



Globalview Advisors

Financial Valuation and Advisory Services

Business Valuation Concepts for Fixed Asset Appraisers

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Presenter's Contact Information



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Objectives

1. Increase awareness of technical guidance on business and intangible asset valuations
2. Understand key elements of the Income Approach to valuation
3. Understand concepts of allocation of business income to different assets (Excess Earnings Method to valuation)
4. Understand key concepts related to risk and cash flow
5. Understand different types of cash flows
6. Understand values from economic and tax benefits from an asset
7. Recognize discount rate relationships for different assets
8. Contrast business, fixed asset and intangible asset valuation
9. Recognize relevance of economic, tax and financial reporting lives
10. Understand capital budgeting concepts and their usefulness in assessing economic values



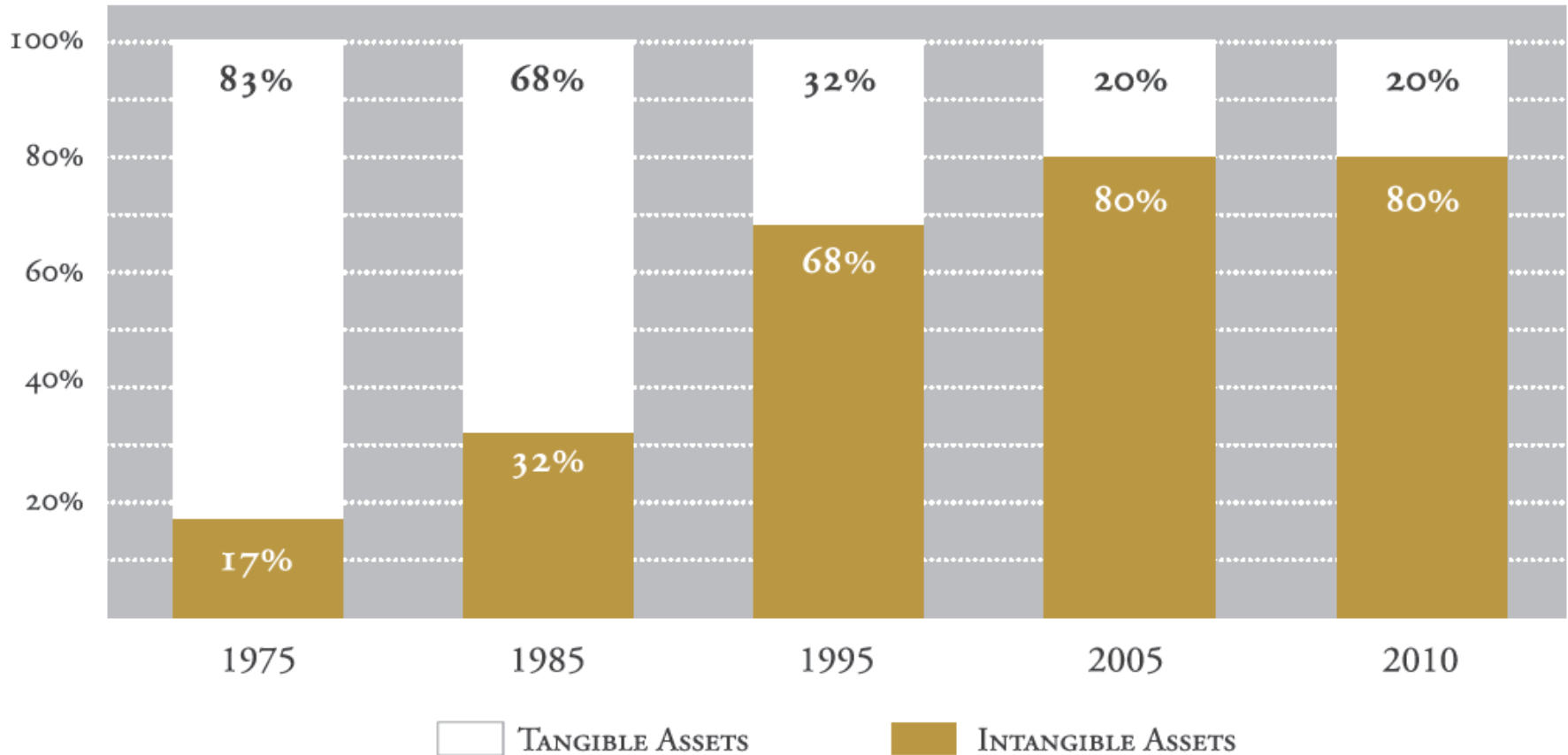
Introduction

Business Valuation vs. Asset Valuation

<u>Analytical Variable</u>	<u>Business Valuation</u>	<u>Fixed Asset Valuation</u>	<u>Intangible Asset Valuation</u>
Income subject to analysis	All operating income of BE	Portion of operating income	Portion of operating income
Life of income projection	Typically into perpetuity	Usually limited RUL	Usually limited RUL
Discount rate	Usually lower	Usually lower	Usually higher
Effect of obsolescence	Assume business adapts (going concern)	Assume effect on RUL	Assume effect on RUL
Highest and best use	Usually obvious	Requires analysis	Requires analysis
Transactional data	More obvious	Limited for many assets, comparability concerns for auction values	Difficult to find
Control	Control or minority value	Control value	Control value
Level of value	Various – TIC, equity, minority interest in equity	Total value of asset	Total value of asset

Increased Emphasis on Intangibles— Relative Values of Tangible and Intangible Assets

COMPONENTS OF S&P 500 MARKET VALUE



Source: Ocean Tomo

Increased Emphasis on Intangibles —Direct Example of Market Value to Book Value Relationship

Importance of Intangible Assets				
Comparison of Market Cap to Book Value for Selected Companies				
9/29/2011				
\$ in millions				
		Market Capitalization	Book Value of Equity	Ratio of MC to BVE
China				
	Business			
Tencent Holdings, Inc.	Internet Software and Services	38,640	3,919	9.9
Baidu	Internet Software and Services	42,368	1,730	24.5
Lenovo	Computers and Peripherals	6,922	1,961	3.5
Japan				
Sony Corporation	Household Durables	19,799	36,396	0.5
Toyota Motor Corp.	Automobiles	110,335	134,009	0.8
All Nippon Airways Co. Ltd.	Airlines	7,943	6,265	1.3
France (EUR \$Billion)				
Compagnie Generale DES Etablissements Michelin SCA	Auto Components	11,520	12,527	0.9
LVMH Moet Hennessy Louis Vuitton	Textiles, Apparel and Luxury Goods	70,171	30,764	2.3
Danone	Food Products	37,823	16,036	2.4
Germany				
Daimler AG	Automobiles	50,636	56,187	0.9
Allianz SE	Insurance	44,314	64,884	0.7
Bayer AG	Pharmaceuticals	47,213	27,470	1.7
United Kingdom				
BAE Systems plc	Aerospace and Defense	14,026	8,498	1.7
HSBC Holdings plc	Commercial Banks	140,921	167,537	0.8
GlaxoSmithKline plc	Pharmaceuticals	104,337	15,153	6.9
United States				
Apple Inc.	Computers and Peripherals	368,064	69,343	5.3
The Coca-Cola Company	Beverages	156,272	35,424	4.4
McDonald's Corp.	Hotels, Restaurants and Leisure	90,825	14,953	6.1
<i>Source: Capital IQ</i>				

Increased Emphasis on Intangibles —Market Value to Book Value at January 12, 2012: Key Industry Sectors

