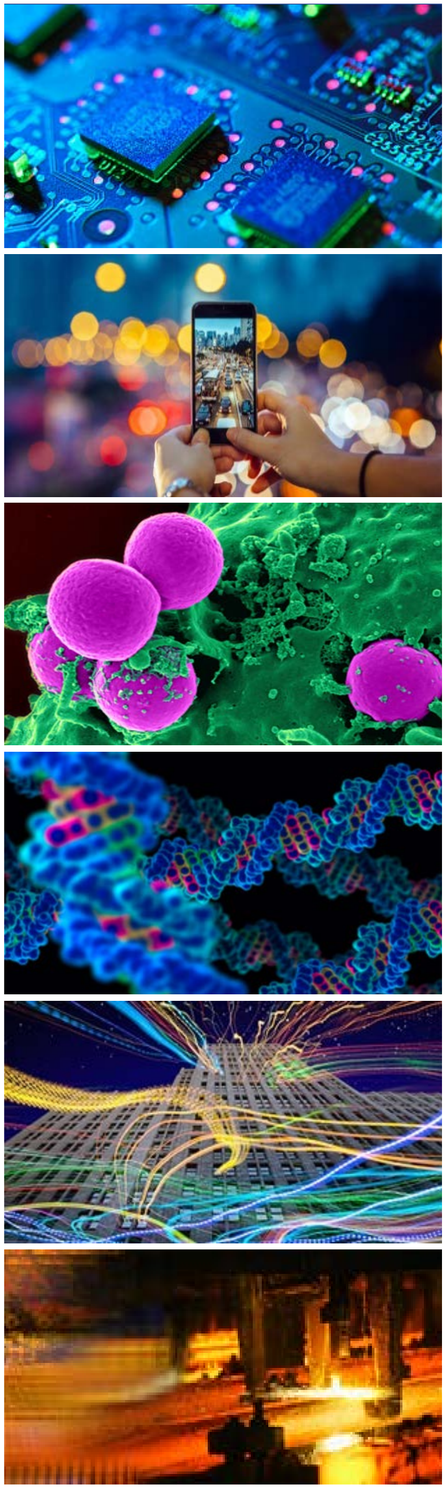

Globalview Advisors

Financial Valuation and Advisory Services

The Latest Developments in Intangible and IP Valuation in the U.S.

Japanese Patent Attorneys Association

JPAA

Tokyo, Japan

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Course Content

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Section 1 - Introduction

Contents - Introduction

Reasons to Obtain a Business Valuation

For the purpose of this discussion, business valuations will include:

- Valuation of total businesses (debt and equity)
- Valuation of the total equity of an enterprise
- Valuation of equity interests in an enterprise
- Intangible asset / intellectual property valuations

Business valuations are prepared for a variety of purposes

- Transactions
- Litigation
- Compliance

Reasons to Obtain a Business Valuation - Transactions

- Transaction related valuations include:
  - Valuation consultation pertaining to potential sale
  - General valuation assistance
    - Value enhancement strategies
  - Fairness opinions
  - Solvency opinions

Reasons to Obtain a Business Valuation - Litigation

- Litigation related valuations include:
  - Disputes
  - Condemnation (eminent domain)
  - Divorce
  - Other

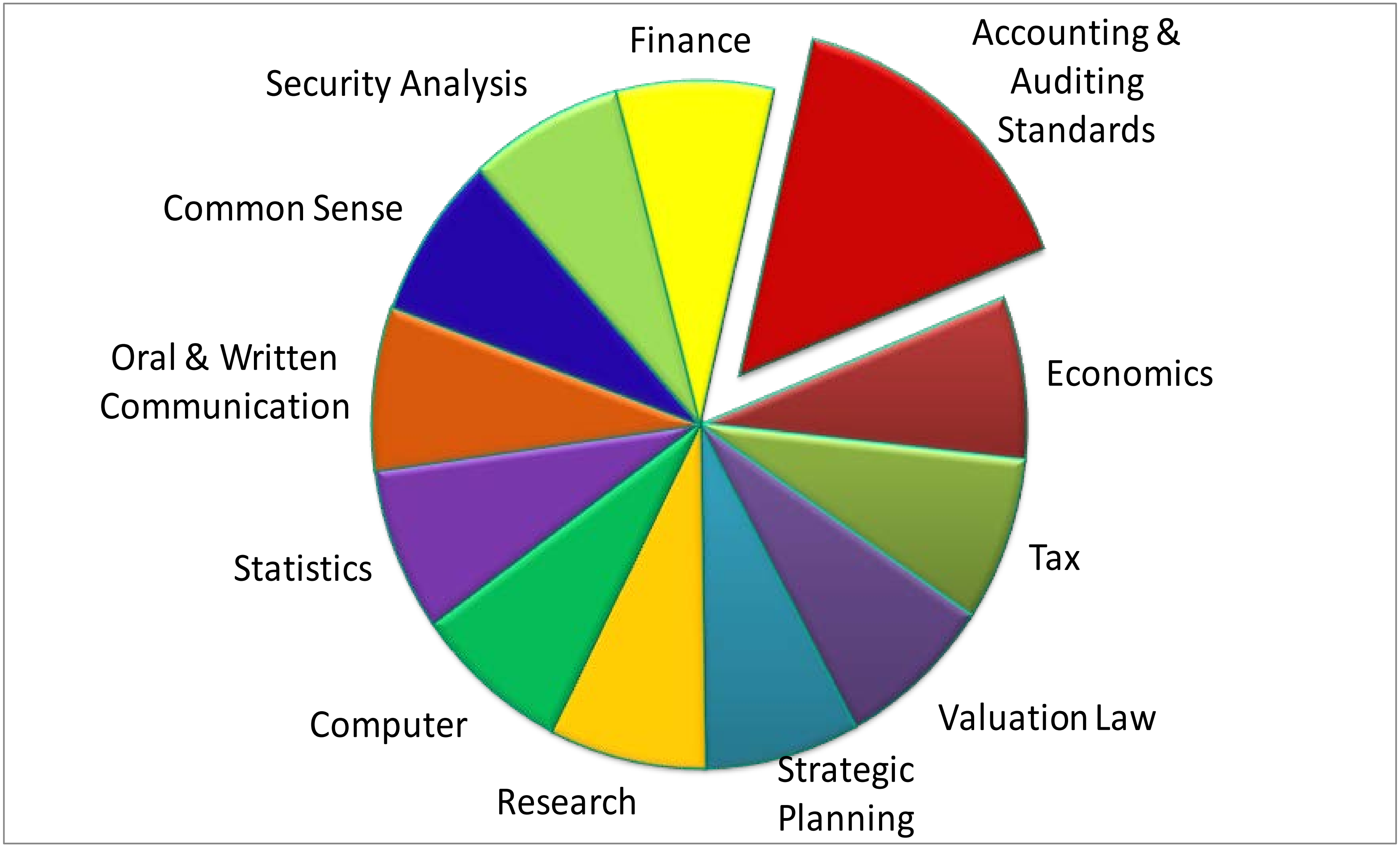
Reasons to Obtain a Business Valuation - Compliance

- Compliance related valuations include:
  - Tax compliance
    - Estate and gift
    - Corporate restructuring
    - Stock incentive plans (IRC 409A)
    - Numerous other
  - Financial reporting
  - Property tax

Importance of Proper Determination of the Exact Valuation Requirements

- Valuations prepared for different purposes may differ dramatically (even for different valuations involving a specific business as of the same date)
  - The assumptions and total equity value conclusion may differ dramatically for a 1 percent common stock interest prepared for gift tax reporting compared to the value of the total equity of a firm prepared to assist in the possible sale of the entity
- Factors which can lead to dramatic differences in valuation include
  - Inclusion of synergies
  - Earnings normalization adjustments
  - Treatment of non-operating assets
  - Impact of adjustments for lack of control and marketability
- A valuation prepared for a specific purpose generally can NOT be used for a different valuation purpose.

Increased Emphasis on Fair Value – Skills Required of a Valuation Specialist



Business Valuation Basics

- Conceptually, the value of a business is based on the future cash flows from the business. This suggests that a discounted cash flow model is preferred. DCF models can be an area where opinions differ.
- The Market Approach is often used although this approach has challenges as well
  - Is the firm being valued meaningfully comparable to guideline firms? Challenges in using public company pricing multiples include
    - Comparability
    - Potentially wide range of multiples for public firms
    - Public firm stock prices are fairly volatile
  - Acquisitions of businesses can be used. Challenges include:
    - Comparability
    - Potential synergies
    - For acquisitions by private firms, data cannot be confirmed.

Challenging Business Valuation Issues

- Review of tax and civil court cases confirms there are many challenging issues impacting the development of valuation estimates
- A few challenging issues include
  - Valuation of early stage firms with potential for rapid growth and high degrees of uncertainty
  - Inclusion of synergies
  - Earnings normalization
  - Selection of “comps”
  - Development of appropriate projections of future cash flows
  - Discount rate development
  - Adjustments for the control and marketability of an equity interest in a firm
  - Numerous other

Intellectual Property Challenges

- Previous slides noted the many challenges for the valuation of a business
- Intellectual property represents a share of a business and the valuation of IP reflects a similar or greater degree of uncertainty
- Challenges include
  - IP is one of many assets that drive the cash flows of a business – how are the business cash flows allocated to different asset classes (working capital, fixed assets, IP and other intangible business assets)
  - If IP is early stage, there is greater uncertainty with future cash flows and generally less market data upon which to base a valuation
  - If IP has significant value to potential market buyers, determining the cash flow impact to those buyers (and the amount they would pay) is challenging

Intellectual Property Challenges *(cont'd)*

- Transaction evidence has challenges
- If transactions involve only IP this suggests that the IP is not "in-use" i.e., generating revenues and cash flows. If IP is not in use, the uncertainty associated with its value increases dramatically
- As previously noted, if IP is in use, it is creating value in association with other assets of a business. Conceptually, segregation of value is required.
- IP that is in use would seem to be much more valuable than IP that is not in use

Fair Value Quality Initiative Overview

Factors that Can Lead to Low Quality Valuations

- Valuation quality can be impacted by factors including:
  1. Advocacy – Lack of independence
  2. Insufficient technical competence
     a. Inadequate knowledge of guidance impacting valuation (accounting guidance as an example)
     b. Insufficient technical skills
  3. Negligence
     a. Inadequate valuation procedures (ties to lack of competence)
     b. Inadequate quality control
- Valuation quality can be improved by reducing the frequency of occurrence of the above factors. Options include:
  1. Establish an effective self-regulatory infrastructure / organization(s)
  2. Establish government supervised regulatory bodies

SEC Fund Manager Valuation Cases - Introduction

- The SEC is involved in a variety of enforcement actions against private fund managers.
- Areas of concern include:
  - Not following valuation procedures
  - Lax valuation procedures
  - Use of "side pockets" to hide losing positions
- SEC has brought numerous legal cases involving valuations by private fund managers
- Portfolio manager's role needs to be defined, monitored and subject to adequate controls
- Valuation policies and procedures should:
  - Address potential conflicts of interest
  - Designate who is responsible
  - Use specific methodologies for pricing portfolio securities (listing factors from the SEC's Accounting Series Release 118, *Accounting for Investment Securities by Registered Investment Companies*, is insufficient)

SEC Fund Manager Cases – General Recurring Issues

- SEC actions regarding investment company asset valuations can provide useful insights on valuation issues. Some of these include:
  - Market participant perspective not considered
  - Marketability/control not adequately addressed
    - Failure to consider appropriate adjustments
    - Lack of support for discounts/premia
  - Price movements not made soon enough
  - Macro vs. micro considerations
    - Good monitoring of company / investment but industry/market movements not taken into account
  - Lack of consistency across organization
  - Failure to reconcile approaches

Source*: Valuation Issues, SEC Examinations & Enforcement Actions*, June 19, 2013 presentation by Deloitte and WilmerHale.

SEC Fund Manager Cases – Income Approach Recurring Issues

- Discount Rate
  - Not supported
  - Not tailored to business or projections
- Projections
  - Minimal insight/understanding of projections
- Terminal growth rate/exit multiple
  - Not supported
  - Not appropriate
    - Enormous growth
    - No growth

Source*: Valuation Issues, SEC Examinations & Enforcement Actions*, June 19, 2013 presentation by Deloitte and WilmerHale.

SEC Fund Manager Cases – Market Approach – Recurring Issues – Guideline Companies Method

- Guideline (comparable) companies
  - Not related
  - Too big
- Multiple Selection
  - Not adequately supported
  - Adjustments, or lack thereof
  - Comparative analysis
  - Use of the data
  - Picking mean/median without “thought”

Source*: Valuation Issues, SEC Examinations & Enforcement Actions*, June 19, 2013 presentation by Deloitte and WilmerHale.

SEC Fund Manager Cases – Market Approach Recurring Issues

- Market Approach: M&A Transactions
  - Transaction price is not representative (synergies/distress)
  - Transaction data is stale
- Market Approach: Financing Rounds
  - Date of transaction
  - Rights of recent share class
  - Dynamics of the transaction
  - All insiders
  - Down rounds
  - Size of trades/who’s trading
  - Monitoring/movement when an IPO is imminent

Source: *Valuation Issues, SEC Examinations & Enforcement Actions*, June 19, 2013 presentation by Deloitte and WilmerHale.

