2017

Application of the Mandatory Performance Framework for the Certified in Entity and Intangible Valuations™ Credential

CORPORATE AND INTANGIBLES VALUATION ORGANIZATION, LLC

Performance Framework Advisory Panel

Paul Drogosch
Neal Godt
Bensen Loveless
Adam M. Smith
Melissa Smith
Kevin Vannucci
Rick Wallace
Peter Wollmeringer

Performance Requirements Work Stream

Anthony Aaron—*Chair*
Myron Marcinkowski—*Co-chair*
Alexander Aronsohn
Kellie Adkins
Thomas Boyle
Manish Choudhary
Greg Forsythe
Carla Glass
Leigh Miller (Firm Observer)
Yelena Mishkevich

Performance Framework Technical Authors

American Institute of Certified Public Accountants—Mark O. Smith
American Society of Appraisers—Rick Siladi
Royal Institution of Chartered Surveyors—Steve Choi

Grateful acknowledgement to Nathan DiNatale, Clint Neider, and Josh Lefcowitz for their contributions and assistance with this project.

EXECUTIVE SUMMARY

Problem Identification

During the last 15 years, the global accounting model has increasingly gravitated towards the use of fair value as the measurement basis for assets and liabilities for financial reporting purposes.[1] Estimating these fair value measurements often involves the use of sophisticated financial models, various valuation approaches and analytical assumptions, and professional judgment.

Within the past several years, public statements by U.S. capital market regulators have called into question whether some of the individuals that assist SEC registrants with estimating fair value for financial reporting purposes have the requisite training, qualifications, experience, and expertise to perform this type of work. The SEC staff has expressed a desire that the various stakeholders in the valuation profession coordinate their efforts to establish rigorous and uniform qualifications, training, accreditation, and oversight of individuals conducting fair value measurements.

Regulatory, creditor, and shareholder concerns as well as public perceptions are driving the need for valuation professionals to conduct themselves with professionalism and demonstrate professional competence.

In response to these regulatory concerns and the public perceptions, numerous groups including not-for-profit valuation professional organizations (VPOs), nonmembership VPOs, and others collaborated to form a task force that focused on the issues facing the valuation profession and how best to address them.

The task force formed four work streams designed to address VPO governance and operational issues relevant to developing, implementing, and maintaining an infrastructure to support the Certified in Entity and Intangible Valuations™ (CEIV™) credential. The work streams and the collaborative initiative to establish a more cohesive valuation profession and improve fair value reporting for financial reporting purposes are known collectively as the *fair value quality initiative*. The work streams are as follows:

- Governance and Coordination
- Performance Requirements
- Qualifications
- Quality Control

Each of these work streams had its own integral set of responsibilities to help the VPOs develop and support an infrastructure that will provide valuation professionals who obtain the CEIV credential with a roadmap to conduct more consistent, higher quality, and better documented valuation engagements. The following section summarizes the Performance Requirements work stream, the work stream tasked with developing the **Mandatory Performance Framework** (MPF or framework).

[1] There are several terms in the Application of the MPF text (including this executive summary) that are defined in the MPF glossary. For a full list of those defined terms, please see MPF section 3.

Performance Requirements

U.S. accounting standards have evolved to a “mixed model,” combining aspects of historical cost measurement attributes with fair value measurement attributes. The regulators and the public have increased their expectations of financial statement preparers and their advisers to provide consistent, supportable, and auditable fair value measurements.

The valuation profession has responded to this evolution by developing technical standards and guidance, essentially addressing the “how-to” question. Further, VPOs have increased their focus on providing training, accreditation, technical guidance, and frameworks for ethical conduct, essentially addressing the “who is to do” question.

One area, however, where gaps in guidance are believed to still exist relates to performance (that is, addressing the “how *much* to do” question). Various terms have been used to describe this topic, such as “level of rigor,” “depth of analysis,” “scope of work,” “level of due diligence,” “extent of documentation,” and “extent of investigation.”

As previously mentioned, the Performance Requirements work stream was tasked with developing this framework to establish a minimum threshold for the how-much question for valuation professionals.

The following definitions are intended to differentiate “professional standards” and “technical standards” from “performance framework” for the purposes of this framework:

Professional standards. Standards that encourage professional behavior. Examples are codes of ethics and codes of conduct that require acting competently, independently, objectively, and transparently. These can also be considered standards that define the qualities of a professional: ethical, independent, objective, having requisite skills, educated, experienced, tested, trained, and credentialed or licensed. Professional standards focus on characteristics of individual professionals and their conduct.

Technical standards. Standards that address the *how to* of work that must be done to prepare a professional work product. These standards address the technical correctness of the work product by considering appropriate input factors, application of methods and techniques, and reporting guidelines. Both mandatory standards and voluntary guidance have been developed around technical issues in valuation in general and, to a lesser extent, around fair value measurement.

Performance framework. Contains requirements that cover *how much* work should be performed in order to prepare a professional work product. The performance framework addresses scope of work, extent of documentation and analysis, consideration of contrary evidence, and documentation in both the report and the supporting working papers. Alternatively, the performance framework establishes the extent to which valuation professionals perform their work in terms of depth of analysis and documentation.

Structure of the Mandatory Performance Framework and the Application of the MPF Sections

- Mandatory Performance Framework (separate document)

- MPF section 1, *Preamble*, provides an overview of the framework's scope and purpose (that is, who must adhere to it and when must it be followed).
- MPF section 2, *Valuation Engagement Guidance*, establishes the parameters of the documentation requirements that valuation professionals must adhere to. This includes the fundamental engagement considerations and scope of work that manifest themselves within the engagement letter, the extent of documentation requirements, and the professional skepticism required in the valuation process and in the reporting of any conclusions.
- MPF section 3, *Mandatory Performance Framework Glossary*, sets forth definitions of terms that may be unique to the framework and, when necessary, defines their meaning within the context of the framework.
- MPF section 4, *Authoritative and Technical Guidance*, includes a list of accounting standards, auditing standards, valuations standards, and certain technical literature applicable to the guidance presented in the framework.

  The content cited in MPF section 4 is organized based on authoritative weight. The accounting standards are issued by regulators and accounting standard setters and are mandatory for all financial statements issued for financial reporting purposes. The valuation standards issued by the VPOs are mandatory only for their respective members. Nonmembers who practice in certain jurisdictions, specialty subject interests, or both should be aware that they may be required by federal, state, or local laws or regulations to adhere to specified valuation standards promulgated by either VPOs or by nonmembership organizations (for example, The Appraisal Foundation and the International Valuation Standards Council). The technical literature is nonauthoritative; however, these publications are prepared by professionals with in-depth knowledge of the topics and were broadly vetted by preparers and users of valuations and by auditors.

- Application of the Mandatory Performance Framework for the CEIV (Application of the MPF)
  - Application of MPF section A1, *General Valuation Guidance*, applies the framework to selected areas of professional valuation practice that are misapplied or insufficiently supported or documented (or all) in valuations prepared for financial reporting purposes.
  - Application of MPF sections A2 and A3, *Business Valuation Guidance* and *Valuation of Assets and Liabilities Guidance*, identify and apply the framework to the most common components of an engagement in which the valuation professional provides a conclusion of value of a business or business interest. These sections govern the scope of work and extent of documentation for selected areas associated with the valuation of businesses, business interests, intangibles assets, certain liabilities, and inventory that are prepared for financial reporting purposes. Specifically, these sections address matters that need
    - greater consistency in the application of valuation approaches and methods,
    - support for issues that require the application of professional judgment, and
    - documentation of inputs.

These sections will continue to evolve and expand to cover a broader spectrum of subject matter topics and professional practice trends in the valuation profession.

By design, the framework and the Application of the MPF do not provide illustrative examples that might otherwise be interpreted as requirements for how to perform a valuation. The purpose of the framework is to provide valuation professionals with guidance on how much documentation is required when performing valuation services for financial reporting purposes. However, in certain circumstances, the Application of the MPF may provide *some* how-to discussion in order to complement the usability and application of the framework.

Scope of Adoption and Adherence by Valuation Professionals

The framework and the Application of the MPF were designed to be used by *all* valuation professionals who provide valuation services for financial reporting purposes.

An overview of the scope of adoption and adherence by valuation professionals follows:

- *Valuation professionals with the CEIV credential.* It is mandatory for valuation professionals who have earned the CEIV credential to adhere to the framework and the Application of the MPF (collectively referred to as the 'MPF documents') when engaged by (*a*) an entity required to submit registration statements or filings to the SEC or (*b*) a privately held entity that prepares and issues financial statements in accordance with US GAAP, to perform a valuation of a business, business interest, intangible asset, certain liabilities, and inventory used to support management's assertions made in financial statements issued for financial reporting purposes.
- *Valuation professionals without the CEIV credential*. As noted previously, the framework and the Application of the MPF were designed for use by all valuation professionals. Although only those valuation professionals who have the CEIV credential are required to adhere to the MPF documents, the Performance Requirements Work Stream believes that adhering to the MPF documents should be considered **best practice** by valuation professionals who do *not* have the CEIV credential and who perform valuation of a business, business interest, intangible asset, certain liabilities, and inventory used to support management assertions made in financial statements issued for financial reporting purposes.