Industry Name	Number of Firms	Price/BV	ROE	Expected Growth in EPS	Payout	Beta	EV/Invested Capital	ROC
Aerospace/Defense	64	2.75	20.69%	11.84%	29.13%	1.10	2.35	18.53%
Auto Parts	51	2.08	15.63%	28.55%	23.74%	1.70	1.86	15.82%
Automotive	12	1.05	11.06%	44.50%	22.24%	1.59	1.02	6.96%
Bank	426	0.85	6.08%	10.22%	33.53%	0.77	0.93	NA
Biotechnology	158	3.19	4.53%	20.53%	59.34%	1.03	4.36	-13.33%
Chemical (Basic)	16	2.64	17.91%	15.45%	30.79%	1.36	2.18	13.66%
Chemical (Diversified)	31	2.96	14.48%	16.55%	31.68%	1.51	2.41	13.81%
Chemical (Specialty)	70	3.08	15.15%	19.21%	40.43%	1.28	2.43	12.25%
Computer Software	184	3.74	25.64%	17.66%	21.61%	1.04	5.63	45.06%
Drug	279	2.73	16.53%	15.04%	49.12%	1.12	2.53	15.02%
E-Commerce	57	4.55	9.06%	22.85%	1.89%	1.03	5.47	13.08%
Electric Util. (Central)	21	1.57	10.31%	6.23%	63.88%	0.75	1.25	6.38%
Electronics	139	1.65	14.75%	16.03%	11.97%	1.07	1.65	15.72%
Entertainment Tech	40	1.97	8.22%	21.77%	11.57%	1.23	2.42	11.69%
Environmental	82	2.22	10.13%	19.46%	46.73%	0.81	1.65	7.56%
Financial Svcs. (Div.)	225	1.79	-26.07%	13.76%	NA	1.31	1.17	5.95%
Food Processing	112	2.58	15.65%	13.87%	45.25%	0.91	1.97	11.88%
Foreign Electronics	9	0.90	4.38%	24.38%	51.37%	1.09	0.90	7.83%
Funeral Services	6	1.93	10.87%	16.50%	49.81%	1.14	1.47	7.81%
Homebuilding	23	1.38	-7.98%	20.01%	NA	1.45	1.23	-2.09%
Hotel/Gaming	51	2.64	4.59%	15.60%	40.37%	1.74	1.77	6.95%
Household Products	26	3.33	20.17%	11.76%	48.97%	1.07	2.50	14.52%
Industrial Services	137	2.40	10.33%	15.11%	24.98%	0.93	1.93	-53.50%
Internet	186	4.59	14.38%	23.75%	0.66%	1.09	8.78	32.75%
IT Services	60	3.73	20.07%	18.70%	32.87%	1.06	4.58	26.95%
Machinery	100	2.33	11.48%	16.26%	25.38%	1.20	2.10	12.60%
Med Supp Non-Invasive	146	2.82	17.64%	17.03%	37.29%	1.03	2.93	19.24%
Medical Services	122	2.09	16.89%	14.37%	8.82%	0.91	1.71	18.55%
Petroleum (Producing)	176	1.76	8.94%	18.51%	9.50%	1.34	1.55	13.50%
Power	93	1.06	5.30%	11.43%	13.75%	1.35	1.03	7.56%
Precious Metals	84	2.15	7.92%	16.38%	26.71%	1.15	2.12	9.57%
Restaurant	63	6.66	28.84%	17.41%	46.73%	1.27	4.55	20.32%
Semiconductor	141	2.62	20.68%	20.66%	30.53%	1.50	3.22	28.41%
Telecom. Equipment	99	2.32	8.49%	14.97%	53.72%	1.02	3.42	23.30%
Thrift	148	0.94	-1.07%	11.41%	NA	0.71	0.94	NA
Wireless Networking	57	2.72	15.56%	19.66%	9.13%	1.27	2.19	-18.21%
Total Market	5891	2.00	11.44%	15.61%	37.92%	1.15	1.62	12.21%

Five Primary Groups of Intangibles

- ASC 805, Business Combinations, lists five principal classes of intangible assets:
 - Contract-based intangibles
 - Marketing-related intangibles
 - Customer or supplier-related intangibles
 - Technology-related intangibles
 - Artistic-related intangibles
- Similar guidance is provided in IVSC Guidance Note 4, Valuation of Intangible Assets and IFRS 3, Business Combinations.

Identification of Intangibles—Marketing Related

- Marketing-related intangible assets are primarily used in the marketing or promotion of products or services. The non-exhaustive listing includes:
 - Trademarks, trade names, service marks, collective marks, certification marks
 - Trade dress (unique color, shape, or package design)
 - Newspaper mastheads
 - Internet domain names
 - Non-competition agreements

Source: ASC 805-20-55-14 and IFRS 3 (non-exhaustive list). IVSC, GN 4 paragraph 3.3 and ASC 805-20-55-14 (non-exhaustive list).

Identification of Intangibles—Customer Related

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

Source: ASC 805-20-55-20 and IFRS 3 (non-exhaustive list). See also IVSC, GN 4 paragraph 3.4.

Identification of Intangibles—Artistic Related

- Artistic-related intangible assets are those intangible assets of an artistic nature reflecting the creativity of the creator. These can include such items as:
 - Plays, operas, ballets
 - Books, magazines, newspapers, other literary works
 - Musical works such as compositions, song lyrics, advertising jingles
 - Pictures, photographs
 - Video and audiovisual material, including motion pictures, music videos, television programs

Source: ASC 805-20-55-29 and IFRS 3 (non-exhaustive list). IVSC, GN 4 paragraph 3.6 provides a similar but abbreviated listing of artistic-related intangibles.

Identification of Intangibles—Contract-Based

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

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

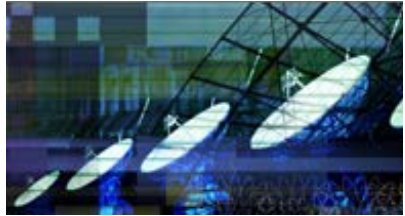
Identification of Intangibles—Technology Based

- Technology-based intangible assets protect or support technology and include:
 - Patented technology
 - Computer software and mask works
 - Unpatented technology
 - Databases, including title plants
 - Trade secrets, such as secret formulas, processes, recipes

Source: ASC 805-20-55-38 and IFRS 3 (non-exhaustive list). IVSC, GN 4 paragraph 3.5 provides a similar listing of technology-related intangibles.

Increased Emphasis on Intangibles— Changes in Accounting Requirements

- Increases in role of intangibles led to changes in accounting guidance
 - Purchase Price Allocation Guidance
 - IAS 3 and ASC 805, Business Combinations
- Impairment Guidance
 - IAS 36, Impairment of Assets (one standard for finite and indefinite lived intangibles)
 - ASC 350-20, Intangibles-Goodwill and Other-Goodwill (indefinite lived)
 - ASC 360—Impairment and Disposal of Long-Lived Assets
- General Guidance on Fair Value Estimates
 - IFRS 3 and ASC 820, Fair Value Measurement
- At present, there is discussion of simplification of accounting rules for purchase price allocations and goodwill impairment calculations



Valuation Theory

Valuation Theory— Importance of the Income Approach

Premises

- Valuation is forward looking
 - Value should reflect future cash flows rather than historical amounts. This is the impetus for the move to fair value concepts in financial reporting
 - Historical performance can be meaningful as an indicator of future performance
- Obsolescence from physical, functional and economic factors could lower value of an asset due to a potential reduction in future cash flows
- BV appraisers are facing significant scrutiny in US (auditors, SEC, Public Company Accounting Oversight Board in US, others)

Conclusion

- MTS appraisers should have good knowledge of business valuation concepts to better address obsolescence factors
- Teaming of MTS and BV valuation professionals

Income Approach— Business Valuation: Alternative Methods

- For Income Approach, two methods are available to value a business:
 - **Discounted Cash Flow Method (DCF Method)**
 - Project cash flows until cash flows stabilize (as %)
 - Residual value (typically from Capitalized Income Method)
 - Cash flow includes deductions for capital expenditures and any working capital required to support growth.
 - **Capitalized Income Method (CIM)**
 - Assumes growth is stabilized as a percent
 - Three key inputs include
 - Cash flow base
 - Discount rate
 - Long-term growth rate

Income Approach— Business Valuation: Alternative Methods

- For larger firms, CIM is infrequently used. Generally only used to calculate the residual value of the business once growth is forecast to stabilize (on a percentage basis).
- CIM is frequently used to value small businesses.
- Market approach uses market data to develop the same value estimate as the Income Approach.
 - The market data in the multiples (after appropriate adjustments) should capture the risk and growth expectations of the subject.
 - Market approach does not adequately address non-stable growth situations.