Fair Value Quality Initiative - Introduction

- In the U.S., there have been a variety of instances where incorrect asset valuations were noted
  - SEC Fund Manager concerns
  - “Savings and loan crisis” – Poor real estate appraisals contributed to the financial failure of a number of savings and loans in the U.S. in the late 1980s. Led to:
    - Formation of The Appraisal Foundation
    - State licensing of real estate appraisal
    - Release of Uniform Standards of Professional Appraisal Practice
  - In-process R & D valuation restatements in late 1990s – FASB and SEC noted incorrect valuations of technology which led to reissuance of financial statements
  - Financial instrument valuation problems were a contributing factor to the “Financial Crisis” which commenced in 2007

Fair Value Quality Initiative – Key Developments Involving Fair Value Estimates for Financial Reporting

- 1998 – IPR&D valuations receive increased scrutiny by the SEC and AICPA. Various valuations revised and financial statements restated.
- 2006 – FAS 157, *Fair Value Measurement* (now ASC 820), significantly enhances and standardizes valuation concepts and fair value measurement under US GAAP
- 2011 and 2013 – Paul Beswick speeches on valuation profession
- 2017 – Issuance of two final Mandatory Performance Framework documents
- 2017 and beyond – release of final details of other elements pertaining to the CEIV designation
- Future - ???

Fair Value Quality Initiative - Introduction

- Concerns regarding the quality of valuations for financial reported led to a new designation, *Certified in Entity and Intangible Valuations* (CEIV) has been offered in the U.S. since mid-2017.
- As part of the development of the CEIV, two documents with guidance on minimum valuation procedures to perform were issued including:
  - Mandatory Performance Framework (MPF)
  - Application of Mandatory Performance Framework (AMPF)
- The MPF / AMPF include certain minimum work requirements that need to be performed and documented for certain valuations performed for financial reporting.
- Given SEC involvement and involvement of the major valuation professional organizations (AICPA, American Society of Appraisers, Royal Institute of Chartered Surveyors), the relevance of the MPF/AMPF as minimum procedures for valuations prepared for purposes other than financial reporting projects should be assessed.

Fair Value Quality Initiative – Overview

- The US Securities and Exchange Commission in its role as a capital markets regulator has raised questions regarding the quality of valuations prepared for financial reporting
- Several not-for-profit valuation professional organizations (VPOs), non-membership organizations and others have worked to develop a framework to advance the quality of financial reporting valuations
- As a part of the framework, a credential “Certified in Entity and Intangible Valuations” (“CEIV”) has been trademarked. Key elements associated with the credential include:
  - To be issued by approved VPOs
  - Issued to individuals who perform fair value measurements for financial reporting purposes
  - Requirements to obtain the CEIV credential discussed in subsequent slides

Fair Value Quality Initiative – Qualifications

- As a part of the FVQI, a credential (Certified in Entity and Intangible Valuations) has been developed for issuance by approved VPOs for individuals who perform fair value measurements for financial reporting by SEC registrants.
- The credential will be available only to individuals that are members of qualified VPOs.
- Requirements to obtain the credential include:
  - Experience - Minimum 3,000 hours of fair value measurements
  - Education – Undertake education offered by the VPOs on fair value measurement Body of Knowledge
    - Accounting and regulatory environment
    - Technical guidance
    - Auditing requirements
    - Mandatory Performance Framework requirements
- Credential holders will have ongoing requirements for the credential.

Fair Value Quality Initiative – Overview

- Key elements of a VPO infrastructure that would govern individuals conducting fair value measurements should include:
  - Professional Qualification
  - Accreditation and Reaccreditation
  - Performance Requirements (i.e., compliance with the Mandatory Performance Framework)
  - Quality Review and Discipline Process
  - Ethics and Enforcement Process

Fair Value Quality Initiative – Quality Control

- Quality control procedures will be put into place as a framework used by the VPOs to assess the work-product of credentialed individuals.
- Quality control procedures will include:
  - CPE requirements
  - Complaints protocol pertaining to CEIV credential holders
  - Review of fair value for financial reporting work performed

Valuation Guides

Relevant Materials – Fair Value Quality Initiative

- *Mandatory Performance Framework for the Fair Value Quality Initiative*, issued January 2017
- *Application of Mandatory Performance Framework for the Fair Value Quality Initiative*, issued January 2017

Relevant Materials – Securities Interest Valuation Guidance

- American Institute of Certified Public Accountants, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation, © 2013.*
- American Institute of Certified Public Accountants, *Private Equity/Venture Capital Accounting and Valuation Guide,* expected release of first discussion draft in second quarter of 2018.

Relevant Materials – Intangible Asset Valuation Guidance

- **Best Practices, Guidance Notes and Practice Aids**
  - The Appraisal Foundation, Best Practices for Valuations in Financial Reporting: Intangible Asset Working Group, *The Identification of Contributory Assets and the Calculation of Economic Rents*, issued May 31, 2010
  - Accounting and Valuation Guide*, Assets Acquired to Be Used in Research and Development Activities* (“IPR&D Guide”), AICPA, © 2013.
  - *The Valuation of Customer-Related Assets*, final release dated June 15, 2016, Appraisal Practices Board of The Appraisal Foundation

International Valuation Standards Council

- The International Valuation Standards Council (IVSC) is an independent body that sets global standards for valuation. It also promotes the development of the valuation profession around the world and collaborates and cooperates with other organisations concerned with standards and regulation in the financial markets. The IVSC has three main bodies:
  - an independent **Board of Trustees** responsible for the strategic direction and funding of the IVSC and for appointments to the Standards Board and Professional Board
  - a **Standards Board** with autonomy over its agenda and the creation and revision of valuation standards
  - a **Professional Board** to promote the development of the profession around the world through producing professional and educational material in support of the standards

IVSC – International Valuation Standards

- IVSC issued an updated set of its International Valuation Standards in 2017 (IVS).
- IVS provides a variety of standards and requirements for performing a variety of valuations.
- Although the IVS is a “standards” document, it does include descriptive information and procedures pertaining to performing valuations.
- Section 210 of the IVS discusses valuation of Intangible Assets.

Glossary of Terms

Glossary of Terms

- This glossary contains terms from the following sources, when indicated:
  - *International Glossary of Business Valuation Terms* (IGBVT), which has been adopted by a number of professional societies and organizations, including the AICPA, ASA, CICBV and others
  - Financial Accounting Standards Board (FASB) *Accounting Standards Codification* (ASC)
  - Statement on Standards for Valuation Services (SSVS) No. 1, *Valuation of a Business, Business Ownership Interest, Security, or Intangible Asset* (AICPA, *Professional Standards*, VS sec. 100)

Glossary of Terms - Asset

- FASB Concepts Statement No. 6, *Elements of Financial Statements*, paragraph 25 **defines an asset** as follows:
  - Assets are probable future economic benefits obtained or controlled by a particular entity as a result of past transactions or events.
- An asset has **three essential characteristics**:
  - It embodies a **probable future benefit** that involves a capacity, singly or in combination with other assets, to contribute directly or indirectly to future net cash inflows.
  - A particular entity can **obtain the benefit and control others' access** to it.
  - The **transaction** or other event giving rise to the entity's right to or control of the benefit has already occurred.
- To identify an asset, ask yourself the following:
  - Is there a future economic benefit? If so, to which entity does it belong? What made it an asset of that entity?

Glossary of Terms *(cont'd)*

- **Conditional cash flows.** Cash flows that are conditional upon the occurrence of specified events. (FASB ASC 820-10-55-10) For example, for IPR&D assets, the condition generally relates to the commercial success of the IPR&D project being valued.
- **Defensive intangible asset.** An acquired intangible asset in a situation in which an entity does not intend to actively use the asset but intends to hold (lock up) the asset to prevent others from obtaining access to the asset. (FASB ASC Master Glossary)

Glossary of Terms *(cont'd)*

- **Developed product technology.** Technology as it exists in a current product(s) offering. Today's developed product technology may be tomorrow's enabling technology.
- **Discount rate.** A rate of return used to convert a future monetary sum into present value. (IGBVT)
- **Discount rate adjustment technique.** A present value technique that uses a risk-adjusted discount rate and contractual, promised, or most likely cash flows. (FASB ASC Master Glossary)
- **Discounted cash flow (DCF) method.** A method within the income approach whereby the present value of future expected net cash flows is calculated using a discount rate. (IGBVT)

Glossary of Terms *(cont'd)*

- **EBIT.** Earnings before interest and taxes.
- **EBITDA.** Earnings before interest, taxes, depreciation, and amortization.
- **EITF.** Emerging Issues Task Force of the Financial Accounting Standards Board.
- **Economic goodwill.** For purposes of this guide, economic goodwill is defined as the residual goodwill that would result from subtracting fair value of assets and liabilities from the fair value of the acquired entity as opposed to from the purchase price.
- **Enabling technology.** For purposes of this guide, enabling technology is defined as the underlying technology that has value through its continued use or reuse across many products or product families (product family represents many generations of a singular product). Effectively, enabling technology represents shared technology with multiple uses across many products or product families.

Glossary of Terms *(cont'd)*

- **Expected cash flow.** The probability-weighted average (that is, mean of the distribution) of possible future cash flows. (FASB ASC Master Glossary)
- **Expected present value technique.** The expected present value technique uses as a starting point a set of cash flows that represents the probability-weighted average of all possible future cash flows (that is, the expected cash flows). The resulting estimate is identical to expected value, which, in statistical terms, is the weighted average of a discrete random variable's possible values with the respective probabilities as the weights. Because all possible cash flows are probability-weighted, the resulting expected cash flow is not conditional upon the occurrence of any specified event (unlike the cash flows used in the discount rate adjustment technique). (FASB ASC 820-10-55-13)

Glossary of Terms *(cont'd)*

- **Fair value.** The price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. (FASB ASC 820, *Fair Value Measurement*)
- **Future R&D** (or **future technology**)**.** R&D that will be undertaken in the future.
- **Income approach.** Valuation techniques that convert future amounts (for example, cash flows or income and expenses) to a single current (that is, discounted) amount. The fair value measurement is determined on the basis of the value indicated by current market expectations about those future amounts. (FASB ASC Master Glossary)

Glossary of Terms *(cont'd)*

- **In-process R&D (IPR&D) asset.** Intangible asset that is to be used or is used in R&D activities, including a specific IPR&D project. In other words, an IPR&D project is an example of an IPR&D asset. However, in some cases, an IPR&D project may comprise several IPR&D assets. IPR&D is incomplete and requires additional development.
- **Market approach.** A valuation technique that uses prices and other relevant information generated by market transactions involving identical or comparable (that is, similar) assets, liabilities, or a group of assets and liabilities, such as a business. (FASB ASC Master Glossary)

Glossary of Terms *(cont'd)*

- **Market participants.** Buyers and sellers in the principal (or most advantageous) market for the asset or liability that have all of the following characteristics:
  a. They are independent of each other, that is, they are not related parties, although the price in a related-party transaction may be used as an input to a fair value measurement if the reporting entity has evidence that the transaction was entered into at market terms
  b. They are knowledgeable, having a reasonable understanding about the asset or liability and the transaction using all available information, including information that might be obtained through due diligence efforts that are usual and customary

Glossary of Terms *(cont'd)*

c. They are able to enter into a transaction for the asset or liability

d. They are willing to enter into a transaction for the asset or liability, that is, they are motivated but not forced or otherwise compelled to do so. (FASB ASC Master Glossary)

- **Multi-period excess earnings method.** A specific application of the discounted cash flow method, which is more broadly a form of the income approach. The most common method used to estimate the fair value of a "primary" intangible asset.

Glossary of Terms *(cont'd)*

- **Prospective financial information (PFI).** 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. (AICPA Guide *Prospective Financial Information*)
- **Related parties.** Related parties include the following:

a. Affiliates of the entity

b. Entities for which investments in their equity securities would be required, absent the election of the fair value option under the "Fair Value Options" subsection of FASB ASC 825-10-15, to be accounted for by the equity method by the investing entity

c. Trusts for the benefit of employees, such as pension and profit-sharing trusts that are managed by or under the trusteeship of management

d. Principal owners of the entity and members of their immediate families

e. Management of the entity and members of their immediate families

Glossary of Terms *(cont'd)*

f. Other parties with which the entity may deal if one party controls or can significantly influence the management or operating policies of the other to an extent that one of the transacting parties might be prevented from fully pursuing its own separate interests

g. Other parties that can significantly influence the management or operating policies of the transacting parties or that have an ownership interest in one of the transacting parties and can significantly influence the other to an extent that one or more of the transacting parties might be prevented from fully pursuing its own separate interests. (FASB ASC Master Glossary)

Glossary of Terms *(cont'd)*

- **Relief from royalty method.** A valuation method used to value certain intangible assets (for example, trademarks and trade names) based on the premise that the only value that a purchaser of the assets receives is the exemption from paying a royalty for its use. Application of this method usually involves estimating the fair market value of an intangible asset by quantifying the present value of the stream of market-derived royalty payments that the owner of the intangible asset is exempted from or "relieved" from paying. (Appendix C, "Glossary of Additional Terms," of SSVS No. 1)
- **Required rate of return.** The minimum rate of return acceptable by investors before they will commit money to an investment at a given level of risk. (IGBVT)

Glossary of Terms *(cont'd)*

- **Synergy.** Used mostly in the context of mergers and acquisitions, the concept that the value and performance of two entities combined will be greater than the sum of the separate individual parts. In the context of developing prospective financial information, synergies may account for some of the difference between the assumptions used to estimate cash flows that are unique to an entity and the assumptions that would be used by market participants.
- **Technology migration.** For purposes of this guide, technology migration is defined as the process by which certain elements of technology are used or reused within a product or product family from one product generation to the next. In other words, technology migration represents reuse of "old" technology in combination with "new" IPR&D technology or "new" future yet-to-be defined technology.

