LEARNING OUTCOMES

After completing this chapter, you will be able to do the following:

• compare public and private company valuation;
• describe uses of private business valuation and explain applications of greatest concern to financial analysts;
• explain various definitions of value and demonstrate how different definitions can lead to different estimates of value;
• explain the income, market, and asset-based approaches to private company valuation and factors relevant to the selection of each approach;
• explain cash flow estimation issues related to private companies and adjustments required to estimate normalized earnings;
• calculate the value of a private company using free cash flow, capitalized cash flow, and/or excess earnings methods;
• explain factors that require adjustment when estimating the discount rate for private companies;
• compare models used to estimate the required rate of return to private company equity (for example, the CAPM, the expanded CAPM, and the build-up approach);
• calculate the value of a private company based on market approach methods and describe advantages and disadvantages of each method;
• describe the asset-based approach to private company valuation;
• explain and evaluate the effects on private company valuations of discounts and premiums based on control and marketability;
• describe the role of valuation standards in valuing private companies.
1. INTRODUCTION

The valuation of the equity of private companies is a major field of application for equity valuation. Increasingly, generalist investment practitioners need to be familiar with issues associated with such valuations. Many public companies have start-up or other operations that can best be valued as if they were private companies. Companies may grow through the acquisition of competitors, including private companies, and analysts must be prepared to evaluate the price paid in such transactions. Furthermore, acquisitions often result in significant balances of intangible assets, including goodwill, that are reported on the balance sheets of acquiring companies. Goodwill balances require impairment assessment or formal testing on an annual basis (or more frequently if factors suggest impairment prior to an annual impairment test date) under International Financial Reporting Standards (IFRS) and US generally accepted accounting principles (GAAP). Impairment testing and other financial reporting initiatives increasingly result in the use of fair value estimates in financial statements. The concepts and methods discussed in this reading play important roles in this aspect of financial reporting. In addition, issues addressed in this reading arise in the types of investment held by venture capital and other types of private equity funds that constitute a significant allocation in many investors' portfolios. An expanded focus on the reported values of the investments held by private equity funds is leading to greater scrutiny of the valuation processes used and resulting value estimates.

This reading presents and illustrates key elements associated with the valuation of private companies and is organized as follows: Section 2 provides some background for understanding private company valuation, including typical contrasts between public and private companies and the major purposes for which private valuations are performed. Section 3 discusses the different definitions of value used in private company valuations and the idea that the valuation must address the definition of value relevant to the particular case. Section 4 discusses earnings normalization and cash flow estimation, introduces the three major approaches recognized in private company valuation, valuation discounts and premiums, and business valuation standards and practices. Section 5 summarizes the reading.

2. THE SCOPE OF PRIVATE COMPANY VALUATION

Private companies range from single-employee, unincorporated businesses to formerly public companies that have been taken private in management buyouts or other transactions. Numerous large, successful companies also exist that have remained private since inception, such as IKEA and Bosch in Europe and Cargill and Bechtel in the United States. The diverse characteristics of private companies and the absence of a universally recognized body providing guidance on valuation methods and assumptions have contributed to the development of diverse valuation practices.

2.1. Private and Public Company Valuation: Similarities and Contrasts

We can gain some insight into the challenges of private company valuation by examining company- and stock-specific factors that mark key differences between private and public companies.

1The term "appraisal" is often used in place of "valuation" in the contexts discussed in this reading. Appraisal and valuation are synonymous, as are appraiser and valuator.
2.1.1. Company-Specific Factors

Company-specific factors are those that characterize the company itself, including its lifecycle stage, size, markets, and the goals and characteristics of management.

• **Stage in lifecycle.** Private companies include companies at the earliest stages of development whereas public companies are typically further advanced in their lifecycle. Private companies may have minimal capital, assets, or employees. Private companies, however, also include large, stable, going concerns and failed companies in the process of liquidation. The stage of lifecycle influences the valuation process for a company.

• **Size.** Relative size—whether measured by income statement, balance sheet, or other measures—frequently distinguishes public and private companies; private companies in a given line of business tend to be smaller. Size has implications for the level of risk and, hence, relative valuation. Small size typically increases risk levels, and risk premiums for small size have often been applied in estimating required rates of return for private companies. For some private companies, small size may reduce growth prospects by reducing access to capital to fund growth of operations. The public equity markets are generally the best source for such funding. Conversely, for small companies, the costs of operating as a public company, including compliance costs, may outweigh any financing benefits.

• **Overlap of shareholders and management.** For many private companies, and in contrast to most public companies, top management has a controlling ownership interest. Therefore, they may not face the same pressure from external investors as public companies. Agency issues may also be mitigated in private companies. For that reason, private company management may be able to take a longer-term perspective in their decisions than public company management.

• **Quality/depth of management.** A small private company, especially if it has limited growth potential, would be expected to be less attractive to management candidates and have less management depth than a typical public company. The smaller scale of operation might also lead to less management depth compared with a public company. To the extent these considerations apply, they may increase risk and reduce growth prospects for the private company.

• **Quality of financial and other information.** Public companies are required to meet detailed requirements for the timely disclosure of financial and other information. Investment analysts may place significant demands on the management of a public company for high-quality information. The more limited availability of financial and other information for private companies results in an increased burden for the prospective investor considering an equity investment or loan. This type of information difference presumably leads to greater uncertainty and, hence, risk. All else being equal, the higher risk should lead to a relatively lower valuation. Although that may be the baseline case, note that in certain private company valuations, such as fairness opinions prepared in the context of an acquisition, the analyst usually has unlimited access to books, records, contracts, and other information that would not be available to the public stock analyst.

• **Pressure from short-term investors.** Earnings consistency and growth rates are often perceived as critical to the stock price performance of public companies. Continued management

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1Agency issues refer to such issues as monitoring costs arising from the sometimes conflicting interests of owners (principals) and managers (agents). See Aggarwal, Harrington, Kobor, and Drake (2008) for more information.
employment and levels of incentive compensation are often linked to stock price performance, but many investors' interests may be of a trading or short-term nature. As a result, management may be motivated to try to support share price in the short term. According to some observers, private companies typically do not experience similar stock price performance pressure, and such companies can take a longer-term investment focus.

- **Tax concerns.** Reduction of reported taxable income and corporate tax payments may be a more important goal for private companies compared with public companies because of greater benefit to the owners.

2.1.2. Stock-Specific Factors

In addition to company-specific factors, the characteristics of the stock of a private company frequently differ markedly from that of public companies.

- **Liquidity of equity interests in business.** Stock in private companies is generally much less liquid than otherwise similar interests in public companies. Private companies typically have fewer shareholders. Shares of a private company have not been registered for sale in the public stock markets. The limited number of existing and potential buyers reduces the value of the shares in private companies.

- **Concentration of control.** Control of private companies is often concentrated in one or in very few investors. This concentration of control may lead to actions by a corporation that benefits some shareholders at the cost of other shareholders. Transactions with entities related to a control group at above-market prices would transfer value away from the non-controlling shareholders of the corporation. Above-market compensation to a controlling shareholder is a typical perquisite.

- **Potential agreements restricting liquidity.** Private companies may have shareholder agreements in place that restrict the ability to sell shares. These agreements may reduce the marketability of equity interests.

Generally, stock-specific factors are a negative for private company valuation whereas company-specific factors are potentially positive or negative. The range of differences observed in private companies is such that the spectrum of risk and, therefore, the spectrum of return requirements are typically wider than for public companies. Another consequence is that the range of valuation methods and assumptions applied to private companies is typically more varied.

2.2. Reasons for Performing Valuations

Valuations of private businesses or equity interests therein fall into three groups: transaction-related, compliance-related, and litigation-related.

Transactions encompass events affecting the ownership or financing of a business and represent a primary area of private company valuation. A variety of transaction types exist.

- **Private financing.** Raising capital is critical to development-stage companies. To reduce risk and maintain influence, venture capital investors (as equity investors in such companies

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3 See *Breaking the Short-term Cycle*, CFA Institute Centre Publications (July 2006).

4 This factor could also be placed under company-specific factors.
are known) typically invest through multiple rounds of financing tied to the achievement of key developments ("milestones"). A high level of uncertainty concerning expected future cash flows results in valuations that are often informal and based on negotiations between the company and investors.

- **Initial public offering (IPO).** An IPO is one liquidity option for a private company. Investment banking firms prepare valuations as part of the IPO process. A key element of an IPO-related valuation is frequently the identification of any public companies that are similar to the one going public.

- **Acquisition.** Acquisition can be an attractive liquidity option for development-stage or mature companies. Acquisition-related valuations may be performed (and negotiated) by management of the target and/or buyer. Smaller companies may be sold with the assistance of a business broker. The sale of many larger companies is handled by investment banking firms.

- **Bankruptcy.** For companies operating under bankruptcy protection, valuations of the business and its underlying assets may help assess whether a company is more valuable as a going concern or in liquidation. For viable going concerns operating in bankruptcy, insights from valuation may be critical to the restructuring of an overleveraged capital structure.

- **Share-based payment (compensation).** Share-based payments can be viewed as transactions between a company and its employees. These transactions often have accounting and tax implications to the issuer and the employee. Share-based payments can include stock option grants, restricted stock grants, and transactions involving an employee stock ownership plan (ESOP) in the United States and equivalent structures in other countries. Providing an incentive for improved employee performance is an important goal of such compensation mechanisms.

Compliance encompasses actions required by law or regulation. Compliance valuations are a second key area of valuation practice. Financial reporting and tax reporting are the two primary focuses of this type of valuation.

- **Financial reporting.** Financial reporting valuations are increasing in importance. Goodwill impairment is one of the most frequent financial reporting valuations that a securities analyst might observe. Goodwill impairment tests require a business valuation for a cash-generating unit (IFRS) of an entity or a reporting unit (US GAAP). Essentially, components of public companies are valued using private company valuation techniques. For private companies, stock option grants will frequently require valuations.

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6 IFRS 36, "Impairment of Assets," defines a cash-generating unit as the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows of other assets or groups of assets. ASC 350, "Goodwill and Other Intangible Assets," defines a reporting unit as an operating segment or one level below an operating segment (referred to as a component). A component of an operating segment is a reporting unit if the component constitutes a business for which discrete financial information is available and segment management regularly reviews the operating results of that component.

7 For IFRS, IFRS 2, "Share-Based Payment," and for US GAAP ASC 718 (formerly SFAS No. 123R), "Share-Based Payment," are the relevant accounting guidance.
• **Tax reporting.** Tax reporting is a longstanding area that requires valuations of private companies. tax-related reasons for valuations include corporate and individual tax reporting. A variety of corporate activities, such as corporate restructurings, transfer pricing, and property tax matters, may require valuations. An individual's tax requirements, such as those arising from estate and gift taxation in some jurisdictions, may generate a need for private company valuations.

Litigation—legal proceedings including those related to damages, lost profits, shareholder disputes, and divorce—often requires valuations. Litigation may affect public or private companies or may be between shareholders with no effect at the corporate level.

As the above descriptions make clear, each of the three major practice areas requires specialized knowledge and skills. This fact has led many valuation professionals to focus their efforts in one of these areas. Transactions, for example, often involve investment bankers. Compliance valuations are best performed by valuation professionals with knowledge of the relevant accounting or tax regulations. Litigation-related valuations require effective presentations in a legal setting.

Having provided an overview of the field of private company valuation, we can proceed to discussing how valuations are done. Logically, before developing an estimate of value, the valuator must understand the context of the valuation and its requirements. An important element in that process is knowledge of the definition(s) of value that the valuation must address (the subject of the next section).

3. **DEFINITIONS (STANDARDS) OF VALUE**

A definition of value (or standard of value) specifies how value is understood and, therefore, specifies a type of value. Identification of the correct definition of value to apply in a given valuation is a key step in developing an appropriate value estimate. The status of the company (in the sense of whether it is assumed to be a going concern or not) and the use of the valuation are key elements in determining the definition of value to apply.

The major definitions of value may be summarized as follows.

- **Fair market value.** This term can be defined as the price, expressed in terms of cash equivalents, at which a property (asset) would change hands between a hypothetical willing and able buyer and a hypothetical willing and able seller, acting at "arm's length" in an open and unrestricted market, when neither is under compulsion to buy or sell and when both have reasonable knowledge of the relevant facts. Fair market value is most often used in a tax-reporting context in the United States.

- **Market value.** The International Valuation Standards Council (IVSC) defines market value as "the estimated amount for which an asset or liability should exchange on the valuation date." This assumption is sometimes referred to as the premise of value.

- Definitions of "fair market value," "investment value," and "intrinsic value" are included in the International Glossary of Business Valuation Terms (IGBVT). The IGBVT was jointly developed by the American Institute of Certified Public Accountants, American Society of Appraisers, Canadian Institute of Chartered Business Valuators, National Association of Certified Valuation Analysts, and The Institute of Business Appraisers to improve appraisal practice through the use of consistent terminology.

- The IVSC is an international body that develops and maintains standards for the development, reporting, and disclosure of valuations, especially those that will be relied on by investors and other third-party stakeholders.
date between a willing buyer and a willing seller in an arm’s-length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently, and without compulsion. 

Market value is a definition of value often used in real estate and tangible asset appraisals when money is borrowed against the value of such assets.

- **Fair value** (financial reporting). Fair value is the definition of value used in financial reporting. Fair value shares many similarities with (fair) market value. The definition of fair value includes references to an arm’s-length transaction (i.e., neither party is acting under duress) as well as the parties to a transaction being knowledgeable. Under IFRS (and US GAAP), fair value is defined as “the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between marketplace participants at the measurement date.”

  Note that this definition involves an **exit price**, the price that would be received to sell an asset (or be paid to transfer a liability). An exit price should be less than or at most equal to the price paid to establish a position (an **entry price**).

- **Fair value** (litigation). In the United States, fair value is also a valuation definition as set forth by state statutes and legal precedents in certain litigation matters. Although definitions and interpretations may vary, the definition of fair value in a litigation context is generally similar to the previously given definitions for financial reporting.

- **Investment value**. Investment value can be defined as the value to a particular investor based on the investor’s investment requirements and expectations. Investment value is important in the sale of a private company. The value of a company or asset may differ to different buyers as a result of differing perspectives on future earnings power and the level of risk of the company or asset, differing return requirements and financing costs of prospective buyers, and potential synergies of the acquisition with other assets owned by a prospective buyer. Investment value differs from the preceding value definitions in its greater focus on a specific buyer rather than value in a “market” context.

- **Intrinsic value**. Intrinsic value is often used in investment analysis. Intrinsic value can be defined as the value that an investor considers, on the basis of an evaluation or available facts, to be the “true” or “real” value that will become the market value when other investors reach the same conclusion. This definition attempts to capture the value of an asset absent any short-term pricing aberrations perceived as resulting in an asset value that is over or understated.

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11 Some definitions of market value refer to value essentially on a cash equivalent basis. For example, real property is sometimes acquired with cash and seller financing (notes) in which the interest rate is different from the market rate. The cash equivalent value of the transaction would be its value if the note’s value were adjusted to reflect a market interest rate. Another issue is contingent consideration, i.e., payments that are dependent on the occurrence of specified events (a more detailed definition is in Section 4.3.2), which may be an important component of certain acquisition payment structures. ASC 805 has expanded rules for the inclusion of contingent consideration in determining the total price paid in business acquisitions.


