Absorption) Cost Required to			Percent of Full Absorption Cost to Replace Employees	Average RCN Component	Total RCN Component
					Recruit Replacement Employees	Hire Replacement Employees	Train Replacement Employees			
Physicians	10	180,000	1.6	288,000	20%	20%	40%	80%	230,400	\$2,304,000
Clinical Staff	20	60,000	1.5	90,000	10%	10%	30%	50%	45,000	900,000
Administrative Staff	<u>20</u>	40,000	1.4	56,000	5%	10%	25%	40%	22,400	<u>448,000</u>
Total Employees	50									
Total Direct Cost and Indirect Cost Components										3,652,000
Add: Developer's Profit Cost Component:										
Developer's Profit Margin										<u>10%</u>
Developer's Profit Cost Component (rounded)										<u>365,000</u>
Total Direct Cost and Indirect Cost plus Developer's Profit										4,017,000
Add: Entrepreneurial Incentive:										
Estimated Total Workforce Replacement Period					6 months					
Estimated Average Workforce Replacement Cost Investment (i.e., \$4,017,000 total cost ÷ 2)					\$2,009,000					
Required Annual Return on Investment (ROI)					16%					
Required ROI for 6-Month Replacement Period					8%					
Entrepreneurial Incentive (i.e., \$2,009,000 × 8%) (rounded)					\$161,000					<u>161,000</u>
Total Replacement Cost New										<u>\$4,178,000</u>



# Theta Group Depreciation and Obsolescence

---

- Two Theta clinical staff will retire next year.
- One Theta admin staff is on disability leave and is not expected to return.
- The practice is also overstaffed by two admin positions.
- Due to their long tenure, the average clinical staff salary is \$60,000. The 20-person clinical staff could be replaced with sufficiently experienced employees earning a \$50,000 salary.
- The analyst considers these facts in measuring physical deterioration and functional obsolescence.
- The analyst also has to consider if Theta Group experiences any economic obsolescence.



Theta Group  
Trained and Assembled Workforce  
Physical Deterioration  
as of December 31, 2020

Theta Assembled Workforce Component	No. of Employees	Average Direct and Indirect RCN	Total Direct and Indirect RCN	Developer's Profit and Entrepreneurial Incentive Cost Components	Total RCN	Percent Depreciation	Accumulated Depreciation
Clinical Staff	2	\$45,000	\$90,000	\$13,000	\$103,000	100%	\$103,000
Administrative Staff	1	22,400	22,400	<u>3,200</u>	<u>25,600</u>	100%	<u>25,600</u>
Total				16,200	128,600		<u>\$128,600</u>



Theta Group  
Trained and Assembled Workforce  
Functional Obsolescence  
as of December 31, 2020

Theta Workforce Component	No. of Employees	Excess Direct and Indirect RCN	Excess Developer's Profit and Entrepreneurial Incentive Components	Excess Total Replacement Cost per Employee	Functional Obsolescence
Clinical Staff	18	\$7,500	\$1,100	\$8,600	\$154,800
Administrative Staff	2	22,400	3,200	25,600	<u>51,200</u>
Total					<u>\$206,000</u>



---

Theta Group  
Trained and Assembled Workforce  
Cost Approach  
RCNLD—Before Economic Obsolescence  
as of December 31, 2020

Cost Approach Analysis	Cost Component
RCN (all employees)	\$4,178,000
Less: Physical Deterioration Allowance (inadequate staff)	128,600
Less: Functional Obsolescence Allowance (superadequate staff)	<u>206,000</u>
Equals: RCNLD—before Economic Obsolescence	<u>\$3,843,400</u>



# Conditions That May Indicate Intangible Asset Economic Obsolescence

---

- The entity's income approach value is less than the entity's asset-based approach value
- The entity's market approach value is less than the entity's asset-based approach value
- The owner/operator's revenue decreased in recent years
- The owner/operator's profitability decreased in recent years
- The owner/operator's cash flow decreased in recent years
- The owner/operator's product/service pricing decreased in recent years
- The industry/profession's revenue decreased in recent years
- The industry/profession's profitability decreased in recent years

