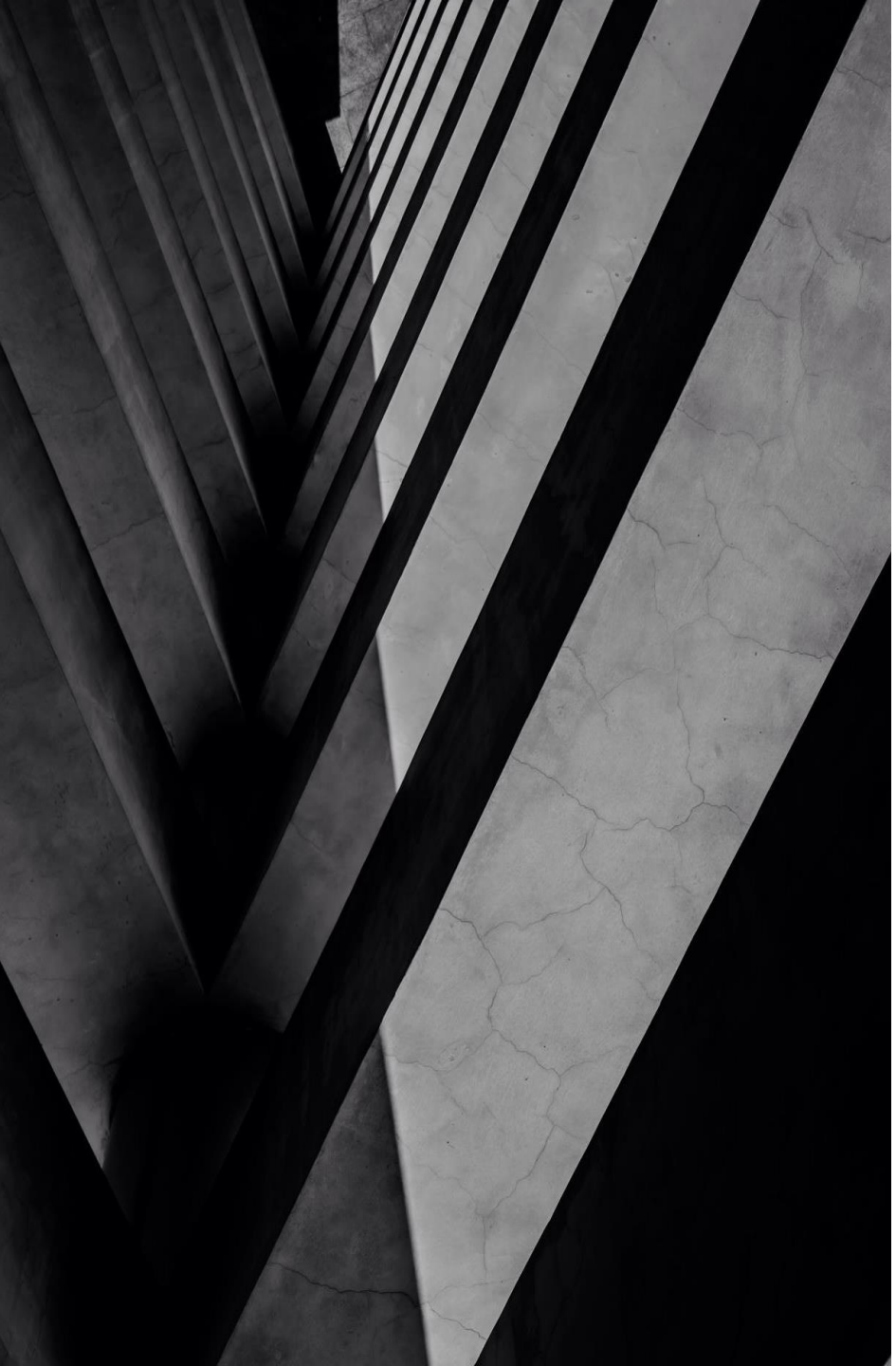


Valuation for M&A

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Learning Objectives

- Discuss the importance of valuation in the context of M&A due diligence
- Explain the different types of value including enterprise value
- Explain value creation in the context of M&A transactions
- Describe the basics of valuation including the three primary methods of valuation
- Explain how the key value drivers of a contemplated transaction are identified
- Discuss the three major types of synergies including 1) revenue and market growth, 2) cost reduction and efficiency leverage, and 3) capital optimization
- Discuss how to identify potential synergies in a contemplated transaction
- Understand other considerations that may affect value

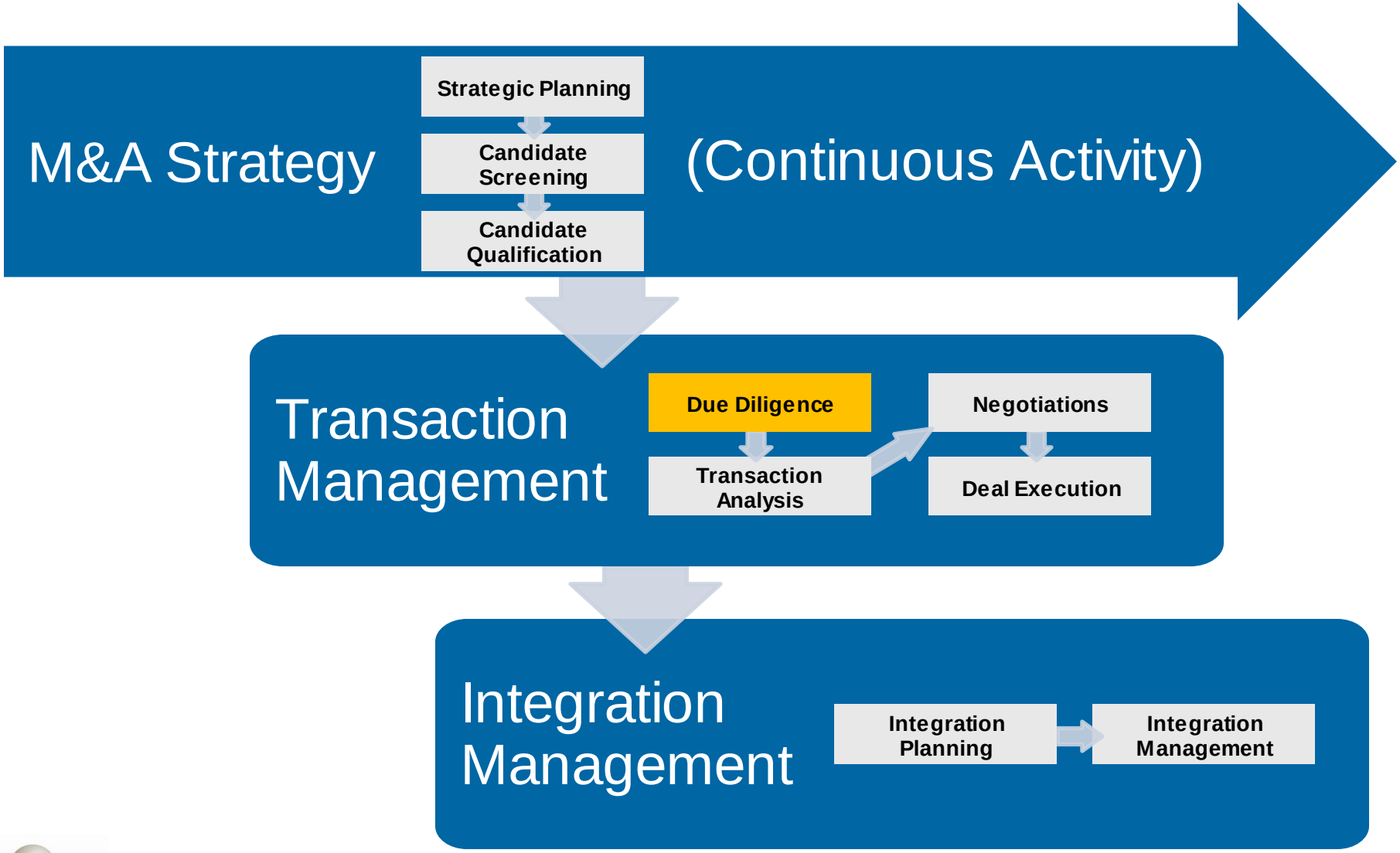
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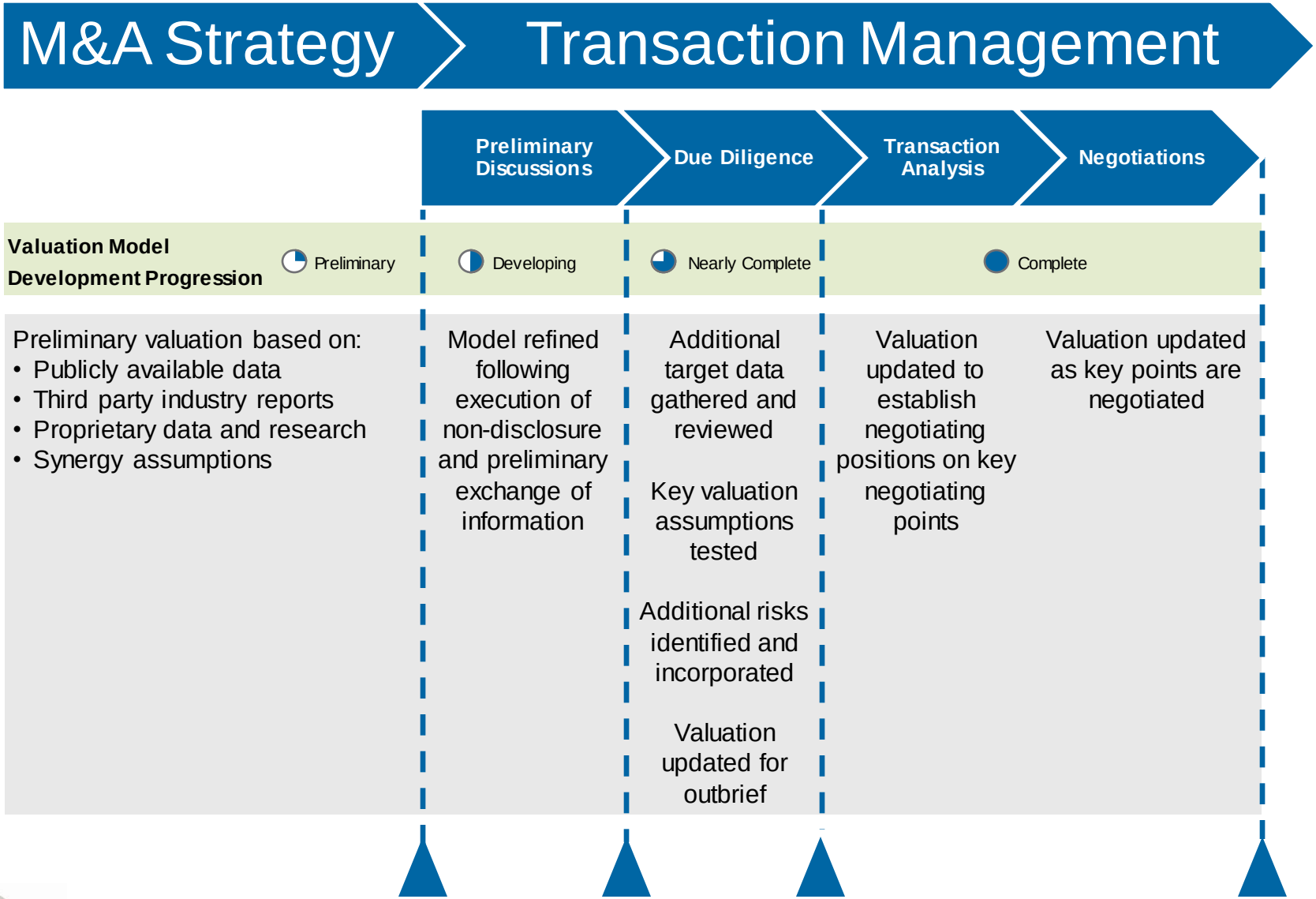
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The 50,000 Foot View