13Market turmoil in 2008 and 2009 led to dramatically reduced liquidity in auction rate securities and large declines in quoted market prices. Some indicated that the exit price requirement of SFAS No. 157 (now ASC 820) resulted in significant asset markdowns and the reporting of unrealized losses as securities were marked to market. Public discussion of the implications of the exit price requirement under SFAS No. 157 and the impact of short-term market inefficiencies on asset pricing resulted from this turmoil.
Different definitions of value can lead to different value estimates. To take a simple example, the investment value of an asset to a specific investor might be €100. This amount is not necessarily the same as the fair market value, market value, or fair value of the asset. Assume several other investors have investment values of €150 as a result of synergies or other factors and that it is believed that no other investors have investment values above €150. With sufficient investor interest at a value of €150, a fair market value estimate could be €150, recognizing the demand and supply schedules of buyers and sellers in the market.

An appraisal (valuation) should generally not be relied on for other than its intended purpose. Many private company valuations are performed for a specific purpose and reference a specific definition of value and valuation date that may not be relevant for another purpose. Prospective users must always consider whether a specific valuation and its definition of value are relevant for their situation.

To illustrate the point, consider an investor investigating the purchase of a controlling interest in a private company. The investor has access to a valuation prepared for tax reporting purposes of a small block of shares in the company. The value estimate in that report may not be relevant to this investor because it probably does not reflect the normalized earnings of the enterprise from the perspective of a majority shareholder who can influence corporate activities. The valuation of the small block may include minority and/or marketability discounts that may not be appropriate in other contexts. A prospective buyer of the company relying on this valuation may miss an attractive acquisition candidate as expense adjustments and synergies may not have been considered. The valuation assumptions from the tax valuation would also require possible adjustments for use in a financial reporting context.

4. PRIVATE COMPANY VALUATION APPROACHES

Private company valuation experts distinguish three major approaches to valuation.

- **The income approach** values an asset as the present discounted value of the income expected from it. The income approach has several variations depending on the assumptions the valuator makes.
- **The market approach** values an asset based on pricing multiples from sales of assets viewed as similar to the subject asset. ("Pricing multiples" may refer to multiples based on share price or multiples based on a measure of total company value.)
- **The asset-based approach** values a private company based on the values of the underlying assets of the entity less the value of any related liabilities.

Valuation approaches for private companies are conceptually similar to those used for public companies although the labels used for them by experts in each field and the details of application may differ. The income approach corresponds to what are referred to as discounted cash flow models or present value models by public equities analysts. Along with asset-based models, discounted cash flow models are classified as absolute valuation models. By contrast, analysts use a relative valuation model when they apply a market-based approach in evaluating price and enterprise multiples relative to the value of a comparable.

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14Loosely, normalized earnings reflect adjustment for items that lessen the usefulness of the earnings number as a basis for comparison or forecasting. A more precise definition of normalized earnings is given in Section 4.1.1.
Chapter 9  Private Company Valuation

Analysts select approach(es) depending on specific factors. The nature of operations and stage in lifecycle are important considerations. For a development-stage company with the potential to operate as a successful large public company, the valuation methods may change over time. At the earliest stages of development, the company may best be valued using an asset-based approach because the going-concern premise of value may be uncertain and/or future cash flows may be extremely difficult to predict. With progress to a development stage company in a high growth mode, the company might be valued using a free cash flow method, which in private business appraisal is known as an income approach. A stable, mature company might be best valued on the basis of the market approach. Specific facts and circumstances may suggest different valuation methods.

Size is an important criterion in assessing valuation approaches and valuation methods. Multiples from public companies may not be appropriate for a small, relatively mature private company with very limited growth prospects. Comparisons to public companies are not a good basis of valuation for a private company if risk and growth prospects differ materially.

Public and private companies may consist of a variety of operating and nonoperating assets. Nonoperating assets are defined as assets not necessary to the ongoing operations of the business enterprise. Excess cash and investment balances are typical examples of nonoperating assets. In principle, the value of a company is the sum of the value of operating assets and the value of nonoperating assets. Thus, nonoperating assets should be included in the valuation of an enterprise regardless of the valuation approach or method being used.

Before we illustrate the application of the three approaches to valuation, we need to address certain typical issues relating to valuation model inputs that arise when valuing private companies.

4.1. Earnings Normalization and Cash Flow Estimation Issues

The next two sections cover earnings normalization and cash flow estimation in the context of private company valuation. Potential acquirers of private companies may find that current earnings reflect inefficiencies or redundancies that detract from their relevance as a baseline for forecasting future earnings under new ownership. In such cases, the earnings should be adjusted or "normalized" to a basis that is relevant for forecasting future results, given that the firm is acquired. Essentially, the valuator is seeking to understand accurately the earnings and cash flow capacity of the business enterprise if it is acquired and run efficiently.

4.1.1. Earnings Normalization Issues for Private Companies

Private company valuations may require significant adjustments to estimate the normalized earnings of the company. As defined in the International Glossary of Business Valuation Terms,\textsuperscript{15} normalized earnings are "economic benefits adjusted for nonrecurring, non-economic, or other unusual items to eliminate anomalies and/or facilitate comparisons." As a result of the concentration of control in many private businesses, reported earnings may reflect discretionary expenses or expenses that are not at arm's-length amounts. Tax and other motivations may also result in reporting earnings that may differ from the normalized earnings of a private company.

\textsuperscript{15}The IGBVT is a glossary of frequently used business valuation terms that was developed through the joint efforts of the American Institute of Certified Public Accountants, the American Society of Appraisers, the Canadian Institute of Chartered Business Valuers, the National Association of Chartered Business Valuators, and the Institute of Business Appraisers.
company. The smaller size of many private companies potentially increases the relative impact on value of discretionary expenses.

When comparing the reported earnings of private companies with public companies, a key area of difference is the possible effect of transactions between the company and owners working in the business or with entities controlled by controlling shareholders. Many adjustments required to normalize earnings involve items that reduce the reported earnings of a profitable, private company. The controlling or sole shareholder is often active in the business and controls the Board of Directors and all policy and operating decisions. Above-market compensation or other expenses would reduce taxable income and income tax expense at the corporate level and subsequent taxes upon the payment of dividends to the controlling shareholder and other shareholders. Above-market expenses can also result in the controlling shareholder receiving a disproportionately high return in relation to other shareholders.

Compensation expense is a key area requiring possible adjustment. Profitable, private companies may report compensation expense to owner/employees above amounts that would be paid to a nonowner employee. Family members may also be included as employees and paid amounts above the market value of their services. For private companies with limited profits or reported losses, expenses may actually be understated with the reported income of the entity overstated. Owners active in the business may not take compensation commensurate with market levels required by an employee for similar activities.

A number of other areas exist for consideration for possible adjustments. Personal expenses may be included as expenses of the private company. Personal-use assets and excess entertainment expenses are areas for consideration. Personal residences, aircraft, and luxury or excessive use of corporate vehicles for personal use may require an adjustment. Life insurance and loans to shareholders merit review.

Real estate used by the private company is also an area for consideration. When a private company owns real estate, some analysts separate the real estate from the operating company. This separation consists of removing any revenues and expenses associated with the real estate from the income statement. If the company is using owned property in its business operations, adding a market rental charge for the use of the real estate to the expenses of the company would produce a more accurate estimate of the earnings of the business operations. Adjusting reported earnings to include a provision for the third-party real estate costs would produce a value of the business operations excluding the owned real estate. Because the real estate is still owned by the entity, its value would represent a nonoperating asset of the entity. These adjustments for the financial impact of owned real estate can be appropriate because the business operations and real estate have different risk levels and growth expectations.

Without these adjustments to eliminate the effect of owned real estate on reported financial performance, the private company may be incorrectly valued. Rent charges for the use of real estate include return "of" and "on" investment components. Depreciation reflects return "of" investment. If real property is owned, depreciation expense would reflect the historical acquisition cost rather than current replacement cost. For owned real estate, the return "on" component of the rental charge would not be included at a market level charge. Application of a capitalization rate for the business operations to an earnings figure that includes some of the benefit from the owned real estate may misvalue the private company. The business operations and real estate may have different levels of risk and expected future growth that require separate valuation. If real estate is leased to the private company by a related entity, the level of expense may require an adjustment to a market rental rate. If real estate is leased from an unrelated party but the rental charge is not at a market level, an adjustment to normalize this expense may also be appropriate.
Example 1 illustrates a case in which a prospective buyer of a private business would need to make adjustments to reported financial results for a more accurate picture of the company's normalized earnings and value under new ownership.

EXAMPLE 1 Able Manufacturing: Normalized Earnings Adjustments

John Smith is the sole shareholder and CEO of Able Manufacturing, Inc. Smith has put Able up for sale in advance of his retirement. James Duvall, a manager in the corporate venturing unit of a public company, is evaluating the purchase of Able. Duvall notes the following facts affecting the most recent fiscal year's reported results:

• Smith's compensation for the year was $1.5 million. Duvall's executive compensation consultant believes a normalized compensation expense of $500,000 for a CEO of a company like Able is appropriate. Compensation is included in selling, general, and administrative expenses (SG&A).

• Certain corporate assets including ranch property and a condominium are in Duvall's judgment not required for the core operations of the company. Fiscal year expenses associated with the ranch and condominium were $400,000, including $300,000 of such operating expenses as property upkeep, property taxes, and insurance reflected in SG&A expenses, and depreciation expense of $100,000. All other asset balances (including cash) are believed to be at normal levels required to support current operations.

• Able's debt balance of $2,000,000 (interest rate of 7.5 percent) was lower than the optimal level of debt expected for the company. As reported interest expense did not reflect an optimal charge, Duvall believes the use of an earnings figure that excludes interest expense altogether, specifically operating income after taxes, will facilitate the assessment of Able.

Duvall uses the reported income statement to show the derivation of reported operating income after taxes, as given below.

<table>
<thead>
<tr>
<th>Able Manufacturing, Inc.</th>
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</thead>
<tbody>
<tr>
<td>As of 31 December 2013</td>
<td>As Reported</td>
</tr>
<tr>
<td>Revenues</td>
<td>$50,000,000</td>
</tr>
<tr>
<td>Cost of goods sold</td>
<td>30,000,000</td>
</tr>
<tr>
<td>Gross profit</td>
<td>20,000,000</td>
</tr>
<tr>
<td>Selling, general, and admin. expenses</td>
<td>5,000,000</td>
</tr>
<tr>
<td>EBITDA</td>
<td>15,000,000</td>
</tr>
<tr>
<td>Depreciation and amortization</td>
<td>1,000,000</td>
</tr>
<tr>
<td>Earnings before interest and taxes</td>
<td>14,000,000</td>
</tr>
<tr>
<td>Pro forma taxes (at 40.0 percent)</td>
<td>5,600,000</td>
</tr>
<tr>
<td>Operating income after taxes</td>
<td>$8,400,000</td>
</tr>
</tbody>
</table>
Based only on the information given, address the following:

1. Identify the adjustments that Duvall would make to reported financials to estimate normalized operating income after taxes; that is, what the operating income after taxes would have been under ownership by Duvall's unit.

2. Based on your answer to Part 1, construct a pro forma statement of normalized operating income after taxes for Able.

**Solution to 1:** First, SG&A should be reduced by $1,500,000 - $500,000 = $1,000,000 to reflect the expected level of salary expense under professional management at a market rate of compensation. Second, the ranch and condominium are nonoperating assets—they are not needed to generate revenues—so expense items should be adjusted to reflect their removal (e.g., through a sale). Two income statement lines are affected: SG&A expenses should be reduced by $300,000 and depreciation and amortization reduced by $100,000.

**Solution to 2:** The pro forma statement of normalized operating income after taxes would be:

<table>
<thead>
<tr>
<th>Able Manufacturing, Inc.</th>
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</thead>
<tbody>
<tr>
<td>Pro Forma Normalized Operating Income after Taxes</td>
</tr>
<tr>
<td>As of 31 December 2013</td>
</tr>
<tr>
<td>Revenues</td>
</tr>
<tr>
<td>Cost of goods sold</td>
</tr>
<tr>
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</tr>
<tr>
<td>Selling, general, and admin. expenses</td>
</tr>
<tr>
<td>EBITDA</td>
</tr>
<tr>
<td>Depreciation and amortization</td>
</tr>
<tr>
<td>Earnings before interest and taxes</td>
</tr>
<tr>
<td>Pro forma taxes (at 40.0 percent)</td>
</tr>
<tr>
<td>Operating income after taxes</td>
</tr>
</tbody>
</table>

In addition to the various adjustments noted above, a variety of other areas exist for possible adjustment that are similar for the valuation of public and private companies (e.g., adjustments related to inventory accounting methods, depreciation assumptions, and capitalization versus expensing of various costs). Private companies may have their financial statements reviewed rather than audited. **Reviewed financial statements** provide an opinion letter with representations and assurances by the reviewing accountant that are less than those in audited financial statements. The preparation of reviewed rather than audited financial statements and other factors suggest a potentially greater need for analyst adjustments to the reported financials of some private companies. **Compiled financial statements** (that are not accompanied by an auditor's opinion letter) suggest an even greater need for analytical adjustments.
4.1.2. Cash Flow Estimation Issues for Private Companies
In addition to earnings normalization, cash flow estimation is an important element of the valuation process. Free cash flow (FCF) is the relevant concept of cash flow in this context. Free cash flow to the firm (FCFF) represents free cash flow at the business enterprise level and is used to value the firm or, indirectly, the firm’s equity. Alternatively, free cash flow to equity (FCFE) can be used to value equity directly.

Cash flow estimation for private companies raises some important challenges, including those related to the nature of the interest being valued, potentially acute uncertainties regarding future operations, and managerial involvement in forecasting.

The nature of assumptions in cash flow estimates depends on a variety of factors. The equity interest appraised and the intended use of the appraisal are key in determining the appropriate definition of value for a specific valuation. The assumptions included in cash flow estimates may differ if a small minority equity interest is appraised rather than the total equity of a business. For example, an investment value standard may lead to different cash flow estimates than a fair value standard related to a financial reporting valuation assignment.

In assessing future cash flow estimates, uncertainty regarding a potentially wide range of future cash flow possibilities also creates challenges for valuation using FCF. Many development-stage companies and some mature companies are subject to significant uncertainties regarding future operations and cash flows. One possible solution involves projecting the different possible future scenarios. For a privately held development-stage company, the possible scenarios could include initial public offering, acquisition, continued operation as a private company, or bankruptcy. For a larger, mature company, the scenarios might be chosen to cover the range of possible levels of growth and profitability.

In valuing an individual scenario, the discount rate chosen should reflect the risk of achieving the projected cash flows in that scenario. The probability of the occurrence of each scenario must also be estimated. The overall value estimate for a company is then a probability-weighted average of the company’s estimated scenario values. Alternatively, the expected future cash flows based on the scenarios could be discounted using a conventional, single discount rate to obtain an overall value estimate. Although the trend is generally to more robust models, in current practice private company valuation more frequently reflects an average or most likely scenario than an explicit multiple scenario analysis.

Managers of private companies generally command much more information about their business than outside analysts. Management may develop cash flow forecasts to be used in a valuation with appraiser input, or appraisers may develop their own forecasts consulting management as needed. The appraiser should be aware of potential managerial biases, such as to possibly overstate values in the case of goodwill impairment testing or understate values in the case of incentive stock option grants. Appraisers should also pay attention to whether projections adequately capture capital needs.

The process for estimating FCFF and FCFE is similar for private and public companies. Revenues and expenses are generally adjusted to reflect the normalized earnings capacity of the private company. For FCFF, operating income after taxes is estimated by removing interest expense on debt and including a pro forma estimate of income taxes on operating income (i.e., EBIT minus estimated taxes, based on normalized earnings). Depreciation expense is added back because it is a noncash expense. A provision for capital expenditures required to replace

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16Some variation in terminology exists. Net cash flow and debt free net cash flow are variations of free cash flow to the firm.
the existing assets is subtracted to support the current level of operations. A provision for any additional capital expenditures required to fund future growth is also subtracted. A provision for incremental working capital required to fund revenue growth is also calculated and subtracted to arrive at FCFF. FCFE is found by subtracting after-tax interest expense from FCFF and adding net new borrowing.