> ***Important:*** All Mandatory Performance Framework requirements that are specific to **CEIV credential holders** will be identified as such throughout the framework.

Conclusion

Valuations for financial reporting purposes completed in a professional manner require adherence to a consistent set of professional, technical, and ethical standards as well as a set of guiding principles that help define how much work is necessary in order to provide supportable and auditable fair value measurements that serve as the basis for management's preparation of financial statements for financial reporting purposes.

APPLICATION OF THE MANDATORY PERFORMANCE FRAMEWORK FOR THE CERTIFIED IN ENTITY AND INTANGIBLE VALUATIONS CREDENTIAL

CONTENTS

APPLICATION OF THE MANDATORY PERFORMANCE FRAMEWORK

The following sections apply the framework to specific subject interests. The subject interest guidance will continue to evolve and expand; however, this first edition addresses only select topics within the following areas: general valuation guidance, business valuation guidance, and guidance for the valuation of intangible assets, certain liabilities, and inventory.

This guidance is not designed to show valuation professionals how to perform a valuation; instead its purpose is to provide valuation professionals with guidance on how much work, what level of rigor, and what extent of documentation are required when performing valuation assignments for financial reporting purposes. In certain circumstances, however, sections of the Application of the MPF may provide *some* how-to discussion in order to complement the usability and application of the framework. Such discussion is not intended to supersede existing or evolving technical guidance; however, in the event of conflicts between content in the framework and such technical guidance, the latter shall take precedence.

This guidance is intended to establish *minimum* scope of work and documentation thresholds and should not be interpreted as a limitation or restriction that precludes a valuation professional from providing more comprehensive scope of work and documentation where deemed appropriate.

A1. GENERAL VALUATION GUIDANCE

A1.1 Fair value concepts are the foundation for estimating the value of a wide spectrum of assets and liabilities. Fair value is the measurement attribute of many such assets and liabilities included in an entity's financial statements prepared in accordance with U.S. generally accepted accounting principles (GAAP), and when appropriate, International Financial Reporting Standards (IFRS). This section sets forth the most common concepts the valuation professional should understand in order to estimate the fair value of a business, business interest, intangible asset, certain liabilities, or inventory. This section also addresses the scope of work and extent of documentation. It is not intended to address valuation theory or to be a how-to regarding valuation procedures.

A1.1.1 This application section covers three significant topics related to the fundamentals of fair value and may be applicable to many different subject interests. As a result, these general concepts are presented together in this introductory section. They are as follows:

- Fair value measurement
- Selection of valuation approaches and methods
- Prospective financial information

A1.2 Fair Value Measurement

Topic Overview

A1.2.1 The valuation professional must evaluate and document his or her assessment of fair value at the initial transaction (if applicable) and subsequent measurement dates, as well as management's selection of calibrated inputs used to value the subject interest on subsequent measurement dates.

Important: This section *does not* imply that the two following topics (initial recognition and calibration) are the only critical areas within FASB *Accounting Standards Codification* (ASC) 820, *Fair Value Measurement,* or have any more prominence than other sections within FASB ASC 820.

Initial Recognition

A1.2.2 As indicated in FASB ASC 820-10-30-3, in many situations, the transaction price appears equal to the fair value based on the perspective of market participants and as a result equals fair value at initial recognition. FASB ASC 820 does not, however, make this presumption. Rather, FASB ASC 820-10-30-3A requires that several factors be considered when determining whether the transaction price reflects fair value of the subject interest on the transaction date or on subsequent measurement dates.

A1.2.3 Valuation professionals should not assume that transaction price equates to fair value at or near the transaction date.

Subsequent Measurement Dates

A1.2.4 Calibration is used with various valuation techniques; however, regardless of which valuation technique is used by the valuation professional, FASB ASC 820-10-35-24C requires that

> [i]f the transaction price is fair value at initial recognition and a valuation technique that uses unobservable inputs will be used to measure fair value in subsequent periods, the valuation technique shall be calibrated so that at initial recognition the result of the valuation technique equals the transaction price. Calibration ensures that the valuation technique reflects current market conditions, and it helps a reporting entity to determine whether an adjustment to the valuation technique is necessary (for example, there might be a characteristic of the asset or liability that is not captured by the valuation technique). After initial recognition, when measuring fair value using a valuation technique or techniques that use unobservable inputs, a reporting entity shall ensure that those valuation techniques reflect observable market data (for example, the price for a similar asset or liability) at the measurement date.

Documentation Requirements

A1.2.5 The valuation professional, at a minimum, must document the following in writing within the work file, if applicable:

a. Assessment of fair value of the subject interest at the initial transaction (for example, consideration of unit of account, principal market, market participants, and methods and inputs used to determine fair value)
b. The relevance of all calibrated inputs used to estimate fair value on subsequent measurement dates
c. The evaluation of all inputs used to estimate fair value on subsequent measurement dates
d. The evaluation of management's rationale and support for the inputs used to estimate initial fair value of the subject interest and its FASB ASC 820 hierarchy classification (for example, level 1, level 2, or level 3)
e. The rationale for any changes in valuation approaches or methods used for subsequent measurement dates as compared to the initial transaction

A1.3 Selection of Valuation Approaches and Methods

Topic Overview

A1.3.1 Consistent with accounting and valuation guidance, the three valuation approaches to estimate the fair value of a subject interest are the income, market, and cost (or asset-based) approaches. In addition, there are various valuation methods available for use within each of these three approaches.[2]

[2] FASB ASC 820, *Fair Value Measurement*, refers to valuation approaches and valuation techniques. However, most valuation standards and valuation literature refers to valuation approaches and methods (not techniques). The term *method* as applied within the valuation standards appears consistent with the meaning attributed to valuation techniques in FASB ASC 820. Also, in practice, many valuation techniques are referred to as methods (for example, guideline public company method, guideline company transactions method, and discounted cash flow method). As a result, this framework uses the terms *technique* and *method* interchangeably to refer to a specific way of determining value within an approach.

Valuation Methods

A1.3.2 In determining the appropriate valuation method(s), the valuation professional should consider, among other things, valuation guidance, the history and nature of the subject interest, academic research, peer group company disclosures, and approaches used for similar business entities, assets, or liabilities. The following are examples of methods commonly used to estimate fair value of subject interests:

- Methods under the income approach
  - Discounted cash flow method
  - Income capitalization method
  - Relief-from-royalty method (sometimes referred to as the royalty savings method)
  - Cost savings method
  - Multi-period excess earnings method (MPEEM)
  - Greenfield method
  - Disaggregated method (a sub-set of MPEEM)[3]
  - With-and-without method (sometimes referred to as the premium profit method)
  - Other income approach methods as applicable
- Methods under the market approach
  - Guideline company transaction method
  - Guideline public company method
  - Direct sales comparison method
  - Other market approach methods as applicable
- Methods under the cost approach
  - Adjusted net asset (balance sheet) method
  - Replacement cost method
  - Other cost approach methods as applicable

Considerations for Selection and Reconciliation of Approaches and Methods

A1.3.3 For many valuation engagements, valuation professionals will rely on multiple valuation approaches and methods to estimate a fair value. For example, in a business valuation of a sufficiently profitable operating company, it is common for one form of the income approach (such as discounted cash flow method) and two methods of the market approach (guideline public company method and guideline company transaction method) to be completed. If developed correctly and with good information, the results from each approach or method should provide indications of fair value that are reasonably consistent with each other. If the results are not reasonably consistent, further analysis is generally required to evaluate the factor or factors causing the inconsistencies (for example, one method may be more appropriate than another method based on the facts and circumstances).

When the valuation professional uses multiple approaches as part of the analysis, the valuation professional must reconcile the various approaches into a supportable and reasonable conclusion of value.

[3] This term is designated to describe functional or activity-based methods (for example, the distributor method).