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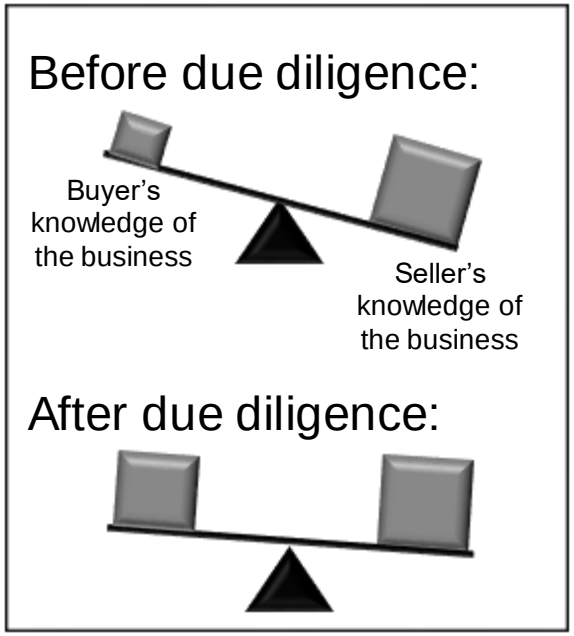
Valuation Model Lifecycle



Due Diligence

Why?

- ❑ Reduces asymmetric information
- ❑ Reduces buyer uncertainty
- ❑ Improves valuation



How?

- Test the underlying assumptions of the preliminary valuation model
- Gather additional data to complete valuation model
- Identify and assess other potential risks that affect value

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What is Value?

Market, Book, or Intrinsic

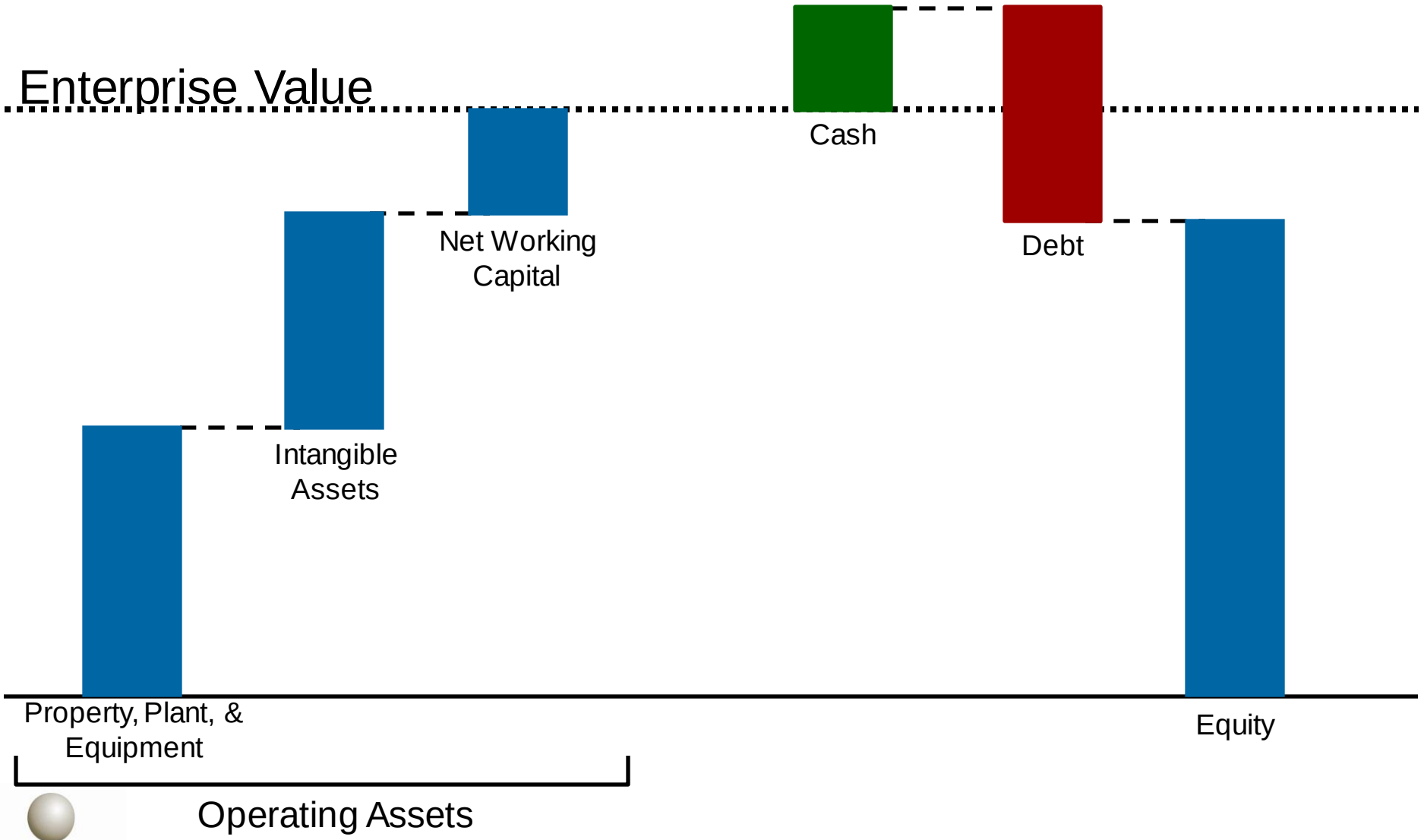
- **Market value:** Price which would result under competitive auction setting
- **Book value:** Historical value based on GAAP accounting
- **Intrinsic value:** Fundamental value based on present value of future cash flow