# Conditions That May Indicate Intangible Asset Economic Obsolescence (cont.)

---

- The industry/profession's cash flow decreased in recent years
- The industry/profession's product/service pricing decreased in recent years
- The owner/operator's profit margins decreased in recent years
- The owner/operator's ROI decreased in recent years
- The industry/profession's profit margins decreased in recent years
- The industry/profession's ROIs decreased in recent years
- The industry/profession's competition increased in recent years
- The industry/profession experienced regulatory changes in recent years



# Economic Obsolescence Measurement

---

- To measure economic obsolescence, the analyst considers the owner/operator's financial and operational data:
  - Financial statements or financial results of operations
  - Financial budgets, plans, projections, or forecasts
  - Production statements, production cost analyses, or operating cost variance analyses
  - Material, labor, and overhead cost of goods sold (or services delivered) analyses
  - Fixed versus variable expense operating statements
  - Cost/volume/profit analyses
  - Unit/dollar—sales analyses or average selling price analyses



# Economic Obsolescence Measurement (cont.)

---

- The analyst considers the owner/operator's data on a comparative basis, such as the following:
  - Actual results versus historical results
  - Actual results versus budgeted results
  - Actual results versus specific comparative entity results
  - Actual results versus specific competitor results
  - Actual results versus industry/profession average or benchmark results
  - Actual results versus the owner/operator's practical or normal production capacity



Theta Group  
Trained and Assembled Workforce  
Cost Approach Analysis  
Selected Economic Obsolescence Data  
as of December 31, 2020

Item	Financial or Operational Performance Metric	LTM Ended 12/31/20	Benchmark Measure	LTM Metric Percentage Deficiency	Benchmark Comparison Reference Source
1	Average Collected Revenue per Physician	\$340,000	\$420,000	19%	2020 Regional Internal Medicine Group Average
2	Number of Support Staff per Physician	4.0	3.2	25%	2020 Regional Internal Medicine Group Average
3	Average Salary per Physician	\$180,000	\$220,000	18%	2020 Regional Internal Medicine Group Average
4	Annual Growth Rate in the Practice Revenue	3.5%	4.5%	22%	Actual Subject Practice Average for 2016–20
5	Profit Contribution per Physician (pre-MD comp.)	\$200,000	\$280,000	29%	2020 Regional Internal Medicine Group Average
6	Profit Contribution Margin (pre-MD comp.)	59%	67%	12%	2020 Regional Internal Medicine Group Average
7	Average Patients Seen per Physician per Day	8.2	10	18%	The 2020 Subject Practice Budget
8	Average Revenue Billed per Patient Visit	\$80	\$100	20%	The 2020 Subject Practice Budget
9	Return on the Practice’s Average Assets	10%	12.5%	20%	Actual Subject Practice Average for 2016–20
10	Return on the Practice’s Average Equity	20%	25%	20%	Actual Subject Practice Average for 2016–20

LTM Benchmark Performance Metric Percentage Deficiency:

Mean Deficiency	20.3%
Median Deficiency	20.0%
Mode Deficiency	20.0%
Trimmed Mean Deficiency	20.3%
Trimmed Median Deficiency	<u>20.0%</u>
Selected Economic Obsolescence Indication	<u>20%</u>



Theta Group  
 Trained and Assembled Workforce:  
 Economic Obsolescence Allowance  
 as of December 31, 2020

	Cost Approach Analysis	Cost Component
	RCNLD—before Economic Obsolescence	\$3,843,400
Multiplied by:	Selected Economic Obsolescence Percentage	<u>20%</u>
Equals:	Economic Obsolescence Allowance (rounded)	<u>\$768,700</u>



Theta Group  
 Trained and Assembled Workforce  
 Cost Approach  
 Valuation Synthesis and Conclusion  
 as of December 31, 2020

Cost Approach Analysis	Cost Component
RCN	\$4,178,000
Less: Physical Deterioration	128,600
Less: Functional Obsolescence	206,000
Less: Economic Obsolescence	<u>768,700</u>
Equals: RCNLD	<u>3,074,700</u>
FMV of the Assembled Workforce (rounded)	<u>\$3,100,000</u>

---

Theta Group  
Total Operating Assets:  
Asset-Based Approach  
Asset Accumulation Method  
Valuation Synthesis and Conclusion  
As of December 31, 2020