Appraisers may choose between an FCFF and an FCFE approach based on the facts of the case. Some analysts believe that FCFF valuation is practically more robust than FCFE valuation when substantial capital structure changes are in view because the weighted average cost of capital (WACC), the discount rate used in a FCFF approach, is typically less sensitive than the cost of equity, the discount rate used in a FCFE approach, to changes in financial leverage. Apart from such considerations, there may be a tendency for appraisers at the largest firms and investment bankers to favor using FCFF and for appraisers at small firms to favor using FCFE.

EXAMPLE 2 Able Manufacturing: Pro Forma Free Cash Flow to the Firm

Duvall, the manager of the corporate venturing unit introduced in Example 1, has decided to make a bid for Able Manufacturing. Duvall has decided to use an income approach to value Able. As stated in Example 1, Able's debt is $2,000,000. Considering the nature of Able's business, its size, and the financial leverage used by competitors, Duvall has concluded that Able has a low level of debt relative to its capacity and that it will be optimal to increase its debt if Duvall's unit succeeds in purchasing Able. Because of that anticipated change in leverage, Duvall has decided to use an FCFF approach rather than FCFE to value Able.

Based on available information, Duvall makes the following assumptions:

- Long-term growth of revenues and after-tax operating income is 3 percent annually.
- The gross profit margin will remain at 40 percent.
- Depreciation will remain at 1.8 percent of sales.
- SG&A expenses can be maintained at the prior year's level of $3,700,000 at least for two years.
- Working capital equal to 10 percent of revenues is required (e.g., if the increase in revenues is $X from the prior year, additional working capital of 0.10 × $X would be needed).
- Capital expenditures are expected to equal projected depreciation expense (to support current operations) plus 5 percent of incremental revenues (to support future growth).

1. Should Duvall use reported earnings or normalized earnings in estimating FCFF for Able? Explain.
2. Forecast FCFF for Able for the upcoming year (from the perspective of a knowledgeable buyer).

Solution to 1: For the valuation of Able in a purchase transaction, the normalized earnings of Able should be used to estimate FCFF. Normalized earnings would more accurately reflect the income expected by a willing buyer of Able than reported earnings.
Solution to 2: Duvall assumed long-term growth of 3 percent into the foreseeable future. With the $50 million revenue base from the prior year and the 3 percent annual revenue growth, a $1.5 million increase in revenues is forecast when moving from the last historical year to the year ahead. Given depreciation of $927,000 and incremental sales of $1,500,000, forecast capital expenditure sum to $927,000 + 0.05($1,500,000) = $927,000 + $75,000 = $1,002,000. A requirement for incremental working capital of 10 percent of the increase in revenues equates to a $150,000 deduction in calculating free cash flow. Based on these assumptions, free cash flow to the firm of $9,358,800 was calculated as follows.

<table>
<thead>
<tr>
<th>Able Manufacturing, Inc.</th>
<th>Calculation of Next Year’s Projected Free Cash Flow to Firm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues ($50,000,000 X 1.03 = )</td>
<td>$51,500,000</td>
</tr>
<tr>
<td>Cost of goods sold (0.60 X Revenues = )</td>
<td>30,900,000</td>
</tr>
<tr>
<td>Gross profit (Revenue – Cost of goods sold = )</td>
<td>20,600,000</td>
</tr>
<tr>
<td>SG&amp;A expenses (maintained at 2013 level)</td>
<td>3,700,000</td>
</tr>
<tr>
<td>Pro forma EBITDA</td>
<td>16,900,000</td>
</tr>
<tr>
<td>Deprec. and amort. (0.018 X $51,500,000 = )</td>
<td>927,000</td>
</tr>
<tr>
<td>Pro forma earnings before interest and taxes</td>
<td>15,973,000</td>
</tr>
<tr>
<td>Pro forma taxes on EBIT (at 40.0 percent)</td>
<td>6,389,200</td>
</tr>
<tr>
<td>Operating income after tax</td>
<td>9,583,800</td>
</tr>
<tr>
<td>Plus: Depreciation and amortization</td>
<td>927,000</td>
</tr>
<tr>
<td>Less: Capital expendituresa</td>
<td>1,002,000</td>
</tr>
<tr>
<td>Less: Increase in working capitalb</td>
<td>150,000</td>
</tr>
<tr>
<td>Free cash flow to firm</td>
<td>$9,358,800</td>
</tr>
</tbody>
</table>

a As explained in text, $927,000 + 0.05($1,500,000).
b 0.10($51,500,000 – $50,000,000).

4.2. Income Approach Methods of Private Company Valuation

The income approach obtains its conceptual support from the assumption that value is based on expectations of future income and cash flows. The income approach converts future economic benefits into a present value equivalent. For IFRS and US GAAP, assets are defined as probable future economic benefits. This definition provides strong support for the application of the income approach to valuation of an interest in a public or private company.

The three forms of income approach include the free cash flow method (often referred to as the discounted cash flow method in the appraisal community), the capitalized cash flow method, and residual income method (frequently referred to as the excess earnings method in the valuation community).17

• The free cash flow method values an asset based on estimates of future cash flows that are discounted to present value by using a discount rate reflective of the risks associated with the

17The residual income method is sometimes categorized under the asset approach because it involves marking the tangible assets to market and estimating the value of intangible assets including goodwill.
cash flows. For a going concern, this method frequently includes a series of discrete cash flow projections followed by an estimate of the value of the business enterprise as a going concern at the end of the projection period.

- The capitalized cash flow method (also referred to as the capitalized income method or capitalization of earnings method) values a private company by using a single representative estimate of economic benefits and dividing that by an appropriate capitalization rate to derive an indication of value.
- For the valuation of a business enterprise, the excess earnings method consists of estimating the value of all of the intangible assets of the business by capitalizing future earnings in excess of the estimated return requirements associated with working capital and fixed assets. The value of the intangible assets is added to the values of working capital and fixed assets to arrive at the value of the business enterprise.

Whichever income approach method is used, an appropriate required rate of return estimate is needed for discounting expected future cash flows.

4.2.1. Required Rate of Return: Models and Estimation Issues
A variety of factors make estimating a required rate of return for a private company challenging.

- Application of size premiums. In assessing private company valuations, size premiums are frequently used in developing equity return requirements by private company appraisers. This practice seems to be less prevalent in the valuation of public companies. Furthermore, size premium estimates based on public company data for the smallest market cap segments can capture premiums for financial and/or operating distress that may not be relevant to the company being valued.
- Use of the CAPM. Some parties have questioned whether the capital asset pricing model (CAPM) is appropriate for developing discount rate estimates for small private company valuations. In the United States, tax court cases involving private companies with little expectation of ever operating as public companies were one area where the CAPM was rejected. The perceived differences between the typically larger public companies and the smaller private company were key considerations. Small companies that have little prospect of going public or being acquired by a public company may be viewed as not comparable to the public companies for which market-data-based beta estimates are available.
- Expanded CAPM. The expanded CAPM\(^\text{19}\) is an adaptation of the CAPM that adds to the CAPM a premium for small size and company-specific risk.
- Elements of the build-up approach. The build-up approach was introduced in the reading on return concepts. When guideline public companies (public-company comparables for the company being valued) are not available or of questionable comparability, appraisers may rely on a build-up method rather than the CAPM or other models. The build-up method is similar to the expanded CAPM but excludes the application of beta to the equity risk premium. Many view betas that are different from 1.0 as substantially reflecting industry risk factors and thus do not include an industry risk premium in the expanded CAPM. In

\(^{18}\)Size premiums and other issues associated with the development of discount rates are discussed in depth in Pratt and Grabowski (2014), Chapter 14.

\(^{19}\)For more information see Pratt and Grabowski (2014), Chapter 10, where it is referred to as the modified CAPM.
the build-up model, in which beta is implicitly assumed equal to 1.0, an argument exists to include an industry risk adjustment (premium or discount), although there are challenges in measuring industry risk adjustments. As the baseline implementation of the build-up model, we take the model with an industry risk adjustment.

- **Relative debt availability and cost of debt.** Correct estimation of the debt capacity of a private company is another valuation challenge. In calculating a WACC for a valuation based on FCFE, analysts should note that a private company may have less access to debt financing than a similar public company. This lesser access means the private company may need to rely more on equity financing, which would tend to increase its WACC. Furthermore, a private company's typically smaller size could lead to greater operating risk and a higher cost of debt.

- **Discount rates in an acquisition context.** In evaluating an acquisition, finance theory indicates that the cost of capital used should be based on the target company's capital structure and the riskiness of the target company's cash flows; the buyer's cost of capital is not relevant. In the context of acquisitions made by larger more mature companies of smaller riskier target companies, the buyer would be expected to have a lower cost of capital than the target. Both of these practices in general incorrectly transfer value from the buyer to the seller because the buyer would be paying the seller for possible value it brings to a transaction.20

- **Discount rate adjustment for projection risk.** Any lesser amount of information concerning a private company's operations or business model compared with a similar public company introduces greater uncertainty into projections that may lead to a higher required rate of return. As a second area of concern, management of a private company (on whom analysts may need to rely for forecasts) may have less experience forecasting future financial performance. Projections may reflect excessive optimism or pessimism. Any adjustments to a discount rate to account for projection risk or managerial inexperience in forecasting, however, would typically be highly judgmental.

## EXAMPLE 3  Developing a Discount Rate for a Private Company

Duvall and his advisers have decided to use an income approach to value Able Manufacturing.

Because of its years of operating successfully and its owner's conservative nature, Able operated with little debt. Smith explored various sources of debt financing to operate Able with a lower overall cost of capital. Analysis of public companies in Able's industry indicated several guideline public companies for possible use in estimating a discount rate for Able. Duvall and his advisers agreed on the following estimates:

- Risk free rate: Estimated at 4.8 percent.
- Equity risk premium: The parties agreed that a 5 percent equity risk premium was appropriate.21

20 Damodaran (2002).
21 See the reading on return concepts and Chapter 8 in Pratt and Grabowski (2014) for further discussion of the equity risk premium.
• Beta: A beta of 1.1 was estimated based on publicly traded companies in the same industry.
• Small stock premium: The smaller size and less diversified operations suggest greater risk for Able relative to public companies. A small stock premium of 3 percent was included in the equity return calculation for these expected risks.22
• Company-specific risk premium: Assessment of Able indicated that beyond Smith's key role at the company, no other unusual elements created additional risk. A 1 percent company-specific risk adjustment was included.23
• Industry risk premium (build-up method only): The industry risk premium was 0 percent because no industry-related factors were viewed as materially affecting the overall required return on equity estimate.
• Pretax cost of debt: Estimated at 7.5 percent.
• Ratio of debt to total capital for public companies in the same industry: Estimated at 20 percent.
• Optimal ratio of debt to total capital: The ratio was estimated at 19 percent based on discussions with various sources of financing. Able would not be able to achieve the industry capital structure based on its smaller size compared to public companies and the greater risk of its operations as a standalone company.
• Actual ratio of debt to total capital: For Able, the actual ratio was 2 percent.
• Combined corporate tax rate: Estimated at 40 percent.

Based only on the information given, address the following:

1. Calculate the required return on equity for Able using the CAPM.
2. Calculate the required return on equity for Able using the expanded CAPM.
3. Calculate the required return on equity for Able using the build-up method.
4. Discuss the selection of the capital structure weights to use in determining the weighted average cost of capital for Able.
5. Calculate the WACC for Able using the current capital structure and a 14 percent cost of equity.
6. Calculate the WACC for Able based on the optimal capital structure for Able and a 14 percent cost of equity.

Solution to 1: According to the CAPM, Required return on share $i = \text{Current expected risk-free return} + \beta_i \cdot \text{(Equity risk premium)} = 4.8\% + 1.1(5\%) = 10.30\%$.

Solution to 2: The required rate of return is 14.3 percent, which is shown in the following tabular format.

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22 If the CAPM were used to develop the equity required rate of return and similar risks were anticipated for the guideline public companies as for a smaller private company being valued, a small stock premium might not be warranted. As just described, the risk would likely be captured in the betas of the guideline public companies.

23 Estimation of company-specific risk has been a very subjective element of the valuation process. Several valuation professionals have presented methodologies to develop quantitative estimates of company-specific risk. These tools are being vetted in the valuation community.
Able Manufacturing, Inc.
Expanded CAPM: Required Rate of Return on Equity

<table>
<thead>
<tr>
<th>Component</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk-free rate</td>
<td>4.8%</td>
</tr>
<tr>
<td>Plus: Equity risk premium adjusted for beta</td>
<td>5.5</td>
</tr>
<tr>
<td>Plus: Small stock premium</td>
<td>3.0</td>
</tr>
<tr>
<td>Plus: Company-specific risk adjustment</td>
<td>1.0</td>
</tr>
<tr>
<td>Indicated required return on equity</td>
<td>14.3%</td>
</tr>
</tbody>
</table>

*1.1 beta x 5 percent equity risk premium = 5.5 percent.

Solution to 3: The required rate of return is 13.8 percent. Note the absence of a beta adjustment. Note too that the fact that beta (1.1) is close to 1.0 possibly suggests any industry risk adjustment that could be made would be small in magnitude.