Firm vs Equity Value

- **Firm value:** Enterprise value of equity plus debt
- **Equity value:** Value to shareholders of equity only

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Enterprise Value



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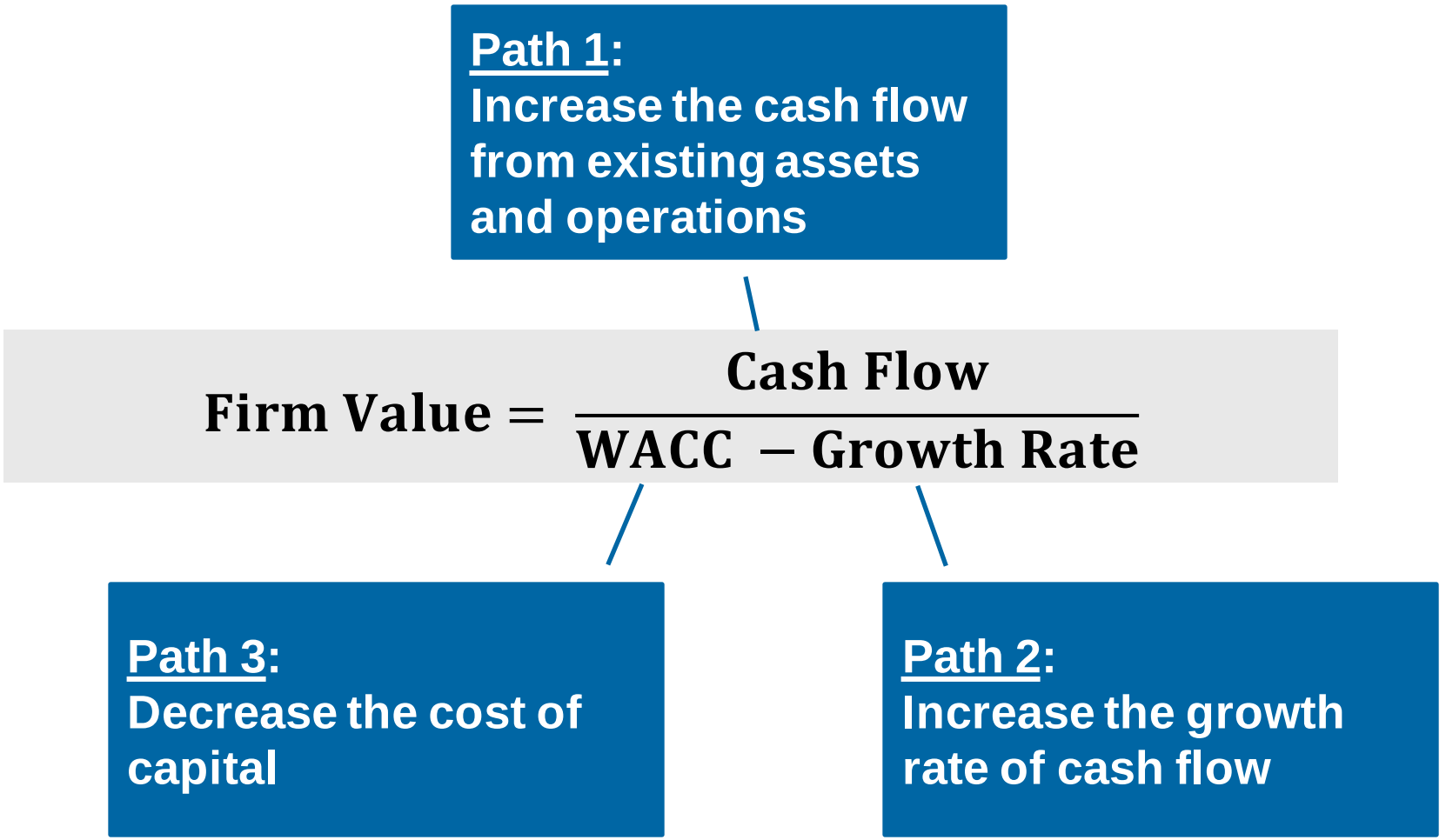
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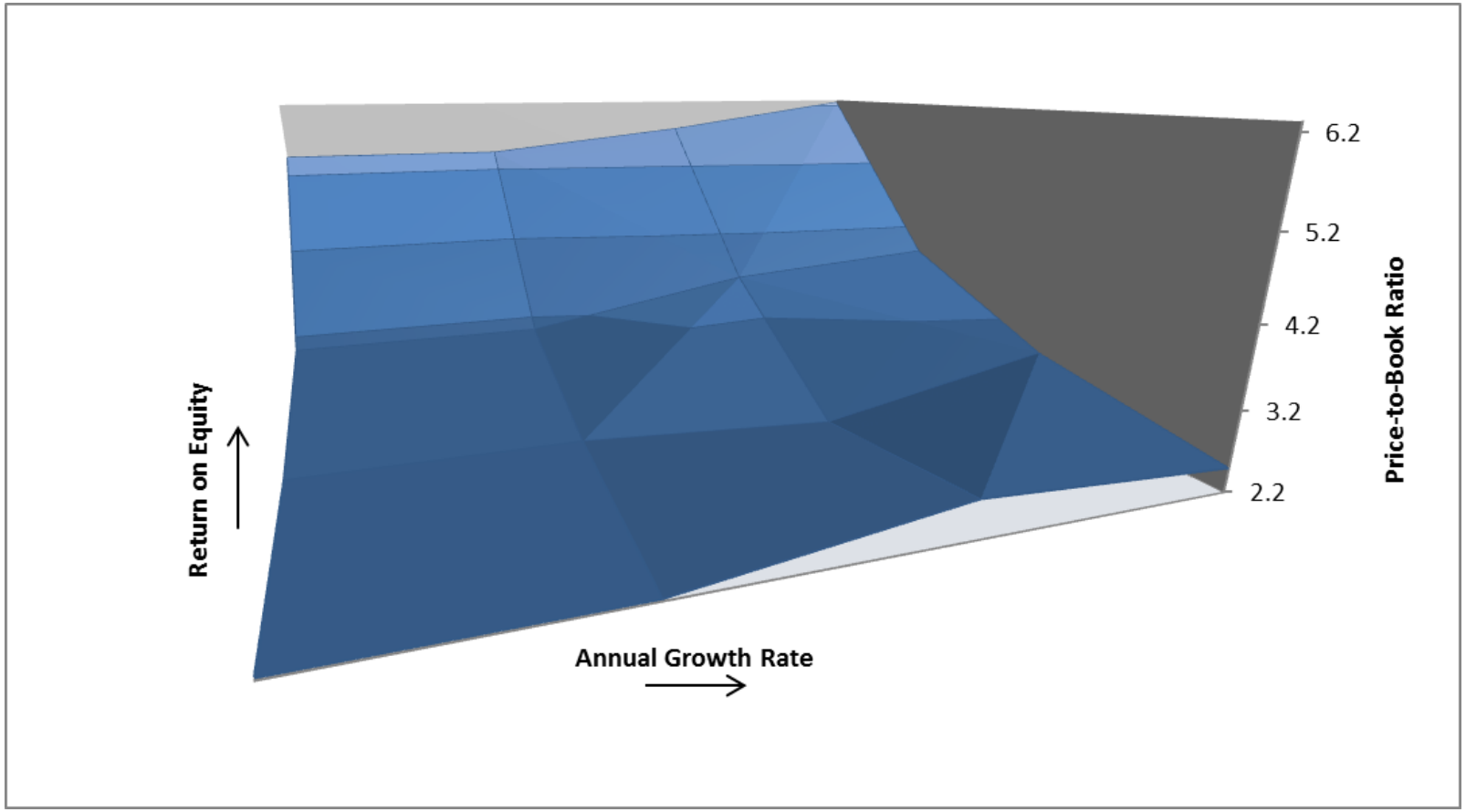
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The Three Paths to Creating Value