Documentation Requirements

A1.3.4 The valuation professional, at a minimum, must document the following in writing within the work file, if applicable:

a. The process and rationale for selecting the valuation method(s) or excluding potentially relevant valuation methods to estimate the fair value of the subject interest.

b. The process and rationale for selected weighting (or emphasis on) each approach and the method in reconciling various indications of value to reach the final conclusion of value (if more than one approach or method is used)

c. A reconciliation of the results should include these, among other things:

  i. A supporting narrative about the applied methods and their applicability and usefulness to the valuation assignment, the reliability of the underlying data used in their preparation, and an explanation of inputs and assumptions

  ii. An assessment of the reliability of the results obtained and whether any of the results used to reach a conclusion of value are deemed more or less probative of fair value based on information gathered throughout the engagement (Note: The extent of documentation should be commensurate with the level of judgment and qualitative analysis involved in supporting the positive assertion.)

  iii. A clear explanation discussing any apparent inconsistencies in the analysis relative to external or internal documentation or data (for example, contrary evidence), which may then take the form of mathematical calculations when using quantitative weighting

d. An explanation, based on the results of items *a*–*c*, that identifies whether the conclusion of value is based on the results of one valuation approach and method or based on the results of multiple approaches and methods.

A1.4 Prospective Financial Information (PFI)

Topic Overview

A1.4.1 The valuation professional is responsible for evaluating whether the prospective financial information (PFI) provided by management is representative of expected value and properly supported. In circumstances in which the PFI is not representative of expected value, properly supported, or both, the valuation professional must determine the most appropriate way to align PFI and expected value. The valuation professional may elect to (Note: not an all-inclusive list):

a. request management to revise its PFI,
b. adjust assumptions in PFI
c. use either another present value method (for example, discount rate adjustment technique (DRAT), expected present value technique method 1 or 2 (EPVT1 or EPVT2, respectively)), or
d. use an entirely different approach from the income approach

A1.4.2 Prospective financial information is a broad term that encapsulates several types of forward-looking financial information. PFI is any financial information about the future. The information may be presented as complete financial statements or limited to one or more elements, items, or accounts. Common categories include, but are not limited to, break-even analyses, feasibility studies, forecasts, or projections. This type of information is commonly prepared for external financing, budgetary purposes, or calculating the expected return on investments. Furthermore, the manner in which the PFI is expected to be used will usually dictate the type of PFI prepared.

Important: Valuation professionals who obtain management's PFI for use in their valuation procedures must review the PFI with the appropriate level of professional skepticism (see MPF sections 2.16–2.18).

Reasonably Objective Basis

A1.4.3 Since PFI represents future expectations, it is, by its very nature, imprecise. Therefore, the assumptions used in preparation of the PFI must be reasonable and supportable. In order for the valuation professional to determine whether PFI for an underlying asset of the subject entity is reasonable, he or she must compare it to the expected cash flows of the subject interest or entity (for example, expected cash flows might be determined by using probability-weighted scenarios of possible outcomes). In order to evaluate PFI for reasonableness, the valuation professional must use professional judgment to identify the most reliable objective information available.

Understanding Management's Approach to Developing the PFI

A1.4.4 A company's PFI might be routinely prepared by one or more members of management or, in larger companies, an internal functional group often called financial planning and analysis (subsequently referenced as 'management'). Valuation professionals should understand and document how the PFI was developed by management. Management may prepare PFI using a "top-down" method or a "bottom-up" method or some combination of the two. A top-down method starts with aggregate assumptions regarding the entity, and allocates those assumptions across the elements of the entity (such as functional groups or reporting units). A bottom-up method generally begins by collecting data at the lowest level of the entity and then coalescing the expectations to arrive at a unified plan for PFI. Combining the two methods may involve an iterative process. For example, "top-level" management sets certain high-level goals and as a result "mid-level" management revises its initial projections to conform to such high-level goals. However, when mid-level management's revisions do not reflect top-level management's goals, top-level management may revise its goals to reflect the entity's collective best estimates.

A1.4.5 Valuation professionals should be aware of the purpose for which the PFI was prepared. In addition, valuation professionals should understand whether the PFI was prepared using market participant assumptions. Management might prepare conservative PFI (if prepared with a goal of "beating" their plan) or optimistic PFI (if prepared as a goal or incentive). Valuation professionals should strive for objective, reasonable, and supportable PFI relevant for use in the valuation process with the understanding that management bias may exist and, if present, should be properly adjusted to expected cash flows (reflecting market participants' assumptions) in the analysis.

Key Components of PFI

A1.4.6 PFI may be used for a variety of purposes. However, in order for the valuation professional to assess the quality and reliability of the PFI, the key components of the PFI should be identified. These components commonly include, but are not limited to, the following:

- Base year metrics
- Revenue forecasts or revenue growth rates
- Gross margins
- EBITDA/EBIT margins
- Depreciation and amortization (book and tax)
- Effective tax rate
- Capital expenditures
- Debt-free net working capital (DFNWC) requirements
- Other metrics where applicable

Written inquiries of management, or management interviews, will help to establish which of these components are more reliable and which are more subject to judgment.

The Valuation Professional's Assessment of the PFI

A1.4.7 Part of the valuation professional's responsibility is to evaluate the PFI provided by management for reasonableness in general, as well as in specific areas. Factors and common procedures to consider when performing this assessment may include, but are not limited to, these:

- *Comparison of PFI for an underlying asset of subject entity to expected values of the entity cash flows*. The valuation professional should compare PFI for an underlying asset of the subject entity to expected cash flows of the subject interest or entity to evaluate for reasonableness. The evaluation of any differences between PFI and expected cash flows should be thoroughly documented in the work file.

- *Frequency of preparation*. If a designated group of management regularly prepares forecasts, those forecasts are likely to be more consistent and meaningful compared to circumstances when management does not regularly prepare forecasts.

- *Comparison of prior forecasts with actual results*. The valuation professional should complete a comparison of prior forecasts (if they exist) against actual results. This type of analysis will help assess whether management's forecasts tend to be optimistic, conservative, or just generally inaccurate. Many external influences might make forecasting difficult and an inaccurate forecast does not necessarily indicate that management's process in preparing forecasts is deficient.

- *Mathematical and logic check*. It is important that valuation professionals test management's PFI for accuracy. Common errors include (but are certainly are not limited to) (*a*) use of inaccurate cell references in applying functions (such as growth rates), (*b*) simple summation errors (including use of inaccurate cell ranges), (*c*) use of improper functions, (*d*) use of improperly specified "macros" in the context of the use of spreadsheet analyses.

- *Comparison of entity PFI to historical trends*. The valuation professional should compare PFI to historical information and trends focusing on items such as revenue growth, decline, or variability; various levels of profitability; and levels of specific items (such as sales and marketing expense). The valuation professional should also perform other comparisons to internal data or information (such as the planned departure of a key executive). Valuation professionals should scrutinize PFI trends that do not account for long-term (or short-term) limitations. For example, if management builds a forecast indicating a trend of continued improvement in operating margin and there are structural or economic limitations that support an upper-bound limit on operating margins, the valuation professional should know what that reasonable limit is in order to judge how long the trend might continue compared to management's assumptions.

  There are cases in which the outlook for a company differs significantly from its historical performance and other industry information that is available. The former should be infrequent but may occur if the company is significantly changing its business focus, geographical location, or other factors. The latter could occur if a company is in a niche industry with relatively sparse industry information available, or the expectations of the company differ from that of its industry. The primary goal is to have a well-supported and clear explanation as to why the differences exist.

- *Comparison to industry expectations.* The valuation professional should complete an analysis of the PFI relative to the economy, industry, and other external data. This might include comparing key components of the entity's PFI to relevant industry data resources (for example, competitor disclosures, market or industry studies, analyst reports, government reports, or other sources). The valuation professional should keep in mind that though such comparisons can (and should) be displayed in a quantitative fashion (for example, PFI revenue growth rates as compared to industry revenue growth rates), a qualitative analysis must also be performed to evaluate the reasons that the entity's PFI may mirror or diverge from industry data. This includes, but is not limited to, assessing industry data that produces disparate or conflicting expectations. Under such circumstances, the valuation professional might decide to compare a "scatter-gram" of industry data to the entity's key PFI assumptions, rather than comparing single point estimates to means or medians. Regardless of the type of analyses performed, the valuation professional should perform qualitative comparative analyses to help assess where the entity would be best situated, relative to the range of economic and industry data available.

- *Check for internal consistency*. The review of metrics should consist of review of each metric individually as well as a concurrent review to evaluate whether all of the metrics used in the analysis are collectively consistent with each other (for example, PFIs with aggressive growth rates and improving margins generally would not be collectively consistent with forecasts for disinvestment of capital investments or expenditures, or significant reduction in sales and marketing expenses).