Glossary of Terms *(cont'd)*

- **Unobservable inputs.** Inputs for which market data are not available and that are developed using the best information available about the assumptions that market participants would use when pricing the asset or liability. (FASB ASC Master Glossary)
- **Valuation specialist.** An individual recognized as possessing the abilities, skills, and experience to perform valuations. A valuation specialist may be external or internal. When referring to the valuation specialist in this guide, it is commonly presumed that it is an external party but, if individuals within the entity possess the abilities, skills, and experience to perform valuations, they can also serve in the capacity of a valuation specialist.
- **Weighted average cost of capital (WACC).** The cost of capital (discount rate) determined by the weighted average, at market value, of the cost of all financing sources in the business enterprise's capital structure. (IGBVT)

Definitions – Observable and Unobservable Inputs

- The FASB ASC glossary defines observable and unobservable inputs as follows:
- *Observable Inputs.* Inputs that are developed using market data, such as publicly available information about actual events or transactions, and that reflect the assumptions that market participants would use when pricing the asset or liability.
- *Unobservable Inputs.* Inputs for which market data are not available and that are developed using the best information available about the assumptions that market participants would use when pricing the asset or liability.

Section 2 - Standards

The Three Approaches to Value – ASC 820 (US accounting definitions)

- *The Market Approach:* A valuation technique that uses prices and other relevant information generated by market transactions involving identical or comparable (that is, similar) assets, liabilities or a group of assets and liabilities, such as a business.
- *The Income Approach:* Valuation techniques that convert future amounts (for example, cash flows or income and expenses) to a single current (that is discounted) amount. The fair value measurement is determined on the basis of the value indicated by current market expectations about those future amounts.
- *The Cost Approach:* A valuation technique that reflects the amount that would be required currently to replace the service capacity of an asset (often referred to as current replacement cost).
- Source: ASC 820-10-20.

ASC 820 – Use of Multiple Valuation Approaches

- Weighting of multiple valuation approaches is permitted and encouraged where appropriate:
  - Apply techniques that are most representative of fair value
  - Use inputs that are most readily observed
  - When multiple approaches are used, consider the reasonableness of the different value indications. A fair value measurement is the point within that range that is most representative of fair value
- Valuation techniques used to measure fair value shall be consistently applied. However, a change in a valuation technique or its application (for example, a change in its weighting when multiple valuation techniques are used or a change in an adjustment applied to a valuation technique) is appropriate if the change results in a measurement that is equally or more representative of fair value.

Market Participant vs. Entity Specific Assumptions

- For all of the valuation approaches, assumptions should reflect those of a market participant rather than those of the acquiring entity.
- While these assumptions may frequently be similar, there can be significant differences.
- Assessing whether assumptions reflect a market participant or are entity specific requires a detailed assessment of the pool of likely buyers for the entity and their similarities/differences with the acquiring entity.
- For an acquisition involving a highly competitive bid with many potential buyers all offering fairly similar prices, it would be likely that the buyer's assumptions may closely map to those of other market participants.
- For an entity acquired in a transaction without any other bidders and where few strategic buyers are present, more of the assumptions of the buyer may reflect an entity specific perspective.
- Entity specific (non-market participant) assumptions that are part of purchase decision become embedded in goodwill.

Market Participant vs. Entity Specific Assumptions *(cont'd)*

- Examples of possible market participants:
  - Firms in same industry
  - Actual bidders for the subject entity
  - Firms contacted by the investment banker for the seller
- Assumptions of a financial vs. strategic buyer would likely differ:
  - Strategic buyer may have significant operational efficiencies.
  - Financial buyer would typically have more limited operational efficiencies.
- Per the IPR&D Accounting and Valuation Guide, public filings of market participants would be a key source of information for market participant assumptions.

Market Participant vs. Entity Specific Assumptions *(cont'd)*

- Process for normalizing market participant projections:
  - Start with projections of buyer
  - Extract any elements that relate solely to buyer specific synergies
  - Include any market participant synergies not included
- ASC 820 allows unobservable inputs reflecting the reporting entity's own assumptions about the assumptions that market participants would use in pricing the asset or liability (including assumptions about risk) to be used in measuring fair value.
- However, if information is reasonably available without undue cost and effort that indicates that market participants would use different assumptions, then the reporting entity's own data in developing unobservable inputs should be adjusted.

Market Participant vs. Entity Specific Assumptions – Possible Types of Synergies

- Revenue
  - Increased revenue from cross selling to customers
  - Increased revenue from product/service bundling
- Cost
  - Selling costs reduction from sales force redundancies
  - Reduced manufacturing costs from production consolidation
  - Reduced distribution costs from consolidation of distribution facilities
- Cost of Capital
  - Combined entity may have better access to capital
  - Reduced customer concentration resulting in lower borrowing rate
- Other

Identification of Intangible Assets – Key Groupings – US GAAP

- Intangible assets are presented in five primary groups see paragraphs ASC 805-20-55-11 through ASC 805-20-45, including:
  - Marketing-related
  - Customer-related
  - Artistic-related
  - Contract-based
  - Technology-based

Identification of Intangible Assets – Marketing Related Intangible Assets

- Marketing-related intangible assets are primarily used in the marketing or promotion of products or services. The non-exhaustive listing includes:

  a. Trademarks, trade names, service marks, collective marks, certification marks

  b. Trade dress (unique color, shape, or package design)

  c. Newspaper mastheads

  d. Internet domain names

  e. Non-competition agreements

  Source: ASC 805-20-55-14 and IFRS 3 (non-exhaustive list).

Identification of Intangible Assets – Customer-Related Intangible Assets

- Customer-related intangible assets related directly to the customer including:
  a. Customer lists
  b. Order or production backlog
  c. Customer contracts and related customer relationships
  d. Noncontractual customer relationships

Source: ASC 805-20-55-20 and IFRS 3 (non-exhaustive list).

Identification of Intangible Assets – Artistic-Related Intangible Assets

- Artistic-related intangible assets are those intangible assets of an artistic nature reflecting the creativity of the creator. These can include such
  items as:

  a. Plays, operas, ballets

  b. Books, magazines, newspapers, other literary works

  c. Musical works such as compositions, song lyrics, advertising jingles

  d. Pictures, photographs

  e. Video and audiovisual material, including motion pictures, music videos, television programs

  Source: ASC 805-20-55-29 and IFRS 3 (non-exhaustive list).

Identification of Intangible Assets – Contract-Based Intangible Assets

- Contract-based intangible assets are established by contracts and include:
  a. Licensing, royalty, standstill agreements
  b. Advertising, construction, management, service or supply contracts
  c. Lease agreements
  d. Construction permits
  e. Franchise agreements
  f. Operating and broadcast rights
  g. Servicing contracts such as mortgage servicing contracts
  h. Employment contracts
  i. Use rights such as drilling, water, air, timber cutting, and route authorities

  Source: ASC 805-20-55-31 and IFRS 3 (non-exhaustive list).

Identification of Intangible Assets – Technology-Based Intangible Assets

- Technology-based intangible assets protect or support technology and include:

  a. Patented technology

  b. Computer software and mask works

  c. Unpatented technology

  d. Databases, including title plants

  e. Trade secrets, such as secret formulas, processes, recipes

  Source: ASC 805-20-55-38 and IFRS 3 (non-exhaustive list).

Valuation Standards

Valuation Standards - Introduction

- This course module provides an overview of valuation standards
- **Valuation Standard Setting Bodies include:**
  - The Appraisal Foundation (“TAF”)
    - USPAP (2016 – 2017 Edition)
      - Standard 9 – Business Appraisal, Development
        - » Standards Rules 9-1 to 9-5
      - Standard 10 – Business Appraisal, Reporting
        - » Standards Rules 10-1 to 10-4
  - International Valuation Standards Council (“IVSC”)
    - International Valuation Standards
- **Valuation Professional Organizations and Related Standards**
  - AICPA *Statement on Standards for Valuation Services* No. 1 (SSVS)
  - ASA *Business Valuation Standards*
  - Royal Institute of Chartered Surveyors (“RICS”) – *Professional Standards* (2014)

Valuation Standards – Introduction ***(cont'd)***

- Under USPAP, an **appraisal** is defined as an **opinion of value**. The scope of work associated or the reliability and credibility of the appraisal are separate elements from this basic term.
  - An informal discussion between friends of the value of Google's stock could constitute an appraisal.
- USPAP indicates that an appraisal must be "**credible within the context of its Intended Use**".
- USPAP provides that a **credible appraisal is worthy of belief**.
- A **credible appraisal would presumably reflect a sufficient scope of work** – USPAP defines **Scope of Work as "the extent of research and analysis**".

Valuation Standards – USPAP - Background

- USPAP standards are updated periodically and are subject to public comment. Given this, these standards may be most appropriate for consideration.
- The two valuation standards of greatest interest include:
  - Standard 9 – Business Appraisal, Development
    - Standards Rules 9–1 to 9-5
  - Standard 10 – Business Appraisal, Reporting
    - Standards Rules 10-1 to 10-4
- Both of these standards are presented in their entirety (the comments in USPAP are omitted for brevity).
- Subsequent slides include other guidance set forth in the USPAP (2016 – 2017 Edition).
- For ease of review, certain key items are highlighted in **bold.**

Valuation Standards – USPAP Standards Rule 9-1

- In developing an appraisal of an interest in a business enterprise or intangible asset, **an appraiser must identify the problem to be solved, determine the scope of work necessary to solve the problem, and correctly complete the research and analyses necessary to produce a credible appraisal.**
- In developing an appraisal of an interest in a business enterprise or intangible asset, an appraiser must:
- **Standards Rule 9-1**

  (a) be aware of, understand, and **correctly employ those recognized approaches, methods and procedures that are necessary to produce a credible apprais**al;

  (b) **not commit a substantial error of omission or commission that significantly affects an apprais**al; and

  (c) **not render appraisal services in a careless or negligent manner**, such as by making a series of errors that, although individually might not significantly affect the results of an appraisal, in the aggregate affect the credibility of those results.

Valuation Standards – USPAP Standards Rule 9-2

•In developing an appraisal of an interest in a business enterprise or intangible asset, an appraiser must:

a) identify the **client** and other intended users;
b) identify the **intended use** of the appraiser's opinions and conclusions;
c) identify the **standard (type) and definition of value and the premise of value**;
d) identify **the effective date** of the appraisal;
e) identify the **characteristics of the subject property** that are relevant to the standard (type) and definition of value and intended use of the appraisal, including:
    i. the subject business enterprise or intangible asset, if applicable;
    ii. the interest in the business enterprise, equity, asset, or liability to be valued;
    iii. all buy-sell and option agreements, investment letter stock restrictions, restrictive corporate charter or partnership agreement clauses, and similar features or factors that may have an influence on value;

Valuation Standards – USPAP Standards Rule 9-2 and 9-3

iv. the extent to which the interest contains elements of ownership control; and

v. the extent to which the interest is marketable and/or liquid;

f) identify any **extraordinary assumptions** necessary in the assignment;

g) identify any **hypothetical conditions** necessary in the assignment; and

h) determine the scope of work necessary to produce credible assignment results in accordance with the SCOPE OF WORK RULE.

- **Standards Rule 9-3**
- In developing an appraisal of an equity interest in a business enterprise with the ability to cause liquidation, an appraiser must investigate the possibility that the business enterprise may have a higher value by liquidation of all or part of the enterprise than by continued operation as is. If liquidation of all or part of the enterprise is the indicated premise of value, an appraisal of any real property or personal property to be liquidated may be appropriate.

Valuation Standards – USPAP Standards Rule 9-4

- In developing an appraisal of an interest in a business enterprise or intangible asset, an **appraiser must collect and analyze all information necessary for credible assignment results**.
  - (a) An appraiser must develop value opinion(s) and conclusion(s) by use of **one or more approaches that are necessary for credible assignment results**.
  - (b) An appraiser must, when necessary for credible assignment results, analyze the effect on value, if any, of:
    - (i) the nature and history of the business enterprise or intangible asset;
    - (ii) financial and economic conditions affecting the business enterprise or intangible asset, its industry, and the general economy;
    - (iii) past results, current operations, and future prospects of the business enterprise;

Valuation Standards – USPAP Standards Rule 9-4

(iv) past sales of capital stock or other ownership interests in the business enterprise or intangible asset being appraised;

(v) sales of capital stock or other ownership interests in similar business enterprises;

(vi) prices, terms, and conditions affecting past sales of similar ownership interests in the asset being appraised or a similar asset; and

(vii) economic benefit of tangible and intangible assets.

(c) An appraiser must, when necessary for credible assignment results, analyze the effect on value, if any, of buy-sell and option agreements, investment letter stock restrictions, restrictive corporate charter or partnership agreement clauses, and similar features or factors that may influence value.

(d) An appraiser must, when necessary for credible assignment results, analyze the effect on value, if any, of the extent to which the interest appraised contains elements of ownership control and is marketable and/or liquid.

Valuation Standards – USPAP Standards Rule 9-5

- In developing an appraisal of an interest in a business enterprise or intangible asset, an appraiser must:

  (a) **reconcile the quality and quantity of data available and analyzed within the approaches, methods, and procedures used**; and

  (b) **reconcile the applicability and relevance of the approaches, methods and procedures used to arrive at the value conclusion**(s).