Able Manufacturing, Inc.
Build-Up Method: Required Rate of Return on Equity

<table>
<thead>
<tr>
<th>Component</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk-free rate</td>
<td>4.8%</td>
</tr>
<tr>
<td>Plus: Equity risk premium</td>
<td>5.0</td>
</tr>
<tr>
<td>Plus: Small stock premium</td>
<td>3.0</td>
</tr>
<tr>
<td>Plus: Industry risk premium</td>
<td>0.0</td>
</tr>
<tr>
<td>Plus: Company-specific risk adjustment</td>
<td>1.0</td>
</tr>
<tr>
<td>Indicated return on equity</td>
<td>13.8%</td>
</tr>
</tbody>
</table>

Solution to 4: For valuation concerning the possible sale of Able, it is appropriate to assume the weights in the optimal capital structure in calculating WACC because an acquirer would be able and motivated to establish the optimum. The current capital structure of Able involves less debt than the optimal one; thus Able's WACC is currently higher than it needs to be. Note, however, that the weight on debt of similar large public companies may be higher than what is optimal for Able. Large public companies would be expected to have better access to public debt markets. Also, the small size of Able increases its risk relative to larger public companies. These two factors would tend to increase Able's cost of debt relative to a large public comparable and lead to a lower optimal weight of debt compared with such a public company.24

24 The AICPA practice aid, Valuation of Privately-Held-Company Equity Securities Issued as Compensation, (hereafter referred to as the "Stock Practice Aid") was released to provide technical guidance for the valuation of stock in the context of stock option grants and other share-based payments. Paragraph 1.19 notes that "one of the objectives and benefits of becoming a public enterprise is the ability to access the public capital markets, with the associated benefits of a lower cost of both equity and debt capital."
**Solution to 5:** The cost of capital for Able based on the existing capital structure was calculated as follows:

<table>
<thead>
<tr>
<th>Able Manufacturing, Inc.</th>
<th>Calculation of Weighted Average Cost of Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current Capital Structure</strong></td>
<td></td>
</tr>
<tr>
<td>Pre-tax cost of debt</td>
<td>7.5%</td>
</tr>
<tr>
<td>Tax rate complement (1 - Tax rate)</td>
<td>0.60</td>
</tr>
<tr>
<td>After-tax cost of debt</td>
<td>4.5%</td>
</tr>
<tr>
<td>Weight</td>
<td>× 0.02</td>
</tr>
<tr>
<td>Weighted cost of debt</td>
<td>0.1%</td>
</tr>
<tr>
<td>Cost of equity</td>
<td>14.0%</td>
</tr>
<tr>
<td>Weight</td>
<td>× 0.98</td>
</tr>
<tr>
<td>Weighted cost of equity</td>
<td>13.7%</td>
</tr>
<tr>
<td>Weighted average cost of capital</td>
<td>13.8%</td>
</tr>
</tbody>
</table>

**Solution to 6:** The overall cost of capital using the optimal capital structure for Able reflected a higher level of debt financing. The WACC was calculated as follows:

<table>
<thead>
<tr>
<th>Able Manufacturing, Inc.</th>
<th>Calculation of Weighted Average Cost of Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Optimal Capital Structure</strong></td>
<td></td>
</tr>
<tr>
<td>Pre-tax cost of debt</td>
<td>7.5%</td>
</tr>
<tr>
<td>Tax rate complement (1 - Tax rate)</td>
<td>0.60</td>
</tr>
<tr>
<td>After-tax cost of debt</td>
<td>4.5%</td>
</tr>
<tr>
<td>Weight</td>
<td>0.10</td>
</tr>
<tr>
<td>Weighted cost of debt</td>
<td>0.5%</td>
</tr>
<tr>
<td>Cost of equity</td>
<td>14.0%</td>
</tr>
<tr>
<td>Weight</td>
<td>0.90</td>
</tr>
<tr>
<td>Weighted cost of equity</td>
<td>12.6%</td>
</tr>
<tr>
<td>Weighted average cost of capital</td>
<td>13.1%</td>
</tr>
</tbody>
</table>

For early-stage development companies, discount rate estimation concerns are magnified. Very high levels of company-specific risk, for example, may make use of the CAPM problematic. Several lifecycle stages exist with perceived broad ranges of absolute rate of return requirements for companies operating in each stage. Further, there can be uncertainty in classifying a company in a specific lifecycle stage.²⁵

²⁵The AICPA practice aids Assets Acquired in a Business Combination to Be Used in Research and Development Activities: A Focus on Software, Electronic Devices, and Pharmaceutical Industries (hereafter referred to as the "IPRD Practice Aid") and the "Stock Practice Aid" provide descriptive information on various stages in the early lifecycle of development stage companies and estimated return requirements.
4.2.2. Free Cash Flow Method
Free cash flow valuation for private and public companies is substantially similar. For example, in the case of Able Manufacturing, an FCF valuation might involve projecting individually free cash flows for a number of years, finding the present value of those projected free cash flows, followed by finding the present value of a terminal value estimate that captures the business enterprise value at the end of the initial projection period. In principle, discrete free cash flow forecasts should be made until cash flows are expected to stabilize at a constant growth rate. Many practical implementations involve discrete cash flow projections for a period of five years.

To value the business enterprise at the end of the initial projection period, the capitalized cash flow method incorporating a sustainable long-term growth rate is a theoretically preferred method. Some appraisers, however, will calculate the terminal value using pricing multiples developed in the market approach. For a company in a high growth industry, market multiples would be expected to capture rapid growth in the near future and "normal" growth into the indefinite future. Using these multiples to estimate terminal value, the residual enterprise value may not be appropriate if rapid growth was incorporated twice: once in the cash flow projections over the projection period and also in the market multiple used in calculating the residual enterprise value.

4.2.3. Capitalized Cash Flow Method
The capitalized cash flow method (CCM) estimates value based on the expression for the value of a growing perpetuity and is essentially a stable growth (single stage) free cash flow model. The CCM is only occasionally seen in the valuation of private companies—most often for the valuation of smaller private companies. The CCM is rarely used for the valuation of public companies, larger private companies, or in the context of acquisitions or financial reporting. The CCM may be appropriate, however, for valuing a private company in which no projections are available and an expectation of stable future operations exists. If market pricing evidence from public companies or transactions is limited, a CCM valuation may also be a feasible alternative.

For companies that are not expected to grow at a constant rate, FCF valuation using a series of discrete cash flow projections is theoretically preferable to the CCM. The CCM could provide assistance in assessing the discount rate or growth assumptions embedded in value indications from the market approach.

At the firm level, the formula for the capitalized cash flow to the firm is

\[ V_F = \frac{FCFF_1}{WACC - g} \]

where

- \( V_F \) = Value of the firm
- \( FCFF_1 \) = Free cash flow to the firm for next twelve months
- \( WACC \) = Weighted average cost of capital
- \( g \) = Sustainable growth rate of free cash flow to the firm

The value of equity is found as the value of the company less the market value of debt or \( V_F - (\text{Market value of debt}) \). An implicit assumption in using WACC for discounting FCFF in Equation 1 is that a constant capital structure at market values in the future exists.

\[ ^{26} \text{See Pratt and Grabowski (2014), Chapter 4, for further discussion.} \]
The capitalized cash flow method can also be used to value equity directly. In this instance, the inputs for free cash flow would reflect FCFE, and the equity return requirement would be substituted for the WACC:

\[ V = \frac{FCFE}{r - g} \]  

where \( r \) is the required return on equity and \( g \) is the sustainable growth rate of free cash flow to equity. In Equations 1 and 2, the denominator is known as the capitalization rate. Thus, the estimate of value in each is calculated as the forecasted Year 1 FCF divided by the capitalization rate. Example 4 illustrates the application of the CCM.

**EXAMPLE 4  Valuation Using the Capitalized Cash Flow Method**

Duvall and his team are comfortable with the normalized earnings, growth, and discount rate estimated for Able. Detailed projections for Able are not developed by management. Suppose that free cash flow to the firm is expected to grow at 3 percent per year going forward from the level of $9,358,800 forecast in Example 2.

1. Explain the rationale for the use of the capitalized cash flow method in this case.
2. Calculate the value of the equity of Able using the capitalized cash flow method and a WACC of 13.1 percent based on Able's optimal capital structure.
3. Calculate the value of the equity of Able using the WACC of 13.8 percent based on the existing capital structure.
4. Discuss factors leading to the difference in the computed values.

**Solution to 1:** The capitalized cash flow method is appropriate given the assumption that free cash flow to the firm grows at a constant rate (here 3 percent) is accurate. Otherwise, at best it provides a rough value estimate.

**Solution to 2:** With the estimated free cash flow to the firm, a capitalization rate of 10.1 percent (13.1 percent - 3 percent) was applied to derive a valuation indication for the business enterprise. Able's debt balance was subtracted to arrive at an equity value calculated as follows.

---

**Able Manufacturing, Inc. Capitalized Cash Flow Method—Optimal Capital Structure**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free cash flow to firm</td>
<td>$9,358,800</td>
</tr>
<tr>
<td>Weighted average cost of capital</td>
<td>13.1%</td>
</tr>
<tr>
<td>Long-term growth rate</td>
<td>3.0%</td>
</tr>
<tr>
<td>Capitalization rate</td>
<td>10.1%</td>
</tr>
<tr>
<td>Indicated value of invested capital</td>
<td>$92,661,386</td>
</tr>
<tr>
<td>Less: Debt capital (actual, assumed to equal market value)</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>Indicated value of equity</td>
<td>$90,661,386</td>
</tr>
</tbody>
</table>
Solution to 3: This calculation is similar to the one in the Solution to 2 except for the use of a capitalization rate of 10.8 percent (13.8 percent – 3 percent).

<table>
<thead>
<tr>
<th>Able Manufacturing, Inc.</th>
<th>Capitalized Cash Flow Method—Existing Capital Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free cash flow to firm</td>
<td>$9,358,800</td>
</tr>
<tr>
<td>Weighted average cost of capital</td>
<td>13.8%</td>
</tr>
<tr>
<td>Long-term growth rate</td>
<td>3.0%</td>
</tr>
<tr>
<td>Capitalization rate</td>
<td>10.8%</td>
</tr>
<tr>
<td>Indicated value of invested capital</td>
<td>86,655,556</td>
</tr>
<tr>
<td>Less: Debt capital</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Indicated value of equity</td>
<td>$84,655,556</td>
</tr>
</tbody>
</table>

Solution to 4: The low level of debt in the existing capital structure results in a higher WACC and a lower valuation conclusion for Able relative to the optimal capital structure.

4.2.4. Excess Earnings Method

In a business valuation context, the excess earnings method (EEM) involves estimating the earnings remaining after deducting amounts that reflect the required returns to working capital and fixed assets (i.e., the tangible assets). This residual amount of earnings (i.e., "excess earnings") is capitalized by using the growing perpetuity formula from the CCM to obtain an estimate of the value of intangible assets. Generally, the EEM has been used to value intangible assets and very small businesses when other such market approach methods are not feasible. For valuing the entire business, the values of working capital and fixed assets are added to the capitalized value of intangibles.

Applying the EEM to value a business enterprise would involve the following steps:

1. Estimate values of working capital and fixed assets (typically, fair value estimates are used). Suppose these are €200,000 and €800,000, respectively.
2. Determine the normalized earnings of the business enterprise. Suppose normalized earnings are €120,000 for the year just ended.
3. Develop discount rates for working capital and fixed assets. Working capital is viewed as the lowest risk and most liquid asset with the lowest required rate of return. Fixed assets require a somewhat greater rate of return. Intangible assets, given their limited liquidity and high risk, often require the highest return. Suppose the required returns on working capital and fixed assets are 5 percent and 11 percent, respectively.
4. Calculate required returns associated with working capital and fixed assets and subtract the required returns on working capital and fixed assets from the normalized earnings of the business enterprise to estimate the residual income; this residual income, if any, must reflect the value associated with intangible assets. In this case, residual income is €120,000 – 0.05(€200,000) – 0.11(€800,000) = €22,000. Assume that residual income grows at 3 percent per year.
5. Estimate discount rate and capitalization rate required for the valuation of the intangible assets. This estimate typically represents all intangible assets. The details of such a calculation are outside the scope of this reading; assume the discount rate is 12 percent.

6. Value intangible assets of the enterprise using the formula for a growing perpetuity. The total value of intangible assets is \((1.03)(€22,000)/(0.12 - 0.03) = 251,778\). (Because €22,000 is associated with normalized income for the most recent year, it is increased by its assumed 3 percent growth rate to obtain a forecast of the year ahead residual income.)

7. Total of working capital, fixed assets, and intangibles equals the value of the business. The EEM estimate would be €200,000 + €800,000 + €251,778 = €1,251,778.

As mentioned, the EEM is only rarely used in pricing entire private businesses, and then only small ones. Some have viewed the specific return requirements for working capital, tangible assets, and the residual income associated with intangible assets as not readily measurable. For financial reporting, the concept of residual income is an important element of intangible asset valuations and has wide acceptance. Residual income is the subject of significant discussion among appraisers who perform purchase price allocation valuations of intangible assets pursuant to IFRS 3R or ASC 805 (formerly SFAS No. 141R). An analyst considering intangible asset amortization and goodwill impairment issues would benefit from an understanding of residual income concepts. Interested readers are referred to two resources—\"The Identification of Contributory Assets and the Calculation of Economic Rents\" issued by The Appraisal Foundation and the \"IPRD Practice Aid\"—for further explanation of the concept and the valuation of intangible assets using residual income.

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27 Significant judgment is associated with many of these estimates. If a weighted average cost of capital for the business enterprise has been calculated, a discount rate for intangible assets can be estimated. With values for working capital and fixed assets, discrete return requirements can be developed for these asset groups based on market return levels, borrowing costs, and other factors. With the WACC known and estimates for discount rates on working capital and fixed assets, the discount rate for intangible assets can be estimated as the amount that equates the WACC with the weighted values of working capital, fixed assets, and intangible assets. The best practice guide, The Identification of Contributory Assets and Calculation of Economic Rents, provides a detailed discussion of this process.

28 Valuations under ASC 805 and IAS 3R will typically consider separate intangible assets, such as customer relationships, technology, trade names, and the assembled work force, among others. Typically, only one or two intangible assets are valued based on residual income. Also, acquired intangible assets are valued based on their economic life rather than into perpetuity. Although overall customer relationships may grow over time, the customers acquired at the time of acquisition will decline over time.

29 Valuation professionals performing valuations of intangible assets for IAS 38 or ASC 805 often estimate return requirements for the various assets of a business enterprise. Individual discount rate estimates for each asset class can be compared to the WACC for an enterprise to confirm the reasonableness of the individual estimates. For further discussion, see the Appraisal Foundation's best practice guide, \"The Identification of Contributory Assets and Calculation of Economic Rents.\"

4.3 Market Approach Methods of Private Company Valuation

The market approach uses direct comparisons to public companies and acquired enterprises to estimate the fair value of an equity interest in a private company. Three major variations of the market approach exist:

- **The guideline public company method (GPCM)** establishes a value estimate based on the observed multiples from trading activity in the shares of public companies viewed as reasonably comparable to the subject private company. The multiples from the public companies are adjusted to reflect differences in the relative risk and growth prospects of the subject private company compared with the guideline public companies.

- **The guideline transactions method (GTM)** establishes a value estimate based on pricing multiples derived from the acquisition of control of entire public or private companies that were acquired. Whereas GPCM uses a multiple that could be associated with trades of any size, GTM uses a multiple that specifically relates to sales of entire companies.

- **The prior transaction method (PTM)** considers actual transactions in the stock of the subject private company. The actual price paid for shares or the pricing multiples implied by past transactions in the stock can be used for this method.

Because the market approach relies on data generated in actual market transactions, some consider it to be conceptually preferable to the income- and asset-based approaches for private company valuation. In the United States, tax courts assessing private company valuations have generally stated a preference for valuation based on market transactions although they often accept valuations based on the income approach. ASC 820 also presents a fair value hierarchy that gives the highest priority to market-based evidence. The primary assumption of the market approach is that transactions providing pricing evidence are reasonably comparable to the subject company.

A primary challenge in using the market approach is finding comparable companies and accurately assessing their pricing. All of the company-specific factors noted previously may lead to different levels of expected risk and growth for a private company relative to a public company. Market multiples reflect both expected risk and growth. Risk and growth assumptions should be extracted and multiples adjusted to reflect any differences of the subject company vis-à-vis the chosen comparable(s). The stock-specific factors associated with private companies may create additional uncertainties regarding levels of risk and growth.

The pricing of shares in public companies reflects stock price volatility as a result of, in part, their ready marketability. Rapid movements in the stock prices of public companies can lead to changes in pricing multiples that often serve as a basis for private company valuations.

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31 ASC 820 states that “To increase consistency and comparability in fair value measurements and related disclosures, the fair value hierarchy prioritizes the inputs to valuation techniques used to measure fair value into three broad levels. The fair value hierarchy gives the highest priority to quoted prices (unadjusted) in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). ASC 820 notes that “The availability of inputs relative to the asset or liability and the relative reliability of the inputs might affect the selection of the valuation technique. However, the fair value hierarchy prioritizes the inputs to valuation techniques, not the valuation techniques.” This last statement would suggest that the appropriate valuation approach would be dependent on the facts and circumstances unique to a particular valuation.
Interests in private companies have much more limited marketability and often require more extended time periods to completely sell. The extended time period to sell such an interest in full and the likely movement of pricing multiples over the sale period create uncertainty in the determination of a pricing multiple and thus in the final value conclusion.

Factors for the identification of guideline companies are similar for public and private companies. Key factors include industry membership, form of operations, trends, and current operating status, among others. As previously noted, lifecycle and size differences may create significant challenges in applying the market approach.