Capitalized Income Method to Valuation

$$V = \frac{CF_0 \times (1 + g)}{(k - g)}$$

- Three variables:
 - **CF**—Benefit stream to capitalize. Almost always cash flow stream
 - **K**—Discount rate reflective of risk of cash flows
 - **G**—Expected constant growth factor as a percent

Discounted Future Benefits Formula

$$\text{Value} = \frac{\text{Income}_1}{(1+k)^1} + \frac{\text{Income}_2}{(1+k)^2} + \frac{\text{Income}_3}{(1+k)^3} + \dots + \frac{\text{Income}_n}{(1+k)^n}$$

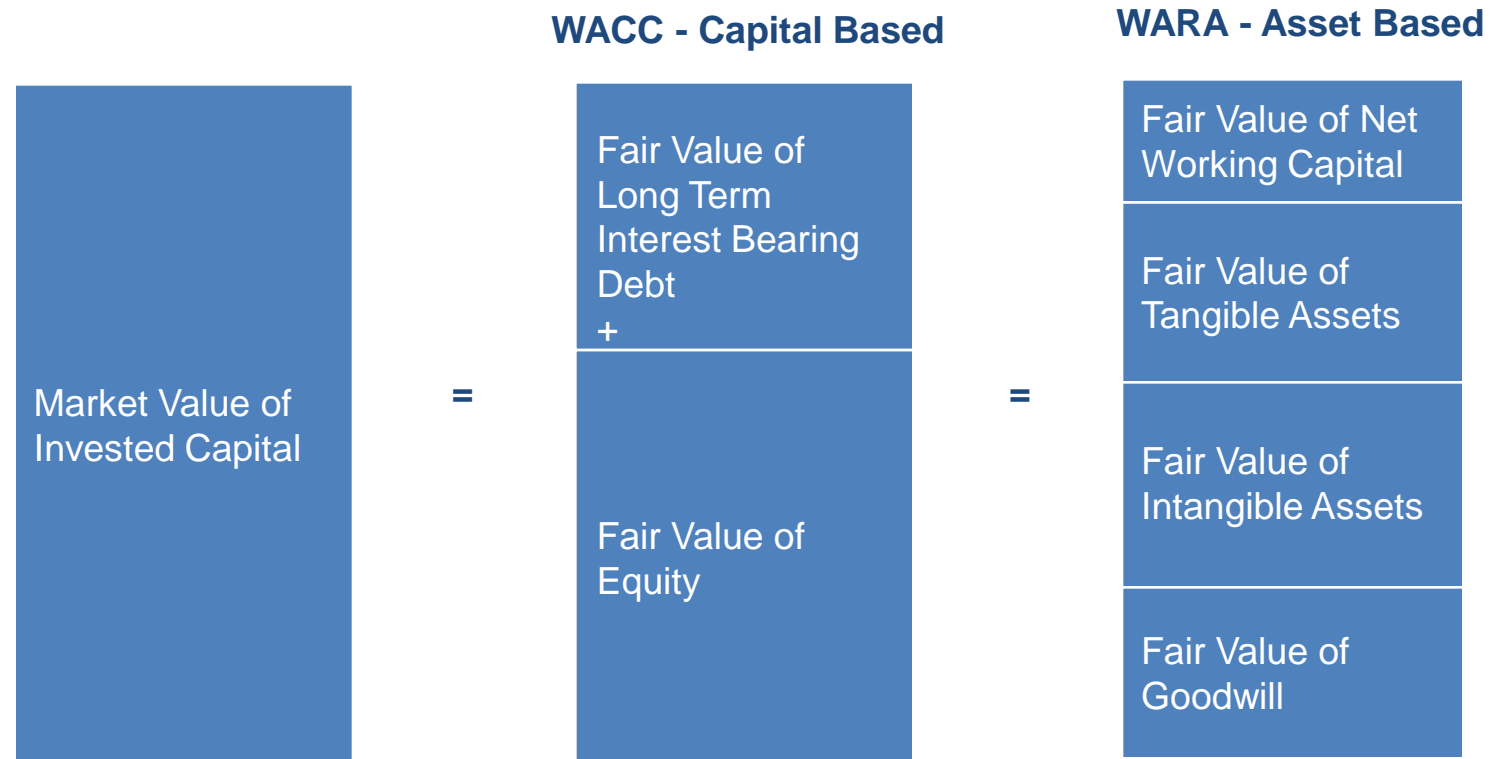
Discounted Future Benefits—Simplified Formula

$$\text{Value} = \sum_{n=1}^{n=t} \frac{\text{Income}_n}{(1+k)^n} + \frac{\text{Terminal value}_t}{(1+k)^t}$$

Terminal value could be many different things depending on what is being valued:

- Business—Business enterprise cash flows into perpetuity
- Land fill, other—Liability to perform remediation
- Fixed asset, plant, other—Salvage value of an asset

Invested Capital is Preferred Basis for Many Valuations



Calculation of Equity vs. Invested Capital Cash Flow

Equity Cash Flow

	Revenue
<i>Less</i>	Cost of sales
<i>Less</i>	<u>Operating expense</u>
=	Operating income (EBIT)
<i>Less</i>	<u>Interest expense</u>
=	Pretax income
<i>Less</i>	<u>Income taxes</u>
=	Net income
<i>Plus</i>	<u>Depreciation & amortization</u>
=	Gross cash flow
<i>Less</i>	Increase in working capital
<i>Less</i>	Capital expenditures
<i>+/-</i>	<u>Change in debt principal</u>
=	Equity Net Cash Flow

Invested Capital Cash Flow

	Revenue
<i>Less</i>	Cost of sales
<i>Less</i>	<u>Operating expense</u>
=	Operating income (EBIT)
<i>Less</i>	<u>Taxes on EBIT</u>
=	Net operating profit after tax (NOPAT)
<i>Plus</i>	<u>Depreciation & amortization</u>
=	Gross cash flow
<i>Less</i>	Increase in working capital
<i>Less</i>	<u>Capital expenditures</u>
=	Invested Capital Net Cash Flow

Equity vs. Invested Capital Cash Flows: Example

Equity vs. Invested Capital Benefit Measures

		Equity	Invested Capital	
	Revenue	\$23,000	\$23,000	
<i>Less</i>	Cost of sales	<u>(15,000)</u>	<u>(15,000)</u>	
<i>Equals</i>	Gross profit	8,000	8,000	
<i>Less</i>	Operating expense	<u>(4,500)</u>	<u>(4,500)</u>	
<i>Equals</i>	EBITDA	3,500	3,500	
<i>Less</i>	Non-cash items	<u>(2,000)</u>	<u>(2,000)</u>	
<i>Equals</i>	EBIT	1,500	1,500	
<i>Less</i>	Interest expense	<u>(300)</u>	N/A	Interest expense treatment differs
<i>Equals</i>	Pretax Income	1,200		
<i>Less</i>	Income taxes	<u>(480)</u>	<u>(600)</u>	Income tax calculation differs
<i>Equals</i>	Net Income	\$720		
	NOPAT		\$900	

NOPAT = Net Operating Profit After Taxes (Debt Free Net Income)

Income Approach—Sources of Incremental Cash Flows

- The cash flows generated by an asset may include any/all of the following:
 - **Increased revenue**—due to higher quality or unique features:
 - Premium price per unit, and/or
 - Increased number of units sold.
 - **Cost savings**—lower costs
 - Production
 - Marketing
 - Warranty / repair
 - Other
 - **New profit generation**—potential development of new technologies / products
 - Mix of the above.
- Many of the above factors would relate to intangibles but may also be relevant to fixed assets

Income Approach— Asset Valuations: Alternative Methods

- For intangible assets, different methods of the Income Approach reflect different roles of intangibles and means of quantifying the benefit stream:
 - **Multi-Period Excess Earnings Method (MPEEM) (Primary asset)**
 - Starting point is total income for business or business unit.
 - Deduct shares of income associated with other required assets.
 - Calculate present value of residual income using a risk-adjusted discount rate.
 - **Cost Savings Methods (Secondary assets)**
 - Relief from Royalty Method (RFR Method)
 - Direct estimate of cost savings

— **Greenfield or Build-Out Methods**

- Only asset owned is the subject asset (raw land, an FCC license)
- All other assets must be built or bought. Models typically result in negative cash flows in initial periods due to
 - Investments in various assets
 - Operating losses until stabilized revenue and earnings levels achieved

— **With and Without Method (“WWM”)**

- Comparative valuations with and without an asset in place
- Difference is the value from the asset being appraised
- As will be discussed later, WWM has other applications

Income Approach—Criteria for Selection of Assets to Appraise Using the MPEEM

- MPEEM is best suited for assets that “drive” surplus cash flow of an enterprise. These assets are referred to as primary or enabling assets.
- Per 3.3.5 of the Customer-Related Assets discussion draft, "In our view, a **primary asset** of a business is an asset which has **significant importance to the business relative to other assets** and is a **key business driver** from an economic perspective (e.g., cash flows). Depending upon the nature of the business, the primary asset(s) **may be tangible assets** such as real property or intangible assets such as **customers, technology, brands, or another asset.**"
- Attributes of assets valued using the MPEEM may include:
 - Direct source of current or near future revenue generation,
 - Enabling asset which “drives” the business,
 - Replacement may be more difficult, and
 - Typically considered the most significant or valuable acquired intangible assets