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Market Evidence



Note: Based on Companies in the S&P 500

M&A Transaction and Reservation Prices

Seller's Reservation Price

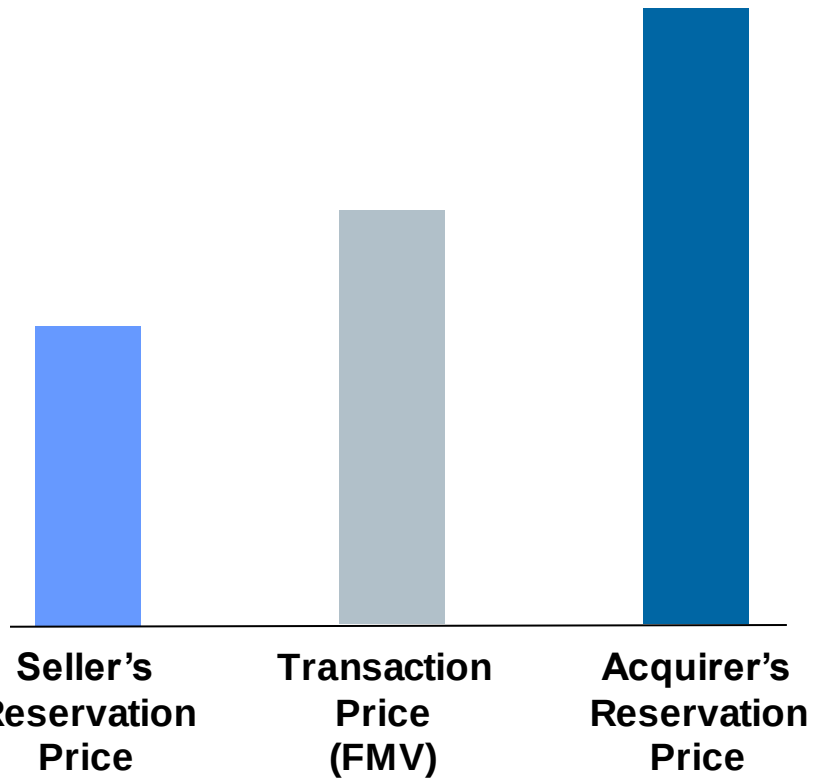
- Minimum transaction price the seller will accept
- Generally equal to seller's intrinsic value of owning the business
- Potentially below intrinsic value if motivated seller

Transaction Price

- Fair Market Value (FMV)
- Market clearing or equilibrium price

Acquirer's Reservation Price

- Maximum transaction price the buyer will offer
- Equal to buyer's intrinsic value of owning target
- Accounts for acquirer's expected synergies and performance improvements



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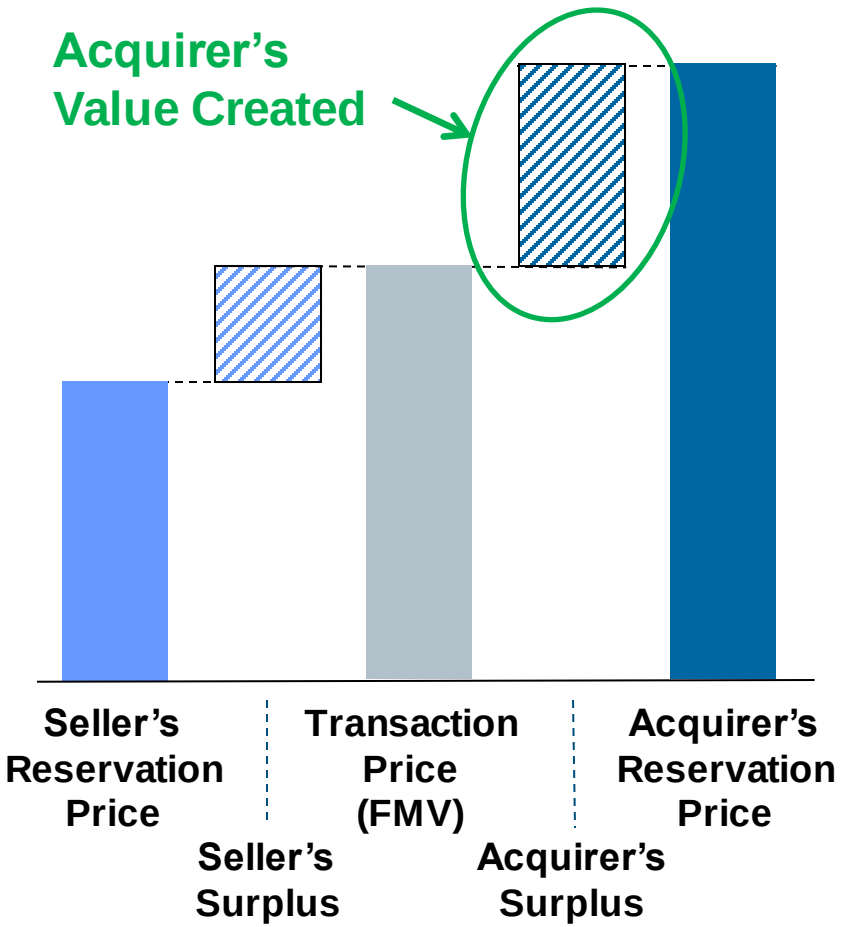
Value Creation Through M&A

Seller's Surplus

- Difference between the transaction price and seller's reservation price
- Represents the value captured by the seller through the transaction

Acquirer's Surplus

- Difference between acquirer's reservation price and the transaction price
- Represents the value captured by the acquirer through the transaction



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Case Study #1

You and your team are financial analysts in the M&A department of a major U.S. beverage company and have been assigned the task of analyzing the potential acquisition of a juice company.

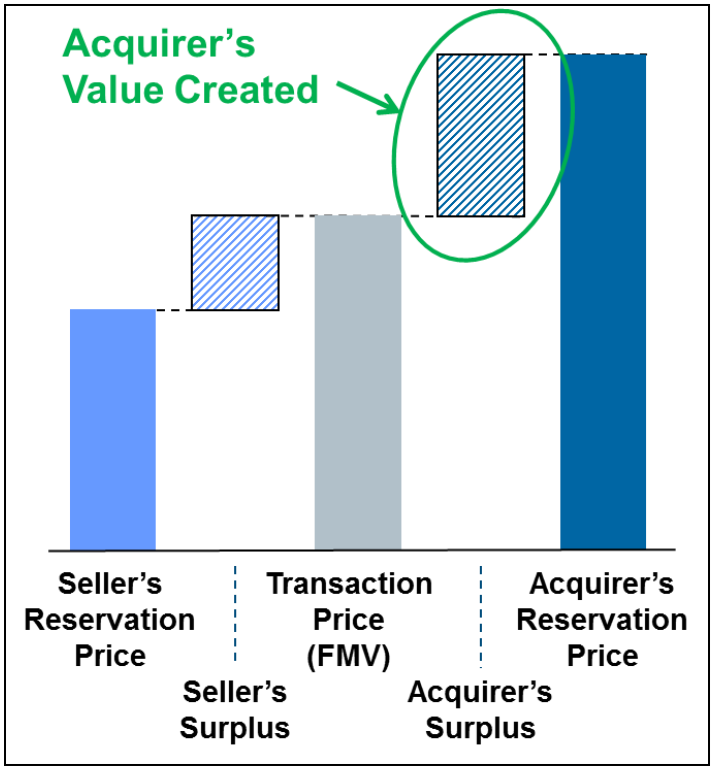
Your estimate of the company's trailing twelve month EBITDA is $3.6M, and you believe that an enterprise value to EBITDA (EV/EBITDA) multiple of 6.0 is reasonable based on the analysis comparable companies and transactions. After working through additional analysis of the transaction, you compute an adjusted EBITDA of $4.1M, accounting for cross-selling opportunities and cost reductions. Additionally, you believe that the business would command a higher multiple of 6.5.

What is your estimate of the value that would be created or destroyed by this potential transaction?

Case Study #1 Answer

The acquirer's value created (or destroyed) is the difference between the acquirer's reservation price and the transaction price.

	EBITDA	Multiple	Value
Acquirer's Reservation Price	$4.1M	6.5	**$26.7M**
Anticipated Transaction Price	$3.6M	6.0	**$21.6M**
Acquirer's Surplus			**$5.1M**



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Case Study #2

You work for a valuation company that has been tasked with assessing potential acquisition candidates and determining if the potential targets present value creating opportunities.

The first company has a projected long-term growth rate of 3%, cash flow of $3M next year, and a discount rate of 9%. After evaluating potential synergies and dis-synergies, you estimate the long-term growth rate at 4%, next year cash flow at $3.2M, and a discount rate of 9%.