Public and private company analysis may differ in the financial metrics used in the valuation process. Price-to-earnings methods are frequently cited in the valuation of public companies, with other multiples considered as well. For larger mature private companies, pricing multiples based on EBITDA and/or EBIT are frequently seen. EBITDA is best compared with the **market value of invested capital (MVIC)**, defined as the market value of debt and equity, in forming the valuation metric. With a calculation of MVIC for a private company, the value of debt can be subtracted to produce an estimate of equity value. As current transaction market values for debt are not available in many cases, some estimate of the market value of debt is needed. The use of the face value of debt as an estimate may be acceptable in many situations in which debt represents a small fraction of overall financing and operations are stable. For companies with highly leveraged financial conditions and/or significant volatility expected in future financial performance, the valuation of equity as the residual obtained by subtracting the face value of debt from the value of the business enterprise is frequently not appropriate. Estimates of market value based on debt characteristics, known as matrix prices, are an alternative in such cases.

For many very small private companies with limited asset bases, net income-based multiples may be more commonly used than EBITDA multiples. For extremely small companies, multiples of revenue may even be commonly applied. This convention considers the likely absence of meaningful financial data and the greater impact and subjectivity associated with such items as owner compensation.

Nonfinancial metrics may be an appropriate means of valuation for certain industries. These metrics would probably best be used in addition to financial metrics. Significant reliance on these metrics would be appropriate only if the nonfinancial measure is generally accepted within the industry. Examples of nonfinancial metrics include price per subscriber in cable and price per bed for hospital and skilled nursing and other healthcare facilities.

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32 In addition to MVIC, other similar terms include enterprise value (EV), business enterprise value (BEV), and firm value. Definitions for enterprise value vary but most frequently start with MVIC and subtract any cash and cash equivalents. BEV is typically synonymous with EV.

33 As noted in the "Stock Practice Aid" and observed in the capital markets, debt may not always be worth its face or par value because of repayment risk. Highly leveraged companies and/or companies with significant volatility of financial performance may have debt valued at significant discounts from face value. In these cases, option pricing theory can be used to value each debt and equity instrument as a separate call option on the business enterprise value of the company. Debt would be a senior call option with priority to payment of the business enterprise up to its face value and any unpaid interest. Preferred stock, common stock, and options would all represent different options with a call on the enterprise value. This concept is discussed in some depth in the "Stock Practice Aid."
4.3.1. Guideline Public Company Method

In private company valuation as has been noted, valuation based on multiples of similar public companies is often referred to as the guideline public company method (GPCM). The valuation process is essentially similar for a public or a private company. A group of public companies is identified, the relevant pricing multiples for the guideline companies are derived, and adjustments to the multiples reflecting the relative risk and growth prospects of the subject company relative to the publicly traded companies are made. For a private company, this method would lead to a conclusion of value. For a public company, application of this method helps assess over- or under-valuation of a company relative to similar companies at a specific point in time.

The primary advantage of this method is the potentially large pool of guideline companies and the significant descriptive, financial, and trading information available to the analyst/appraiser. Disadvantages include possible issues regarding comparability and subjectivity in the risk and growth adjustments to the pricing multiple.

Control premiums may be used in the valuation of a controlling interest in a company. Defined in the International Glossary of Business Valuation Terms (IGBVT), a control premium is an amount or a percentage by which the pro rata value of a controlling interest exceeds the pro rata value of a noncontrolling interest in a business enterprise, to reflect the power of control. For the valuation of a controlling interest, a control premium has often been added if the value is derived from the GPCM. The trading of interests in public companies typically reflects small blocks without control of the entity. Given this information, many but not all believe the resulting pricing multiples do not reflect control of the entity. 34

A control premium adjustment may be appropriate depending on the specific facts. Historically, control premiums have been estimated based on transactions in which public companies were acquired. Several factors require careful consideration in estimating a control premium.

- **Type of transaction.** Some transaction databases classify acquisitions as either financial or strategic transactions. A strategic transaction involves a buyer that would benefit from certain synergies associated with owning the target firm. These synergies could include enhanced revenues, cost savings, or other possible benefits. A financial transaction involves a buyer having essentially no material synergies with the target. As examples, the purchase of a private company by a company in an unrelated industry or by a private equity firm would typically be a financial transaction. Compared with financial transactions, control premiums for an acquisition by a strategic buyer are typically larger because of the expected synergies.

- **Industry factors.** Industry sectors with acquisition activity are considered to be "in-play" at a valuation date; that is, pricing of public companies in the sector may reflect some part of a

34 As of mid-2013, The Appraisal Foundation was preparing a document ("The Measurement and Application of Market Participant Acquisition Premiums") proposing major changes to make practice among appraisers more consistent in this area. In its draft form, the document was recommending that any control premium be justified based on an analysis of projected cash flows after an acquisition and, when justified, that control premiums be calculated at the MVIC rather than the equity level. New terminology in the area was also being discussed.
possible control premium in the share prices. Control premiums measured at a date significa-
cantly before a valuation date might reflect a different industry environment from that of
the valuation date.

- Form of consideration. Transactions involving the exchange of significant amounts of stock
(as opposed to all-cash transactions) might be less relevant as a basis of measuring a control
premium because of the possibility that acquiring companies time such transactions during
periods when their management perceives that shares of their company are overvalued in
the marketplace.

The multiple resulting from applying a control premium to pricing multiples from pub-
licly-traded companies should be assessed for reasonableness.\(^{35}\) Suppose that a public com-
pany, which is viewed as comparable to a private company being appraised, was acquired at
an 8x pricing multiple. A control premium of 30 percent control is paid based on the stock's
price prior to the acquisition. Pricing multiples for guideline public companies, however, are
10x at the valuation date. The application of a 30 percent control premium would suggest a
13x pricing multiple. The dramatically different value indications resulting from applying a
8x transaction multiple and a 13x multiple suggest the need for further investigation before
accepting the 13x multiple. Comparability issues or dramatic pricing changes may be factors
leading to this material difference.

EXAMPLE 5 Valuation Using Guideline Public Company Method

Duvall decides to use the GPCM to develop a value indication for Able that is inde-
pendent of the FCF indication he is also pursuing. Duvall believes that many acquirors
apply a multiple of market value of invested capital to EBITDA to value companies in
Able's industry. A search for comparable public companies indicated several companies
that might serve as guidelines or benchmarks for valuing Able; however, all of these were
much larger than Able. Duvall's research on guideline public companies indicates the
following:

- The MVIC to EBITDA multiples of such public companies averages 7.0.
- A combined downward adjustment of 15 percent for relative risk and growth charac-
teristics of Able compared with the guideline public companies suggests an adjusted
MVIC to EBITDA multiple of 5.95, rounded to 6, for Able.
- A control premium of 20 percent was reported in a single strategic acquisition from
several years ago. The transaction involved an exchange of stock with no cash con-
sideration paid.

\(^{35}\) Appraisers performing private company valuations incorporate the control premium into the valuation
calculation in a variety of different presentations. Many appraisers would not adjust the pricing multiple
for a control premium. Rather, appraisers often use a multiple based on the guideline public companies
and include a separate addition of the control premium in the calculation for the value estimate. The
approach incorporating a control premium adjustment to the pricing multiple facilitates reconciliation
of pricing multiples from public companies to those observed in transactions.
• Duvall is not aware of any strategic buyers that might incorporate synergies into their valuation of Able.
• Normalized EBITDA is $16,900,000.
• Market value of debt capital is $2,000,000.

1. Explain the elements included in the calculation of a pricing multiple for Able.
2. Calculate the pricing multiple appropriate for Able including a control premium adjustment.
3. Calculate the value of Able using the guideline public company method.

Solution to 1: The value of Able in relation to a possible acquisition is desired. Pricing multiples from guideline public companies provide a starting point for the development of a pricing multiple. The pricing multiples for the guideline public companies must be adjusted to reflect any differences in risk and growth expectations for Able compared with the guideline public companies. As a final element, the pricing multiple should consider the inclusion of a control premium given the possible sale of Able.

Solution to 2: Considering the absence of any strategic buyers, in the present instance a control premium of 0 percent is a reasonable baseline. There was a single strategic transaction for the acquisition of a public company several years prior to the acquisition. The age of the transaction, however, creates concern regarding the relevance of the indicated control premium.

Based on the information provided, the MVIC to EBITDA multiple for Able can be taken to approximately 6, reflecting no control premium adjustment.

<table>
<thead>
<tr>
<th>Able Manufacturing, Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development of Pricing Multiple for Guideline Public Company Method</td>
</tr>
</tbody>
</table>

| Initial MVIC to EBITDA from public companies | 7.0 |
| Relative risk and growth adjustment for Able | -15% (1.05) |
| Multiple before control adjustment | 5.95 |
| Control premium adjustment* | 0% 0 |
| Multiple after control adjustment | 5.95 |
| Rounded to | 6.0 |

*Control premiums are measured based on the value of the equity or the MVIC of public companies before and after an acquisition. When an equity control premium has been estimated, a valuation on an MVIC basis (as is often the case in a transaction setting) would require an adjustment to the equity control premium. In the example, no control premium was concluded to be appropriate. Assuming an equity control premium of 30 percent was deemed appropriate based on different facts, a normalized capital structure of one-third debt and two-thirds equity would suggest a 20 percent control premium (two-thirds of 30 percent) if applied to an MVIC-multiple-based value from guideline public companies. Control premium data vary markedly, and divergence in practice exists in this area of valuation.
Solution to 3:

<table>
<thead>
<tr>
<th>Able Manufacturing, Inc.</th>
<th>Valuation Using Guideline Public Company Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normalized EBITDA</td>
<td>$16,900,000</td>
</tr>
<tr>
<td>Pricing multiple</td>
<td>6.0</td>
</tr>
<tr>
<td>Indicated value of invested capital</td>
<td>101,400,000</td>
</tr>
<tr>
<td>Less: Debt capital</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Indicated value of equity</td>
<td>$99,400,000</td>
</tr>
</tbody>
</table>

4.3.2. Guideline Transactions Method

The guideline transactions method (GTM) is conceptually similar to the guideline public company method. Unlike the GPCM, the GTM uses pricing multiples derived from acquisitions of public or private companies. Transaction data available on publicly reported acquisitions is compiled from public filings by parties to the transaction with the regulatory bodies such as the Financial Conduct Authority in the United Kingdom or the Securities and Exchange Commission (SEC) in the United States. Data on transactions not subject to public disclosure may be available from certain transaction databases. As information may be limited and is generally not readily confirmed, many appraisers challenge the reliability of this data. All other things being equal, transaction multiples would be the most relevant evidence for valuation of a controlling interest in a private company.

A number of factors need to be considered in assessing transaction-based pricing multiples.

- **Synergies.** The pricing of strategic acquisitions may include payment for anticipated synergies. The relevance of payments for synergies to the case at hand merits consideration.
- **Contingent consideration.** Contingent consideration represents potential future payments to the seller that are contingent on the achievement of certain agreed-on occurrences. Obtaining some form of regulatory approval or achieving a targeted level of EBITDA are two types of contingencies. Contingent consideration may be included in the structure of acquisition. The inclusion of contingent consideration in the purchase price paid for an enterprise often reflects uncertainty regarding the future financial performance of the entity. ASC 805 changed the requirements for measuring and reporting contingent consideration in the context of a business combination.
- **Noncash consideration.** Acquisitions may include stock in the consideration. The cash equivalent value of a large block of stock may create uncertainty regarding the transaction price. For example, the 2001 merger of America Online (AOL) and Time Warner Corporation was a stock swap that occurred at a time when AOL stock was trading based on expectations of significant future growth. In 2002, the combined company reported two charges for goodwill impairment expense totaling $99 billion. The level of this impairment expense raises questions regarding whether the initial transaction price reflected temporary overvaluation of AOL stock relative to its intrinsic value.
• **Availability of transactions.** Meaningful transactions for a specific private company may be limited. The relevance of pricing indications from a transaction that occurred a significant period prior to a valuation date can be challenged—especially if evidence indicates changes in the subject company, industry, or economy between the transaction date and the valuation date.

• **Changes between transaction date and valuation date.** Unlike the guideline public company method, which develops pricing multiples based on stock prices at or very near the valuation date, the guideline transactions method relies on pricing evidence from acquisitions of control of firms at different points in the past. In many industries, transactions are limited, and transactions several months or more from a valuation date may be the only transaction evidence available. Changes in the marketplace could result in differing risk and growth expectations requiring an adjustment to the pricing multiple.

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**EXAMPLE 6 Valuation Using Guideline Transactions Method**

In addition to the income approach and the guideline public company method, the guideline transactions method was considered and applied. Duvall and his advisers noted:

- Pricing multiples from several recent acquisitions of private companies in the industry indicated a MVIC to EBITDA multiple of 6.0.
- Several of the acquisitions studied were viewed as similar to Able because of similar revenue bases and limited diversification. The overall risk and growth characteristics of the acquired companies and Able were viewed as similar.

1. Discuss differences between pricing multiples from the guideline transactions and guideline public company methods.
2. Explain the calculation of a pricing multiple using the guideline transactions method.
3. Calculate the pricing multiple appropriate for Able.
4. Calculate the value of Able using the guideline transactions method.

**Solution to 1:** The guideline transactions method considers market transactions involving the acquisition of the total equity of companies. As such, the pricing multiple more accurately reflects the value of total companies. Pricing multiples from guideline public companies typically reflect public trading in small blocks of stock. The multiples may not reflect the value of the total equity of the public companies.

**Solution to 2:** The pricing multiples from acquisitions are the basis for the pricing multiple. The risk and growth prospects of the acquired companies and the subject private company are assessed, and an adjustment factor is applied. As the multiples reflect acquisitions of total equity, they reflect the value of total equity. No control premium adjustment is necessary.
Solution to 3: Calculation of the initial pricing multiple follows:

Able Manufacturing, Inc.
Development of Pricing Multiple
for Guideline Transactions Method

<table>
<thead>
<tr>
<th>Description</th>
<th>Multiplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial MVIC to EBITDA from transactions</td>
<td>6.0</td>
</tr>
<tr>
<td>Relative risk and growth adjustment for Able</td>
<td>0%</td>
</tr>
<tr>
<td>Indicated multiple</td>
<td>6.0</td>
</tr>
<tr>
<td>Rounded to</td>
<td>6.0</td>
</tr>
</tbody>
</table>

Solution to 4: Valuation using the guideline transactions method is similar to that from the guideline public company method except any control premium is already incorporated in the transaction multiple.

Able Manufacturing, Inc.
Guideline Transactions Method

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBITDA</td>
<td>$16,900,000</td>
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<tr>
<td>Pricing multiple</td>
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</tr>
<tr>
<td>Indicated value of equity</td>
<td>$99,400,000</td>
</tr>
</tbody>
</table>

4.3.3. Prior Transaction Method

The prior transaction method (PTM) considers actual transactions in the stock of the subject company. Valuation can be based on either the actual price paid or the multiples implied from the transaction. The PTM is generally most relevant when considering the value of a minority equity interest in a company. For many private companies, there are no or very limited transactions in the stock.

If available, timely, and arm's length, the PTM would be expected to provide the most meaningful evidence of value. The PTM provides less reliable valuation evidence if transactions are infrequent. Also, uncertainty regarding the motivations of the parties, or special circumstances surrounding a prior transaction, can create uncertainty regarding the reliability of PTM data. Transactions at different points in time may require significant adjustment. As an example, an early-stage venture capital-funded company experiences rapid value increases due to successful execution of their development plans. A transaction prior to the achievement of a significant value event might not provide meaningful value insights at a subsequent date.36

36 The PTM can provide insights on the value of development-stage entities when revenues and cash flows are highly speculative. Many development-stage companies fund development activities through several rounds of equity financing. As such, there may be a series of prior transactions providing valuation evidence. The equity financing often involves the sale of preferred stock with liquidation preferences and rights to convert to common stock. As development stage entities often have complex capital structures with different classes of equity securities with differing rights, significant adjustments are required. This process is complex and requires significant judgment. The AICPA Toolkit Valuation of Privately-Held Equity Securities Issued at Compensation provides further insights.
4.4. Asset-Based Approach to Private Company Valuation

The principle underlying the asset-based approach is that the value of ownership of an enterprise is equivalent to the fair value of its assets less the fair value of its liabilities. Of the three approaches to valuation, the asset-based approach (also referred to as the cost approach by many in the valuation profession) is generally considered to be the weakest from a conceptual standpoint for valuing an ongoing business enterprise.