Documentation Requirements

A1.4.8 The valuation professional, at a minimum, must document the following in writing within the work file, if applicable:

a. The identification of the party or parties responsible for preparation of the PFI
b. The process used to develop the PFI from the perspective of market participants
c. The explanation of key underlying assumptions used in the PFI such as revenue forecasts, percentage of market share captured by the entity, or how the projected profit margins compare to those of other market participants
d. The steps used in, and results of, testing the PFI for reasonableness including, but not limited to
  i. a comparison of the PFI to expected cash flows,
  ii. a comparison of the PFI to historical performance,
  iii. a comparison and evaluation of prior year's PFI against actual historical results (when prior PFIs are available), and
  iv. an analysis of the forecast relative to economic and industry expectations
e. An analysis of any evidence that contradicts management's assumptions or conclusions used in their PFI
f. The rationale for any adjustments made to management's PFI
g. Evidence that a mathematical and logic check was performed
h. The components of the prospective balance sheet and cash flow statements, if available

A2. BUSINESS VALUATION GUIDANCE

A2.1 Each valuation engagement is unique due to the myriad of facts and circumstances involved in each assignment. However, there are core considerations that a valuation professional must consider and document when performing this type of engagement. This section identifies the most common components of an assignment for which the valuation professional is retained to provide a conclusion of value of a business or business interest. It delineates requirements that govern the scope of work and extent of documentation. It is not intended to address valuation theory or to be a how-to regarding valuation steps.

A2.1.1 This application section covers several significant topics related to valuations performed for the purposes of providing a conclusion of value. They are as follows:

- Discount rate derivation
- Growth rates
- Terminal value multiple methods and models
- Selection of, and adjustments to, valuation multiples
- Selection of guideline public companies or guideline company transactions
- Discounts and premiums

A2.2 Discount Rate Derivation

Topic Overview

A2.2.1 Given the spectrum of discount rate models that exist, the valuation professional must carefully assess which model is most appropriate for a particular task and ensure that rationale is well documented in the engagement work file.

Documentation Requirements

A2.2.2 The valuation professional, at a minimum, must document the following in writing within the work file, if applicable:

a. Cost of equity

i. The rationale for the selection of a discount rate model or models.
ii. The source of the risk free rate used in the calculation and explain the rationale for its selection.
iii. The source or calculation of the equity risk premium and rationale for its use.
iv. An explanation of the calculation of beta of the guideline public companies (or other industry risk adjustments) and the rationale for the method used (or rationale for the use of another source of beta) when using CAPM.
v. The rationale for selecting the specific beta when using CAPM, including “adjusted betas.”
vi. The amount of size premium, the source of the premium data and the rationale for selecting the concluded premium (even if that premium is zero) when applicable.
vii. The amount of company-specific risk adjustment, if any, the rationale for application of the adjustment, and the objective and quantitative data sets used to develop the specific concluded adjustment. Qualitative factors may be considered in determining whether a company-specific

risk adjustment should be applied; however, quantitative support must also be provided to support the amount of the adjustment (note: this quantitative support does not include the valuation professional's judgment or the level of company-specific risk premiums observed in other valuations). This is typically the most subjective part of the derivation of the cost of equity capital and, therefore, documentation related to this feature should be the most extensive. Comparisons to internal rate of return (IRR) calculations or to the results of other discount rate models may aid in supporting a company-specific risk adjustment. In instances when a company-specific risk premium has been used in prior valuations (for example, a recent purchase price allocation) it is appropriate for the valuation professional to explain why no company-specific risk premium was used in subsequent valuations.

viii. The amount of country-specific risk adjustment the source of the adjustment data (if applicable), and the rationale for selecting the concluded adjustment (even if that adjustment is zero).

ix. Other significant assumptions should be clearly explained and documented as well as other inputs that may apply depending on the models chosen by the valuation professional.

b. Cost of debt

i. The source(s) of data used and the rationale for use of the source(s) (for example, spot market YTM on bonds with a debt rating commensurate with the credit-worthiness of the subject entity).

ii. The rationale to support the selection of the pretax cost of debt and any additional source documents

iii. The rationale for the statutory tax rate used to adjust the pretax rate to an after tax rate.

c. Capital Structure

i. The capital structures of the guideline public companies, industry sector, or subject company and rationale for selection of the time frame over which they are measured, as applicable.

ii. The market participant capital structure selected in the calculation of the WACC and rationale for its selection.

d. Other

i. When other discount rate models are used instead of CAPM or WACC, the valuation professional must provide within the work file details on

(1) the model specification,
(2) inputs chosen and the sources of those inputs,
(3) sub-methodological selections made, and
(4) why, if applicable, any adjustments were made to the model results.

A2.3 Growth Rates

Topic Overview

A2.3.1 The growth rate (GR) can be one of the most significant inputs used in the application of an income approach. Since even minor changes in the GR can have a significant impact on the total value of the subject entity, intangible asset, or liability, it is of critical importance for the GR to be developed with a supportable basis.

Documentation Requirements

A2.3.2 The valuation professional, at a minimum, must document the following in writing within the work file, if applicable:

a. The rationale, support, and reasonableness assessment for the selected growth rate(s) used in the analysis.
b. The rationale for all inputs that comprise the terminal or long-term GR.
c. When estimating the value of an entity, the rationale for selection of the terminal period when cash flows are capitalized into perpetuity. For example, if company management provides a five-year forecast, the valuation professional should not assume the period after the forecasted period should be the point where cash flows are capitalized into perpetuity without performing additional analysis.
d. When estimating the value of an entity, the rationale for selection of the GR to be used for capitalization of cash flows into perpetuity. For example, if company management provides a five-year forecast, the valuation professional should not assume the terminal-period GR is appropriate after the forecasted period for capitalizing cash flow into perpetuity without performing additional analysis.
e. Rationale for the use of other models (for example, the H-model, also referred to as the "fading growth" model) when growth at the end of the projection period is not expected to be sustainable.

A2.4 Terminal Value Multiple Methods and Models

Topic Overview

A2.4.1 When using the income approach, the valuation professional can select and use several terminal methods or models to estimate terminal value. The following is a partial list of these methods and models used by valuation professionals (this list is not exhaustive):

- Gordon growth model (also referred to as the constant growth model or perpetual growth model)
- H-model (also referred to as the fading growth model)
- Two-stage model
- Terminal exit multiples (for example, revenue, EBITDA, or EBIT multiples)
- Key value driver formula
- Other methods (for example, salvage value or disposal costs)

Documentation Requirements

A2.4.2 The valuation professional, at a minimum, must document the following in writing within the work file, if applicable:

a. The rationale for selecting the appropriate terminal value methods(s) or model(s)
b. The rationale and support for each key assumption used in the terminal value method or model such as, as applicable
   i. the discount rate
   ii. terminal or perpetual growth rate
   iii. second-stage or high-growth growth rate for the H-model and two-stage model,
   iv. high growth stage duration or life for the H-model and two-stage model,

v. return on invested capital (ROIC)
vi. terminal market multiple (exit multiple)

c. If more than one terminal value method or model is used, the rationale for the selected weighting assigned to each terminal value method or model and to reconcile the various indications of terminal values

A2.5 Selection of, and Adjustments to, Valuation Multiples

Topic Overview

A2.5.1 Market multiples are key measures that provide indications of the value placed on certain businesses or securities relative to certain financial (or other) characteristics of the business entity or security. Market multiples allow, for example, comparison of the value placed on one company to the value placed on a similar security of another company. Valuation professionals should document their thorough analysis of factors that best explain the differences in multiples among the guideline public companies or securities selected and between those guideline public companies and the multiple(s) selected for the subject company.

A2.5.2 The two broad classifications of multiples include invested capital multiples and equity multiples. Because each category measures very different expressions of fair value, the valuation professional must ensure the multiples selected have a logical relationship to the fair value required by market participants.

Documentation Requirements

A2.5.3 The valuation professional, at a minimum, must document the following in writing within the work file, if applicable:

a. The market multiples of the guideline public companies and the source of the data used. The exhibit should include the numerators and denominators used in each multiple. Include a discussion of any assumptions necessary for these calculations.

b. The process used to select a multiple based on a consideration of all the comparative analyses performed, and the rationale for judgments along the way. This should include, but not be limited to, discussion of (*a*) the decision regarding equity versus invested capital multiples, (*b*) the decision regarding the time frame of earnings or other metrics, (*c*) analysis of the comparative performance measures and how the analysis affected the selection of the multiples applied to the subject entity, (*d*) the comparative qualitative and quantitative analysis that affected the selection of the multiples applied to the subject entity, (*e*) the selection of the starting point of the multiples within the range, and (*f*) the rationale for adjustments, if any, to the starting point multiples to determine multiples applicable to the subject entity.

c. The identification of each significant accounting difference and adjustments made, if any, for better comparability.

d. The calculation of the multiples of the entire company (if reporting units are being analyzed in a publicly traded company) and rationale for differences in the multiples used in valuing the subject entity.

e. The calculation of multiples implied in a recent transaction and rationale for differences in the multiples used in valuing the subject entity.