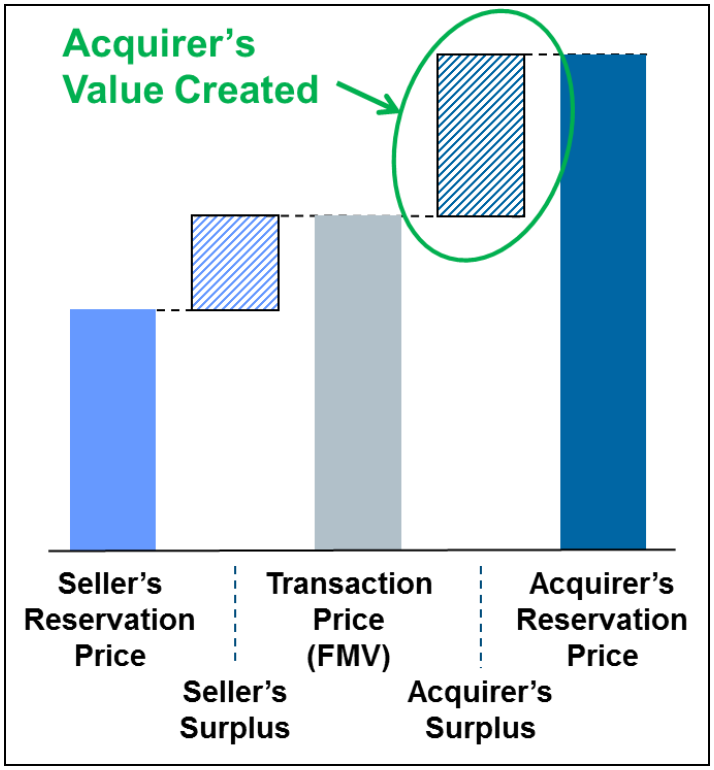
What is the expected value creation from this target?

Case Study #2 Answer

Acquirer's reservation price
= $3.2M / (9% - 4%) = **$64M**

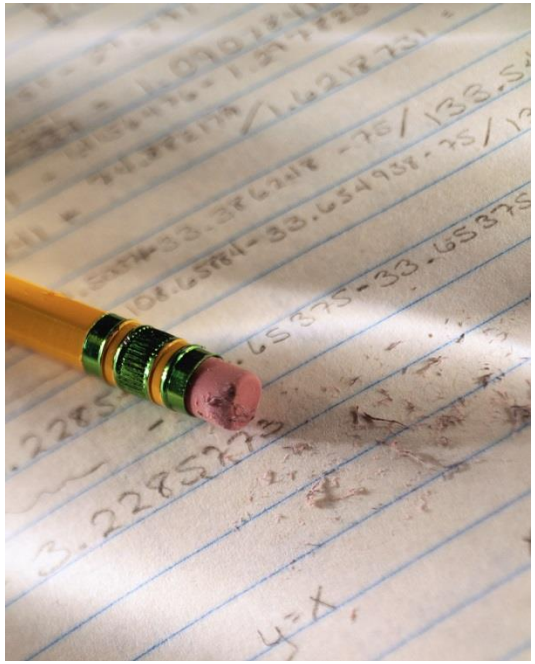
Transaction price = $3M / (9% - 3%) = **$50M**

Value Created = $64M – $50M = $**14M**



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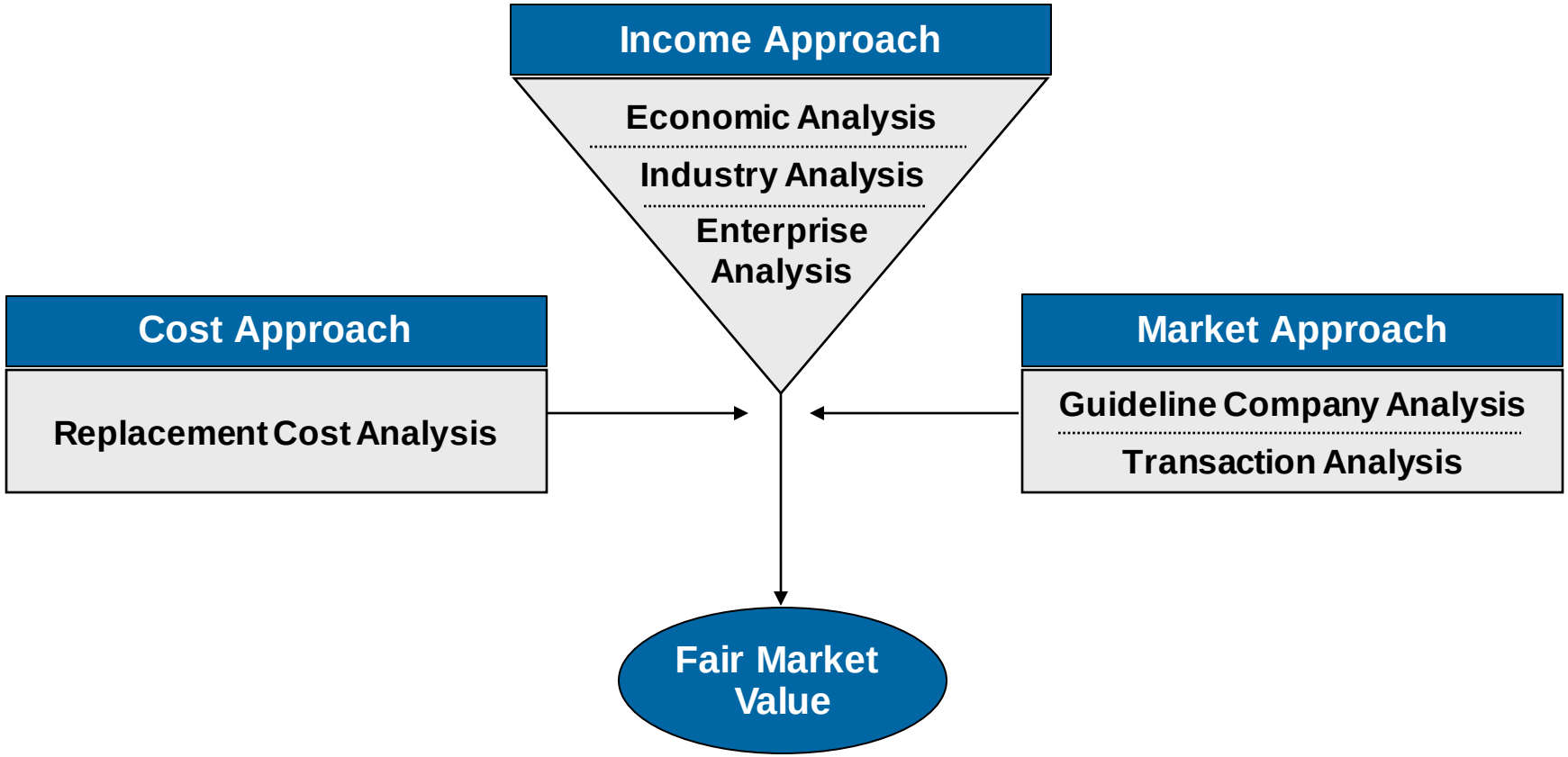
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Methods of Estimating Fair Market Value



Cost Approach

Rationale

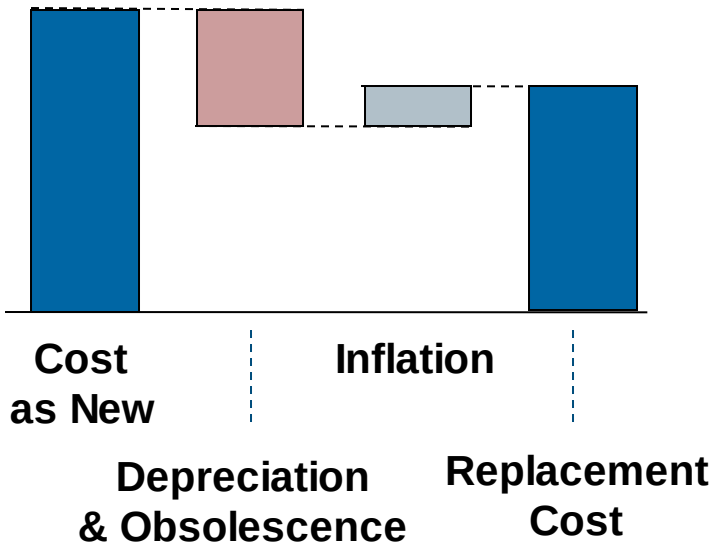
- Based on the theory that investors will not pay more than the cost to replace or re-create an asset (including opportunity costs)

Applicability

- Although applicable to both tangible and intangible assets, typical use is for PP&E
- Often not appropriate for going-concern businesses