Valuation Standards – USPAP Standards Rule 10-1

- **STANDARD 10: BUSINESS APPRAISAL, REPORTING**
- In reporting the results of an appraisal of an interest in a business enterprise or intangible asset, an appraiser must **communicate each analysis, opinion, and conclusion in a manner that is not misleading**.
- **Standards Rule 10-1**
- Each written or oral appraisal report for an interest in a business enterprise or intangible asset must:

  (a) **clearly and accurately set forth the appraisal in a manner that will not be misleading**;

  (b) **contain sufficient information** to enable the intended user(s) to understand the report; and

  (c**) clearly and accurately disclose all assumptions, extraordinary assumptions, hypothetical conditions, and limiting conditions used in the assignment**.

Valuation Standards – USPAP Standards Rule 10-2

- Each written appraisal report for an interest in a business enterprise or intangible asset must be prepared in accordance with one of the following options and prominently state which option is used: Appraisal Report or Restricted Appraisal Report.
- The **content of an Appraisal Report** must be consistent with the intended use of the appraisal and, at a minimum:

  (i) state the identity of the client and any other intended users, by name or type;

  (ii) state the intended use of the appraisal;

  (iii) **summarize information sufficient to identify the business or intangible asset and the interest appraised**;

  (iv) state the extent to which the interest appraised contains elements of ownership control, including the basis for that determination;

  (v) state the extent to which the interest appraised lacks elements of marketability and/or liquidity, including the basis for that determination;

  (vi) state the standard (type) and definition of value and the premise of value and cite the source of the definition;

Valuation Standards – USPAP Standards Rule 10-2 *(cont'd)*

(vii) state the effective date of the appraisal and the date of the report;

(viii) **summarize the scope of work used to develop the appraisal**;

(ix) **summarize the information analyzed**, the appraisal procedures followed, and the reasoning that supports the analyses, opinions, and conclusions; exclusion of the market approach, asset-based (cost) approach, or income approach must be explained;

(x) clearly and conspicuously:

- **state all extraordinary assumptions and hypothetical conditions**; and
- **state that their use might have affected the assignment results**; and

(xi) include a signed certification in accordance with Standards Rule 10-3.

Valuation Standards – USPAP Standards Rule 10-2 *(cont'd)*

- (b) The content of a **Restricted Appraisal Report** must be consistent with the intended use of the appraisal and, at a minimum:

  (i) **state the identity of the client, by name or type; and state a prominent use restriction that limits use of the report to the client and warns that the rationale for how the appraiser arrived at the opinions and conclusions set forth in the report may not be understood properly without additional information in the appraiser's workfile**;

  (ii) state the intended use of the appraisal;

  (iii) state information sufficient to identify the business or intangible asset and the interest appraised;

  (iv) state the extent to which the interest appraised contains elements of ownership control, including the basis for that determination;

  (v) state the extent to which the interest appraised lacks elements of marketability and/or liquidity, including the basis for that determination;

  (vi) state the standard (type) of value and the premise of value, and cite the source of its definition;

  (vii) state the effective date of the appraisal and the date of the report;

Valuation Standards – USPAP Standards Rule 10-2 *(cont'd)*

(viii) state the scope of work used to develop the appraisal;

(ix) state the appraisal procedures followed, state the value opinion(s) and conclusion(s) reached, and reference the workfile; exclusion of the market approach, asset-based (cost) approach, or income approach must be explained;

(x) clearly and conspicuously:

- state all extraordinary assumptions and hypothetical conditions; and
- state that their use might have affected the assignment results; and

(xi) include a signed certification in accordance with Standards Rule 10-3.

Valuation Standards – USPAP Standards Rule 10-3

- **Standards Rule 10-3**
- I certify that, to the best of my knowledge and belief:
  - the statements of fact contained in this report are true and correct.
  - the reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions and are my personal, impartial, and unbiased professional analyses, opinions, and conclusions.
  - I have no (or the specified) present or prospective interest in the property that is the subject of this report, and I have no (or the specified) personal interest with respect to the parties involved.
  - I have performed no (or the specified) services, as an appraiser or in any other capacity, regarding the property that is the subject of this report within the three-year period immediately preceding acceptance of this assignment.
  - I have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.

Valuation Standards – USPAP Standards Rule 10-3 *(cont'd)*

- my engagement in this assignment was not contingent upon developing or reporting predetermined results.
- my compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.
- my analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the *Uniform Standards of Professional Appraisal Practice*.
- no one provided significant business and/or intangible asset appraisal assistance to the person signing this certification. (If there are exceptions, the name of each individual providing significant business and/or intangible asset appraisal assistance must be stated.)

Valuation Standards – USPAP Standards Rule 10-4 – Oral Appraisal Report

- To the extent that it is both possible and appropriate, an oral appraisal report for an interest in a business enterprise or intangible asset must address the substantive matters set forth in Standards Rule 10-2(a).
- Note: Given audit documentation requirements, oral reports prepared for financial reporting purposes would not be expected to meet audit documentation requirements. However, in some limited situations, an oral report accompanied by exhibits that are sufficiently annotated, might be sufficient to meet the MPF requirements.

Mandatory Performance Framework

Mandatory Performance Framework (“MPF”) - Introduction

- Competition between appraisers to obtain valuation projects and the compliance nature of fair value estimates can lead to significant price competition in order to obtain valuation assignments. Price competition and low project fees can increase the risk that appraisers may not perform adequate valuation due diligence in completing projects.
- USPAP provides high level standards on the sufficiency of procedures required to complete an appraisal.
- To help appraisers perform and report certain financial reporting projects with an adequate degree of effort, two Mandatory Performance Framework documents provide guidance on developing valuations for financial reporting purposes.

Mandatory Performance Framework - Elements

- Elements of the MPF document include:
  1. Preamble
  2. Valuation Engagement Guidance
  3. Mandatory Performance Framework Glossary
  4. Authoritative and Technical Guidance
- A separate document addresses the Application of the MPF. Key elements include:
  1. Executive Summary
  2. General Valuation Guidance
  3. Business Valuation Guidance
  4. Valuation of Intangible Assets, Certain Liabilities and Inventory Guidance

MPF - Preamble

MPF – Preamble – Purpose of MPF

- The Mandatory Performance Framework is a document for valuation professionals that **provides guidance on how much support, in terms of scope of work and documentation, should be prepared or obtained when** designing, implementing, and **conducting valuations** of businesses, business interests, intangible assets, certain liabilities, and inventory used for management assertions made in financial statements issued **for financial reporting purposes**.

MPF – Preamble – Scope of the Mandatory Performance Framework

- **1.2 Financial statements issued for financial reporting purposes includes**, but is not limited to, financial reports issued by:
  - 1.2.1 entities required to submit registration statements or filings to the SEC
  - 1.2.2 privately held entities that prepare and issue financial statements in accordance with United States generally accepted accounting principles (U.S. GAAP)
  - 1.2.3 any other engagement where the individual is performing services as a valuation profession
- 1.3 The primary goal of the MPF is to provide valuation professionals with parameters of **how much work should be performed** and **how to effectively and efficiently identify valuation documentation requirements** in order to meet the changing needs of clients and other potential stakeholders, mitigate engagement risk, and support and document sound decision making. This Framework is a set of interrelated and interacting elements that valuation professionals can use in conjunction with the relevant valuation standards and technical guidance to promote quality, consistency, and auditability. The MPF is **not intended to address valuation theory or to be a "how to" regarding valuation steps**.

MPF – Preamble – Written Documentation

- 1.4 Written documentation within the engagement file that supports a final conclusion of value (referenced in the MPF as 'work papers'), and the final valuation report will be referenced collectively as the **WORK FILE** unless otherwise specified.
  - 1.4.1 The framework requires that the valuation professional provide within the work file sufficient documentation to support a conclusion of value such that an **experienced professional** not involved in the valuation engagement could review and understand the significant inputs, analyses, and outputs and how they support the final conclusion of value.
  - 1.4.2 The valuation professional should include sufficient documentation to support a conclusion of value as identified in MPF section 1.4.1 within the final valuation report.

MPF - Preamble – Applicable to Valuation Professionals that Develop Public Interest Fair Value Estimates

- 1.5 **Credential holders who perform VALUATION SERVICES for their clients, employers, or as part of another engagement, are required to adhere to the MPF for financial reporting purposes**.
- ***Important***: CEIV credential holders who are employees of an entity that is required to prepare financial statements issued for financial reporting purposes (subsequently referenced as a reporting entity), and who are responsible for preparing conclusions of fair value that provide support for information included in the financial statements and accompanying footnotes, are required to comply with this framework. However, for such situations, certain administrative matters such as formal letters of engagement (LoE) are excluded, and the communication of value conclusions **may** not include a formal valuation report.
- If a CEIV credential holder who is an employee of a reporting entity concludes that a section (or sections) of the framework is (or are) not applicable because of his or her employment at the reporting entity, the valuation professional may elect not to comply with the identified sections of the framework. The valuation professional **must**, however, document in the work file which sections of the framework were not complied with and the rationale for the noncompliance.

MPF - Preamble – MPF Features

- **1.8** For the **valuation professional**, this framework provides the following:
- 1.8.1 A method to **align a valuation engagement with procedures that will meet the needs of the client and other potential stakeholders** in response to the greater focus by regulators on fair value measurements
- 1.8.2 **A resource to help identify and mitigate ineffective, inefficient, or incomplete valuation procedures** that result in insufficient support for, and auditability of, the final conclusion of value
- 1.8.3 A **resource for the valuation review process**
- **1.9** For the **reporting entity's management, auditors, and external stakeholders**, the use of the framework promotes the following:
- 1.9.1 Greater confidence in the valuation professional's ability to assist the company in meeting the entity's internal and external reporting requirements
- 1.9.2 Greater confidence in the valuation professional's application of an acceptable process of evaluation, analysis, and documentation of fair value measurements that may serve as a basis for management's financial statement assertions
- 1.9.3 Greater understanding of the valuation professional's use of judgment, estimates, and industry knowledge
- 1.9.4 Greater consistency in how much documentation is prepared among valuation professionals

MPF Preamble – Scope of the Mandatory Performance Framework

- **1.12** The term **engagement to estimate fair value** refers to any engagement or part of an engagement that involves estimating the fair value of businesses, business interests, intangible assets, certain liabilities, or inventory (subsequently referenced individually or collectively as **subject interest**) to serve as a basis for management's preparation of financial statements for financial reporting purposes. An engagement to estimate fair value culminates in a written conclusion of value.

VALUATION ENGAGEMENT GUIDANCE

MPF – Valuation Engagement Guidance – Documentation Requirements for Fair Value Engagements

- **2.3** The valuation professional must conduct and document each engagement or part of an engagement to estimate fair value of a subject interest to assist in management's preparation of financial statements for financial reporting purposes in accordance with the applicable guidance within this framework.
- *Composition of Valuation Documentation*
- **2.4** Documentation is the written record within the final valuation report, supporting working papers, or both, used to support a valuation conclusion used by management in their assertions of fair value and their preparation of financial statements issued for financial reporting purposes.
- **2.5** Appropriate documentation provides evidence that the valuation engagement was completed in accordance with this framework.
- **2.6** Written documentation may include paper, electronic files, or other forms of recorded media. Examples include, but are not limited to, letters of engagement, correspondence with clients (for example, email, recordings of calls, voice messages), client-provided documents, representation letters, field notes, electronic spreadsheets, and internally prepared memoranda to the work file.

MPF – Valuation Engagement Guidance – Documentation Requirements for Fair Value Engagements

- **2.7** Documentation comprises two key components:
  - 2.7.1 **SOURCE DOCUMENTS** including, but not limited to, data and information (including interview notes) collected from both **company sources** and **external third-party data** accumulation resources relating to the company, its financial position, its competitors, the industry it competes in, its customers and suppliers, the state of the economy, financial markets, and risk factors.
  - 2.7.2 **ANALYSIS DOCUMENTS** including, but not limited to, exhibits, schedules, and work-papers that **numerically set forth the analysis** that was performed, and **memos to file or other narratives, that document and explain the valuation professional's reasoning** behind such matters as the: selection of methods, selection of inputs used in applying methods, and judgments made regarding valuation assumptions.
  - Source documents that are relevant to the analysis but indicate **contrary evidence to the conclusion of value should also be retained in the work file** along with the valuation professional's **explanation of how this information was considered**.