A2.6 Selection of Guideline Public Companies or Guideline Company Transactions

Topic Overview

A2.6.1 The selection of guideline public companies and guideline company transactions are appropriate for valuation methods under the market approach to estimate the fair value of an entity.

A2.6.2 The valuation methods classified under the market approach provide the valuation professional with potentially meaningful information that is the result of historical transactions by unrelated parties. The fair value measurement is derived from guideline public companies or guideline company transactions that indicate a value of the subject enterprise.

Under the market approach the following two methods are the most relevant for valuations used in financial reporting:

1. Guideline public company method
2. Guideline company transaction method

Both methods leverage publically available information; however, valuation professionals must use professional judgment when assessing the relevance of this information for the development of supportable and reasonable conclusions of value.

In addition, the selection of guideline public companies is used to estimate the cost of capital when using the CAPM. After concluding on the discount rate, the fair value of a business entity is estimated under the income approach.

Documentation Requirements

A2.6.3 The valuation professional, at a minimum, must document the following in writing within the work file, if applicable:

a. The understanding of the subject entity, including identification of which characteristics are appropriate for selection of guideline public companies or guideline company transactions.
b. The process used in the selection of the guideline public companies or guideline company transactions, and an indication of specific criteria used in that selection. This would include the rationale for the inclusion or exclusion of specific guideline public companies or guideline company transactions if that selection was based on subjective factors (instead of specific criteria such as NAICS code, transaction date, or existence of a certain level of profitability).
c. The identification and description of the selected guideline public companies or guideline company transactions.

A2.7 Discounts and Premiums

Topic Overview

A2.7.1 The value of an interest in an entity may be measured on a controlling or noncontrolling interest basis and on a marketable or nonmarketable (meaning less marketable) or illiquid basis. Valuation professionals must consider these characteristics and determine what impact they have on the final conclusion of value, if any.

Documentation Requirements

A2.7.2 The valuation professional, at a minimum, must document the following in writing within the work file, if applicable:

a. The understanding of the subject company's capital structure and concomitant rights and obligations of, and restrictions on, each class of capital.

b. The rationale for why a premium or discount, if any, is appropriate for the valuation methods used with proper references to supporting documentation (for example, executed contracts, registration statements, corporate documents, state law, and so forth).

c. The rationale for selection of methodology used to determine the appropriate magnitude of premium or discount.

d. A discussion of how market evidence and data is used and adjusted for application to the subject interest.

e. How the discount or premium was applied to the valuation method (for example, to the equity component of the total-invested-capital multiple (TIC), or to the TIC entire multiple or to the equity or TIC value indication, income approach, and so forth).

f. Identification, and description where necessary, of each significant input used to arrive at the applied premium or discount. This should include, at a minimum

   i. resources used to determine input (for example, company specific data, commercial or governmental databases, and so forth)

   ii. clear description of how inputs into a model were calculated (for example, inputs used to determine volatility, adjustments made for survivorship bias, and so forth), and

   iii. any other quantitative and qualitative considerations

A3. VALUATION OF INTANGIBLE ASSETS, CERTAIN LIABILITIES, AND INVENTORY GUIDANCE

A3.1 Valuation professionals will typically value intangible assets such as trademarks and trade names, customer relationships, backlog and contracts, developed technology, and in-process research and development technology for purposes of a business combination, an asset acquisition, or an impairment analysis. In addition, valuation professionals who focus on business valuations will commonly estimate the fair value of certain liabilities and assets such as contract assets and liabilities and inventory for financial reporting purposes.

Each valuation engagement is unique due to the myriad of facts and circumstances that make up each project. However, there are core considerations that a valuation professional must evaluate when commencing an engagement valuing certain assets and liabilities. This section provides guidance on the most common components of an engagement in which the valuation professional is tasked with providing a conclusion of value of one or more intangible assets, contract liabilities, and inventory.

A3.1.1 This application section covers several significant topics related to valuations performed for the purposes of providing a conclusion of value. They are as follows:

- Identified assets and liabilities
- Operating rights
- Life for projection period
- Customer-related intangible assets
- Royalty rates
- Contributory asset charges
- Tax amortization benefit
- Discount rates/IRR/WARA
- Reconciliation of intangible asset values
- Contract liabilities
- Inventory

A3.2 Identified Assets and Liabilities

Topic Overview

A3.2.1 FASB ASC 805 provides guidance on business combinations and requires that the acquirer separately measure and recognize, apart from goodwill, the fair value of identifiable assets acquired and liabilities assumed at the acquisition date (note: IFRS 3 provides similar guidance).

A3.2.2 The identification of assets and liabilities is the responsibility of management, even if the valuation analysis is performed, in whole or in part, by third-party specialists retained by management.

A3.2.3 All potential assets and liabilities should be evaluated, discussed, and agreed upon among the valuation professional and client as existing or meeting recognition criteria. The valuation professional and client should also agree about whether a fair value measurement is required. This process should be documented by the valuation professional in his or her work file.

Documentation Requirements

A3.2.4 A key component of a FASB ASC 805 analysis is management's identification of, and agreement regarding, the assets and liabilities to be valued from the perspective of a market participant. The valuation professional, at a minimum, must document the following in writing within the work file, if applicable:

a. Analyses and discussions with management that identify key value drivers and related assets associated with those value drivers, including the rationale for the transaction (for example, strategic, financial), and whether the acquisition was made in a competitive bid environment

b. The description in sufficient detail of all the assets and liabilities being valued such that an experienced professional not associated with the valuation engagement could identify the assets and liabilities by accounting groupings, segment or reporting units, and so forth (note: the identification of assets and liabilities is the responsibility of management and so the valuation professional should ask management for properly documented support)

c. The rationale for the inclusion in the valuation analysis of the selected assets and liabilities (for example, assets that met the separability, legal and contractual criteria in FASB ASC 805, if applicable)

d. The rationale for excluding from the valuation analysis certain assets and liabilities (that might otherwise be considered reasonable for inclusion)

e. The extent to which the valuation professional used or relied on information contained in valuation reports with earlier measurement dates (particularly as it may relate to calibration), including valuation reports prepared by third-party specialists or other valuation professionals

f. The description of the identified principal market and market participant assumptions

A3.3 Operating Rights

Topic Overview

A3.3.1 Historically, certain entities, particularly in the telecommunications, broadcasting, and cable industries, adopted a "residual method" to allocate fair value to certain intangible assets (that is, their operating rights) that, it was believed, could not be separately and directly valued. Therefore, the residual method was used to allocate fair value to an "indistinguishable" intangible asset, resulting in either zero goodwill or recognition of goodwill in a manner outside of the guidance in FASB ASC 805.

This option was eliminated with the issuance of the guidance provided in FASB ASC 805-20-S99-3. This provision now requires that all intangible assets, other than goodwill, be valued using a direct value method. This includes operating rights.

Intangible assets classified or designated as operating rights typically include (but are not limited to) these:

- FCC and other government granted licenses (for example, wireless or broadcast spectrums, casino license, certificate of need)

- Commercial franchises (for example, fast food restaurant)
- Governmentally granted monopolies or franchises (such as in the cable industry)

A3.3.2 In order to value operating rights, the valuation professional must first obtain from management an inventory of properly identified intangible assets (see Application of the MPF section A3.2). Once management has properly identified the operating right or rights to be valued, where applicable, the valuation professional needs to document how he or she determined the most appropriate valuation approach based on the facts and circumstances pertaining to the intangibles. The income approach is generally most appropriate for valuing operating rights, and the two most common valuation methods are (1) MPEEM; and (2) the Greenfield method.

A3.3.3 The MPEEM involves the valuation professional's use of management's PFI attributable to the *specific asset (or group of related assets*) tempered by market participant assumptions. The cash flow stream is further burdened with contributory asset charges (CACs), and then discounted to arrive at an indication of the value of the operating rights as of the valuation date.

A3.3.4 The Greenfield method assumes the intangible asset being valued is the only asset owned by the entity and incorporates other assumptions about start-up costs and invested capital needed to use the asset. Once the projected net cash flows are identified, the valuation professional discounts them back with a discount rate commensurate with what market participants would expect for a similar asset. It treats the asset as a business opportunity to be exploited as a start-up on day-one.