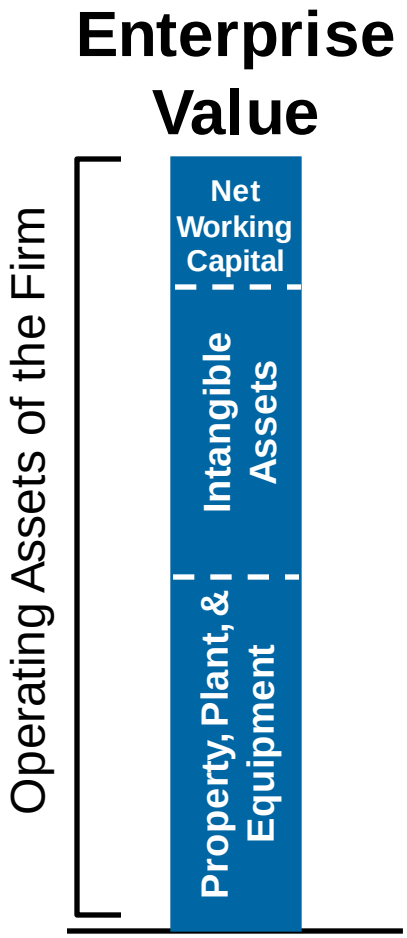
Cost Approach

Replacement Cost Analysis



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Operating Assets of the Firm



	Definition	Includes
Net Working Capital	Net working capital = current assets - current liabilities	Cash (+) Accounts receivable (+), inventory (+), and accounts payable (-)
Intangible Assets	Lack physical substance and usually are hard to value	Patents, copyrights, franchises, goodwill, trademarks, trade names, etc.
Property, Plant, & Equipment	Fixed assets purchased for continued and long-term use in the operations of the business	Land, buildings, machinery, furniture, tools, IT equipment, and certain wasting resources (e.g., timberland)

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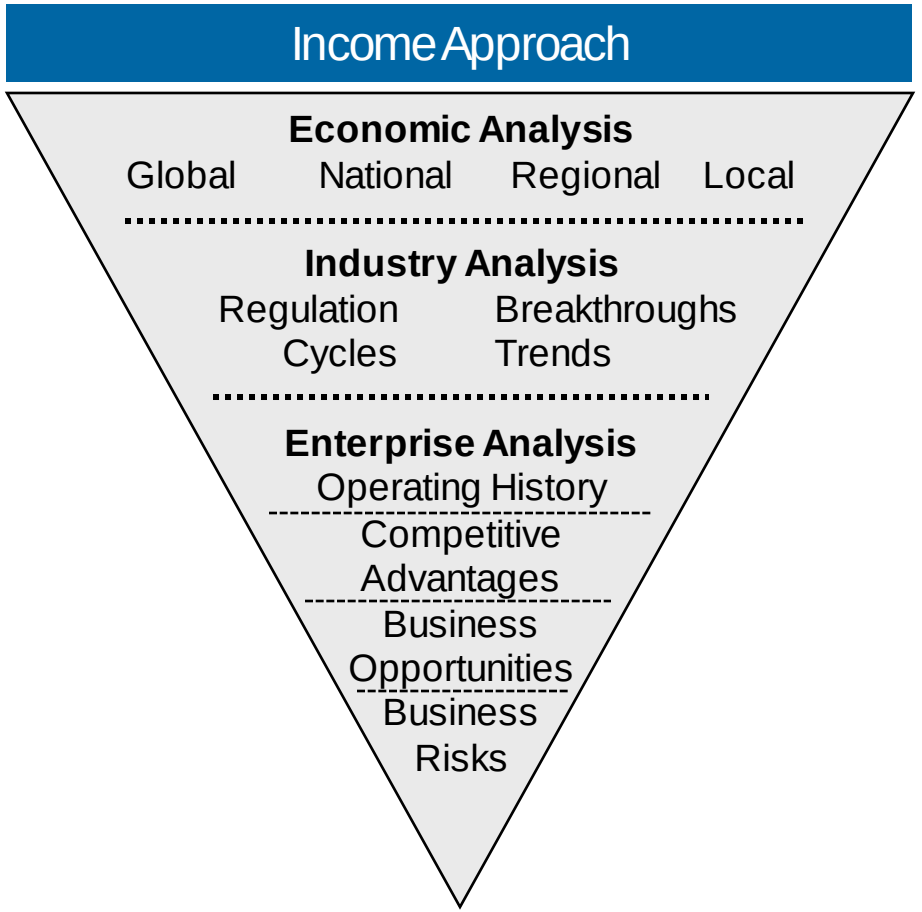
Income Approach

Discounted Cash Flow (DCF)

- Multi-period cash flow model
- Value based on expected future cash flows and a terminal value
- Requires numerous forecasts and determinations to estimate cash flows

Capitalization of Earnings

- Value based on most recent year's earnings and a capitalization rate
- Not useful when past performance is not indicative of expected future results



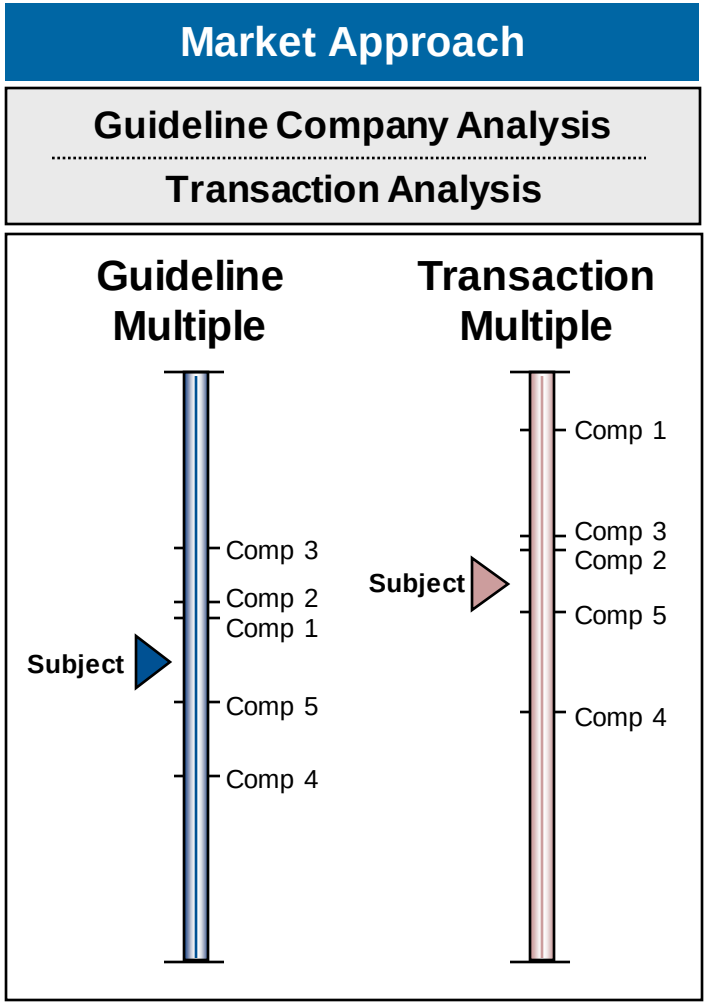
Market Approach

Guideline Company

- Value based on price multiples of comparable public companies
- Size may or may not be a important factor
- Results in a minority, marketable interest value

M&A Transaction Analysis

- Value based on multiples resulting from M&A transactions
- Synergistic buyers or motivated sellers may affect results
- Results in a controlling interest value