MPF – Valuation Engagement Guidance – Documentation Requirements for Fair Value Engagements

- **2.9** Analysis documents generally fall into two sub-categories:
  - 2.9.1 **Computational analysis** (for example, spreadsheets, database use). To the extent that this type of analysis provides evidential support (or contradictory indications) to an input, process, or output, they are required to be included in the work file (that is, supporting work papers, final valuation report). This analysis demonstrates "what" the valuation professional did and how they did it.
  - 2.9.2 **Narrative based documents**. These documents complement the computational analyses by **providing commentary on "why" the valuation professional elected certain methods, inputs, and judgments within the work-product**. For example, narrative based documents **could be included in** (not a complete list):
    - The narrative of the **report**
    - The **analysis documents** (for example, footnotes, narrative fields)
    - **Memoranda to the work-file.**

MPF – Valuation Engagement Guidance – Extent of Documentation Requirements

- 2.10 The valuation professional must support the conclusion of value with sufficient detail to provide a clear and well organized link from the data and information gathered to the final conclusion of value presented in the final valuation report. An experienced professional (for example, audit professional, client, and valuation professional) reviewing the final valuation report who has no involvement with the engagement must be able to:
- 2.10.1 Understand the **purpose, nature, extent, and results of the valuation procedures performed**.
- 2.10.2 Understand all **approaches and methods used** in the valuation analysis, and if applicable, understand why commonly used approaches and methods were not used in the valuation analysis.
- 2.10.3 Understand the **inputs, judgments, and assumptions** made, and the rationale for their use.
- 2.10.4 Determine **who performed the work and their qualifications** (for example, valuation professional, subcontractor, management).
- 2.10.5 Identify the **intended users** of the valuation report
- 2.10.6 Identify the **sources and supporting data for the inputs, judgments, and assumptions made**.
- 2.10.7 **Identify the measurement date**

MPF – Valuation Engagement Guidance – Professionalism and Professional Competence

- 2.12 A valuation professional, prior to accepting an engagement, must conclude that he or she can **reasonably expect to complete the engagement with professional competence that includes adherence to the MPF** outlined herein.
- A valuation professional must be able to demonstrate, at a minimum, the following criteria that align with or complement these requirements:
- 2.12.1 The appropriate **academic and professional qualifications** demonstrating technical competence.
- 2.12.2 The appropriate level of **experience, including specific industry and fair value experience**, to identify the problem to be addressed.
- 2.12.3 The appropriate level of experience in valuing the subject interest of the engagement and in **completing engagements for a similar purpose**.
- 2.12.4 Recognition of, and compliance with applicable local laws and regulations that apply to the valuation engagement or valuation professional.
- 2.12.5 For CEIV credential holders, professional competence also includes, **compliance with the CEIV requirements for education, qualifications, quality control, and adherence to the MPF** outlined herein.

MPF – Valuation Engagement Guidance – Professionalism and Professional Competence *(cont'd)*

- **2.13** If a valuation professional determines prior to accepting an engagement, or during the course of an engagement, that he or she **does not have the required level of subject interest expertise to competently complete the engagement**, the following steps should be considered:
  - 2.13.1 When possible, assemble and **use appropriately qualified** subject interest **specialists within his or her firm or company.**
  - 2.13.2 **Retain an appropriately competent and qualified subcontractor**.
  - 2.13.3 **Do not accept** the engagement or **withdraw** from the engagement if already accepted.

MPF – Valuation Engagement Guidance – Content of Final Valuation Report

- **2.24** The final valuation report represents the planning, execution, and conclusion of the valuation professional's services for a client. For purposes of the MPF, **valuation professionals must prepare their work file, which includes the final valuation report, in accordance with the guidance provided in this section** for all engagements to estimate fair value used to support management assertions made in financial statements issued for financial reporting purposes.
- **2.27** In order for a **comprehensive valuation report** to be prepared in accordance with this Framework, the valuation professional must, at a minimum, include the following components, where relevant, within the final valuation report.

1. Client identification
2. Purpose and intended use of the valuation report
3. Intended users of the valuation report
4. Measurement Date
5. Valuation Report Date
6. Subsequent Events (if applicable and appropriate)
7. Identification of the subject interest
8. Sources of information

MPF – Valuation Engagement Guidance – Content of Final Valuation Report *(cont'd)*

9. **Client prepared information**
   - Apply professional skepticism and judgment to assess the relevance and reliability and the extent to which to rely on the information in the assessment of fair value. Describe the information relied on and the rationale for the reliance.
10. Valuation approaches and methods
11. Limitations on Scope of Research and Analysis
12. Disclosure of limitations
13. Disclosure of scope changes
14. **Non-assured financial information**

MPF – Valuation Engagement Guidance – Content of Final Valuation Report *(cont'd)*

15. Financial information adjustments
16. **Significant assumptions and estimates**
17. Subcontractors with subject interest expertise retained by valuation professional (when valuation professional is not competent to complete a portion of the project)
18. Third-party specialist retained by client
19. Reliance on conclusions of third-party specialist retained by client
20. Conclusion of value
21. Valuation report representation and signature
22. Valuation report representation or certification

MPF – Performance Framework Glossary – Key Terms

- **PROFESSIONAL STANDARDS** Standards that encourage professional behavior. Examples are codes of ethics, codes of conduct that encourage acting competently, independently, objectively, 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 the individual professional and the conduct of their behavior.
- **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.

MPF – Performance Framework Glossary – Key Terms *(cont'd)*

- **Analysis Documents** – These generally comprise two types of documents:

    1. **Computational analysis**. These analyses may include spreadsheets, database analyses, for example. This documentation and analysis demonstrates "what" the valuation professional did.

    2. **Narrative based documents**. Examples of this type of analysis may include narratives within the report, footnotes, and **memoranda to the work-file**. This documentation and analysis demonstrates "why" the valuation professional elected certain methods, inputs, and/or judgments within the actual analyses.

- **Calculation Engagement** – This type of engagement requires the valuation professional to adhere to the instructions of the client and requires reduced professional judgment to calculate the value of the subject interest.

MPF – Performance Framework Glossary – Key Terms *(cont'd)*

- **CEIV Credential Holder** – A valuation professional who conducts valuation services for financial reporting purposes and is in good standing with the educational, training, quality control, and ethical requirements of the VPO that issued the credential.
- **Complete valuation analysis** – This results in a conclusion of value by the valuation professional after having considered all relevant factors to determine the appropriate scope of work for the purpose or intended use of the valuation engagement. The valuation professional uses professional judgment to consider and apply as appropriate the valuation approaches and methods deemed appropriate for the facts and circumstances.

MPF – Performance Framework Glossary – Key Terms *(cont'd)*

- **Comprehensive Valuation Report** – The various VPOs use different names for valuation reports. Within the context of the Framework, a comprehensive valuation report is one that contains sufficient content for the intended user or expected recipient to gain a complete understanding of the engagement's purpose and the valuation professional's analysis, reasoning, and support for the conclusions presented. It is still possible, however, that additional supporting information will be contained in the supporting work papers.
- **Evidential Skepticism.** Evidential skepticism requires valuation professionals to **continuously question and critique information and data provided by management for bias or misstatement, or both**, taking into consideration the experience of management and the sufficiency of the documentation and analyses provided by management throughout the valuation engagement.

MPF – Performance Framework Glossary – Key Terms *(cont'd)*

- **Financial Reporting Purposes** – Within the context of this Framework, 'Financial Reporting Purposes' encompasses all audited financial statements that include fair value measurement disclosures for businesses, business interests, intangible assets, certain liabilities, and inventory.
- **Mandatory Performance Framework (Framework)** - A set of interrelated and interacting elements that valuation professionals must use to establish quality objectives and establish best practices that are needed to ensure the Framework is followed and its objectives are achieved. The Framework **delineates requirements that govern the scope of work and extent of documentation**.
- **Professional Judgment** – Within the context of this Framework, the process of making informed and reasonable decisions that are based on the cumulative experiences of the valuation professional. A skill that evolves over time and results in decisions that reflect best practices of the valuation profession.

MPF – Performance Framework Glossary – Key Terms *(cont'd)*

- **Self-Skepticism-** Self-skepticism is **awareness and monitoring of one's own client-based presuppositions** that can detract from evidencing skepticism because of comfort level or familiarity with the client, industry or both.
- **Source Documents** – include, but not limited to, data and information (including interview notes) collected from both company sources and external third-party data accumulation resources relating to the company, its financial position, its competitors, the industry it competes in, its customers and suppliers, the state of the economy, financial markets, risk factors, and so forth.

MPF – Performance Framework Glossary – Key Terms *(cont'd)*

- **Valuation Professional** – Within the context of this document, an individual who conducts valuation services for financial reporting purposes
- **Work File** – **Written documentation within the engagement file that supports a final conclusion of value** (note: this includes information that is relevant to the analysis and indicates contrary evidence to the conclusion of value and the valuation professional's explanation of how this information was considered). This includes working papers (documentation not included in the final valuation report but that is retained by the valuation professional that supports the final valuation report) and the final valuation report. Within the context of this framework, this documentation is collectively referred to as the work file. Written documentation may include paper, electronic files, or other forms of recorded media.

APPLICATION OF MANDATORY PERFORMANCE FRAMEWORK FOR FAIR VALUE QUALITY INITIATIVE

Mandatory Performance Framework – Application Document - Learning Objectives

1. Recognize and discuss documentation requirements for General Valuation Guidance
2. Explain concept of calibration
3. Describe documentation requirements for analysis of Prospective Financial Information (PFI)
4. Recognize and discuss documentation requirements for Business Valuation Subject Matter Guidance
5. Describe documentation requirements for guideline firm and guideline transaction selection
6. Describe documentation requirements for valuation multiple selection
7. Describe documentation requirements for specific topics for Intangible Asset, Certain Liabilities and Inventory Subject Matter Guidance

Application of the Mandatory Performance Framework – General Outline of Topic Discussion

- The outline used for each topic in the MPF application document includes:
  A. Topic overview
  B. Documentation requirements

- In many cases, the topic overviews are relatively straightforward. As a result, they are not presented in this course. In a few instances, we include a summary discussion of the topic overview where students may benefit from a clarification of the topic to be presented.
- Given the importance of the documentation requirements, these requirements are presented for each topic.

General Valuation Guidance

MPF – General Valuation Guidance – Fair Value Measurement – Topic Overview

- A1.2.2 As indicated in ASC 820-10-30-3, **in many situations the transaction price appears equal to the fair value** based on a market participant's perspective and as a result equals fair value at initial recognition. FASB **ASC 820 does not, however, make this presumption.** Rather, 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 at subsequent measurement dates.
- A1.2.3 **Valuation professionals should not assume that transaction price equates to fair value** at or near the transaction date.

MPF – General Valuation Guidance – Fair Value Measurement – Topic Overview *(cont'd)*

- A1.2.4 Calibration is used with various valuation techniques; however, regardless of which valuation technique is used by the valuation professional 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."

MPF – General Valuation Guidance – Fair Value Measurement – Documentation Requirements

- A1.2.5 The valuation professional, at a minimum, must **document 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 their 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

MPF – General Valuation Guidance – Selection of Valuation Approaches and Methods – Topic Overview

- 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 utilized for similar business entities, assets, or liabilities.**
- 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).

MPF – General Valuation Guidance – Selection of Valuation Approaches and Methods – Documentation Requirements

- A1.3.4 The valuation professional, at a minimum, must document in writing within the work file, if applicable:
  a. Where applicable, 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/or method in reconciling various indications of value to reach the final conclusion of value (if more than one approach/method is used).
  c. A reconciliation of the results should include 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

MPF – General Valuation Guidance – Selection of Valuation Approaches and Methods – Documentation Requirements *(cont'd)*

   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 and/or data (for example, contrary evidence). This may then take the form of arithmetic/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.

MPF – General Valuation Guidance - Prospective Financial Information (PFI) – Introduction

- 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

MPF – General Valuation Guidance - Prospective Financial Information (PFI) – Introduction

- A1.4.2 **Prospective financial information (PFI) 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, how the PFI is expected to be used will usually dictate the type of PFI prepared.

MPF – General Valuation Guidance - Prospective Financial Information (PFI) – Introduction *(cont'd)*

- 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 if a 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 a probability-weighted scenarios of possible outcomes**). In order to achieve this, the **valuation professional must incorporate the most reliable objective information available.**
- A1.4.4 Valuation professionals should understand and **document how the PFI was developed by management**. Management may prepare PFI using a "top-down" method or a "bottoms-up" method or some combination of the two.

MPF – General Valuation Guidance - Prospective Financial Information (PFI) – Introduction *(cont'd)*

- A1.4.5 **Valuation professionals should be aware of the purpose for which PFI is prepared**. In addition, valuation professionals should **understand whether the PFI was prepared using market participant assumptions**. 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 participant's assumptions) in the analysis.

MPF – General Valuation Guidance – PFI Procedures to Assess

- 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:
  - **Comparison of PFI to expected cash flows**
  - Frequency of preparation
  - **Comparison of prior forecasts with actual results**
  - **Mathematical and logic check**
  - **Comparison of entity PFI to historical trends**
  - **Comparison to industry expectations**
  - **Check for internal consistency**

MPF – General Valuation Guidance – Prospective Financial Information – Documentation Requirements

1. A1.4.8 The valuation professional, at a minimum, must document 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 a market participant.
   c. The **explanation of key underlying assumptions** utilized 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: a) a comparison of the PFI to expected cash flows, b) a comparison of the PFI to historical performance, c) a comparison and evaluation of prior year's PFI against actual historical results (when prior PFIs are available), d) an analysis of the forecast relative to economic and industry expectations.

MPF – General Valuation Guidance – Prospective Financial Information – Documentation Requirements *(cont'd)*

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.

i. The market participant capital structure, if applicable.

Mandatory Performance Framework - Business Valuation Subject Matter Guidance

Mandatory Performance Framework – Business Valuation Subject Matter Guidance

- Sections included in the MPF for Business Valuation Subject Matter Guidance include:
  1. Discount Rate Derivation
  2. Growth Rates
  3. Terminal Value Multiple Methods/Models
  4. Selection of, and Adjustments to, Valuation Multiples
  5. Selection of Guideline Public Companies or Comparable Company Transactions
  6. Discounts and Premiums

- Documentation requirements in each of these areas are presented in the following slides

MPF – BV Guidance – Discount Rate Derivation – Documentation Requirements

- A2.2.2 The valuation professional, at a minimum, must document in writing within the work file, if applicable:
- *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** (when applicable) in the calculation and explain the rationale for its selection.
iii. The source or calculation of the **equity risk premium** (when applicable) 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 (if applicable), and the **rationale** for selecting the concluded premium (even if that premium is zero) when applicable.