Excess Earnings Method—Valuation of Customer-Related Intangibles: Example

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue (1)		\$ 42,000	\$ 43,260	\$ 44,558	\$ 45,895	\$ 47,271	\$ 48,690	\$ 50,150	\$ 51,655	\$ 53,204	\$ 54,800
Growth		N/A	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Annual Retention Factor	85.0%	85.0%	72.3%	61.4%	52.2%	44.4%	37.7%	32.1%	27.2%	23.2%	19.7%
Revenue from Existing Customers	% of Revenue	35,700	31,255	27,364	23,957	20,975	18,363	16,077	14,075	12,323	10,789
Cost of Goods Sold	56.4%	20,145	17,637	15,441	13,519	11,836	10,362	9,072	7,943	6,954	6,088
Gross Profit		15,555	13,618	11,923	10,438	9,139	8,001	7,005	6,133	5,369	4,701
SG&A Expenses	26.3%	9,400	8,229	7,205	6,308	5,522	4,835	4,233	3,706	3,245	2,841
Addback: Selling Expenses for New Customers	3.0%	1,071	938	821	719	629	551	482	422	370	324
Operating Income		7,226	6,327	5,539	4,849	4,246	3,717	3,254	2,849	2,494	2,184
Less: Royalty on Trade Name (2)	5.0%	1,785	1,563	1,368	1,198	1,049	918	804	704	616	539
Pretax Income		5,441	4,764	4,171	3,652	3,197	2,799	2,450	2,145	1,878	1,644
Income Taxes	40.0%	2,177	1,906	1,668	1,461	1,279	1,120	980	858	751	658
After-Tax Earnings		3,265	2,858	2,502	2,191	1,918	1,679	1,470	1,287	1,127	987
After-Tax Capital Charges (3)											
Net Working Capital (Excl. Excess Cash)	0.49%	176	154	135	118	103	90	79	69	61	53
Fixed Assets	1.23%	438	384	336	294	257	225	197	173	151	132
Internal Technology	0.10%	35	30	27	23	20	18	16	14	12	10
Assembled Workforce	0.56%	200	175	153	134	117	103	90	79	69	60
Total Capital Charges	2.38%	848	743	650	569	498	436	382	334	293	256
Income from Customer Relationships		2,417	2,116	1,852	1,622	1,420	1,243	1,088	953	834	730
Present Value Factor	16.0%	0.9285	0.8004	0.6900	0.5948	0.5128	0.4421	0.3811	0.3285	0.2832	0.2441
Present Value		2,244	1,694	1,278	965	728	550	415	313	236	178
Sum of Present Values (4)		8,600									
Plus: Tax Amortization Benefit		1,640									
Fair Value of Customer Relationships		10,240									
Fair Value of Customer Relationships, Rounded		\$ 10,200									

Income Approach—Comments on Criteria for Selection of Assets to Appraise: RFR Method

- The RFR Method is often best suited for assets which may be licensed, but instead are owned. As such, value is derived based on the fact that the owner of that asset avoids the cost of licensing that asset.
- Attributes of assets valued using the RFR Method may include:
 - Generally not an enabling (primary) asset which “drives” the business
 - Generally not expected to be a direct source of current or near future revenue generation
 - Possibly more readily replaced
 - Less significant portion of cash flows (and value in many cases) relative to primary asset that is valued using the MPEEM)
- The Relief from Royalty Method can be viewed as similar to a leasing model.

Relief from Royalty Method—Example

		December 31					Residual
		Year 1	Year 2	Year 3	Year 4	Year 5	Year
Revenues Subject to Royalty		35,700	36,771	37,874	39,010	40,181	41,386
Royalty Rate	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Pre-Tax Royalties		1,785	1,839	1,894	1,951	2,009	2,069
Less: Maintenance Expense		100	100	100	100	100	100
Pre-Tax Royalties after Maintenance Expense		1,685	1,739	1,794	1,851	1,909	1,969
Income Taxes	40.0%	674	695	717	740	764	788
After-Tax Royalties		1,011	1,043	1,076	1,110	1,145	1,182
Capitalized Residual Value (CF / (k - g))							10,742
Partial Period Factor		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Mid-Year Convention	Discount Rate	0.5000	1.5000	2.5000	3.5000	4.5000	4.5000
Present Value Factor	14.0%	0.9366	0.8216	0.7207	0.6322	0.5545	0.5545
Present Value of Cash Flow		947	857	776	702	635	5,957
Sum of Present Values of Cash Flows		9,873					
Plus: Tax Amortization Benefit		2,093					
Indicated Fair Value of Trade Name		11,966					
Indicated Fair Value of Trade Name, Rounded		\$12,000					

RFR Method—Tax Assumptions: Inclusion of Tax Rate and Cash Flows from Tax Benefits

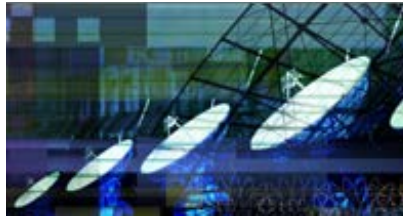
- Prior Example Reflects Business Appraiser Perspective
 - After Tax Cash Flows and After Tax Discount Rate
 - Plus Value of Tax Benefits
- Some valuation practice relies on
 - Pretax cash flows and pretax discount rate
 - No explicit tax benefit
- Examples of pretax – real estate valuations
- Key reason for difference
 - Business assets are often viewed as owned by corporations that are often assumed to pay corporate level taxes.
 - Real estate and other assets are often assumed to be held by non-taxable entities (partnerships / REITs / closed end funds) or directly by individuals, hence, no entity level tax

Tax Assumptions in Business and Intangible Asset Valuations

- In valuation, two levels of taxes must be addressed:
 - Entity level taxes
 - Individual investor taxes
- Most business and intangible asset valuation models reflect valuation:
 - After entity level taxes, if any.
 - Before individual level taxes
- While individual taxes are important, these are generally viewed as being captured in market return requirements / yields. (They are indirectly captured in the actions of buyers and sellers of securities that are used to develop rate of return estimates used to develop discount rate estimates.)

Income Approach—Intangible Asset Challenges

- Determination of appropriate method may be challenging.
- Significant informed judgment is required when assigning cash flows of an acquired enterprise to specific assets.
- Need to properly reflect risk associated with the cash flows in question and determine appropriate discount rate.
- Need to determine the term of the cash flow forecasts.
- Limited observable market data to support many variables.