The asset-based approach is rarely used for the valuation of going concerns. Reasons include the limited market data available to directly value intangible assets, difficulties in valuing certain tangible assets (such as special-use plant and equipment), and the more readily available information to value operating companies as an integrated whole rather than on an asset-by-asset basis.

An operating company with nominal profits relative to the values of assets used and without prospects for doing better in the future might best be valued using an asset-based approach assuming the winding up of operations. In this case, its value as a going concern might be less than its value in liquidation (the value that could be realized through the liquidation of its assets) because the assets might be redeployed by buyers to higher-valued uses. Resource and financial companies might also be valued based on an asset-based approach. Banks and finance companies largely consist of loan and securities portfolios that can be priced based on market variables. In such cases, a summation of individual asset value estimates may give a lower-bound-type estimate of the overall value of the company.

The asset-based approach may be appropriate for the valuation of holding (investment) companies, such as real estate investment trusts (REITs) and closed-end investment companies (CEICs). For these entities, the underlying assets typically consist of real estate or securities that were valued using the market and/or income approaches. An asset-based approach may also be appropriate for very small businesses with limited intangible value or early-stage companies.

For the valuation of an interest in a pooled investment vehicle, certain factors may suggest a value different from the net asset value per share. Management fees and carried interest may lead to an expectation of proceeds available to an investor and a value estimate that is less than the net asset value per share. The relative growth and profit as a result of management expertise may also merit an upward or downward adjustment to the net asset value. Other factors, such as the possible effect of tax attributes (tax basis in the assets held by the entity) and diversification, and professional management benefits may also affect value.

Example 7 illustrates four definitions of values that a private business appraiser used to value the financial services subsidiary of a public company.

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37 Carried interest or "carry" represents a share of any profits that is paid to the general partner (manager) of an investment partnership, such as a private equity or hedge fund, as a form of compensation designed to be an incentive to the manager to maximize performance of the investment fund. A manager's carried interest allocation is in addition to any investment that the manager may have in the investment partnership. To receive a carried interest, the manager typically must first return all capital contributed by the investors, and in certain cases the fund must also return a previously agreed-on rate of return (the hurdle rate) to investors.
EXAMPLE 7  Valuation of a Financial Services Company

In a valuation of a financial services company, a business appraiser estimated four values for the company using four different approaches, which he characterized as follows:

1. **Discounted cash flow approach.** The appraiser estimated value as the present value of projected FCFE for the next 10 years to which was added the present value of the capitalized value of the 11th-year cash flow.

2. **Market approach.** The appraiser used the GPCM with price-to-cash flow, price-to-book, and price-to-earnings multiples, and made adjustments to reflect differences in risk and growth, applying the resulting multiples to the company's cash flow, book value, and earnings, respectively.

3. **Adjusted book value approach, going-concern basis.** The appraiser adjusted the book values of assets and liabilities to better reflect market values and obtained the adjusted book value of equity, which was the estimate of value based on this approach. The definition of market value used was: "Market value is ... the most probable price that an asset should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus."

4. **Adjusted book value approach, orderly liquidation basis.** The appraiser adjusted the book values of assets and liabilities to better reflect orderly liquidation values and obtained the liquidation book value of equity, which was the estimate of value based on this approach. The definition of orderly liquidation value used was: "Orderly liquidation value [is] the price [the asset] would bring if exposed for sale on the open market, with a reasonable time allowed to find a purchaser, both buyer and seller having knowledge of the uses and purposes to which the asset is adapted and for which it is capable of being used, the seller being compelled to sell and the buyer being willing, but not compelled, to buy."

State and explain which of the above methods would be expected to produce the lowest value estimate.

**Solution:** Methods 1, 2, and 3 recognize a going-concern value for the company; method 4 does not, so the value estimates under 4 should be the lowest. In general, using individual assets in a coordinated way in the operation of a business as implicitly assumed in 1 and 2 should increase value. Between 3 and 4, the element of the seller being compelled to sell should result in 4 being the lowest estimate.

4.5. Valuation Discounts and Premiums

Control and/or marketability adjustments are often included in valuations of interests in private companies. This area is one of the primary differences in the valuation of interests in private companies compared with public companies. The following chart is adapted from
Hitchner\textsuperscript{38} and presents the relationship of these concepts and other concepts discussed in this reading. As the chart indicates, the inclusion of discounts depends, in part, on the starting point of a valuation.

Starting at the top of the chart, the highest possible value indication for an entity would be its investment value to the optimal synergistic buyer. This value reflects a controlling interest assumption, which also increases value. Below the control value of the enterprise to a strategic buyer is the value of the enterprise to a standalone (financial) buyer. In this case, specific synergies to the buyer are not available. The "As If Freely Traded/Minority Interest Value" represents the value of a noncontrolling equity interest that is readily marketable. This value would be equivalent to the price at which most publicly traded companies trade in the market. The lowest level of value is the "Nonmarketable/Minority Interest Value." This value reflects the reduction to value associated with the lack of control and ready marketability associated with small equity interests in private companies.

The application of control premiums and lack of control and marketability discounts is fact-specific, and estimates may vary dramatically. Variations in estimated discounts and premiums may relate to the challenging comparability of the data used to quantify discounts. Discounts may also vary based on interpretation of the importance of the size of shareholding

\textsuperscript{38}Hitchner (2006).
and distribution of shares, the relationship of parties, state law affecting minority shareholder rights, and other factors.

The timing of a potential liquidity event is one key consideration. An interest in a private company that is pursuing either an IPO or a strategic sale might be valued with relatively modest valuation discounts. An equity interest in a private company that has not paid dividends and has no prospect for a liquidity event would likely require much higher valuation discounts.

4.5.1. Lack of Control Discounts

A discount for lack of control (DLOC) is an amount or percentage deducted from the pro rata share of 100 percent of the value of an equity interest in a business to reflect the absence of some or all of the powers of control.\(^{39}\)

Lack of control discounts may be necessary for valuing noncontrolling equity interests in private companies if the value of total equity was developed on a controlling interests basis. The lack of control may be disadvantageous to an investor because of the inability to select directors, officers, and management that control the operations of an entity. Without control, an investor is unable to distribute cash or other property, to buy and sell assets, to obtain financing, and to bring about other actions, which could affect the value of the investment, the timing of distributions, and the ultimate return to the investor.

Although an interest may lack control, the effect on value of the lack of control is uncertain. The US SEC suggests that evidence of "disproportionate returns" is important in supporting the application of lack of control discounts. Disproportionate returns would result when control shareholders increase their returns through above-market compensation and other actions that reduce the returns available to minority shareholders. For private companies seeking a liquidity event through an IPO or strategic sale of the entity, the likelihood of actions by a control group that reduce the earnings of an entity is reduced.

Data available for estimating a lack of control discount are limited, and interpretations can vary markedly. For interests in operating companies, control premium data from acquisitions of public companies had been used frequently in the past. The factors cited earlier in this reading on the calculation of a control premium should also be considered for estimating a lack of control discount. Noting the uncertainties in demonstrating the adverse financial impact of the lack of control of an interest and finding appropriate data to measure the lack of control, the equation used frequently in the calculation of a lack of control discount is:

\[
DLOC = 1 - \frac{1}{1 + \text{Control premium}}. 
\]

For example, if a 20 percent control premium is assumed, the associated DLOC is \(1 - (1/1.20)\) = 0.167 or 16.7 percent.

The following sets forth the typical application of DLOC based on the different methods of valuation.

<table>
<thead>
<tr>
<th>Method</th>
<th>Basis of Valuation</th>
<th>DLOC Expected?</th>
</tr>
</thead>
<tbody>
<tr>
<td>GTM</td>
<td>Control</td>
<td>Yes</td>
</tr>
<tr>
<td>GPCM</td>
<td>Typically minority</td>
<td>No</td>
</tr>
<tr>
<td>CCM/FCF</td>
<td>Control or minority</td>
<td>Depends on cash flows</td>
</tr>
</tbody>
</table>

\(^{39}\)International Glossary of Business Valuation Terms.
Valuation indications from the CCM and FCF methods of the income approach are generally agreed to be a controlling interest value if cash flows and the discount rate are estimated on a controlling-interest basis. If control cash flows are not used and/or the discount rate does not reflect an optimal capital structure, the resulting value is generally believed to reflect a lack of control basis.

Some analysts believe trading in REITs and CEICs may provide a basis for the estimation of lack of control discounts as well. As individual REITs and CEICs may trade at premiums, discounts, or near their net asset value at different points in time, the use of this data to quantify the lack of control is challenging and outside the scope of this reading.

4.5.2. Lack of Marketability Discounts

A discount for lack of marketability (DLOM) is an amount or percentage deducted from the value of an ownership interest to reflect the relative absence (compared with publicly traded companies) of a ready market for a company's shares. Lack of marketability discounts are frequently applied in the valuation of noncontrolling equity interests in private companies. Although a DLOM is different from a DLOC, the two discounts are often linked; that is, if a valuation is on a noncontrolling interest basis, a lack of marketability discount is typically appropriate. Key variables affecting a marketability discount include prospects for liquidity, contractual arrangements affecting marketability (such as lock-up agreements), restrictions on transferability, pool of potential buyers, risk or volatility, size and timing of distributions (duration of asset), uncertainty of value, and concentration of ownership. At a minimum, an interest that lacks marketability involves a potential opportunity cost associated with the inability to redeploy investment funds.

Restricted stock transactions and IPOs are two types of data typically used to quantify lack of marketability discounts. Although generally agreed by valuation professionals as the best available data to support discounts, these sources are subject to significant differences in their interpretation.

In the United States, SEC Rule 144 provides certain restrictions on the resale of unregistered stock in public companies. Shares acquired prior to an IPO are an example of shares that might be subject to Rule 144 restrictions. These restrictions prevent resale of shares subject to the requirements of Rule 144 in an attempt to maintain an orderly trading market for the publicly traded shares. Restricted stock is essentially identical to freely traded stock of a public company except for the trading restrictions. Unlike interests in private companies, restricted stock transactions typically involve shares that will enjoy ready marketability in the near future.

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40 International Glossary of Business Valuation Terms.
41 As reported in paragraph 57 (page 24) of AICPA "Stock Practice Aid."
42 Some commentators have noted that the sale of blocks of restricted stock that significantly exceed public trading activity in the stock may be the most comparable data for quantifying a lack of marketability discount. If the block size significantly exceeds trading volumes, large blocks of restricted shares may still be illiquid when Rule 144 restrictions terminate. A private sale of this block may reflect a valuation discount related to the price risk associated with the holding.
Equity Asset Valuation

The relationship of stock sales prior to initial public offerings is another source of marketability discounts. In many companies (especially early-stage or high-growth companies) approaching an IPO, value may be increasing as levels of risk and uncertainty decline because the company is progressing in its development. Reduction in risk associated with realization of the predicted cash flows or a narrowing of the ranges of possible future cash flows would lead to a reduction in the discount rate. Some studies have attempted to adjust for this factor.

A variety of models involving put options have also been used to quantify lack of marketability discounts. As the first step of this process, an at-the-money put option is priced. The value of the put option as a percentage of the value of the stock before any DLOM provides an estimate of the DLOM as a percentage. DLOM based on put options are used most often for equity interests in development stage-companies. For these companies, liquidity in the short to intermediate term is frequently a key objective of investors.

The key assumptions are the expected term until a liquidity event and the level of volatility associated with the company. One advantage of the put option analysis is the ability to directly address perceived risk of the private company through the volatility estimate. The volatility estimate may better capture the risks of the stock compared with restricted stock or IPO transactions in which volatility may be one of many variables influencing the level of discount. An estimate of volatility can be developed at the valuation date based on either historical volatilities of public companies or the volatility estimates embedded in the prices of publicly traded options. Put options only provide price protection (the protection lasts for the life of the option). The put option, however, does not provide liquidity for the asset holding, raising a concern on the use of this form of estimate of the DLOM. Put options also allow the holder of the underlying security to benefit from potential price increases in the value of the security and thus do not exactly model lack of marketability.

In addition to control and marketability discounts, a variety of other potential valuation discounts exist that may require consideration. These include key person discounts, portfolio discounts (discount for non-homogeneous assets), and possible discounts for nonvoting shares.

If both lack of control and lack of marketability discounts are appropriate, these discounts are applied in sequence and are essentially multiplicative rather than additive. The discounts are multiplicative as the valuation process involves discrete steps—first moving from a controlling to a noncontrolling basis and then moving from a marketable to a nonmarketable basis. For an equity interest in which a 10 percent lack of control discount and a 20 percent lack of marketability discount are believed to be appropriate, the total discount is 28 percent \[1 - (1 - 10\%)(1 - 20\%)] rather than 30 percent (10\% + 20\%).

43The AICPA “Stock Practice Aid” comments on risk reductions in pre-IPO and IPO companies as follows: “The cost of equity capital for a private enterprise prior to its IPO generally ranges from 20 to 35 percent,” in paragraph 117, and in paragraph 119, “By contrast, the cost of equity capital for a newly public enterprise generally ranges from 15 to 25 percent.”
EXAMPLE 8 Application of Valuation Discounts

Suppose that Jane Doe owns 10 percent of the stock of Able, and that the remaining 90 percent is held by CEO John Smith. Smith is interested in selling Able to a third party. Smith advised Doe that if Able isn't sold he has no reason to purchase Doe's 10 percent interest. Assume the following:

- Valuation discounts assuming imminent transaction:
  - Lack of control discount = 0 percent.
  - Lack of marketability discount = 5 percent.
- Valuation discounts assuming continued operation as a private company:
  - Lack of control discount: incorporated through use of reported earnings rather than normalized earnings.
  - Lack of marketability discount = 25 percent.
- Indicated value of equity in operations:
  - $96,000,000 in sale scenario.
  - $80,000,000 in "stay private scenario." 44

1. Discuss the relevance of valuation discounts assuming an imminent sale of Able.
2. Explain which estimate of equity value should be used and calculate the value of Doe's equity interest in Able assuming a sale is likely.
3. Discuss the relevance of valuation discounts assuming Able continues as a private company.
4. Explain which estimate of equity value should be used and calculate the value of Doe's equity interest assuming Able continues as a private company.
5. Contrast the valuation conclusions and discuss factors that contribute to the difference in the concluded values.

Solution to 1: The sale of Able can only be completed with Smith's concurrence given his 90 percent equity interest. If a sale of Able seems imminent, valuation discounts associated with Doe's 10 percent equity interest would be modest. The controlling shareholder, Smith, would maximize the sales proceeds to himself and any other shareholder(s). Hence, the lack of control associated with a small minority equity interest would not...

44 The treatment of nonoperating assets varies when a minority interest in the stock is appraised. Able holds nonoperating assets consisting of certain real estate. In the event of a sale, many buyers would not be interested in the nonoperating assets. The nonoperating assets could be distributed to the shareholders prior to the sale of the stock to a buyer. Alternatively, Able could sell the operating assets and liabilities to a buyer resulting in Able holding the real estate assets and cash from sale of the business operations. When liquidation of the entity is likely, inclusion of nonoperating assets values would seem appropriate. When continued operation as a private firm is expected, the benefit to minority shareholders from nonoperating assets is less certain. In this case, some appraisers would exclude these nonoperating assets from their equity valuation.
be a factor.\textsuperscript{45} The pending transaction being driven by the controlling shareholder reduces the adverse impact of the limited marketability of an interest in a private company.