MPF – BV Guidance – Discount Rate Derivation – Documentation Requirements *(cont'd)*

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 type of support **should not include the valuation professional's judgment** or the level of company-specific risk premiums observed in other valuations).

viii. The amount of **country-specific risk adjustment** (if applicable), 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.

MPF – BV Guidance – Discount Rate Derivation – Documentation Requirements *(cont'd)*

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.

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.

MPF – BV Guidance – Discount Rate Derivation – Documentation Requirements *(cont'd)*

i. When **other discount rate models are used instead of CAPM** or WACC, the valuation professional must provide within the work file details on:
   a. the **model specification,**
   b. **inputs chosen and the sources** of those inputs,
   c. sub-methodological selections made, and
   d. why, if applicable, any adjustments were made to the model results

MPF – BV Guidance – Growth Rates – Documentation Requirements

- A2.3.2 The valuation professional, at a minimum, must document 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.

MPF – BV Guidance – Growth Rates – Documentation Requirements

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.

MPF – BV Guidance – Terminal Value Multiple Methods / Model – Documentation Requirements

- A2.4.2 The valuation professional, at a minimum, must document in writing within the work file, if applicable:
  a. The **rationale for selecting the appropriate terminal exit multiple**(s) or model(s).
  b. The rationale and support for each key assumption used in the terminal 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/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 method or model is utilized, the rationale for the selected weighting assigned to each terminal method/model and to reconcile the various indications of terminal values.

MPF – BV Guidance - Selection of, and Adjustments to, Valuation Multiples – Documentation Requirements

- A2.5.3 The valuation professional, at a minimum, must document 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 it affected the selection of the multiples applied to the subject entity,

MPF – BV Guidance - Selection of, and Adjustments to, Valuation Multiples – Documentation Requirements

   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.

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

MPF – BV Guidance - Selection of Guideline Public Companies or Transactions – Documentation Requirements

- A2.6.3 The valuation professional, at a minimum, must document 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.

Mandatory Performance Framework - Intangible Asset, Certain Liabilities and Inventory Subject Matter Guidance

MPF – Intangible Asset Valuation, Certain Liabilities and Inventory Guidance – Topic Listing

- Topics covered in the MPF application document include:
  1. Identified Assets and Liabilities
  2. Operating Rights
  3. Life for Projection Period
  4. Customer-related intangible assets
  5. Royalty Rates
  6. Contributory Asset Charges
  7. Tax Amortization Benefit (TAB)
  8. Reconciliation of Intangible Asset Values
  9. Discounts/IRR/WARA
  10. Contract Liabilities
  11. Inventory
- The following slides present documentation requirements for each of these topics

MPF – Life for Projection Period – Documentation Requirements

- A3.4.5 The valuation professional, at a minimum, must document 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. If applicable, discussions with company management and company’s auditors about materiality considerations

MPF – Royalty Rates – Documentation Requirements

- A3.6.3 When selecting the royalty rate, the valuation professional, at a minimum, must document 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. If applicable, 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. Identify sufficient excess earnings or cash flow to **provide economic support for the selected royalty rate**.

Section 3 – Technical Valuation Guidance

General Technical Guidance – Introduction

- This module focuses on certain technical guidance provided by the SEC, FASB, The Appraisal Foundation and the AICPA.
- An understanding of this guidance can reduce the divergence in practice in fair value estimates and improve the reliability of financial statements.
- Technical guidance (TAF and AICPA guides) prepared for these purposes benefits from the rigorous development process:
  - Qualified development teams
  - Development teams including various perspectives – appraisers, auditors, preparers and users of financial statement (goal of reflecting diverse perspectives)
  - Extensive development process
  - Extensive vetting including public exposure and comment
- FASB guidance on accounting and fair value measurements is also subject to an extensive development process.

Overview of Cost Approach – Definition of Cost Approach per ASC 820, *Fair Value Measurements*

- B8 The cost approach reflects the amount that currently would be required to replace the service capacity of an asset (often referred to as current replacement cost).
- B9 From the perspective of a market participant (seller), the price that would be received for the asset is based on the cost to a market participant (buyer) to acquire or construct a substitute asset of comparable utility, adjusted for obsolescence. That is because a market participant would not pay more for an asset than the amount for which it could replace the service capacity of that asset. Obsolescence encompasses physical deterioration, functional (technological) obsolescence and economic (external) obsolescence and is broader than depreciation for financial reporting purposes (an allocation of historical cost) or tax purposes (based on specified service lives). The current replacement cost method is often used to measure the fair value of tangible assets used in combination with other assets or with other assets and liabilities.

Overview of Cost Approach – Obsolescence

- Once replacement cost new is estimated, obsolescence must be quantified to estimate value. Specifically, all the relevant forms of obsolescence must be identified, quantified, and subtracted from the replacement cost of the intangible asset to estimate its value.
- Forms of obsolescence for intangible assets include:
  - Functional (technological obsolescence is a subset of functional obsolescence)
  - Economic
- Physical deterioration is another form of obsolescence. It is common for tangible assets, but not for intangibles. Physical deterioration in a tangible asset could impact the value of an intangible asset and the business enterprise.

Overview of Cost Approach – Types of Obsolescence

- Functional Obsolescence – asset is less able to accomplish the functions for which it was originally developed. For intangible assets, functional obsolescence often arises due to technological factors.
  - As code evolves, a given software does not produce the same utility production as replacement software.
- Economic (or external) Obsolescence – asset's value has declined due to factors (in the marketplace) that are external to itself (effects, events, conditions).
  - Change in legislation regarding the enforcement of non-competes could render such agreements of less value than when initially put in place.

Overview of Market Approach – Definition per ASC 820

- B5 The market approach uses prices and other relevant information generated by market transactions involving identical or comparable (i.e. similar) assets, liabilities or a group of assets and liabilities, such as a business.
- B6 For example, valuation techniques consistent with the market approach often use market multiples derived from a set of comparables. Multiples might be in ranges with a different multiple for each comparable. The selection of the appropriate multiple within the range requires judgement, considering qualitative and quantitative factors specific to the measurement.
- B7 Valuation techniques consistent with the market approach include matrix pricing. Matrix pricing is a mathematical technique used principally to value some types of financial instruments, such as debt securities, without relying exclusively on quoted prices for the specific securities, but rather relying on the securities' relationship to other benchmark quoted securities.

Overview of Income Approach – Definition of Income Approach per ASC 820

- B10 The income approach uses valuation techniques to convert future amounts (e.g. cash flows or income and expenses) to a single present (discounted) amount. The fair value measurement is determined on the basis of the value indicated by current market expectations about those future amounts. Those valuation techniques include the following:

  (a) present value techniques (see paragraphs B4–B22)

  (b) option pricing models, such as the Black-Scholes-Merton formula (a closed form model) and a binomial model (a lattice model), which incorporate present value techniques and reflect both the time value and the intrinsic value of an option

  (c) the multi-period excess earnings method, which is used to measure the fair value of some intangible assets.

General Technical Guidance – Cash Flows and Discount Rates - Introduction

- ASC 820 provides insights for using future cash flows as the basis for fair value estimates for accounting measurements.
- ASC 820 distinguishes “the single most-likely amount” from the “expected amount;” the latter is a concept that refers to the sum of probability-weighted amounts in a range of possible estimated amounts.
- The use of an entity’s own assumptions about future cash flows is compatible with an estimate of fair value, as long as there is no contrary data indicating that market participants would use different assumptions.
- If market participants would use different estimates, the entity must adjust its assumptions to incorporate that market information.
- Reminder – Fair value represents a market participant rather than an entity specific concept. Cash flow and discount rates should reflect this.

General Technical Guidance - Income Approach – Forms of Present Value Techniques

- ASC 820 notes there are two types of present value techniques:
  - Traditional approach
  - Expected cash flow approach
- **Traditional approach** uses a **specific set of cash flow projections**.
  - **Risk** of achieving forecast cash flows is captured **in the discount rate**.
  - Discount rate includes risk free rate plus a **risk premium** (what factors are included in risk premium).
- **Expected cash flow approach** uses a **composite set of expected cash flow projections** which capture probabilities of scenarios. Expected cash flows are converted into a present value indication.
  - Expected (market composite) cash flows should reflect weighted expectation of market participants.

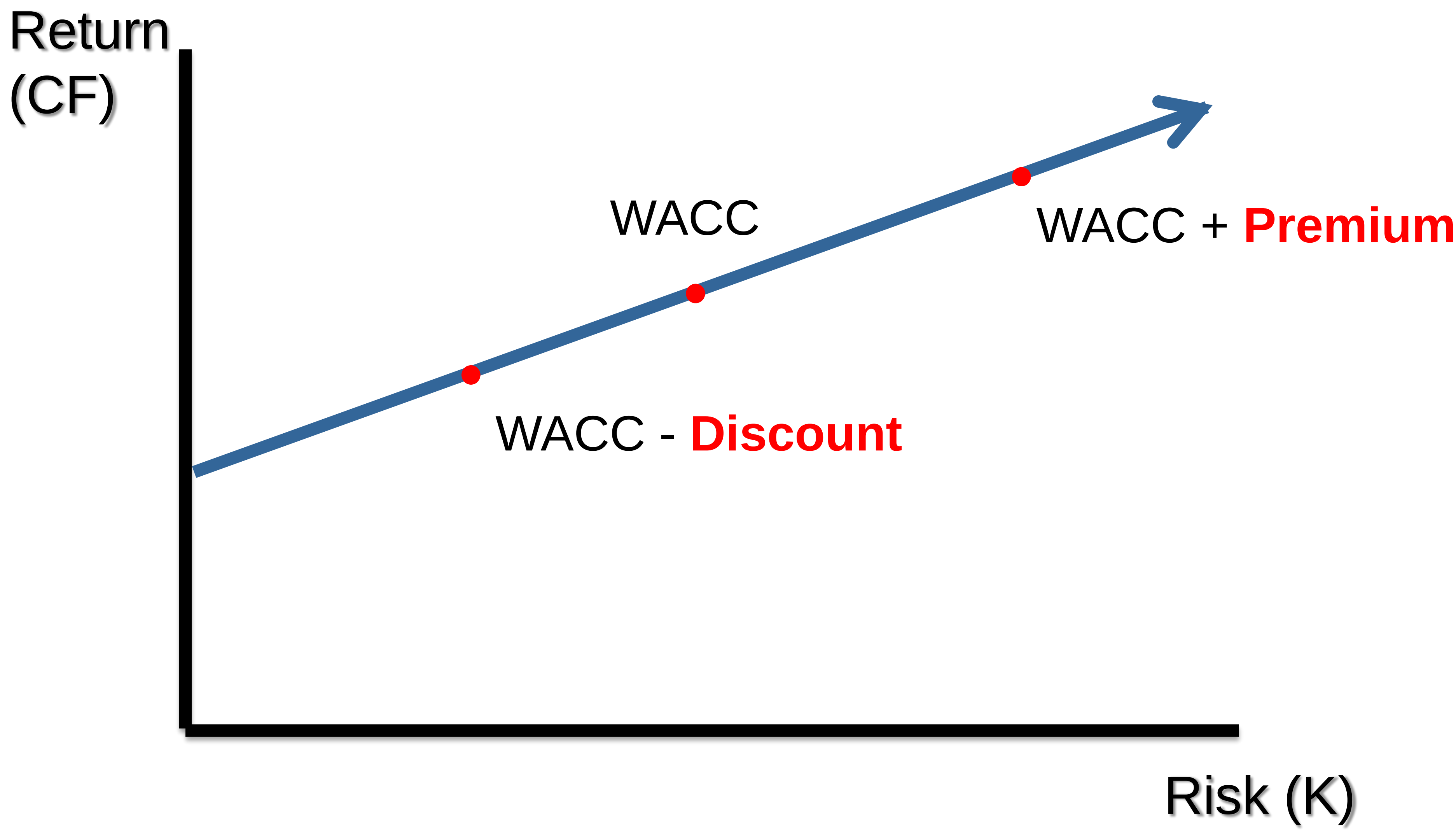
General Technical Guidance - Income Approach – Forms of Projections *(cont'd)*

- The traditional approach is more typically seen but the expected cash flow approach would be theoretically preferable.
- "The Board found the **expected cash flow approach to be a more effective measurement tool than the traditional approach in many situations**. In developing a measurement, the **expected cash flow approach uses all expectations about possible cash flows instead of the single most-likely cash flow.**" (paragraph 45, Concepts Statement 7).
- While expected present value technique is technically preferable, as stated at paragraph 51 "Like any accounting measurement, the application of an expected cash flow approach is subject to a cost-benefit constraint."

Forms of Projections – Cash Flows and Discount Rates – Challenges with CSRP / Alpha

- The prior slides are essentially addressing the issue of the reasonableness of cash flow projections and what, if any, adjustments should be made to the discount rate.
- When cash flows differ from market levels, the inclusion of a company specific factor (“Company Specific Risk Premium”, “CSRP” or “Alpha”) in the discount rate would be required.
- In the audit documentation process, the inclusion of a qualitative factors like an alpha is not readily subject to confirmation with market evidence. (Alphas are frequently challenged by tax courts as well).
- The next slide presents the relationship of cash flows and discount rates
  - Conservative Cash Flows – WACC less a discount (negative alpha)
  - Market Participant Cash Flows – WACC
  - Optimistic Cash Flows – WACC plus a premium (positive alpha)

Required Relationship of Risk and Return



Business Enterprise Valuation – Technical Guidance

Early Development Stage Company Valuation

Early Stage Enterprise Valuation – Introduction

- Early stage development stage companies targeting rapid value increases use stock option grants as a means of compensating and incentivizing performance from employees. Valuation of the stock has received much attention from the FASB, SEC and the IRS.
- ASC 718, *Compensation – Stock Compensation*, provides accounting requirements for stock related compensation for financial reporting.
- IRC 409A, *Inclusion in Gross Income of Deferred Compensation Under Nonqualified Deferred Compensation Plans*, was released in 2004. IRC 409A provides tax requirements (and some valuation comments) for stock valuations for tax reporting purposes.
- The pricing of stock option grants prior to an Initial Public Offering (IPO) often receives SEC inquiries. Stock option grants below fair value ("Cheap Stock") can delay IPO filings or result in restatements of financial results (typically a reduction of income due to increased stock compensation expenses).