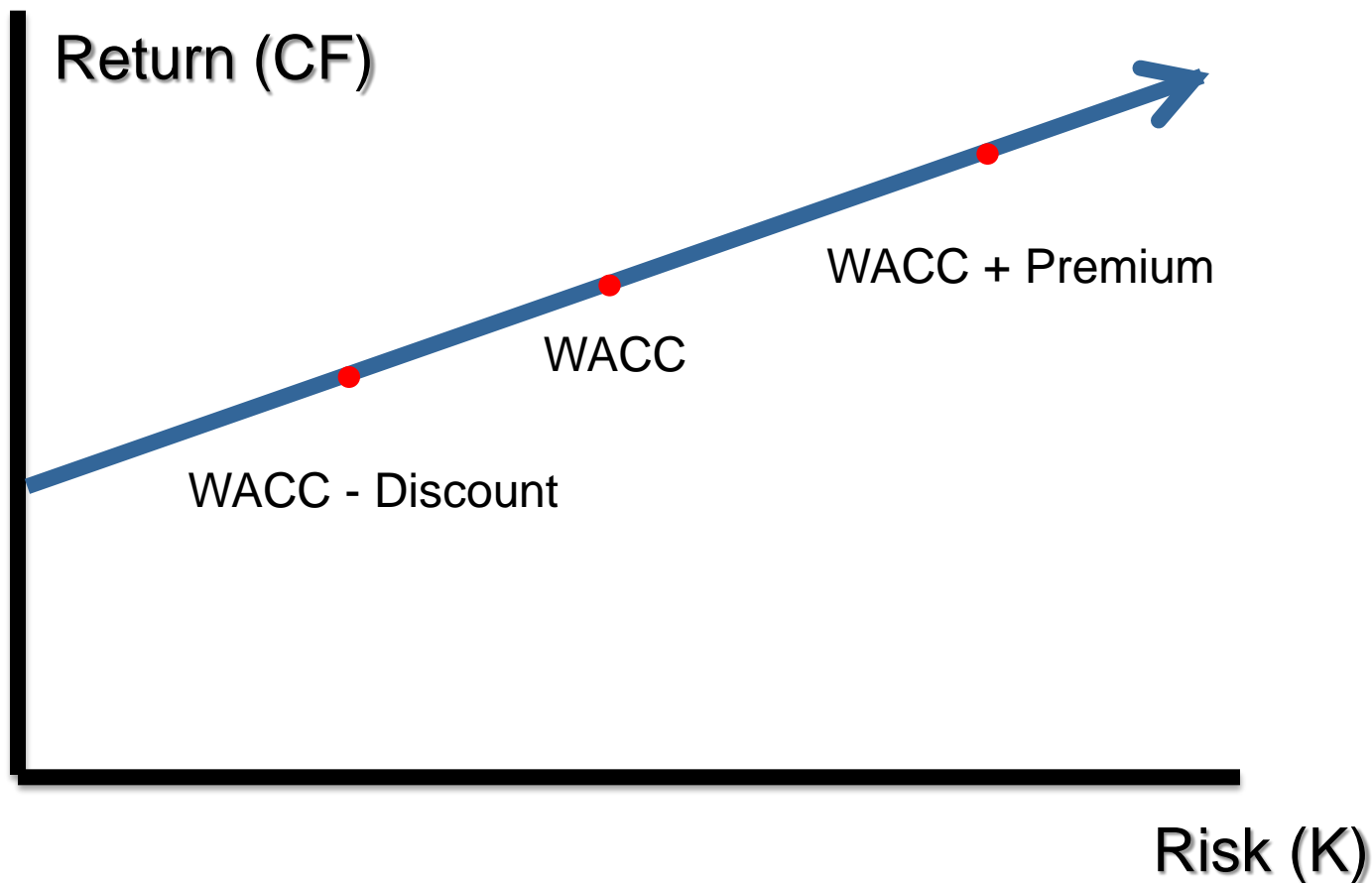


Important Concepts

Types of Cash Flows—Introduction

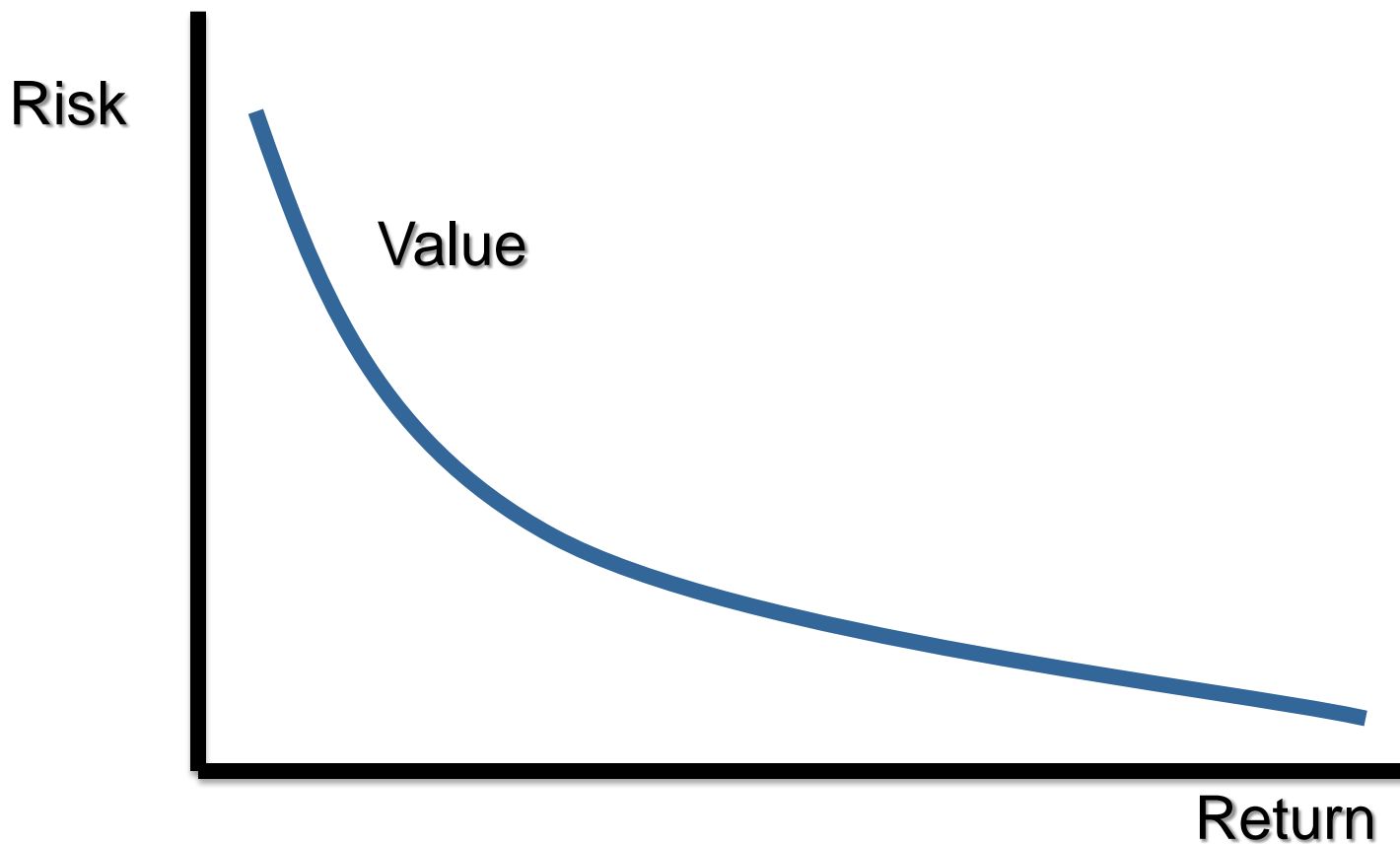
- **Investor Specific Cash Flows**—Reflect investor specific expectations
 - May not reflect market participant expectation
 - Could reflect a single set of projected future cash flows
 - If different from market participant cash flows, it is very difficult to accurately estimate a discount rate for these case flows
- **Market Participant Cash Flows**—Reflect negotiations between buyers and sellers in the marketplace
 - Reflect market's perspective on degree of risk
 - Incorporate the weighting of views of the market
- **Certainty Equivalent Cash Flows**—Reflect the weighted expectation of **ALL** possible future outcomes
 - Rarely viewed as possible
 - If projections truly reflect all possible outcomes, risk free rate would be used

Required Relationship of Risk and Return



Conservative Cash Flows – WACC less a discount
Market Participant Cash Flows – WACC
Optimistic Cash Flows – WACC plus a premium

Relationship of Return and Value



Risk and Cash Flows—Importance of Consistency

- To correctly apply the Income Approach, cash flows and discount rates must reconcile
 - Level of value—Business enterprise or equity
 - Degree of risk—high risk cash flows imply high discount rate
 - Tax characteristics—post tax cash flows require post tax discount rate
- IFRS 13 and ASC 820 provide insights for using future cash flows as the basis for accounting measurements.
- IFRS 13 and ASC 820 distinguish “the **single most-likely amount**” from the “**expected amount**;” the latter is a concept that refers to the **sum of probability-weighted amounts** within a range of estimated amounts.
- In financial reporting valuations, there is an increasing focus on capturing risk in cash flows rather than in a discount rate
 - If cash flow projections are incredibly optimistic, how does one adjust a discount rate for this. (Informed judgment or based on my experience are not good answers)

Risk and Cash Flows—Estimation of Future Revenues: Forms of Projections

- IFRS 13 and ASC 820 note two types of present value techniques:
- **Traditional approach** uses a **specific set of cash flow projections**.
 - **Risk** of achieving forecast cash flows is captured in **discount rate**.
 - Discount rate includes risk free rate plus a **risk premium**.
- **Expected cash flow approach** uses a **composite set of expected cash flow projections** which capture probabilities of scenarios. The Expected Present Value Technique, which translates the expected cash flows into a present value indication, is described in ASC 820 and includes two methods.
 - Method 1 of the expected present value technique adjusts the expected cash flows for the systematic (market) risk by subtracting a cash risk premium (risk-adjusted expected cash flows).
 - Method 2 of the expected present value technique adjusts for systematic (market) risk by adding a risk premium to the risk-free interest rate.

Risk and Cash Flows—Estimation of Future Revenues: Forms of Projections

- Traditional approach is more typically seen but 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.”

Certainty Equivalent Cash Flows

- In addition to traditional and expected cash flows, the concept of certainty equivalent cash flows highlights challenge of capturing risk in a discount rate rather than in cash flow estimates.
- Certainty equivalent cash flows represent the weighting of all possible cash flow scenarios. In many situations, certainty equivalent cash flows may not be easily developed. In some simple situations, an estimate of certainty equivalent cash flows might be developed.
- As certainty equivalent cash flows represent the average of all possible cash flow scenarios, they incorporate all risk. Therefore, a risk free rate of return is appropriate as a discount rate for PV calculation. If expected cash flows don't capture all risk, a risk adjustment requires inclusion in the discount rate estimate.
- Certainty equivalent cash flows might be considered a subset of expected cash flow approach where the “expected cash flows” capture all scenarios and, hence, all risk.