\textit{Solution to 2:} If a sale is viewed as highly likely, the $96,000,000 equity value would be appropriate. This equity value uses normalized earnings and a discount rate based on an optimal capital structure in the calculation of the capitalization rate applied to earnings.

\begin{tabular}{|l|c|}
\hline
\textbf{Able Manufacturing, Inc.} & \\
\textbf{Valuation of Doe's 10 Percent Equity Interest} & \\
\textbf{Sale of Company Viewed as Highly Likely} & \\
\hline
\textbf{Indicated value of equity in operations} & $96,000,000 \\
\textbf{Interest appraised} & 10\% \\
\textbf{Pro rata value of 10 percent equity interest} & 9,600,000 \\
\textbf{Less: Lack of control discount of 0 percent} & 0 \\
\textbf{Value assuming ready marketability} & 9,600,000 \\
\textbf{Less: Lack of marketability discount of 5 percent} & 480,000 \\
\textbf{Indicated value of Doe's 10 percent equity interest} & $9,120,000 \\
\hline
\end{tabular}

\textit{Solution to 3:} If Smith has no intent to sell the company, the above-market expenses may continue. With the above-market expenses, the reported earnings would be lower than the normalized earnings. Use of reported earnings rather than normalized earnings is one possible means of capturing the adverse impact associated with the lack of control of a small minority equity interest.

Given the absence of any potential liquidity event and the above-market expenses, little market for the stock exists. A higher lack of marketability discount would be appropriate for the interest in this situation.

\textit{Solution to 4:} If continuing as a private company is viewed as highly likely, the $80,000,000 equity value would be appropriate. This equity value uses reported earnings and a discount rate based on the actual capital structure (not optimal) in the calculation of the capitalization rate applied to earnings.

\textsuperscript{45}When the controlling stockholder sells, he is not always obligated to offer the minority shareholders the same price. The analyst should investigate this fact. Factors to consider include 1) intent of the controlling stockholder, 2) articles of incorporation, and 3) legal statutes on corporate governance and shareholder rights.
Able Manufacturing, Inc.
Valuation of Doe's 10% Equity Interest
Continued Operation as a Private Company Likely

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicated value of equity in operations</td>
<td>$80,000,000</td>
</tr>
<tr>
<td>Interest appraised</td>
<td>10%</td>
</tr>
<tr>
<td>Pro rata value of 10% equity interest</td>
<td>$8,000,000</td>
</tr>
<tr>
<td>Less: Lack of control discount*</td>
<td>0</td>
</tr>
<tr>
<td>Value assuming ready marketability</td>
<td>$8,000,000</td>
</tr>
<tr>
<td>Less: Lack of marketability discount of 25%</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>Indicated value of Doe's 10% equity interest</td>
<td>$6,000,000</td>
</tr>
</tbody>
</table>

*As noted in the example, the impact on the value of the 10 percent equity interest was assumed to be captured in the use of reported rather than normalized earnings. The actual capital structure was also used rather than the optimal capital structure. A wide range of practice exists in the treatment of the lack of control for a minority equity interest in a private firm.

Solution to 5: The value of Doe's 10 percent minority equity interest differs markedly in the two scenarios. The imminent sale scenario results in a higher value indication for Doe's equity interest as a result of the higher value of the company and the lower valuation discounts. The value of the company would be higher because of the use of normalized earnings rather than reported earnings. A lower pricing multiple might also be warranted. The discount rate might be lower in the event an optimal capital structure is used rather than the existing structure. The lack of control is less important in the event of an imminent liquidity event such as a sale. The lack of marketability of a small equity interest is also less important in this instance.

We have seen that in private company valuation, as in most types of valuation beyond the simplest, a range of approaches and estimates can be argued even apart from differences resulting from different forecasts or business assumptions. A perception also exists that there is excessive divergence in valuation practices and estimates of value and that valuation standards could benefit the consumers of valuations. The next section briefly surveys the state of standardization initiatives.


Prior to recent increases in the use of fair value estimates in financial reporting, many business appraisers focused primarily on tax, divorce, and commercial litigation-related valuations. The impact on third parties was limited, and concern regarding the quality of appraisals was modest. Appraisers were perceived by some as advocates for their clients. The US savings and loan crisis of the late 1980s and early 1990s and the increasing role of fair value estimates in financial reporting under IFRS and US GAAP demonstrate the potential effect of valuation estimates on third parties. Increased third-party reliance is contributing to a greater focus by a variety of parties on valuation estimates, practices, and standards.

The intent of valuation standards is to protect users of valuations and the community at large. Standards typically cover the development and reporting of the valuation. The Uniform
Standards of Professional Appraisal Practice (USPAP) was instituted as a result of the failures of many savings and loan institutions in the United States (with a significant third party impact). Real estate appraisals that overvalued properties were perceived to have contributed to significant mortgage defaults that impaired the capital reserves and operating ability of many financial institutions.

USPAP was created by the Appraisal Foundation, a US quasi-governmental entity. The Appraisal Foundation is the congressionally authorized source of appraisal standards, practices, and appraiser qualifications. USPAP includes standards pertaining to fixed-asset, real estate, and business valuations.\(^{46}\)

Although USPAP includes business-valuation-related standards, business appraisers are typically not required by law to adhere to these standards.\(^{47}\) Although many appraisals used in connection with mortgage lending require a USPAP-compliant appraisal, business valuations—including valuations used for financial reporting by public companies—do not involve mandatory compliance with USPAP or other professional standards.

The ninth edition of International Valuation Standards (IVS) issued by the International Valuation Standards Council (IVSC) became effective on 1 January 2012. These standards have been adopted by many countries and valuation societies/institutes across the globe. Although previously primarily focused on real estate and tangible asset related issues, the ninth edition added sections for standards for Businesses and Business Interests and Intangible Assets, along with a separate Application Standard for valuations for financial reporting.

Valuation standards provide limited technical guidance as a result of the diverse and dynamic nature of valuations. Technical guidance has been released periodically, primarily for certain valuations used in a financial reporting context. In the late 1990s, the valuation of technology acquired in business combinations in the United States led to restatements of asset values in financial statements. Subsequently, the AICPA released the IPRD Practice Aid providing guidance on the valuation of technology assets. In November 2011, a working draft of an updated Practice Aid was released for public review and comment. In June 2013, a second release of the Stock Practice Aid provided updated technical guidance for the valuation of stock in the context of stock option grants and other share-based payments. The Appraisal Foundation is also involved in efforts to provide technical guidance to appraisers. In May 2010, The Appraisal Foundation issued a document, The Identification of Contributory Assets and the Calculation of Economic Rents, providing guidance on the valuation of intangible assets. In June 2012, a working group released a draft of a “best practices” document, The Valuation of Customer-Related Assets, providing guidance in this area of intangible asset valuation. Other technical guidance documents are being prepared as well. The IVSC has also issued a Guidance Note, Valuation of Intangible Assets.

Future developments regarding valuation standards are possible. Users of valuation services are becoming increasingly aware of the importance of obtaining competent valuation services. Accounting and regulatory bodies and educators recognize the importance of fair value estimates and are increasing efforts in this area.

\(^{46}\) USPAP standards 9 and 10 pertain to the valuation of interests in business enterprises or intangible assets. Standard 9 covers the development of a valuation estimate. Standard 10 covers the reporting of the results of an appraisal analysis.

\(^{47}\) Compliance with USPAP is required in the United States for "federally related transactions." Federally related transactions include loans made by a financial institution that include involvement of a federal financial regulatory agency.
5. SUMMARY

This reading provides an overview of key elements of private company valuation and contrasts public and private company valuations.

- Company- and stock-specific factors may influence the selection of appropriate valuation methods and assumptions for private company valuations. Stock-specific factors may result in a lower value for an equity interest in a private company relative to a public company.
- Company-specific factors in which private companies differ from public companies include:
  - stage in lifecycle;
  - size;
  - overlap of shareholders and management;
  - quality/depth of management;
  - quality of financial and other information;
  - pressure from short-term investors;
  - tax concerns.
- Stock-specific factors that frequently affect the value of private companies include:
  - liquidity of equity interests in business;
  - concentration of control;
  - potential agreements restricting liquidity.
- Private company valuations are typically performed for three different reasons: transactions, compliance (financial or tax reporting), or litigation. Acquisition-related valuation issues and financial reporting valuation issues are of greatest importance in assessing public companies.
- Different definitions (standards) of value exist. The use of a valuation and key elements pertaining to the appraised company will help determine the appropriate definition. Key definitions of value include:
  - fair market value;
  - market value;
  - fair value for financial reporting;
  - fair value in a litigation context;
  - investment value;
  - intrinsic value.
- Private company valuations may require adjustments to the income statements to develop estimates of the normalized earnings of the company. Adjustments may be required for non-recurring, non-economic, or other unusual items to eliminate anomalies and/or facilitate comparisons.
- Within the income approach, the free cash flow method is frequently used to value larger, mature private companies. For smaller companies or in special situations, the capitalized cash flow method and residual income method may also be used.
- Within the market approach, three methods are regularly used: the guideline public company method, guideline transactions method, and prior transactions method.
- An asset-based approach is infrequently used in the valuation of private companies. This approach may be appropriate for companies that are worth more in liquidation than as a going concern. This approach is also applied for asset-holding companies, very small companies, or companies that were recently formed and have limited operating histories.
- Control and marketability issues are important and challenging elements in the valuation of private companies and equity interests therein.
• If publicly traded companies are used as the basis for pricing multiple(s), control premiums may be appropriate in measuring the value of the total equity of a private company. Control premiums have also been used to estimate lack of control discounts.
• Discounts for lack of control are used to convert a controlling interest value into a non-controlling equity interest value. Evidence of the adverse impact of the lack of control is an important consideration in assessing this discount.
• Discounts for lack of marketability are often used in the valuation of noncontrolling equity interests in private companies. A DLOM may not be appropriate if there is a high likelihood of a liquidity event in the immediate future.
• Quantification of DLOM can be challenging because of limited data, differences in the interpretation of available data, and different interpretations of the impact of the lack of marketability on a private company.
• DLOM can be estimated based on 1) private sales of restricted stock in public companies relative to their freely traded share price, 2) private sales of stock in companies prior to a subsequent IPO, and 3) the pricing of put options.
• The intent of valuation standards is to protect users of valuations and the community at large. Standards typically cover the development and reporting of a valuation.
• A number of organizations have released valuation standards. No single set of valuation standards covers the valuation of private companies.

REFERENCES

PROBLEMS
1. Two companies are considering the acquisition of Target Company. Buyer A is a strategic buyer, and Buyer B is a financial buyer. The following information pertains to Target Company:

Sales = £28,000,000
Reported EBITDA = £4,500,000
Reported executive compensation = £1,000,000
Normalized executive compensation = £500,000
Reduced SG&A from eliminating duplicate general and administrative functions = £600,000

Calculate the pro forma EBITDA estimates that the strategic and financial buyers would each develop in an acquisitions analysis of Target Company.
2. Using the build-up method and assuming that no adjustment for industry risk is required, calculate an equity discount rate for a small company, given the following information:

   Equity risk premium = 5.0 percent
   Mid-cap equity risk premium = 3.5 percent
   Small stock risk premium = 4.2 percent
   Income return on long-term bonds = 5.1 percent
   Total return on intermediate-term bonds = 5.3 percent
   Company-specific risk premium = 3.0 percent
   20-year Treasury bond yield as of the valuation date = 4.5 percent

3. Using the capitalized cash flow method (CCM), calculate the fair market value of 100 percent of the equity of a hypothetical company, given the following information:

   Current year's reported free cash flow to equity = $1,400,000
   Current year's normalized free cash flow to equity = $1,800,000
   Long-term interest-bearing debt = $2,000,000
   Weighted average cost of capital = 15 percent
   Equity discount rate = 18 percent
   Long-term growth rate of FCFE = 5.5 percent

4. You have been asked to value Pacific Corporation, Inc., using an excess earnings method, given the following information:

   Working capital balance = $2,000,000
   Fair value of fixed assets = $5,500,000
   Book value of fixed assets = $4,000,000
   Normalized earnings of firm = $1,000,000
   Required return on working capital = 5.0 percent
   Required return on fixed assets = 8.0 percent
   Required return on intangible assets = 15.0 percent
   Weighted average cost of capital = 10.0 percent
   Long-term growth rate of residual income = 5.0 percent

Based on this information:
A. What is the value of Pacific's intangible assets?
B. What is the market value of invested capital?

5. An appraiser has been asked to determine the combined level of valuation discounts for a small equity interest in a private company. The appraiser concluded that an appropriate control premium is 15 percent. A discount for lack of marketability was estimated at 25 percent. Given these factors, what is the combined discount?

The following information relates to Questions 6–11

Alan Chin, the chief executive officer of Thunder Corporation, has asked his chief financial officer, Constance Ebinosa, to prepare a valuation of Thunder for the purpose of selling the company to a private investment partnership. Thunder is a profitable $200 million annual sales US domiciled manufacturer of generic household products. Customers consist of several grocery store chains in the United States. Competitors include large companies such as Procter & Gamble, Clorox, and Unilever. Thunder has been in business for 15 years and is privately owned by the original shareholders, none of whom are employed by the company. The company's senior management has been in charge of the company's operations for most of the past 15 years and expects to remain in that capacity after any sale.
The partnership has expectations about Thunder similar to the current shareholders and management of Thunder. These investors expect to hold Thunder for an intermediate period of time and then bring the company public when market conditions are more favorable than currently.

Chin is concerned about what definition of value should be used when analyzing Thunder. He notes that the stock market has been very volatile recently. He also wonders whether fair market value can be realistically estimated when the most similar recent private market transactions may not have been at arm’s length.

Chin asks Ebinosa whether there will be differences in the process of valuing a private company like Thunder compared with a public company. Ebinosa replies that differences do exist and mentions several factors an analyst must consider.

Ebinosa also explains that several approaches are available for valuing private companies. She mentions that one possibility is to use an asset-based approach because Thunder has a relatively large and efficient factory and warehouse for its products. A real estate appraiser can readily determine the value of these facilities. A second method would be the market approach and using an average of the price-to-earnings multiples for Procter & Gamble and Clorox. A third possibility is a discounted free cash flow approach. The latter would focus on a continuation of Thunder’s trend of slow profitable growth during the past ten years.

The private investment partnership has mentioned that they are likely to use an income approach as one of their methods. Ebinosa decides to validate the estimates they make. She assumes for the next 12 months that Thunder’s revenues increase by the long-term annual growth rate of 3 percent. She also makes the following assumptions to calculate the free cash flow to the firm for the next 12 months:

- Gross profit margin is 45 percent.
- Depreciation is 2 percent of revenues.
- Selling, general, and administrative expenses are 24 percent of revenues.
- Capital expenditures equal 125 percent of depreciation to support the current level of revenues.
- Additional capital expenditures of 15 percent of incremental revenues are needed to fund future growth.
- Working capital investment equals 8 percent of incremental revenues.
- Marginal tax rate on EBIT is 35 percent.

Chin knows that if an income approach is used, then the choice of discount rate may have a large influence on the estimated value. He makes two statements regarding discount rate estimates:

1. If the CAPM method is used to estimate the discount rate with a beta estimate based on public companies with operations and revenues similar to Thunder, then a small stock premium should be added to the estimate.
2. The weighted average cost of capital of the private investment partnership should be used to value Thunder.