Asset Category	Fair Market Value
Tangible Personal Property	\$5,000,000
Intangible Personal Property:	
Patient Relationships	2,000,000
Patient Charts and Records	1,500,000
Training and Procedure Manuals	500,000
Trained and Assembled Workforce	3,100,000
Goodwill	<u>900,000</u>
FMV of the Theta Total Operating Assets	<u>\$13,000,000</u>



# Tax Amortization Benefit Adjustment

---

- It is generally inappropriate to add a TAB adjustment to an intangible asset cost approach value indication.
- The purpose of the TAB adjustment is to correct the cash flow projection and the income tax expense (both for amortization expense deductions) in an income approach analysis.
- There is no cash flow projection and no income tax expense/rate in a cost approach analysis.
- The cost approach measures future expenditures a willing buyer will not have to make because it bought (and didn't have to develop) the intangible asset.
- The cost approach considers expenditures—not pretax or after-tax expenses.
- The Appraisal Foundation *Appraisal Practices Board VFR Valuation Advisory 2: The Valuation of Customer-Related Assets* and the *Application of the MPF* both agree that a TAB adjustment is only appropriate in an intangible asset FVM that applies the income approach.

# The TAB Adjustment and FVMs

---

- Some clients—or their auditors—may request that the analyst apply a TAB adjustment in an intangible asset FVM that applies the cost approach.
- This formula quantifies that TAB adjustment for FVM purposes:

$$\text{TAB} = \text{Int} * (\text{n}/(\text{n}-\{(PV(r,n, -1) * (1+r)^{.5})\} * \text{t}) - 1)$$

where:

Int	=	Intangible asset value
n	=	Number of years
$\{(PV(r,n, -1) * (1+r)^{.5})\}$	=	Present value of an annuity of \$1 over <i>n</i> years, at the <i>r</i> present value discount rate
t	=	Income tax rate
r	=	Present-value discount rate





# TAB Adjustment Illustrative Example

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- The analyst is asked by acquirer Iota Company to conclude the FVM of the acquisition target Kappa Company's internally developed computer software as of December 31, 2020.
- The analyst applies the cost approach and the RCNLD method to estimate the computer software FMV at \$1,800,000.
- The client requests the analyst to add a TAB adjustment to conclude an FVM of the computer software intangible asset.
- The client's income tax rate is 38% and discount rate is 17.5%.
- The analyst makes the TAB adjustment to conclude an FVM, as presented on the next page.



Kappa Company  
Internally Developed Computer Software  
FVM TAB Adjustment  
As of December 31, 2020

Cost Approach Fair Value Measurement Component	\$
Computer Software RCNLD	1,800,000
Plus: TAB Adjustment:	
Number of Years (n) =	15
Income Tax Rate (t) =	38%
Present Value Discount Rate (r) =	<u>17.5%</u>
Multiplied by: TAB Adjustment	16.7% <u>300,200</u>
Equals: Fair Value of the Acquired Computer Software (rounded) (for FASB ASC 805 compliance purposes)	<u>2,100,000</u>



# Common Misapprehensions regarding the Intangible Asset Cost Approach

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- The cost approach does not consider net book value
- Net book value is not a cost approach value indication
- The cost approach is not the same as historical cost
- The cost approach considers future (not historical) expenditures to develop a replacement intangible asset
- The so-called cost savings method is not a cost approach method
- The cost approach considers expenditures—not pretax or after-tax period expenses
- The cost approach considers opportunity cost
- The cost approach analysis considers all four cost components

# Common Misapprehensions regarding the Intangible Asset Cost Approach (cont.)

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- The cost approach analysis considers all three depreciation and obsolescence components
- The cost approach analysis should be independent of the income approach and/or the market approach analyses
- The cost approach should not include a TAB adjustment—other than in FVMs prepared for financial accounting purposes

# Asset-Based Approach Take-Aways

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- The asset-based approach may be used to value both operating companies and investment (or asset-holding) companies.
- The asset-based approach may be used to value companies on either a going-concern basis or a liquidation basis.
- The asset-based approach may be applied to value either (1) all of the company's tangible assets and intangible assets individually (the AA method) or (2) all of the company's tangible assets and intangible asset values collectively (the ANAV method).
- Analysts can apply cost approach or market approach or income approach property valuation methods to value the company's tangible assets and intangible assets.