Risk and Cash Flows—Estimation of Future Revenues: Forms of Projections

Certainty Equivalent Cash Flows

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Risk and Cash Flows—Estimation of Future Revenues: Forms of Projections—Illustrative Example

Comparison of Traditional Vs. Certainty Equivalent Cash Flow Approaches

Certainty Equivalent Cash Flow Approach				Year 1	Year 2	Year 3	
Scenario 1 Cash Flows				25,000	50,000	100,000	
Probability				50.0%	50.0%	50.0%	
Probability Adjusted				12,500	25,000	50,000	
Scenario 2 Cash Flows				-	-	-	
Probability				50.0%	50.0%	50.0%	
Probability Adjusted				-	-	-	
Certainty Equivalent Cash Flows				12,500	25,000	50,000	Total
Discount Rate and PV Factors (2) 5.0%				0.9759	0.9294	0.8852	
Present Value of Cash Flow				12,199	23,236	44,259	80,000
Sum of PV of Cash Flows (rounded)							
Traditional Cash Flow Approach				Year 1	Year 2	Year 3	
Traditional Cash Flow Estimate				25,000	50,000	100,000	
Mid-Year Convention				0.5000	1.5000	2.5000	
Discount Rate and PV Factors (1) 54.0%				0.8058	0.5233	0.3398	
Present Value of Cash Flow				20,146	26,163	33,978	80,000

Notes:

- (1) Example assumes only two scenarios exist - receive designated cash flows or receive nothing. Both have equal probability.
- (2) Certain equivalent CF is weighting of two scenarios. Discount rate for certainty equivalent CF reflects risk free rate
- (3) Discount rate for traditional approach includes risk premium. There is only one positive CF scenario.
- (4) Traditional CF represents Scenario 1 estimate. If Scenario 1 CF are used, a risk premium should be included in discount rate.

Key Observation:

In this example, the value from the Certainty Equivalent Cash Flow Approach can be used to backsolve for the discount rate required in the Traditional Cash Flow Approach.

This demonstrates the benefit of reflecting certain risks in the cash flows rather than in a discount rate.



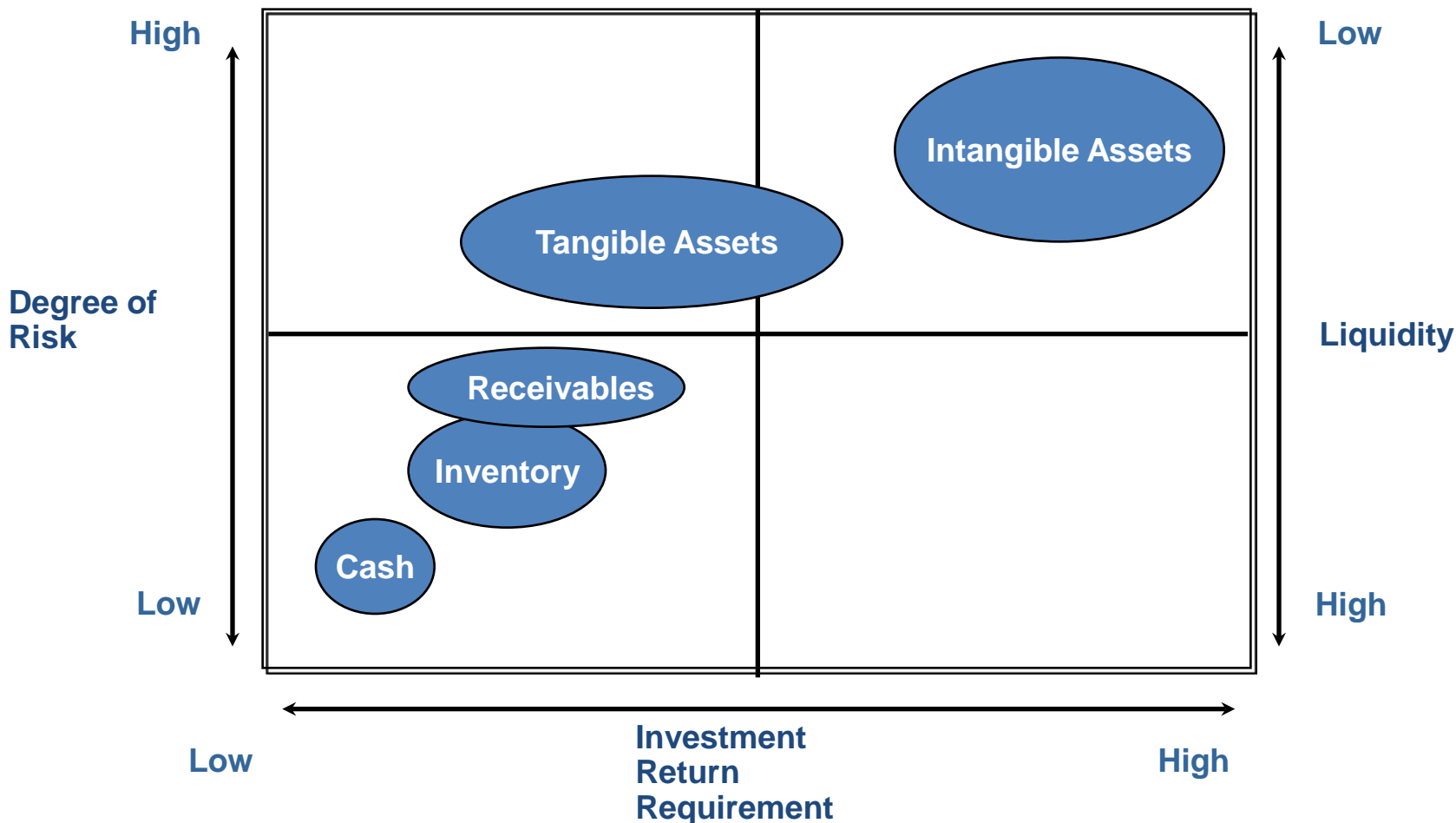
Discount Rates

Discount Rate Estimates—Overview

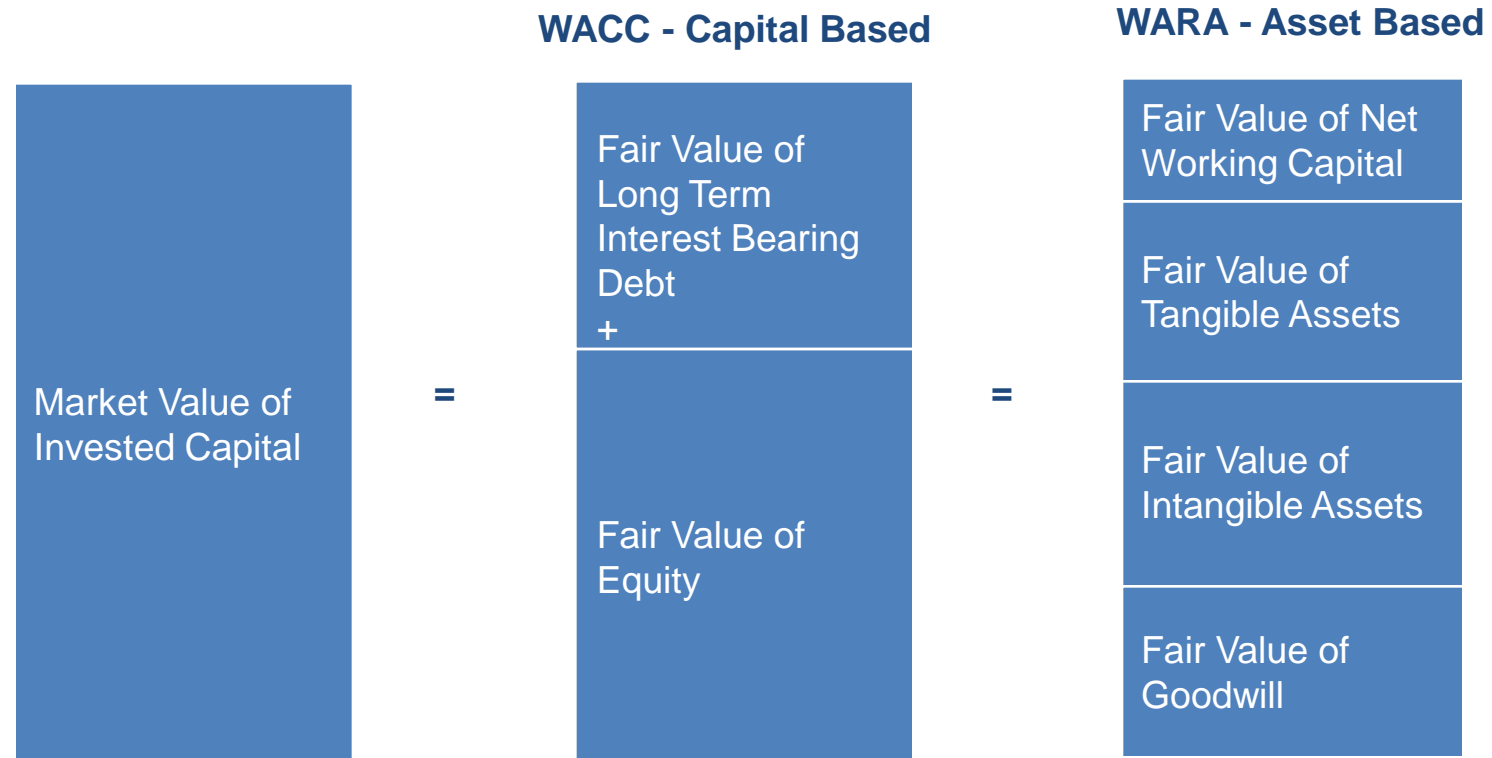
- Estimating discount rates for a business and the different assets of a business is one of the more challenging areas of valuation.
 - No (or limited) market data available for returns on fixed assets
 - No market data available for intangible assets - customers, technology, trade names, work forces, other
- Although there is often limited direct market evidence to estimate discount rates for specific business 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 within a business enterprise typically have different liquidity and return characteristics