Ebinosa decides to calculate a value of Thunder’s equity using the capitalized cash flow method (CCM) and decides to use the build-up method to estimate Thunder’s required return on equity. She makes the following assumptions:

- Growth of FCFE is at a constant annual rate of 3 percent.
- Free cash flow to equity for the year ahead is $2.5 million.
6. Given Chin's concerns, the most appropriate definition of value for Thunder is:
   A. intrinsic value.
   B. investment value.
   C. fair market value.

7. The least likely factor that would be a source of differences in valuing Thunder compared with valuing a publicly traded company is:
   A. access to public debt markets.
   B. agency problems.
   C. the size of the company.

8. Ebinosa can best value Thunder using the:
   A. excess earnings approach.
   B. asset-based approach.
   C. discounted free cash flow approach.

9. The free cash flow to the firm is closest to:
   A. $23,031,000.
   B. $25,441,000.
   C. $36,091,000.

10. Regarding the two statements about discount rate estimates, Chin is:
    A. correct with respect to adding the small stock premium and correct with respect to the weighted average cost of capital.
    B. correct with respect to adding the small stock premium and incorrect with respect to the weighted average cost of capital.
    C. incorrect with respect to adding the small stock premium and incorrect with respect to the weighted average cost of capital.

11. The indicated value of Thunder's equity using the build-up method and the capitalized cash flow method (CCM) based on free cash flow to equity is closest to:
    A. $29.41 million.
    B. $38.46 million.
    C. $125.00 million.

The following information relates to Questions 12–17

The Senior Vice President of Acquisitions for Northland Industries, Angela Lanton, and her head analyst, Michael Powell, are evaluating several potential investments. Northland is a diversified holding company for numerous businesses. One of Northland's divisions is a manufacturer of fine papers, and that division has alerted Lanton about Oakstar Timber, a supplier that may be available for purchase. Oakstar's sole owner, Felix Panteromo, has expressed interest in exchanging his ownership of Oakstar for a combination of cash and Northland Industries securities.

1Currency in Canadian dollars.
Oakstar's main asset is 10,000 hectares of timberland in the western part of Canada. The land is a combination of new and old growth Douglas fir trees. The value of this timberland has been steadily increasing since Oakstar acquired it. Oakstar manages the land on a sustained yield basis (i.e., so it continues to produce timber indefinitely) and contracts with outside forestry companies to evaluate, harvest, and sell the timber. Oakstar's income is in the form of royalties (fees paid to Oakstar based on the number of cubic meters harvested). Oakstar's balance sheet as of 31 December 2008 is as follows.

<table>
<thead>
<tr>
<th>Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
</tr>
<tr>
<td>Inventory</td>
</tr>
<tr>
<td>Accounts receivable</td>
</tr>
<tr>
<td>Plant and equipment (cost less depreciation)</td>
</tr>
<tr>
<td>Land</td>
</tr>
<tr>
<td>Total assets</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Liabilities and Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounts payables</td>
</tr>
<tr>
<td>Long-term bank loan</td>
</tr>
<tr>
<td>Common stock</td>
</tr>
<tr>
<td>Total liabilities and equity</td>
</tr>
</tbody>
</table>

In addition to the balance sheet, Powell is gathering other data to assist in valuing Oakstar and has found information on recent sales of timberland in the western part of Canada. Douglas fir properties have averaged $6,178 per hectare for tracts that are not contiguous and do not have a developed road system for harvesting the timber. For tracts with these features, as possessed by Oakstar, the average price is $8,750 per hectare. Properties near urban areas and having potential for residential and recreational second home development command up to $20,000 per hectare. Oakstar's land lacks this potential. Lanton believes these values would form the basis of an asset-based valuation for Oakstar, with the additional assumption that other assets and liabilities on the balance sheet are assumed to be worth their stated values.

The second company under evaluation, FAMCO, Inc., is a family-owned electronic manufacturing company with annual sales of $120 million. The family wants to monetize the value of their ownership in FAMCO with a view to later investing part of the proceeds in a diversified stock portfolio. Lanton has asked Powell to obtain data for both an income-based and market-based valuation. Powell has obtained the recent annual income statement and additional data needed to calculate normalized earnings as follows.
Chapter 9  Private Company Valuation

FAMCO, Inc.
Income Statement
Year Ending 31 December 2008

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>$120,000,000</td>
</tr>
<tr>
<td>Gross profit</td>
<td>85,000,000</td>
</tr>
<tr>
<td>Selling, general, and administrative expenses</td>
<td>23,000,000</td>
</tr>
<tr>
<td>Pro forma EBITDA</td>
<td>$62,000,000</td>
</tr>
<tr>
<td>Depreciation and amortization</td>
<td>3,500,000</td>
</tr>
<tr>
<td>Pro forma earnings before interest and taxes</td>
<td>$58,500,000</td>
</tr>
<tr>
<td>Less: Interest</td>
<td>1,000,000</td>
</tr>
<tr>
<td>Earnings before taxes (EBT)</td>
<td>$57,500,000</td>
</tr>
<tr>
<td>Pro forma taxes on EBT</td>
<td>40%</td>
</tr>
<tr>
<td>Operating income after tax</td>
<td>$34,500,000</td>
</tr>
</tbody>
</table>

Additional data for FAMCO is provided in the following table. Included are estimates by Powell of the compensation paid to family members and the smaller amount of salary expense for replacement employees if Northland acquires the company (reflecting perceived above-market compensation of the family group executives). He believes the current debt of FAMCO can be replaced with a more optimal level of debt at a lower interest rate. These will be reflected in a normalized income statement.

<table>
<thead>
<tr>
<th>Current debt level</th>
<th>$10,000,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current interest rate</td>
<td>10%</td>
</tr>
<tr>
<td>Salaries of employed family members</td>
<td>$7,000,000</td>
</tr>
<tr>
<td>Salaries of replacement employees</td>
<td>$5,400,000</td>
</tr>
<tr>
<td>New debt level</td>
<td>$25,000,000</td>
</tr>
<tr>
<td>New interest rate</td>
<td>8%</td>
</tr>
</tbody>
</table>

Powell also recognizes that a value needs to be assigned to FAMCO's intangibles consisting of patents and other intangible assets. Powell prepares an additional estimate of excess earnings and intangibles value using the capitalized cash flow method. He projects the following data for 2009:

<table>
<thead>
<tr>
<th>FAMCO, Inc.—Intangibles Valuation Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working capital balance</td>
</tr>
<tr>
<td>Fair value of fixed assets</td>
</tr>
<tr>
<td>Normalized income to the company</td>
</tr>
<tr>
<td>Required return on working capital</td>
</tr>
<tr>
<td>Required return on fixed assets</td>
</tr>
<tr>
<td>Required return on intangible assets</td>
</tr>
<tr>
<td>Weighted average cost of capital</td>
</tr>
<tr>
<td>Future growth rate</td>
</tr>
</tbody>
</table>
Lanton asks Powell to also use the market approach to valuation with a focus on the guideline transactions method. Powell prepares a table showing relevant information regarding three recent guideline transactions and market conditions at the time of the transactions. Powell's assumptions about FAMCO include its expected fast growth and moderate level of risk.

<table>
<thead>
<tr>
<th>Target Firm</th>
<th>Target's Risk</th>
<th>Target's Growth</th>
<th>Consideration</th>
<th>Market Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm 1</td>
<td>High</td>
<td>Slow</td>
<td>Cash</td>
<td>Normal, rising trend</td>
</tr>
<tr>
<td>Firm 2</td>
<td>Moderate</td>
<td>Fast</td>
<td>Stock</td>
<td>Prices near peak</td>
</tr>
<tr>
<td>Firm 3</td>
<td>Moderate</td>
<td>Fast</td>
<td>Cash</td>
<td>Normal, rising trend</td>
</tr>
</tbody>
</table>

Although Northland is interested in acquiring all of the stock of FAMCO, the acquisition of a 15 percent equity interest in FAMCO is also an option. Lanton asks Powell about the valuation of small equity interests in private entities and notes that control and marketability are important factors that lead to adjustments in value estimates for small equity interests. Powell mentions that the control premium paid for the most similar guideline firm used in the analysis suggests a discount for lack of control of 20 percent. The discount for lack of marketability was estimated at 15 percent.

12. Which of the following statements concerning asset-based valuation as applied to Oakstar is most accurate? The approach is applicable:
   A. only when a guideline public company for the valuation is not available.
   B. because natural resources with determinable market values constitute the majority of Oakstar's total value.
   C. because as a passive collector of royalties, Oakstar has no meaningful capital expenditures, and free cash flow is irrelevant.

13. Using an asset-based approach, the value (net of debt) of Oakstar is closest to:
   A. $62,250,000.
   B. $87,250,000.
   C. $199,750,000.

14. The normalized earnings after tax for FAMCO is closest to:
   A. $32,940,000.
   B. $34,260,000.
   C. $34,860,000.

15. Using the excess earnings method, the value of the intangibles is closest to:
   A. $144.0 million.
   B. $205.7 million.
   C. $338.8 million.

16. The guideline transaction that is most likely applicable to FAMCO is:
   A. Firm 1.
   B. Firm 2.
   C. Firm 3.

17. The total discount for both control and marketability is closest to:
   A. 15 percent.
   B. 32 percent.
   C. 35 percent.
ABOUT THE EDITORS
AND AUTHORS

Matthew Coffina, CFA, is editor of the Morningstar StockInvestor monthly newsletter. Previously, Mr. Coffina served as Morningstar's valuation methodology developer and a senior equity analyst covering health-care services companies. He designed the discounted cash flow model used by Morningstar's 100 equity analysts to assign fair value estimates to more than 1,500 global companies.

Patrick W. Dorsey, CFA, is the founder of Dorsey Asset Management. Prior to starting Dorsey Asset Management, he was Director of Research for Sanibel Captiva Trust, an independent trust company with approximately $1 billion in assets under management serving high net worth clients. From 2000 to 2011, Mr. Dorsey was Director of Equity Research for Morningstar, where he led the growth of Morningstar's equity research group from 10 to more than 100 analysts. He developed Morningstar’s economic moat ratings, as well as the methodology behind Morningstar's framework for analyzing competitive advantage. Mr. Dorsey is also the author of two books—The Five Rules for Successful Stock Investing and The Little Book that Builds Wealth—and has been quoted in publications such as the Wall Street Journal, Fortune, the New York Times, and BusinessWeek. Mr. Dorsey holds a master’s degree in Political Science from Northwestern University and a bachelor’s degree in government from Wesleyan University. He is a CFA charterholder.

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Prior to her academic career, Dr. Henry worked in corporate finance at Lehman Brothers, strategy consulting at McKinsey & Company, and corporate banking at Citibank (Athens, London, and New York). She received her BA and BBA from Millsaps College, her MBA with high distinction from the Harvard Business School, and her PhD from Rutgers University. Dr. Henry has been an active volunteer at CFA Institute, CFA Miami, the Harvard Business School Club of London, and the American Accounting Association.

**Ian Ross O'Reilly**, MA, CFA, has 38 years' experience as an investment analyst specializing in real estate, hotels, transportation, and conglomerates. He was a managing director of Institutional Equities Research at Canadian Imperial Bank of Commerce (CIBC), a Director of Wood Gundy & Co. (an investment dealer acquired by CIBC), and a Vice-president of Dominion Securities (a predecessor firm of RBC Capital Markets). He is a past Chair of CFA Institute, a past President of CFA Society Toronto, a past member of the Accounting Standards Committee of the Canadian Institute of Chartered Accountants, and a Director of Canadian Foundation for Advancement of Investors' Rights. In addition to the CFA charter, he holds an MA in mathematics and economics from Trinity College Dublin and is a Fellow of the Canadian Securities Institute.

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**Raymond Rath**, ASA, CFA, is a Managing Director at Globalview Advisors LLC. He specializes in the valuation of business enterprises, securities interests, and intangible assets for transactions and financial and tax reporting. Mr. Rath received his BS in Finance from the University of Kansas Cum Laude and his MBA from the University of Southern California.

Mr. Rath is very active in financial reporting valuation issues. He organized and moderated ten one-day conferences for the American Society of Appraisers (ASA) on fair value issues including SEC, FASB, and PCAOB staff presentations. The ASA awarded Mr. Rath the Accredited Senior Appraiser designation. He has served on the ASA's Business Valuation Committee and is past President of the ASA's Los Angeles Chapter. Mr. Rath led the development of the ASA's two three-day courses, *Valuation of Intangible Assets for Financial Reporting and Special Topics in the Valuation of Intangible Assets*. He has presented and instructed on valuation topics internationally.
Mr. Rath has participated in meetings of the American Accounting Association and FASB to discuss fair value education in business and intangible asset valuations. He has served CFA Institute in a number of capacities and has authored several articles in valuation topics.

Thomas R. Robinson, CFA, is president and CEO of AACSB International—The Association to Advance Collegiate Schools of Business (AACSB). Prior to joining AACSB in March 2015, Dr. Robinson served as Managing Director of the Americas at CFA Institute, where he led a cross-functional team that participated in the development of education and engagement strategies. He also provided vision and leadership for a global team that produced and delivered educational content and programs for candidates, members, investment professionals, and universities. Previously, Dr. Robinson served as a tenured faculty member and director of the Master of Professional Accounting and Personal Financial Planning programs at the University of Miami. Throughout his academic career, Dr. Robinson won several teaching awards, published regularly in academic and professional journals, and authored or co-authored many books. As a CFA charterholder, a Certified Public Accountant (CPA), a Certified Financial Planner™ (CFP®), and a Chartered Alternative Investment Analyst (CAIA), Dr. Robinson practiced public accounting and financial planning for 10 years. He also served as a consultant and investment advisor in the areas of wealth management, financial statement analysis, and valuation. Dr. Robinson holds a bachelor's degree in economics from the University of Pennsylvania and a master's and doctorate from the Weatherhead School of Management at Case Western Reserve University.

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Antonius J. van Ooijen, CFA, is a senior portfolio manager at APG Asset Management, responsible for the consumer staples sector within the fundamental stock selection team. Prior to APG, he was a senior equity analyst for food retail and beverages at Kepler Capital Markets (six years) and an independent European broker. Prior to that he worked as a staples analyst at the Dutch broker SNS Securities (five years) and at FDA (three years), a Dutch independent investment research provider. Mr. van Ooijen also worked as an account manager for ATC Trustees, a leading independent Dutch trust company. He started his career at NW&H accountants and tax advisors in the accounting department.

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Stephen E. Wilcox, PhD, CFA, is a Professor of Finance at Minnesota State University, Mankato, and former Chair of the Department of Finance. He has significant experience teaching investment and corporate finance courses to both undergraduate and MBA students. Dr. Wilcox's research focuses primarily on valuation, and he has published in the Financial Analysts Journal, Journal of Investing, and The AAII Journal. He has also written a literature review for the CFA Institute Research Foundation titled "Equity Valuation and Inflation: A Review."

Dr. Wilcox is also a consultant for CFA Institute, most recently devoting his time to the creation of curriculum materials for the CFA and CIPM exams. He has consulting experience in the development of defined contribution retirement plans and has served as an expert witness for the valuation of privately-held companies. He is a member of CFA Institute and CFA Society of Minnesota.
If the subject matter of this book interests you, and you are not already a CFA Charterholder, we hope you will consider registering for the CFA Program and starting progress toward earning the Chartered Financial Analyst designation. The CFA designation is a globally recognized standard of excellence for measuring the competence and integrity of investment professionals. To earn the CFA charter, candidates must successfully complete the CFA Program, a global graduate-level self-study program that combines a broad curriculum with professional conduct requirements as preparation for a career as an investment professional.

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