Documentation Requirements

A3.3.5 The valuation professional, at a minimum, must document the following in writing within the work file, if applicable:

a. The process applied and conclusions reached on the sufficiency of management's identification and analysis of operating rights and related cash flows

b. The process applied and conclusions reached by the valuation professional to select the appropriate valuation methodology for the operating rights

c. When using the MPEEM to estimate the fair value of the operating rights,

   i. the identification and valuation of the contributory assets and

   ii. support for the required rates of return on and of contributory assets

d. When using the Greenfield method to estimate the fair value of the operating rights, the rationale and the support for the length of ramp up period, and the start-up costs necessary to bring the entity up to a market participant operating level

e. The appropriate requirements in Application of the MPF sections A1.4 (PFI), A3.2 ("Identified Assets and Liabilities"), and A3.7 ("Contributory Asset Charges")

A3.4 Life For Projection Period

Topic Overview

A3.4.1 This section provides a brief discussion of estimating the economic life of noncontractual customer-related intangible assets. An asset's economic life is the total period of time over which an asset is expected to generate economic benefits. In estimating an intangible asset's economic life, valuation professionals should consider the financial projections of the subject entity, its industry, the economy or economies of the particular geographic regions in which the subject entity operates or sells its products or services, and market participant assumptions.

A3.4.2 When using the income approach, the economic life is equal to the period over which cash flows are projected, and the fair value of an asset is equal to the sum of the present value of cash flows expected to be generated by the asset over its economic life. In the application of the income approach, the valuation professional must evaluate a stream of discrete cash flows over a defined period of time that is projected to reflect the estimated future revenue and expenses of a subject entity. Beyond the discrete period, a terminal value component captures the future value of cash flows that are expected beyond the discrete projection period (if appropriate). The discrete projected cash flows are typically from management's PFI and the projection periods can vary (for example, 1 year for a capital budget, to perhaps 40 years in the case of a specific project, or an asset's life). The valuation professional is responsible for selecting the appropriate cash flow period that must be based on the appropriate market participant's expected economic life of the assets, not that of the current owner.

A3.4.3 For customer-related intangible assets that are not subject to contracts with a defined length, the economic life is a function of the growth of existing customer revenue net of attrition. Generally, the projected cash flows for customer-related intangible assets approach but never arrive at zero, which would imply an infinite projection period. Consequently, a valuation professional should document the methods, assumptions, and inputs used to determine when the life of the projected period should be truncated in order to capture the value of the cash flows expected during the estimated economic life of the customer-related intangible asset. Several common methods used in practice are outlined in technical literature (see MPF section 4, *Authoritative and Technical Literature*).

A3.4.4 An economic life is estimated only for purposes of valuing the subject interest. Although this information may assist management in its determination of the amortizable life of the subject interest, it is not the valuation professional's responsibility to conclude a specific life for amortization purposes. Thus, the valuation professional's report should not provide any conclusions of amortization life and must clearly state that determining the pattern of amortization life of the subject interest is management's responsibility.

Important: Though management may retain a valuation professional to consult on the pattern of amortization life of a subject interest, management is always responsible for the estimates and results.

Documentation Requirements

A3.4.5 The valuation professional, at a minimum, must document the following in writing within the work file, if applicable:

a. The rationale for the selected projection period
b. Support for the steady state cash flow to be used for the estimated cash flows beyond the discrete cash flow period (for example, comparisons to industry margins, growth rates, and so forth)
c. Support for ongoing growth or decline after the steady state cash flow is reached
d. The process and rationale for selecting the economic life of the intangible asset, including consideration of market participant assumptions
e. Rationale for selection of the specific "threshold" or truncation point used in the analysis
f. Discussions with company management and company's auditors about materiality considerations

A3.5 Customer-related intangible assets

Topic Overview

A3.5.1 The fair value of an intangible asset is typically based on future economic benefits expected from the ownership of the intangible asset for the duration of its expected economic life. This section provides a discussion of estimating an attrition rate for noncontractual intangible assets such as customer-related intangible assets.

When valuing noncontractual customer-related intangible assets, the valuation professional is usually required to perform an attrition analysis of the subject intangible asset. The economic life of customer-related assets is a function of the expected growth of existing customer revenue net of attrition. Attrition is the measurement of the rate of loss of existing customers. The addition of new customer relationships in the future should be excluded from the analysis.

A3.5.2 An attrition analysis is, by necessity, based on available historical data. However, in order to estimate the subject intangible asset's fair value, valuation professionals must identify and reflect the expected future economic life in the analysis. Just as in other areas of valuation, history can be a useful guide to the future; however, valuation professionals should not assume that the future will resemble the past. Accordingly, valuation professionals must analyze historical data, and assess the relevance of the results as it relates to future expected revenues for the subject intangible asset.

Valuation professionals should avoid accepting unsupported representations by management as they relate to attrition inputs. In the absence of company-specific attrition information, valuation professionals may look to surrogate similar businesses, industry data, and so forth.

When estimating a reasonable attrition for customer-related intangible assets, the following factors should be considered:

- Historical customer attrition data as well as industry information on competitor customer attrition (if available)

- Projected attrition based on discussions with management and corroborated by industry and competitor studies (if available)
- Unit-based attrition versus revenue-based attrition

Documentation Requirements

A3.5.3 The valuation professional, at a minimum, must document the following in writing within the work file, if applicable:

a. The process and rationale for the methods used to determine historical and expected future attrition patterns (note: this includes an explanation for any differences between historical and future attrition patterns, if applicable)
b. The source and description of the data used to determine historical and future attrition estimates
c. The quantitative and qualitative impact of any relevant macro or micro economic influences, or both, incorporated into the attrition analysis
d. The extent of independent analysis performed by the valuation professional
e. The extent of reliance upon data provided by management (and the extent of the procedures performed related to the accuracy and completeness of the data provided)

A3.6 Royalty Rates

Topic Overview

A3.6.1 The relief from royalty method (also known as the ”royalty savings” method), is based upon the presumption that the ownership of intellectual property assets or rights such as trademarks, trade names, or patents is a valuable asset. Accordingly, the foundation behind the valuation of these assets is that an owner or buyer would be relieved from the need to pay a royalty for the right to use an intellectual property asset. Therefore, market-based royalty rates appropriate for a specific intangible asset must be estimated. If market based royalty rates are not available, simulated royalties or rules-of-thumb rates are often used.

A3.6.2 Consistent with the guidance in FASB ASC 820, development of inputs for this method using observed market data, such as observed royalty rates in actual arm’s length negotiated licenses, is preferable to more subjective unobservable inputs, such as those that might be found in rules-of-thumb rates.

> ***Important:*** Valuation professionals should also understand the terms of observed royalty rates—whether there are upfront payments, graduated royalty rates, or a percentage of revenue versus royalty per unit sold. Moreover, it is important to understand what expenses, if any, a licensee is responsible for versus a licensor.

Documentation Requirements

A3.6.3 When selecting the royalty rate, the valuation professional, at a minimum, must document the following in writing within the work file, if applicable:

a. The criteria used to search for third-party licensing agreements and the rationale for using or excluding an initial list of data in the analysis *b.* The lists and data produced during the search

c. The process used in analyzing the third-party licensing agreements and support for the selection of the royalty rate used

d. The rationale for using or excluding licensing arrangements of the subject entity when determining a reasonable royalty rate

e. The reasonableness of all rules of thumb methods considered and used in estimating or supporting a royalty rate to value the subject asset

f. Identification of sufficient excess earnings or cash flow to provide economic support for the selected royalty rate

A3.7 Contributory Asset Charges

Topic Overview

A3.7.1 Contributory assets are defined as any tangible or intangible assets used in the generation of the cash flows associated with the subject intangible asset that is being valued. Each CAC is a charge against revenues in a cash flow projection to reflect a fair return on or return of (or both) contributory assets used in the generation of the cash flows from the intangible asset being valued. Contributory asset charges once determined are typically allocated based on revenues.

A3.7.2 Under the income approach, the MPEEM is often used to estimate the fair value of certain intangible assets such as customer relationships and technologies such as in-process research and development assets. Under this method, the PFI for the business serves as the starting point for the analysis of the subject intangible asset.

A number of areas of diversity still remain in the application of the MPEEM and in the estimation and application of CACs.

Documentation Requirements

A3.7.3 The valuation professional, at a minimum, must document the following in writing within the work file, if applicable:

a. The identification of all the contributory assets required to support the subject intangible asset that is being valued. In addition, an explanation should be provided if an intangible or tangible asset was valued in the business combination analysis but not included as a contributory asset. The following specifics should be provided, along with rationales for their selection when appropriate:

- i. Working capital
  - (1) The appropriate market participant level
  - (2) The required rate of return
  - (3) The working capital charge and an explanation as to how it is calculated for each projected period
- ii. Land
  - (1) The appropriate market participant level of land and its associated fair value

(2) The required rate of return
(3) The land charge and an explanation as to how it is calculated for each projected period

iii. Fixed assets (not including land)
(1) The appropriate market participant level of fixed assets and the economic life for each fixed asset category
(2) The required rate of return
(3) The return *on* fixed asset charge and an explanation as to how it was calculated for each projected period
(4) The return *of* fixed asset charge and an explanation as to how it was calculated for each projected period (for example, as depreciation, amortization, or in the expense structure of the entity)
(5) Any practical expedient method used (for example, "smoothed" percent of revenues)

iv. Intangible assets valued using the relief-from-royalty method
(1) The appropriate royalty rate
(2) An explanation should be provided for instances
- when the royalty rate "charge" is different from the royalty rate used to estimate the fair value of the intangible asset such as a trademark or trade name or
- when an intangible asset such as a trademark or trade name is not valued but a royalty rate charge is still applied in the valuation analysis

v. Assembled workforce and other intangible assets
(1) The assumptions used to estimate the fair value of the assembled workforce and other intangible assets
(2) An exhibit showing the calculation of the value of the assembled workforce or other intangible assets
(3) The required rate of return
(4) The intangible asset charge and an explanation as to how it was calculated

b. An explanation if the number of years the contributory asset charges applied are different from the economic life of the asset, and an explanation if the contributory asset charge varies from year to year

> **Important:** For any other special situations or assets, explain whatever considerations are used and document those considerations.