Early Stage Enterprise Valuation – ASC 718

- **Challenges in the valuation of early stage companies** include:
  - High degree of **uncertainty** on future outcomes
  - Extremely rapid potential **growth**
  - **Potentially long periods until stabilized operations**
  - Frequent **absence of traditional valuation metrics**
    - No or limited revenues
    - Negative or low levels of EBITDA and net income
  - Risks from potential **need for additional capital** to sustain operations
  - Wide range of potential future outcomes at unknown future dates
    - IPO
    - Acquisition (most frequently by a strategic buyer)
    - Continue to operate as a private firm
    - Bankruptcy

Business Enterprise Valuation – Valuation Methods and Stage of Development

- Typically, the first step in the valuation process is to determine the company's enterprise value
- Traditional approaches to valuation are not easy to apply for early stage companies
- The Cheap Stock Practice Aid suggests different valuation approaches for the different stages of development as follows:
  - Cost Approach – Stage 1 and 2 enterprises
  - Market Approach – Stages 4, 5 and 6
  - Income Approach – Stages 3, 4, 5 and 6
- The different stages of enterprise development are summarized on the following slides.

Business Enterprise Valuation – Valuation Methods and Stage of Development *(cont'd)*

- The Practice Aid includes suggestions for preferred valuation approaches based on the stage of development of a business enterprise. These include:
- 6.04 **Stage 1**– **Embryonic -** No product revenue and little expense history
  - Backsolve method (Market Approach – Prior Transactions Method. Also, can be viewed as an Income Approach when an Option Pricing Method is applied.)
  - Asset accumulation method (Cost Approach)
- 6.05 **Stage 2** – **Early development –** Moderate development effort with partial proof of concept
  - Backsolve method
  - Asset accumulation method
  - DCF Method as secondary method

Business Enterprise Valuation – Valuation Methods and Stage of Development *(cont'd)*

- 6.06 **Stage 3 – Later stage development –** Product in beta testing
  - Backsolve method
  - DCF Method
- 6.07 **Stage 4 – Commercially Feasible –** First revenues, operating losses
  - Market and DCF Methods, Backsolve Method
- 6.08 **Stage 5 – Financially Feasible -** Break through to profitability
  - Market and DCF Methods, Backsolve Method
- 6.09 **Stage 6 – Established –** Meaningful history of revenues / profits
  - Market and DCF Methods, Backsolve Method

Business Enterprise Valuation - Market Approach - Introduction

- Use of the Market Approach for the valuation of development stage companies considers two types of pricing information:
  - **Prior Transactions in Shares of Subject Enterprise**
    - Same class of stock
    - Different class of stock - OPM backsolve on recent financing rounds
  - **Guideline Public Company or Guideline Transactions Pricing**
    - Traditional pricing multiples - With revenue, EBITDA or other financial metrics from guidelines applied to subject company metric
    - Pricing at total business enterprise or equity level
- Determination of preferred method will be a function of the status of the subject entity, availability of prior transactions and comparability of guideline firms

Business Enterprise Valuation - Prior Transactions in Common Shares – Areas of Concern

- For ASC 718 reporting, a value for common stock is typically required. Transactions in the common stock of early stage entities are infrequent but do occur. It is important to **establish whether a transaction(s) provides sufficient evidence of FV for common shares.** Factors include:
  - **Thin market** –limited number of transactions may not be sufficient evidence
  - **Motivations of parties** is an important consideration and may be unknown
  - **Degree of knowledge** of the parties (both selling shareholder and buyer) may be limited. Is purchase by an existing investor with knowledge?
  - Is transaction current and relevant? Have milestones been achieved since the transaction?
- For development stage companies that are raising capital, prior transactions such as a financing round often involve a different class of stock (preferred stock rather than sale of common shares). These financing transactions occur periodically and often provide the best available valuation evidence for early stage companies.

Business Enterprise Valuation – Prior Transactions in Shares – Financing Round

- A **recent financing round is often the strongest evidence of fair value** of an enterprise.
- The **most reliable financing rounds involve new investors**
  - Reduce concern regarding additional investment only to protect required prior investment (element of distress)
- If financing round did not involve new investors (i.e., an insider round), there can be concern regarding the meaningfulness of the pricing evidence
  - Detailed understanding of the transaction and negotiation process can be helpful
    - Did percentage ownership of the enterprise change materially due to the financing round?
    - Did all existing investors participate in latest round?
    - Were new investors contacted? Why did or didn't they invest?

Intangible Asset Valuation – Technical Guidance

Cost Approach Overview – Comments from IPR&D Practice Aid on Use of Cost Approach for IPR&D

- The IPR&D Accounting and Valuation Guide, *Assets Acquired in a Business Combination to be Used in Research and Development Activities*, addresses the application of the Cost Approach in valuing IPR&D.
- Section 1.08 states: “The task force recognizes that the cost approach is widely used for valuing assets in general. However, it is less commonly used to value IPR&D assets because the goal of R&D is generally to develop commercial products (that is, income-producing assets), which are intended to generate profits (that is, the value derived from those assets is expected to exceed costs incurred in developing those assets). Therefore, for assets to be used in R&D activities, including IPR&D projects, there may be little or no relationship between historical cost expended and fair value. For example, a great invention may cost little, in which case, fair value may far exceed cost. Conversely, an R&D project may last for years without producing a commercially viable product, in which case, the cost approach may overstate the fair value of the technology.”

Cost Approach Overview – IPR&D Guide Comments on Use of Cost Approach for IPR&D *(cont'd)*

- Per 1.09, " . . . the use of a cost approach may be appropriate in limited circumstances, including the valuation of (*a*) single purpose fixed assets, (*b*) assets that can be substituted effectively through replacement or reproduction, or (*c*) specific IPR&D projects in which the stage of development, although substantive, is so early that reliable information about anticipated future benefits does not exist."
- The stage of development of IPR&D and relationship of costs incurred to estimate fair value using an Income Approach may help assess reasonableness of an Income Approach estimate.

Selecting Appropriate Method – Types of Assets Frequently Valued Using Different Methods

- Multi-period Excess Earnings Method (Residual income):
  - Customer related intangibles (when significant effort incurred)
  - Key technology - when critical to revenue generation
  - Trade names - enabling, very important
- Relief-from-Royalty Method (Avoided third party payment):
  - Trade names
  - Technologies - when MPEEM not appropriate
- Income Increment / Cost Decrement Methods:
  - Covenant Not-to-Compete
- Build-Out (Greenfield) Method:
  - FCC Licenses
  - Other permits, rights to operate

Differences between Relevant Methods – Comments on MPEEM

- For the primary income-producing asset of a business enterprise, the MPEEM is most likely the appropriate method to employ.
- The income attributable to the primary asset can be best estimated as a residual concept, or stated alternatively, as the excess return after a fair return to other assets that contribute to the generation of net income. The fair return to other assets is often referred to as a “contributory asset charge.”
- Cash flow of the business operations is allocated to various assets that contribute to the operations. If there is any “excess” (residual) income after the allocation of income to other assets (working capital, fixed assets and/or intangible assets), this excess income is the basis for the value of the primary asset.

Differences between Relevant Methods – RFR Method and Income Incremental/Cost Decrement Methods

- The RFR Method or Income Increment/Cost Decrement Method are often used to value assets with indirect income benefits (cost savings).
- Examples of indirect income benefits (i.e. do not directly produce revenue):
  - Cost savings to the owner of the intangible asset due to relief from having to pay a third party for the licensing of a similar asset
  - Cost savings leading to increased income – avoiding marketing expenses due to a recognized trade name
  - Protection from competition from a covenant not to compete leading to increased income due to reduced competition for a period of time
  - Other cash flow benefit
- If an asset(s) is valued using a RFR Method, it is likely that another asset (customer or technology related intangible asset) would be valued using the MPEEM.

RFR Method – Gross vs. Net Royalty Rates

- Paragraph 3.5.03 of the CAC Guide notes issues to consider in royalty rate development. Much like real estate leases may be characterized as gross or net leases, royalty agreements can be characterized on a similar basis. The type of royalty agreement will influence the selection of a royalty rate for the RFR Method.
- "A royalty rate should be analyzed to determine whether it compensates the licensor for all functions (ownership rights and responsibilities) associated with the asset. Such an analysis would include consideration of expenses recognized by the licensee versus expenses otherwise considered to be the responsibility of the licensor. A royalty rate that is "gross" would consider all functions associated with ownership of a licensed asset to reside with the licensor while a royalty rate that is "net" would consider some or all functions associated with the licensed asset to reside with the licensee."

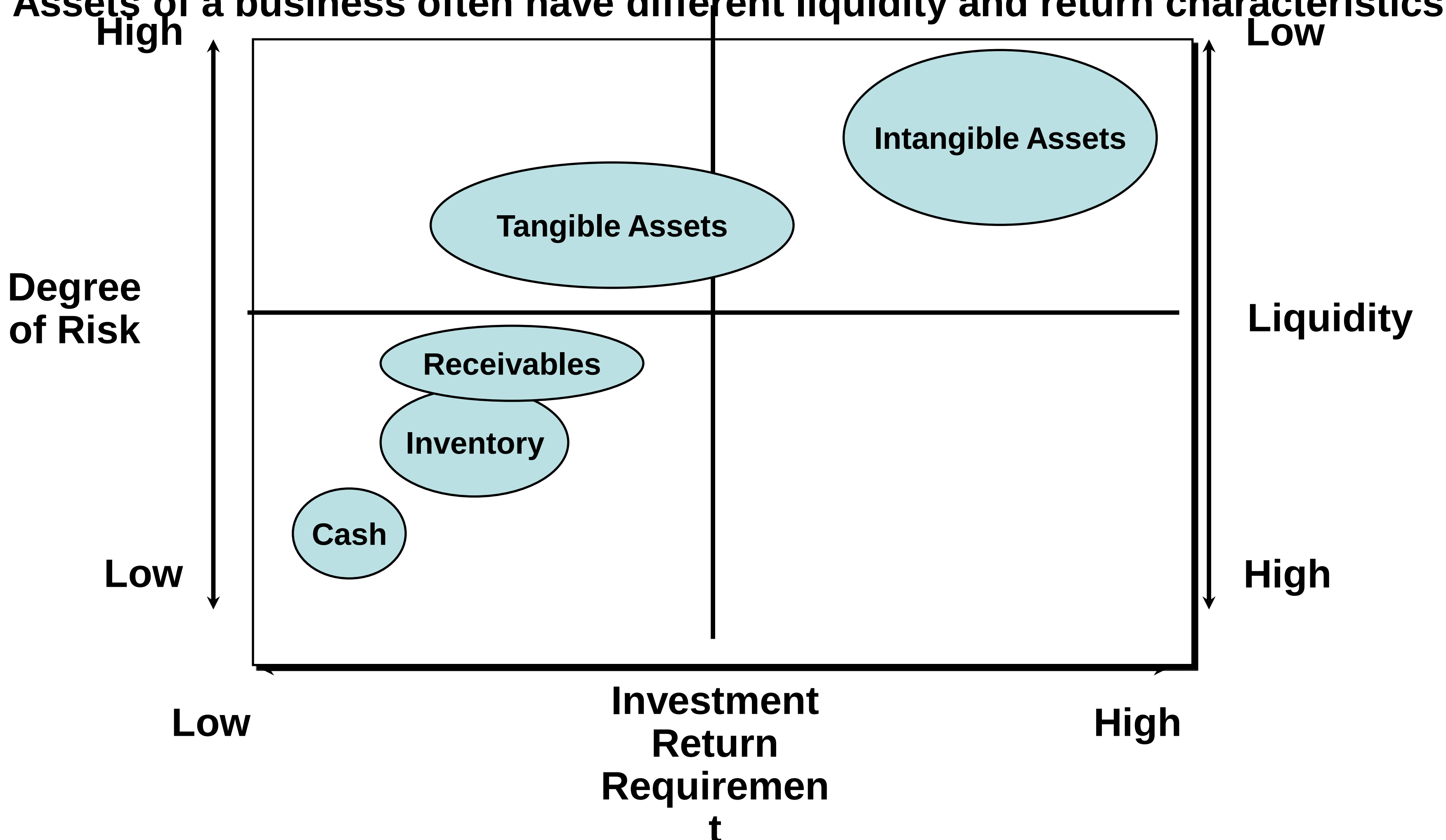
Discount Rate Estimation for Intangible Assets

Discount Rate Estimates – Overview

- Estimating discount rates associated with different intangible assets (as well as contributory assets) is one of the more challenging areas of valuation.
- Although there is often limited direct market evidence to estimate discount rates for intangible assets, there are several means of confirming that estimates are within a range of reason.
- The following slides present information pertaining to:
  - Return requirements for different asset classifications
  - Return requirements within the spectrum of intangible assets
  - General methods of confirming the reasonableness of discount rate estimates.