Discount Rate Estimates Reconciliation—Weighted Average Cost of Capital



Discount Rate Estimates

Reconciliation—Weighted Average Cost of Capital

- The Weighted Average Cost of Capital (WACC) is the overall rate of return for an investment in a business enterprise.
- WACC represents the return required for long term debt and equity capital.
- Long term debt and equity capital are conceptually equivalent to net assets.
- A business enterprise is an assemblage of a variety of assets including:
 - Working capital
 - Tangible assets
 - Identifiable intangible assets
 - Goodwill

Discount Rate Estimates Reconciliation— Weighted Average Return on Assets (WARA)

- A business enterprise represents a portfolio of assets with different levels of investment and return requirements

	<u>Weights</u>	x	<u>After Tax Required Rate of Return</u>	=	<u>Weighted Average Rate of Return</u>
Fair Value of Net Working Capital	11.7%		4%		0.5%
Fair Value of Tangible Assets	15.7%		8%		1.3%
Fair Value of Intangibles	52.9%		15%		8.0%
Fair Value of Goodwill	19.6%		22%		4.3%
	<hr/>				<hr/>
	100%				14.1% 14.0% Rounded

Discount Rate Estimates— Different Assets: Per 6.89 of IPR&D Practice Aid

- The IPR&D Practice Aid provides guidance on discount rates for different assets.
 - Working capital – Short-term lending rates for market participants (for example, working capital lines or short-term revolver rates) and cost of equity for market participants
 - Fixed assets – Financing rate for similar assets for market participants (for example, terms offered by vendor financing), or rates implied by operating leases, capital leases, or both (typically segregated between returns OF [that is, recapture of investment] and returns ON) and cost of equity.
 - Assembled workforce – Frequently, the weighted average cost of capital (WACC).
 - Enabling technology – Frequently the WACC
 - Other intangibles – Rate appropriate to risk of each intangible
- The CAC Best Practices document provides expanded discussion of rates of return for contributory assets.

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.**”
- 4.2.03 “Contributory real estate owned by a high technology entity might not exhibit risk characteristics specific to the high technology industry, but instead would require equity and debt rates of return specific to real estate investments. Conversely, if the working capital or fixed assets are very risky or very specific to the entity (which may limit the liquidity of the assets due to the lack of a secondary market), the required rate of return may be higher than otherwise indicated . . .”

- 4.2.05 “ The required **return** on working capital is typically considered to be at the lower end of returns of most, if not all, other asset classes and is assumed to be equal to the after-tax rate that would be charged to finance working capital. . . The Working Group believes that these approaches could understate the required return since very few companies are able to borrow 100% of the value of working capital assets. The Working Group believes that a best practice, if it creates a significant difference, would be to consider the level of debt and equity financing required to fund working capital. When inventory has a limited specific market or when receivables are in a high default industry it may be appropriate to adjust the various reference rates noted in this paragraph to reflect additional risk.”

Discount Rate Estimates— Asset Based Lenders Advance Rates

Collateral Type	Typical Loan (Median Advance %)	Upper Limit (Median Advance %)
Marketable Securities	80	90
Accounts Receivable	80	85
Inventory - Low Quality	25	40
Inventory - Intermediate Quality	40	50
Inventory - High Quality	55	60
Equipment	60	80
Real Estate	60	70
Land	50	50

Source: *The Private Cost of Capital Model*, Presentation at ASA 6th Annual Fair Value Conference, May, 17, 2011, John H. Paglia, Ph.D.

Discount Rate Estimates— Return on Assets and Cost of Debt

- Cost of debt may vary based on:
 - Risk of asset
 - Duration of financing for each specific asset.
- Table on the following page assumes the same cost of debt for different assets, but a changing mix of debt/equity capital.
- Some appraisers will further adjust the cost of debt on an asset specific basis.
- In many cases, source of cost of debt would be obtained from banks or other financing sources.

Discount Rate Estimates— Returns on Specific Assets: Sample Calculation

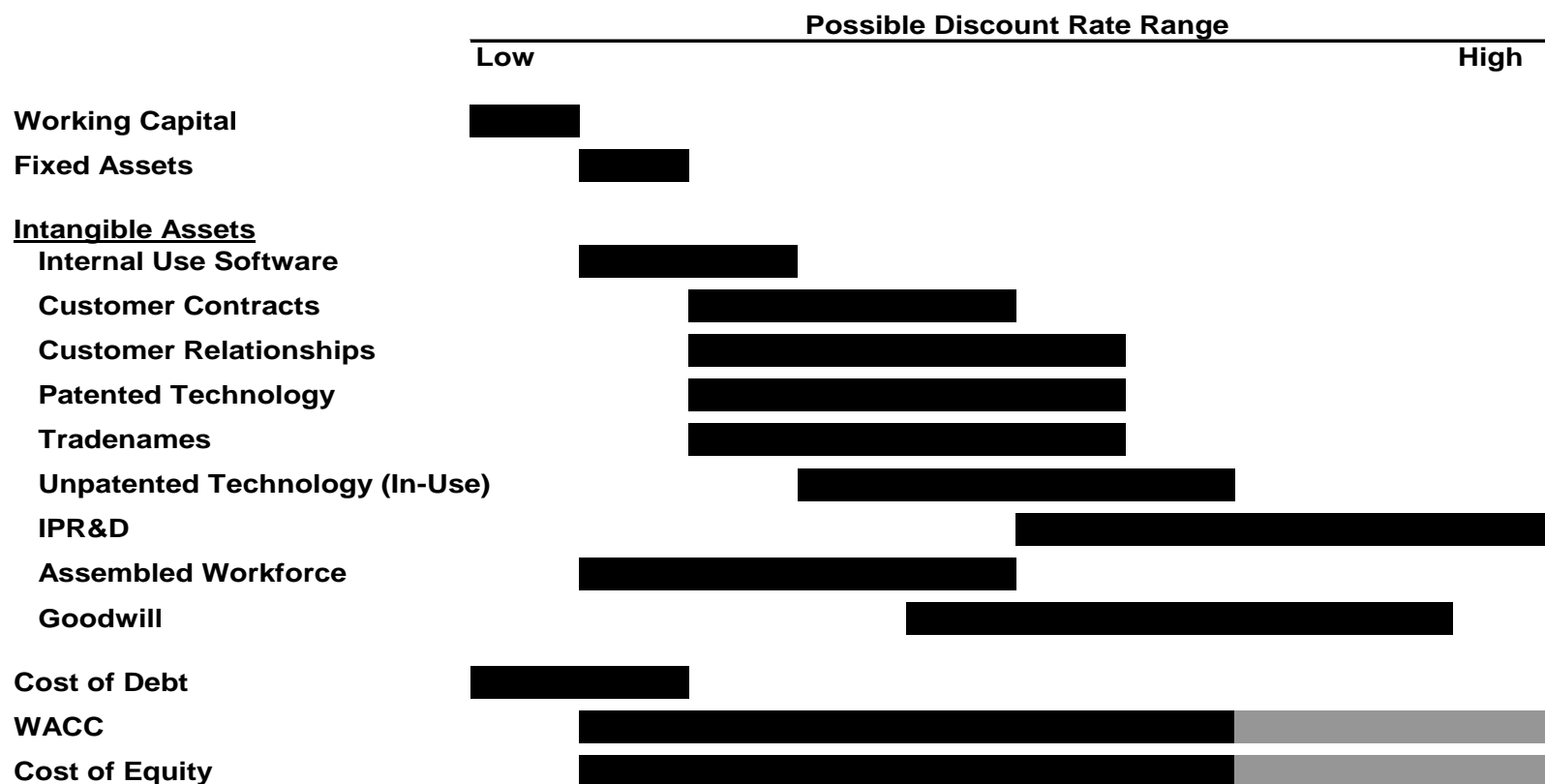
PE Buyer, Inc.										
Valuation of Intangible Assets of Tuff Tables, Inc. for ASC 805										
Weighted Average Cost of Capital - Specific Assets										
	<u>BEV</u>	<u>Working Capital</u>	<u>Fixed Assets</u>	<u>Trade Name</u>	<u>Customer Relationships</u>	<u>Current Technology</u>	<u>Assembled Workforce</u>	<u>IPR&D</u>	<u>Goodwill</u>	
<u>Weighted Average Cost of Capital</u>										
Debt-to-Capital	16.0%	100.0%	70.0%	16.0%	0.0%	0.0%	0.0%	0.0%	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%	3.9%
Pro Rata Amount	0.6%	3.9%	2.7%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Equity-to-Capital	84.0%	0.0%	30.0%	84.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Cost of Equity	16.2%	16.2%	16.2%	16.2%	16.2%	16.2%	16.2%	16.2%	16.2%	16.2%
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	16.2%	16.2%	16.2%	16.2%	16.2%	16.2%	16.2%	20.2%	23.2%	
Pro Rata Amount	13.6%	0.0%	4.8%	13.6%	16.2%	16.2%	16.2%	20.2%	23.2%	
<u>Weighted Average Cost of Capital</u>	14.2%	3.9%	7.6%	14.2%	16.2%	16.2%	16.2%	20.2%	23.2%	
<u>Rounded</u>	14.0%	4.0%	8.0%	14.0%	16.0%	16.0%	16.0%	20.0%	23.0%	
Notes:										
(a) Estimates of capital type percentages are somewhat judgmental. Reconciliation with the WACC and IRR and a detailed understanding of appraised entity will assist in making these estimates.										
(b) Return on goodwill results in a WARA that is equal to the WACC										