# Asset-Based Approach Take-Aways (cont.)

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- Depending on which property valuation approach is applied, the analyst may (or may not) have to consider the transaction-related income tax liability and selling expenses in the analysis.
- Depending on how the property valuation approaches are applied, the analysis conclusion will indicate either a going-concern value or a liquidation value.
- Analysts should consider the revaluation of the company's recorded liabilities and contingent liabilities as part of the valuation.
- If applied correctly—and with consistent valuation variables—both the AA method and the ANAV method should reach about the same business value conclusion for the same company.

# Asset-Based Approach Analyst Caveats

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- Apply the asset-based approach only when appropriate.
- In the business valuation report, describe your credible reasons for not applying the asset-based approach.
- Don't pretend to be a property appraiser.
- If you don't know how to appraise tangible assets or intangible assets, then don't apply this business valuation approach.
- It is better to admit that you don't know what you are doing than to demonstrate that you don't know what you are doing.
- There are numerous learning tools (e.g., journal articles, book chapters) available related to the asset-based business valuation approach.
- The best learning tool is a comprehensive session with an experience analyst.

# Why the Asset-Based Approach Is Not More Commonly Used

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- Although particularly applicable for many litigation, transaction, and taxation valuations, the asset-based approach is less commonly applied (than other approaches) for the following reasons:
  1. Analysts need more data to perform this approach than they may otherwise need to perform other valuation approaches.
  2. This approach is more client-intrusive than other valuation approaches.
  3. This approach typically takes more analyst time to complete than other valuation approaches.
  4. Due to the increased analyst time required, this approach typically costs more to complete (in terms of client fees) than do other business valuation approaches.
  5. This approach requires analysts to demonstrate expertise in the valuation of both assets and liabilities.





# Why the Asset-Based Approach Is Not More Commonly Used (cont.)

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6. This approach requires analysts to identify and to value both tangible assets and intangible assets.
7. This approach requires analysts to identify and to value both recorded liabilities and contingent liabilities.
8. This approach requires analysts to demonstrate some expertise with regard to both financial accounting matters and income tax accounting matters.
9. Compared to other valuation approaches, the application of this approach typically requires a much more comprehensive discussion in the written or oral business valuation report.
10. This approach is less well known to (and less understood by) creditors, potential transaction participants, legal counsel, and judicial finders of fact.



# Asset-Based Approach Summary and Conclusion

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- The asset-based approach is a generally accepted business valuation approach.
- The asset-based approach should not be confused with the cost approach. The cost approach is a generally accepted approach to value individual tangible assets and intangible assets.
- In the asset-based approach, analysts may apply the cost approach to value certain tangible assets or intangible assets.

# Asset-Based Approach Summary and Conclusion (cont.)

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- The asset-based approach is based on the following relationship:

The value of total assets  
(both tangible and intangible)

*minus*

The value of total liabilities  
(both recorded and contingent)

*equals*

The value of total owners' equity



# Asset-Based Approach

## Summary and Conclusion (cont.)

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- Since the values of the tangible assets and the intangible assets are based on a value in continued use premise of value, the asset-based approach normally concludes a going-concern value.
- Normally, the asset-based approach concludes a marketable, controlling ownership interest level of value.
- If the valuation assignment calls for a nonmarketable, noncontrolling ownership interest level of value, then the analyst may have to apply a discount for lack of marketability and a discount for lack of control.
- There are several generally accepted asset-based approach business valuation methods.
- These generally accepted methods include the asset accumulation method and the adjusted net asset value method.



# Asset-Based Approach

## Summary and Conclusion (cont.)

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- Both of these business valuation methods conclude the total value of all of the property owned and operated by the subject company.
- While the asset-based approach is particularly applicable to the valuation of asset holding companies, it is also applicable to the valuation of operating companies.

# Discussion Summary and Conclusion

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- The asset-based approach is particularly applicable in certain circumstances, such as when:
  - There are limited data available to develop the income approach or the market approach
  - The income approach and the market approach value indications are materially different
  - The client needs to know the value of the subject company assets
  - Additional supporting BV analyses (that provide a confirmatory value indication to the income approach indication and/or the market approach indication) would assist the finder of fact in a litigation matter
- However, if you are not sufficiently experienced with the conceptual principles or the practical application of the asset-based approach, then do not develop this analysis.



# Discussion Summary and Conclusion

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- Questions and Discussion