Discount Rate Estimates – Risk and Rate of Return

- Assets within a business enterprise have different risk and return characteristics
- Rate of return of a particular asset is commensurate with its risk
- Assets of a business often have different liquidity and return characteristics



Discount Rate Estimates – CAC Final Document – Rate of Return for Contributory Assets

- 4.1.01 "The fundamental premise is that the **required rate of return should be commensurate with the relative risk** associated with investment in each particular asset. However, there is a paucity of authoritative data on asset-specific returns.
- 4.1.04 "Using relevant market data, valuation specialists can **estimate** the **market participant cost of equity and cost of debt** related to financing a particular type of asset. From that the valuation specialist can **use market-based debt capacity ratios** to develop the required rate on specific classes of assets."
- Consideration that asset risk may not correlate to business risk. For example, contributory real estate owned by a high technology entity might not exhibit risk characteristics specific to the entity risk. Conversely, if the working capital or fixed assets are very risky or very specific to the entity, the required rate of return may be higher than otherwise indicated.

Discount Rate Estimates – Returns on Specific Assets – Sample Calculation

Weighted Average Cost of Capital - Specific Assets

	BEV	Working Capital	Fixed Assets	Trade Name	Customer Relationships	Current Technology	Assembled Workforce	IPR&D	Goodwill
Weighted Average Cost of Capital									
Debt-to-Capital	15.0%	80.0%	70.0%	**15.0%**	**0.0%**	**0.0%**	**15.0%**	**0.0%**	**0.0%**
Cost of Debt (After-tax)	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%
Pro Rata Amount	0.6%	3.1%	2.7%	0.6%	0.0%	0.0%	0.6%	0.0%	0.0%
Equity-to-Capital	85.0%	20.0%	30.0%	85.0%	100.0%	100.0%	85.0%	100.0%	100.0%
Cost of Equity	16.1%	16.1%	16.1%	16.1%	16.1%	16.1%	16.1%	16.1%	16.1%
Asset Specific Risk Premium	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**4.0%**	**7.0%**
Cost of Equity	16.1%	16.1%	16.1%	16.1%	16.1%	16.1%	16.1%	20.1%	23.1%
Pro Rata Amount	13.7%	3.2%	4.8%	13.7%	16.1%	16.1%	13.7%	20.1%	23.1%
Weighted Average Cost of Capital	**14.3%**	**6.3%**	**7.5%**	**14.3%**	**16.1%**	**16.1%**	**14.3%**	**20.1%**	**23.1%**
Rounded	**14.5%**	**6.0%**	**8.0%**	**14.0%**	**16.0%**	**16.0%**	**14.0%**	**20.0%**	**23.0%**

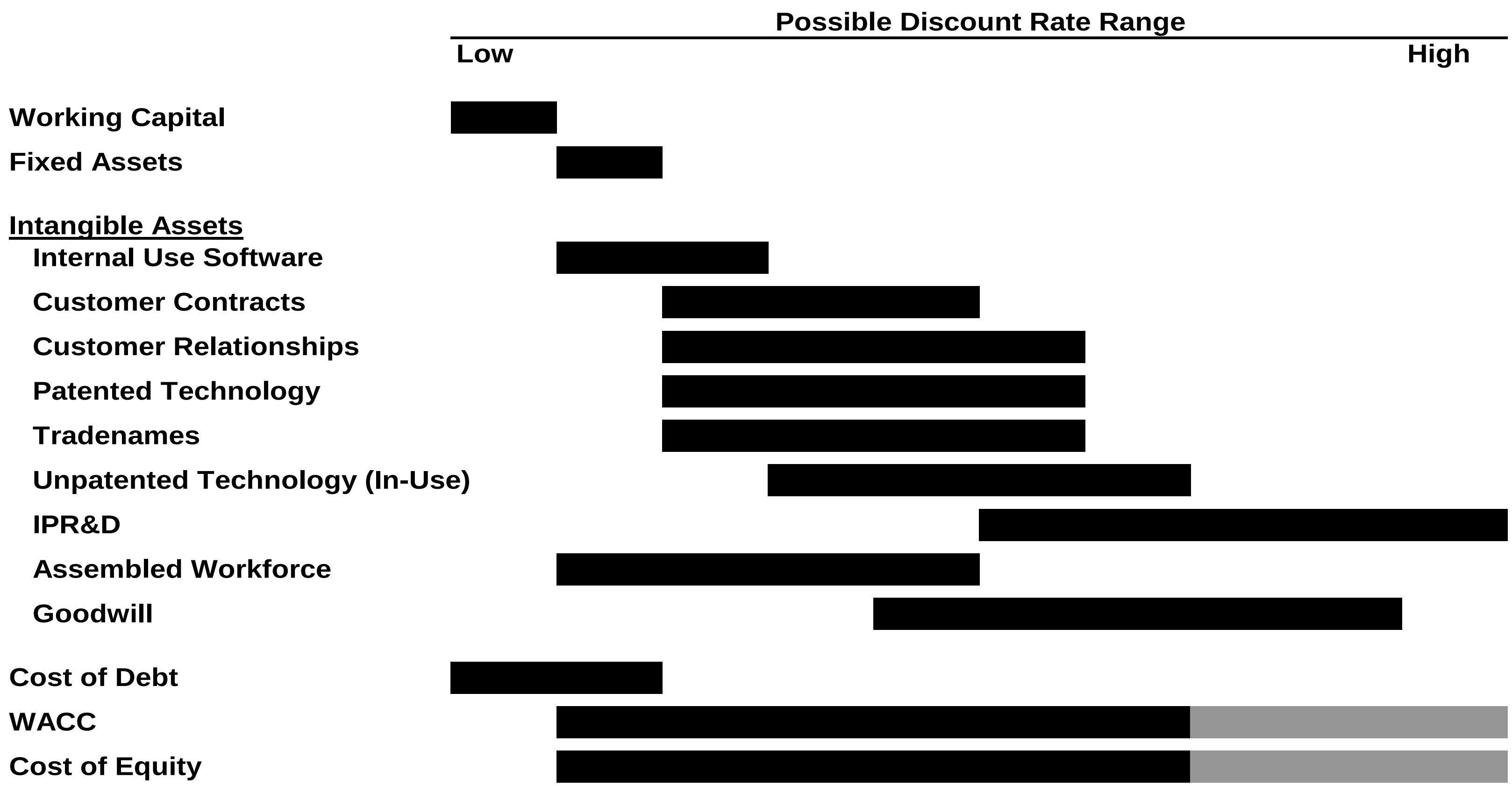
Notes:

(a) *Estimates of capital type percentages are somewhat judgmental.*

Weighting of asset fair values and asset specific discount rates (WARA) should equiate to the WACC of the business enterprise.

Discount Rate Estimates – Illustrative Return Ranges for Various Intangibles

Discount rate should reflect the risk associated with the income attributable to the intangible asset. A general risk spectrum associated with various intangible asset classes follows:



Discount Rate Estimates – Rates of Return on Intangible Assets

- Rates of return on intangibles, and the methods used to estimate them, will vary depending on the specific facts and circumstances.
- Magnitude of risk:
    - From least to most risky
        - **Routine** (e.g., assembled workforce)
        - **Established** products
        - **Newly-developed** products
        - **In-process** product development (i.e., work-in-progress): more risky
        - Unidentified intangible assets or "goodwill"

Discount Rate Estimates – IPR&D Discount Rates – Conditional vs. Expected Cash Flows

- IPR&D has significant risk associated with its completion and successful commercialization and the realization of projected financial returns.
- It is important to understand this risk and whether it is incorporated in PFI or not. The treatment of this risk will have a significant impact on the discount rate used to value the IPR&D.
- Per 6.37 of the IPR&D Accounting and Valuation Guide “In the case of a transaction, the overall purchase price is most often based on unconditional or expected cash flows. **If the IPR&D cash flows are *conditional cash flows* or assume commercial success, these cash flows would need to be adjusted for the probability of success or weighted with downside cash flows that reflect potential development failure.** Thus, it should be noted that the assumptions used to value the overall entity would not always be identical to the assumptions used to value an IPR&D asset.”

Discount Rate Estimates – IPR&D Discount Rates – Conditional vs. Expected Cash Flows *(cont'd)*

- Per 6.101 " . . . the discount rate used to discount the prospective cash flows should reflect assumptions that are consistent with the risks inherent in the cash flows. **Conditional cash flows are discounted using a conditional rate, and expected cash flows are discounted using an expected rate**. In theory, the two techniques consider the same risks; the **DRAT reflects the risk through adjustments to the discount rate**, whereas the **EPVT primarily reflects this risk in the expected cash flows**."

Discount Rate Estimates – IPR&D Discount Rates – Conditional vs. Expected Cash Flows *(cont'd)*

- Per 6.110 " . . . the task force observes that **for many unique nonfinancial assets, including IPR&D, it may be difficult to identify exact comparables in the marketplace** and, thus, in order to apply the DRAT, it may be necessary to derive a discount rate from observable data for similar assets or entities. Although both the DRAT [Discount Rate Adjustment Technique] and EPVT [Expected Present Value Technique] involve subjectivity in selecting certain inputs, the EPVT requires the consideration of the various risk factors that may affect cash flows in the future. Some believe that there may be **more and better support about the distribution of possible outcomes than there is to support the magnitude of a risk adjustment to the discount rate**."

Discount Rate Estimates – Various Return Studies

The original 2001 IPR&D Practice Aid identifies two publications (Plummer and Scherlis/Sahlman) that provide guidance on rates of return commanded by venture capital investors at various stages of an entity's development (Table 5.3.88). These and others are listed below:

Stage of Development	Characteristics	Plummer[1]	Scherlis and Sahlman[2]	HVA Study Actual Returns[3]	Babson College Mass[4]	Frei & Leleux[1]	Seiffer Software[2]
Start-up	Pre-prototype	50%-70%	50%-70%	100%-125%	60%-80%	70%-100%	60%-80%
Early – Development	Pre-commercialization	40%-60%	40%-60%	60%	50%	50%-70%	50%-60%
First Stage	Commercialization	40%-60%	40%-60%	60%	50%	40%-60%	40%-50%
Expansion	Shipping Product	35%-50%	30%-50%	50%	40%	35%-50%	30%-40%
Mezzanine/IPO	Profitable	25%-35%	20%-35%	30%-40%	25%-30%	25%-40%	25%-30%

[1]Plummer, James L., QED *Report on Venture Capital Financial Analysis* (Palo Alto: QED Research, Inc. 1987).

[2]Scherlis, Daniel R. and William A. Sahlman, *A Method for Valuing High-Risk, Long Term, Investments: The Venture Capital Method* (Boston: Harvard Business School Publishing, 1987).

[3]Houlihan Valuation Advisors and Venture One study on pricing of venture capital investments in Technology and Life Sciences Companies in the United States, January 1993 to June 1996. Note that only successful VC backed companies were included in this study.

[4]William Bygrave, Babson College Mass., as quoted in the Expert's Report by PricewaterhouseCoopers, Aotea Bio Limited Prospectus and Investment Statement, November 14, 2002.

[5]Frei, P. & Leleux, B. *Valuating the Company. Starting a Business in the Life Sciences – from Idea to Market.* (Luessen, H. (ed).) 42-55 (Edition Cantor Verlag, Aulendorf, Germany, 2003).

[6]John Seiffer, "The Business of Software: The Venture Capital Rate of Return." November 21, 2005.

These rates are best used as a reasonableness check. They are **NOT** a substitute for independent analysis. A selected rate from this table would presumably be applied to conditional cash flows and NOT expected cash flows.

Questions

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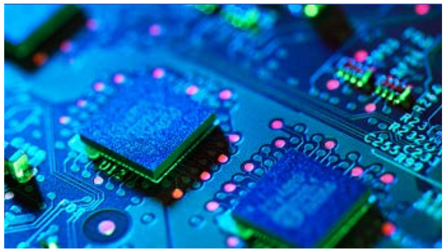
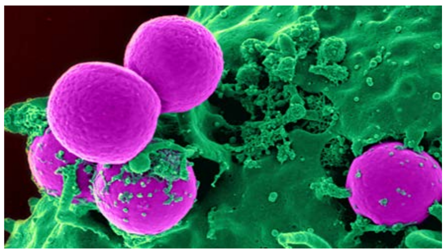
- Ray is a Managing Director in the Irvine, California office of Globalview Advisors. He has over 30 years of financial valuation expertise in the valuation of businesses, securities interests, and intangible assets.
- Ray has performed valuation projects for financial (both US GAAP and IFRS) and tax reporting, transactions, and litigation projects. In addition to performing valuations, Ray has extensive experience in the review of third-party and management prepared valuations.
- Ray has a wealth of experience in a wide range of industries. In recent years, much of his work has focused on technology and Internet firms. Other industries where he has significant project expertise include consumer products, entertainment and media, food services, health care, and manufacturing, in addition to early stage, rapid growth firms.
- Prior to joining Globalview Advisors in 2012, Ray was a Director in the Valuation Services Practice at PricewaterhouseCoopers LLP. He was also a Senior Manager in the Valuation Services Practice at KPMG LLP and KPMG Consulting, Inc., as well as a Manager at Arthur Andersen & Company.
- Ray received his MBA from the University of Southern California and his BS in Business Administration, cum laude, from the University of Kansas. He is an accredited senior Member of the *American Society of Appraisers (ASA)* in the business and intangible assets valuation disciplines as well *as* Appraisal Review and Management, and is also a Chartered Financial Analyst (CFA).



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