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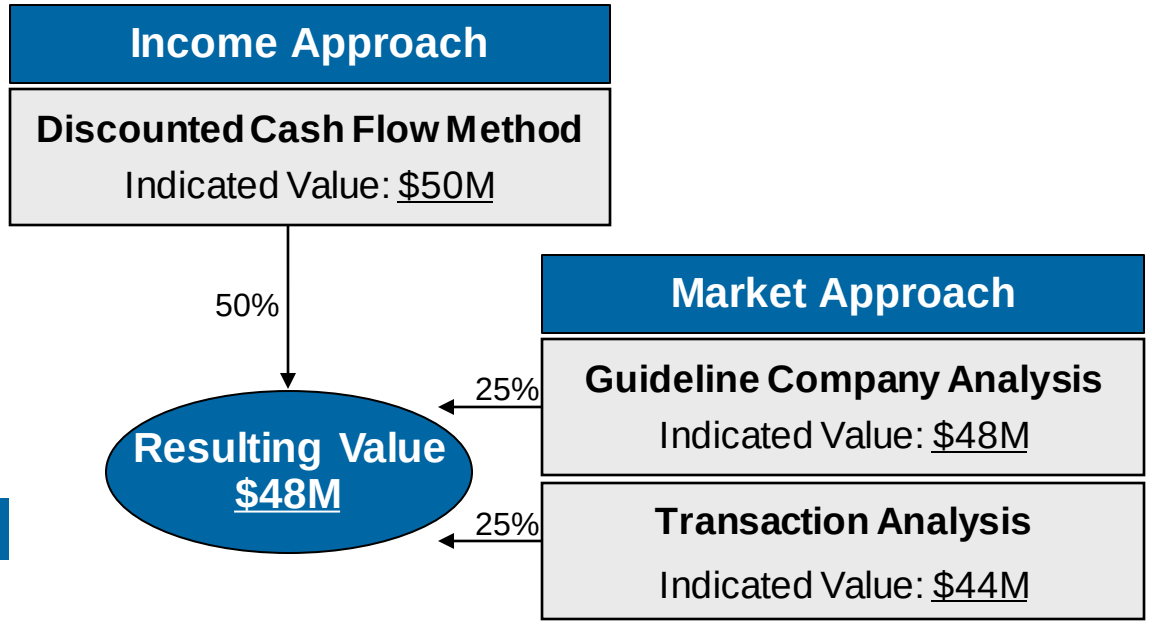
Concluding a Fair Market Value

Pulling it Together

- Different approaches may be weighted equally or a valuation expert may rely on one methodology over the others, given particular facts and circumstances
- If results of various approaches are significantly different, a valuation expert should be able to explain the reasons for the disparity

Adjustments

- Adjustments may be required for the premise of value depending on the methods used (e.g., control vs minority)



Note: Hypothetical example

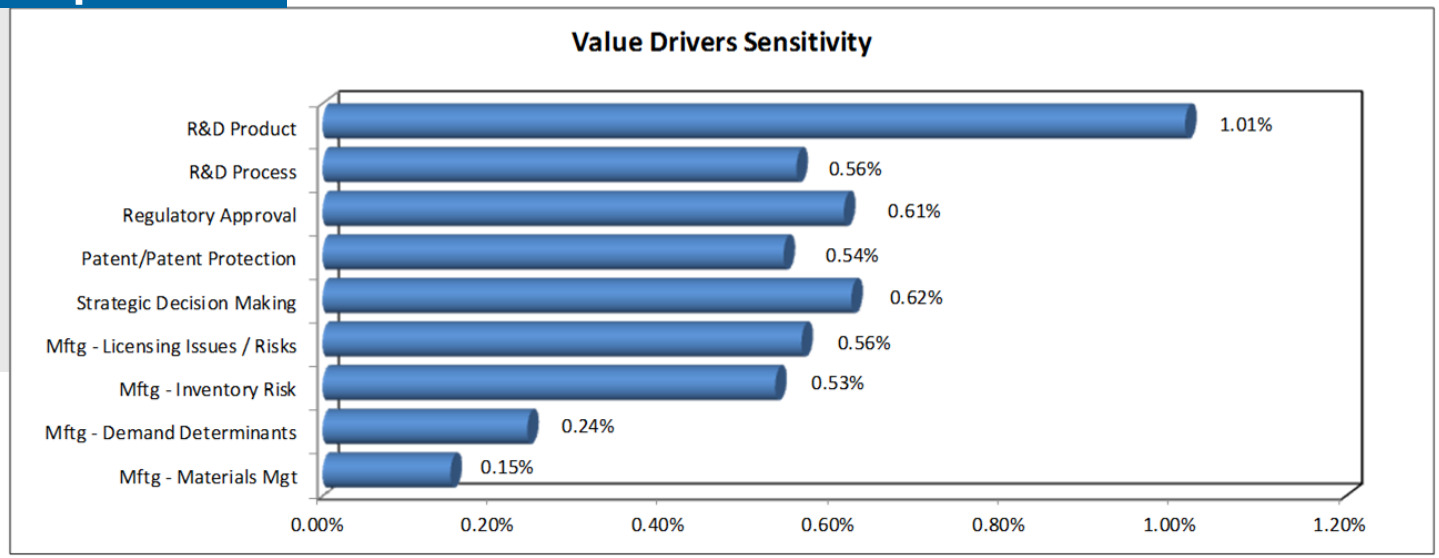
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Identifying Key Value Drivers

How to Identify?

- Insight and industry knowledge guide selection of factors to be tested
- The elasticity of the factors relative to value of the firm (the % change in value for a 1% change in the factor) is measured through sensitivity tests
- The factors are assessed relative to each other to determine the key value drivers

Illustrative Example



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Defining Synergy

Definition

- Additional value created through the combination of companies

Types of Synergies

- **Cost reduction and efficiency leverage:** Ability to cut costs through consolidation, resulting in increased cash flows
- **Revenue and market growth:** Ability to sell more products/services or raise prices as a result of the business combination
- **Capital optimization:** Ability to reduce or eliminate PP&E, improve working capital management, access cheaper capital, or optimize debt structure

Net Benefit

- Benefits of potential synergies must be reduced by the costs to achieve them

Synergistic Control Value

Primary Method of Estimation

- **Multi-period discounted cash flow (DCF) model**

Required Estimates and Forecasts

Income Assumptions

- Revenue (including synergies)
- Cost of sales (including synergies)
- Sales, general, and administrative expenses (including synergies)
- Depreciation and amortization
- Taxes

Balance Sheet Assumptions

- Cash on hand
- Accounts receivable
- Inventory
- Prepaids
- Accounts payable

Investment Assumptions

- Maintenance capital expenditures
- Growth capital expenditures



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Cost Reduction and Efficiency Leverage



Elimination of Redundant Labor

- ❑ Corporate and administrative personnel
- ❑ Customer service, sales, and marketing

Elimination of Redundant Corporate Functions

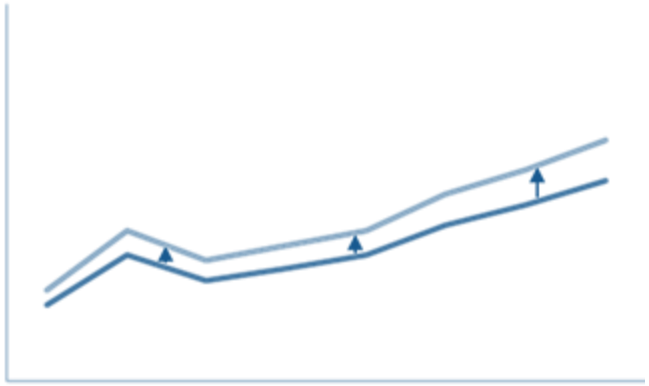
- ❑ Administrative overheads
- ❑ Advertising
- ❑ Association dues
- ❑ Billing and postage
- ❑ Directors' fees
- ❑ Facilities
- ❑ Information services
- ❑ Shareholder services

Purchasing Economies

- ❑ Contract services
- ❑ Inventory
- ❑ Materials and supply procurement
- ❑ Professional services (e.g., audit, legal)

Revenue and Market Growth

Increase Value to Customer	❑ Creating unique customer value propositions
Marketing	❑ Marketing and selling complementary products
Expand Market	❑ Cross-selling into a new customer base ❑ Sharing distribution channels ❑ Access to new markets (e.g. through existing expertise of the merged companies)
Reduce Competition	❑ Reduced competitive pressure on prices



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Capital Optimization

Elimination of Surplus "Hard" Assets

- Manufacturing plants and equipment
- Distribution centers
- Duplicate retail stores
- Other PP&E

Elimination of Surplus "Soft" Assets

- Reduce working capital requirements
- Improve accounts receivable management

Optimizing Invested Capital

- Lower cost of capital
- Optimize capital structure (i.e., debt-to-equity level)

Case Study #3

Identify potential synergies in the contemplated transaction below, categorizing the synergies into 1) revenue and market growth, 2) cost reduction and efficiency leverage, and 3) capital optimization.

Acquirer: BombsRus, a publicly traded company, is a multinational defense contractor based in Washington D.C. BombsRus's optics division is the market leader but generally lags competitors with regard to product development and R&D. Additionally, BumbsRus has been attempting to penetrate the civilian and commercial markets with its optics products as well as other technologies

Target: Advanced Optics, a small, privately owned company, conducts R&D and manufacturers next generation optics. The R&D group is recognized in the industry for its ability to rapidly commercialize new technologies. The company has a small market position overall but has established a growing civilian and commercial customer base.