A3.8 Tax Amortization Benefits (TAB)

Topic Overview

A3.8.1 When estimating the fair value of an entity or an intangible asset, the tax amortization benefit (TAB), if any, should be considered to reflect the incremental cash flows (or increment value) resulting from the tax deduction and related tax savings generated by the tax amortization of intangible assets and goodwill in a taxable transaction. The tax benefit should be included only where appropriate.

A3.8.2 A TAB is generally considered appropriate when estimating the fair value of an entity using an income approach for a presumed taxable transaction. However, when the cost approach (unless a cost savings method is considered) or the market approach is used, a TAB is not appropriate (*a*) under a non-taxable transaction, (*b*) when pre-tax costs are expended, or (*c*) when the price paid reflects the full fair value of the entity.

A3.8.3 US GAAP implies a TAB be included when estimating the fair value of an intangible asset regardless of whether the asset was acquired in a taxable or non-taxable transaction. The fair value of the intangible asset includes its inherent tax benefits from amortization.

In addition, charges for contributory assets are generally based on the fair value of intangible assets inclusive of those same tax benefits of amortization because the resulting fair value would be the basis for economic rent if such contributory assets were to be truly leased.

A3.8.4 If a pre-tax cost approach is used to estimate the value of an intangible asset, the addition of a TAB is not commonly considered appropriate, whereas the addition of a TAB is commonly considered appropriate with a cost savings method (that is, a form of the income approach).

Documentation Requirements

A3.8.5 The valuation professional, at a minimum, must document the following in writing within the work file, if applicable:

a. The valuation professional's understanding of the market participant tax jurisdiction requirements to determine
   i. the appropriateness of the TAB,
   ii. the amortization method, whether a straight-line amortization method or an accelerated amortization method can be used,
   iii. the tax amortization life of the intangible asset (under current U.S. tax law, a straight-line 15 years is used to calculate the TAB of the intangible asset and goodwill); however, an explanation should be provided when an assumption other than a straight-line 15 years is used (for example, in other tax jurisdictions), and
   iv. the rationale for the market participant tax rate

b. The rationale for selecting the discount rate used to estimate the TAB—whether it is the discount rate used to estimate the fair value of the intangible asset, the WACC, or another rate to estimate the TAB

c. The consideration of the TAB in either a taxable or nontaxable transaction when performing a discounted cash flow or internal rate of return analysis

d. The interaction with the WARA analyses (for example, pre-TAB versus post-TAB)

e. The consideration of the TAB in circumstances where foreign transactions are conducted and the TAB may or may not be applicable

A3.9 Discount Rate / IRR / WARA

Topic Overview

A3.9.1 In order to determine the appropriate discount rate or required rate of return to apply to each of the assets, valuation professionals must first determine the overall after-tax discount rates. The discount rate considered appropriate for the entity serves as the initial basis for the intangible and tangible assets' required rates of return. If the analysis is tied to a transaction, an internal rate of return (IRR) can be calculated based on the purchase price and the forecasted cash flows. Also, often a WACC is developed for the subject entity. The WACC is both a weighted average return on the invested capital and approximation of the weighted average return on net assets used in the generation of the subject entity's cash flows. Each of the assets has its own risk profile within the context of the overall entity WACC. As a means of testing the relative consistency of the rates of return for the various assets, valuation professionals may perform a calculation of the weighted average return on assets (WARA). Comparisons of the WARA results with the WACC results and IRR calculation can be useful diagnostic procedures.

A3.9.2 It is generally understood that the risk profile of an entity's assets tends to increase the further down the balance sheet they are listed. In estimating the WARA, varying rates of return are typically assigned to specific assets:

- Working capital
- Land
- Net other tangible fixed assets
- Intangible assets including assembled workforce and implied goodwill

The rates of return are selected based on the risk and return characteristics of the asset being valued. Often, the rate of return estimated for working capital, land and net tangible fixed assets is less than the WACC and the rate of return estimated for intangible assets is greater than the WACC (although there are exceptions to this and the rate of return on the assembled workforce is often equal to the WACC). Rates of return estimated for intangible assets are influenced by, but not necessarily limited by, the cost of equity in the WACC. Such estimates provide the inputs for the return for the overall entity implied by the WARA. The purpose of the WARA calculation is to assess the reasonableness of the asset-specific returns for identifiable intangible assets, tangible assets, and the implied or calculated return on goodwill. Because the WARA and WACC are indicators of the market participant expected return of the overall entity, the two metrics can be compared and contrasted to identify any adjustments required to the estimate of discount rates assigned to the various assets. In the case of an asset acquisition (defined by FASB ASC 805-50-05-3 as "a transaction in which the assets acquired and liabilities assumed do not constitute a business") or in cases of an over or underpayment for the business, a WARA calculation as a diagnostic may not be as useful in assessing the reasonableness of asset-specific returns.

WARA Under a Taxable Transaction Versus Nontaxable Transaction

A3.9.3 When a business combination is structured as a taxable transaction, the PFI and purchase price are likely to reflect tax benefits. However, when estimating the WARA under a nontaxable transaction, the PFI may not include the tax benefits of amortization and depreciation implicit in the fair value of the underlying assets. Therefore, valuation professionals should make an adjustment to the total consideration used in the WARA calculation. Because the fair value of an individual asset would not change based on the tax structure of the transaction, individual intangible asset values include the TAB and fixed asset values include the tax benefit of increased depreciation. Therefore, the entity transaction value must also be increased by the additional tax benefit as if the deal had been structured as a taxable transaction for comparison purposes in a WARA analysis. This adjustment is necessary to ensure consistency in the WARA analysis because the fair values of depreciable and amortizable assets would incorporate a proportional share of the tax benefit regardless of the structure of the transaction. If this adjustment is not applied, the potential exists to understate the implied goodwill and, therefore, distort the stratification of the discount rates and reconciliation of the WARA to the WACC and IRR.

Documentation Requirements

A3.9.4 The valuation professional, at a minimum, must document the following in writing within the work file, if applicable:

- *a.* A rationale for the applicable market participant tax rate used to estimate rates of return for each asset
- *b.* A rationale for the after-tax rates of return for each asset used in the WARA calculation
- *c.* An explanation of any discrepancies between the WARA, IRR, and WACC
- *d.* All adjustments in the WARA calculation in the event of a nontaxable transaction

A3.10 Reconciliation of Intangible Asset Values

Topic Overview

A3.10.1 Intangible assets can be valued either on their own or in the context of their use within a business enterprise. When valued as stand-alone assets, valuation professionals consider the purpose of the valuation, the data pertaining to the assets and specific market factors that influence the value of the intangible asset. When valued as part of an ongoing business enterprise, additional considerations are necessary to ensure that the intangible assets are properly valued.

Because the business entity is an aggregation of all cash flows (for example, revenues and expenses), its fair value may be expected to set the upper limit for the value of all the underlying tangible and intangible assets, including goodwill unless it is a bargain purchase. In a business combination, goodwill is generally the residual amount of the consideration transferred less the net of fair values of the identifiable assets acquired and liabilities assumed. A reconciliation of the individual asset values with the business enterprise value should be performed.

Additional testing and diagnostic procedures include an analysis of the WARA, the WACC, and, in the case of a business combination, the IRR.

Considerations for Selection and Reconciliation of Approaches and Methods

A3.10.2 In the valuation of intangible assets, most often only one approach or method is used. In the event a valuation professional uses multiple approaches as part of the analysis, the valuation professional must reconcile the various approaches into a supportable and reasonable conclusion of value.

A3.10.3 Within the context of a business combination engagement, the valuation professional will have developed a WACC for use in discounting the aggregate cash flows of the business and compared it to the IRR developed from the present value of the PFI and the purchase price of the acquired entity. An IRR that is significantly different from the WACC requires additional analysis of the purchase price, the PFI, and the WACC. When settled, the WARA that was developed for the assets that make up the business enterprise (normal working capital, fixed and intangible assets, and goodwill) can be compared to the WACC. If the results of the WARA are significantly different from the results of the WACC, a reassessment of asset values, estimated returns, and market participant assumptions is necessary.

Documentation Requirements

A3.10.4 The valuation professional, at a minimum, must document the following in writing within the work file, if applicable:

- *a.* The aggregate projections and cash flows of the entity with a description of who prepared them (for example, management, subcontractor, third-party specialist, valuation professional).
- *b.* In a business combination, an IRR analysis, comparison to the WACC, and any changes to PFI resulting from this analysis.
- *c.* The WACC, its derivation, and sources of information
- *d.* The results of the WARA compared to the results of the WACC, including any commentary about significant or relevant observations based on the valuation professional's professional judgment.
- *e.* Reconciliation of the results of the WARA and results of the WACC, if applicable (***Important*****:** If these cannot be reconciled the work file must include documentation of the steps and analysis undertaken by the valuation professional that illustrate the attempted reconciliation, and include explanation about why the disparity exists).
- *f.* Evaluation of a subject's goodwill value as a percentage of the purchase price to market data (if available) provides an indication of whether or not the subject company's asset values are in line with broad marketplace expectations. This should include
    - i. a narrative about the results and whether the results are contrary to or supportive of the analysis and
    - ii. the name of sources of information for analysis of goodwill relative to the other assets acquired and to total transaction value.
- *g.* Discussions of any apparent underpayments or overpayments for the entity. In the event of an underpayment, valuation professionals should document their discussion with the company, and auditor if relevant, confirming that it is management's responsibility to assess whether a bargain purchase exists.

A3.11 Contract Liabilities

Topic Overview

A3.11.1 In a business combination, a legal performance obligation may give rise to the recognition of an asset and a liability by the acquirer. For instance, a revenue arrangement may result in the assumption of a legal obligation to provide goods or services, requiring the recognition of both contract liabilities and a customer related intangible asset. Therefore, the contract liabilities and acquired customer assets are recognized separately. In this section, we will cover only contract liabilities.[4]

A3.11.2 The fair value of contract liabilities is measured at the date of acquisition. There are generally two methods of measuring the fair value of contract liabilities:

- *Bottom-up or cost build-up approach*. The cost build-up approach is based on a market participant's estimate of the costs (excluding marketing, recruiting, and training) that will be incurred to fulfill the obligation plus a normal profit margin for the level of effort or assumption of risk by the acquirer after the measurement date. Furthermore, the normal profit margin should be from the perspective of a market participant and should not include any profit related to selling or other efforts completed prior to the acquisition or measurement date.
- *Top-down approach.* An alternative approach for measuring the fair value of contract liabilities is by obtaining evidence from market information about the amount of revenues an entity would receive in a transaction to provide the remaining obligation under the contract, less the selling effort (which has already been performed by the acquiree prior to the acquisition date) and the profit margin on that selling effort. Also, the normal profit margin should be from the perspective of a market participant. Although market information, generally provides the most reliable and best evidence of fair value, the information can be difficult to obtain.

A3.11.3 To confirm the reasonableness of the estimated value of contract liabilities, in general, the fair value of an assumed contract liability is often less than the book value amount recognized by the acquirer on its closing balance sheet, but rarely more.

Documentation Requirements

A3.11.4 The valuation professional, at a minimum, must document the following in writing within the work file, if applicable:

a. The rationale for selecting one of the two methods described previously to value contract liabilities
b. When using the bottom-up approach, clear indication of all the costs necessary to fulfill the contract liability and how the normal profit margin was estimated
c. When using the top-down approach, provision of market data sources and support for each assumption for related selling costs and profits thereon

[4] U.S. GAAP was updated to categorize "deferred revenue" as a "contract liability." Also note that valuation professionals performing entity or intangible asset valuations also typically estimate the fair value of this liability.

d. The life of the contract liability in case discounting is applied
e. The rationale for the rate of return used to estimate the fair value of the contract liabilities

A3.12 Inventory

Topic Overview

A3.12.1 Inventory may be subject to fair value measurement in the context of business combinations, asset acquisitions, impairment and other areas of the financial literature. Valuation professionals performing entity or intangible asset valuations also typically estimate the fair value of this tangible asset.

Background [5]

A3.12.2 The guidance for inventory valuation has primarily evolved in tax literature, particularly as related to allocations of purchase price for tax purposes. Little additional guidance has been separately developed with respect to fair value measurement for financial reporting. The common acceptance of current (mostly tax-related) guidance for the selection and application of valuation methods to the fair value measurement of inventory for use with respect to financial accounting has been viewed by many as a "practical expedient." Many inventory valuation methods in use today apply a "profit split" concept, between buyer and seller in the context of a real (or hypothetical) transaction. Such a "profit split" is viewed from the perspective of margin on revenue, suggesting that some portion of "total profit" may have already been earned by the seller of the inventory, while the remaining portion has yet to be earned by the buyer. These methods, however, may have been more grounded in revenue and profit recognition concepts, than pure fair value measurement concepts. In the future, guidance may evolve in a more theoretically pure direction of return on investment rather than return on revenue, taking the economic incentives of the buyer into account to measure a true exit value as contemplated in FASB ASC 820.

Alternatives for Current Methods

A3.12.3 As outlined in IRS Revenue Procedure 2003-51, the three primary approaches or methods suggested for the valuation of inventory are (1) the market approach (comparative sales method), (2) the income approach (income method), and (3) the cost approach (replacement cost method). The application of the comparative sales method effectively begins with the eventual selling price, but includes consideration of a profit split discussed previously. It is often used for valuing inventory of manufacturers. The replacement cost method is often used for valuing the inventory of retailers and wholesalers, as they may be able to readily replace their inventory at cost from their vendors. The method that is described in IRS Revenue Procedure 2003-51 as the income method most closely appears to consider return on investment and a true exit value as contemplated in FASB ASC 820, but is rarely, if ever, applied in current practice.

[5] As noted in the executive summary, in certain circumstances the Application of the MPF provides some how-to discussion in order to complement the usability and application of the framework. Inventory is one of the areas in which background information and how-to information may benefit the valuation practitioner who is not familiar with valuation concerns with inventory.

Issues to Consider

A3.12.4 Many complicating issues arise in the valuation of inventory. For instance, the industry in which the entity operates may have a bearing on the valuation method selected (for example, replacement cost method for retailers and wholesalers, versus comparative sales method for manufacturers). Also, when an element of "step-up" is included in the valuation of inventory, this may overlap with the valuation of certain intangible assets such as contract backlog, customer relationships, and technology. Care must be taken to avoid "double counting" the step-up in multiple assets. Finally, some industries, particularly those that do business with contracts, may have different ways of characterizing what might otherwise be labeled as inventory. Such industries may utilize terms such as "costs in excess of billings" or "unbilled receivables" to describe accounts that are, in effect, similar to inventory that might otherwise exist in companies engaged in manufacturing or retail or wholesale distribution.

Engagement and Scope Limitations

A3.12.5 When management requires the valuation professional to accept the assertion that their inventory has a zero step-up in basis (for example, through a management representation letter), or the valuation professional is not engaged to value inventory as part of the engagement's scope, the valuation professional must clearly document these restrictions in the valuation report.

The valuation professional must also consider whether management's assertion of a zero step-up in inventory value or scope limitation is significant enough to affect the valuation professional's ability to conduct the engagement in accordance with the framework.

Areas of Diversity

A3.12.6 The valuation professional should be aware that the use of the tax literature related to inventory valuation is common practice as a practical expedient in fair value measurement of inventory in financial accounting, and diversity still remains in the selection of methods in a particular circumstance, the application of methods, and the use of inputs. Appropriate support should be developed for each of these areas, and properly documented in the valuation professional's work file.

Documentation Requirements

A3.12.7 The valuation professional, at a minimum, must document the following in writing within the work file, if applicable:

- *a.* The nature and characteristics of the inventory being valued
- *b.* The process of, and rationale for, selecting the methods and assumptions used in the valuation analysis(es)
- *c.* If commonly used approaches and methods were not used in the valuation analysis(es), documentation of reasons
- *d.* As applicable, information regarding obsolescence, discontinued product lines, operations to be sold and other factors
- *e.* When management has asserted a zero step-up in basis for inventory value or limited the scope of the engagement not to include inventory, or both, the final valuation report must disclose that

i. the inventory was not valued in accordance with the framework,
ii. management has asserted a zero step-up in basis for inventory value or limited the scope of the engagement not to include inventory, or both, and
iii. this assertion or scope limitation may affect other conclusions of value within the final report.