Case Study #3 Answer

Potential answers include:

- **Revenue and market growth:**
  - **Cross-selling** of products to different customer bases
  - **Market access** to civilian and commercial markets
  - **Acquisition of enhanced technology** increases probability of winning business in federal market
- **Cost reduction and efficiency leverage:**
  - **Reduction of redundant overhead functions** (e.g., accounting, HR)
  - **Lower R&D expense** through improved R&D team and processes
  - **Purchasing economies of scale** reducing cost of sales
- **Capital optimization:**
  - Access to **less expensive capital** (public company vs private)
  - **Consolidation of manufacturing** facilities



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Buyer Types

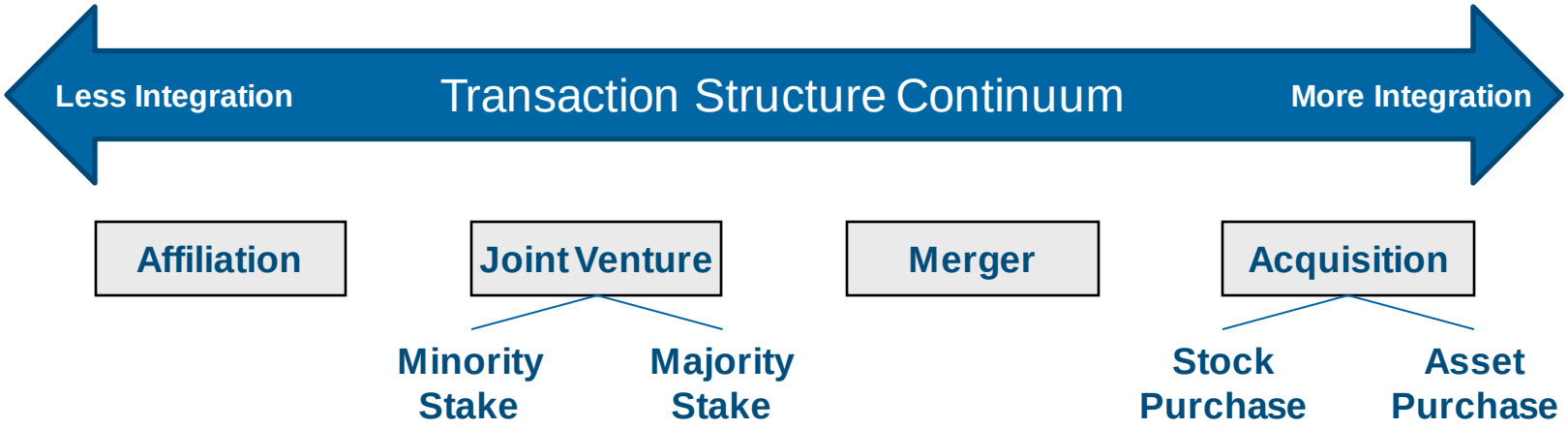
Types of Buyers		
Financial Buyer	**Synergistic Buyer**	**Strategic Buyer**
❑ Typically motivated by target's expected return on invested capital ❑ May not have any prior industry experience ❑ Often intends to keep current management in place	❑ Acquisition motive is the complementary nature of the business ❑ Revenue – acquiring company can increase revenue quickly ❑ Costs – acquiring company can reduce or eliminate expenses	❑ Has an acquisition goal of entering new markets ❑ Wants to extend its existing product line ❑ Wants to eliminate competition or other similar objectives

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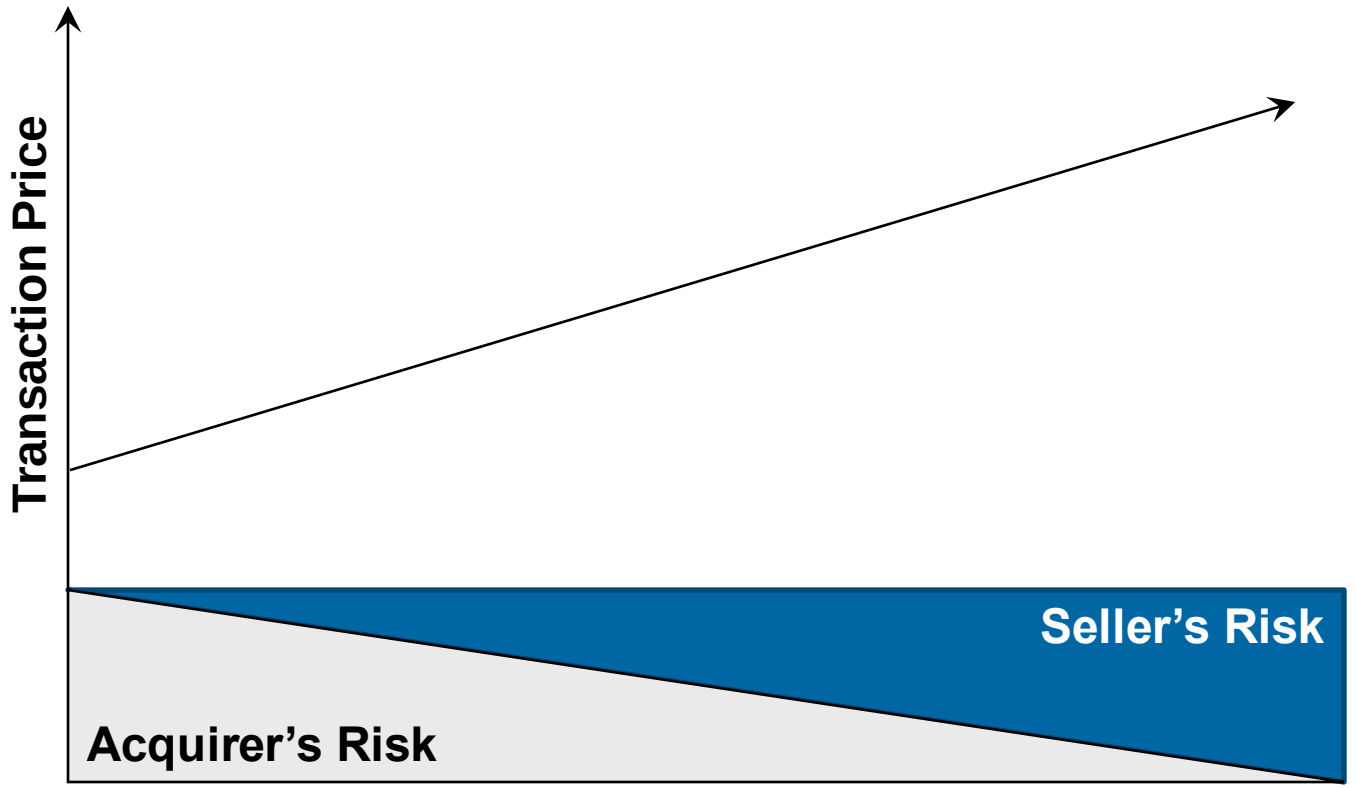
Transaction Structures

The type of transaction contemplated impacts the valuation and the corresponding due diligence required

Alternatively, due diligence findings could result in a change to the contemplated transaction structure



Transaction Financing and Risk



Full consideration at closing

Partial consideration at closing:

- ❑ **Balance held in escrow until resolution of contingencies**
- ❑ **Earn-out provisions, non-complete agreements, employment agreements, royalties, licenses, commissions, etc.**

Full seller financing

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The Valuation Professional's Role

Before

- ❑ Identify key value drivers
- ❑ Identify the assumptions that need validating and present them to the due diligence team as hypotheses that need testing
- ❑ Identify areas where additional data is needed or questions remain
- ❑ Develop preliminary valuation model and range of value

During

- ❑ Proactively discuss issues and findings with each due diligence area (e.g., tax, IT, marketing)
- ❑ Update and Perfect valuation

After

- ❑ Participate in outbriefs by other team members



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The Non-Valuation Professional

Before

- ❑ Understand key value drivers within your due diligence area
- ❑ Understand assumptions that need validating
- ❑ Understand areas where additional data is needed or questions remain

During

- ❑ Identify risks and issues that have a material impact on the value of the business
- ❑ Reach out to the valuation team to discuss issues and findings

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Assembling All the Pieces

Aligning Due Diligence to Deal Purpose

- The primary motivation of any deal is to create shareholder value
- The focus of due diligence then should be on assessing risks relating to value and value creation

Value and Value Creation

- Many forms of value; concerned with transaction price and reservation prices
- Difference between transaction price and reservation price is value created
- Value creation enhanced when synergies exist

Synergies

- Three types: 1) Cost reduction and efficiency leverage, 2) Revenue and market growth, and 3) Capital optimization
- Must account for costs of achieving

Final Word

- Communication is key
- Team must understand transaction value drivers

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