Discount Rate Reconciliation—WARA Calculation

PE Buyer, Inc.										
Valuation of Intangible Assets of Tuff Tables, Inc. for ASC 805										
Weighted Average Cost of Capital - Specific Assets										
	<u>BEV</u>	<u>Working Capital</u>	<u>Fixed Assets</u>	<u>Trade Name</u>	<u>Customer Relationships</u>	<u>Current Technology</u>	<u>Assembled Workforce</u>	<u>IPR&D</u>	<u>Goodwill</u>	
<u>Weighted Average Cost of Capital</u>										
Debt-to-Capital	16.0%	100.0%	70.0%	16.0%	0.0%	0.0%	0.0%	0.0%	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%	3.9%
Pro Rata Amount	0.6%	3.9%	2.7%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Equity-to-Capital	84.0%	0.0%	30.0%	84.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Cost of Equity	16.2%	16.2%	16.2%	16.2%	16.2%	16.2%	16.2%	16.2%	16.2%	16.2%
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	16.2%	16.2%	16.2%	16.2%	16.2%	16.2%	16.2%	20.2%	23.2%	
Pro Rata Amount	13.6%	0.0%	4.8%	13.6%	16.2%	16.2%	16.2%	20.2%	23.2%	
<u>Weighted Average Cost of Capital</u>	14.2%	3.9%	7.6%	14.2%	16.2%	16.2%	16.2%	20.2%	23.2%	
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Notes:										
(a) Estimates of capital type percentages are somewhat judgmental. Reconciliation with the WACC and IRR and a detailed understanding of appraised entity will assist in making these estimates.										
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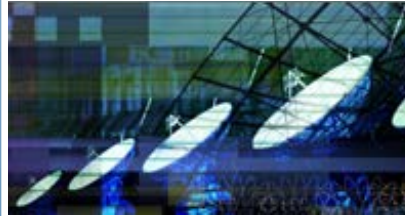
Discount Rate Estimates— Illustrative Return Ranges for Various Intangibles

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—Return on Specific Assets

- Returns on individual assets are selected in light of:
 - Current costs of funds
 - Type of asset and its liquidity
 - Acceptance as collateral for debt-financing purposes
 - Special purpose nature vs. broader use
 - Discussions with asset-based lenders on current trends
- Higher liquidity of an asset corresponds to:
 - Increased marketability
 - Greater acceptance as collateral
 - Less equity required to finance the asset
 - Lower required rate of return



Benefits from Depreciation or Amortization of Tax Basis in an Asset

Sources of Value of an Asset

- The value of an asset includes two elements:
 - Cash flows generated (directly or indirectly) by the asset
 - Cash flow increase due to tax shield from depreciation or amortization of the tax basis in an asset. Depreciation or amortization of the tax basis of an asset reduces the taxable income of the owner and therefore its tax expense.
- Tax rules for depreciation or amortization of the tax basis of an asset impact the value of an asset. All other things held equal, an asset with more favorable tax attributes (i.e., shorter tax depreciation or amortization period) will be worth more than an otherwise identical asset with a more delayed period for tax basis recovery.
- Tax depreciation is jurisdiction-specific and needs to incorporate the tax rates, amortization periods, and any limitations of the specific country in which it is domiciled

Tax Benefits and The Three Valuation Approaches

- The value of tax benefits differs for the three valuation approaches:
 - **Market approach**—Tax benefit included in market price of similar assets. Tax rule changes often lead to value changes.
 - **Cost approach**—Depends on valuation of asset. (Area where practice varies)
 - Not included if pretax costs used (preferred methodology). (Somewhat like the market approach.)
 - Included if pretax costs are adjusted to an after-tax basis.
 - **Income approach**—The value of tax benefits should be included.
 - The tax depreciation/amortization benefit, if any, should be included to reflect the incremental cash flows (incremental value) provided by the tax deduction and related tax savings.
 - Tax benefit should only be included for assets where the benefit is appropriate. (Tax amortization is not universal.)
 - Some assets may not directly include a calculation of the value of tax benefits (real estate)

Tax Benefits—Impact of Tax Jurisdiction

- Tax benefit calculation should follow the rules applicable to the jurisdiction where a market participant is expected to domicile the acquired asset
- The length and pattern of the asset depreciation / amortization lives under different tax regimes varies
- The tax rate should reflect the governing tax regime, which may not be where the cash flows are generated

Tax Depreciation (Amortization) Benefit—Formula

- Value of an asset equals:
 - Present value of after tax cash flows attributable to the asset plus
 - Present value of tax depreciation (amortization) benefit
- Answer would appear to involve circular arguments
 - Need to know tax depreciation/amortization benefit to know full value of asset but can't know full value without knowing the value of the tax benefit
 - Formulas are available to avoid this apparent circularity
- As depreciation / amortization decreases, the value of this benefit increases

Tax Depreciation / Amortization Benefit— Sample Calculation with 15 Year Recovery Period

Fifteen Year Amortization / Depreciation Assumption

Year	Period	Amortization	Tax Rate	Disc. Rate	PV Factor	Tax Benefit Factor
1	0.5	6.7%	40.0%	14.0%	0.94	0.0250
2	1.5	6.7%	40.0%	14.0%	0.82	0.0219
3	2.5	6.7%	40.0%	14.0%	0.72	0.0192
4	3.5	6.7%	40.0%	14.0%	0.63	0.0169
5	4.5	6.7%	40.0%	14.0%	0.55	0.0148
6	5.5	6.7%	40.0%	14.0%	0.49	0.0130
7	6.5	6.7%	40.0%	14.0%	0.43	0.0114
8	7.5	6.7%	40.0%	14.0%	0.37	0.0100
9	8.5	6.7%	40.0%	14.0%	0.33	0.0088
10	9.5	6.7%	40.0%	14.0%	0.29	0.0077
11	10.5	6.7%	40.0%	14.0%	0.25	0.0067
12	11.5	6.7%	40.0%	14.0%	0.22	0.0059
13	12.5	6.7%	40.0%	14.0%	0.19	0.0052
14	13.5	6.7%	40.0%	14.0%	0.17	0.0045
15	14.5	6.7%	40.0%	14.0%	0.15	0.0040
Total:		100.0%				0.1749

- 0.1749 is the tax benefit factor – application of this factor will be discussed in a subsequent slide

Tax Depreciation / Amortization Benefit —Sample Calculation with 5 and 3 Year Recovery Periods

Five Year Depreciation / Amortization Assumption

Year	Period	Amortization	Tax Rate	Disc. Rate	PV Factor	Tax Benefit
1	0.5	20.0%	40.0%	14.0%	0.94	0.0749
2	1.5	20.0%	40.0%	14.0%	0.82	0.0657
3	2.5	20.0%	40.0%	14.0%	0.72	0.0577
4	3.5	20.0%	40.0%	14.0%	0.63	0.0506
5	4.5	20.0%	40.0%	14.0%	0.55	0.0444
Total:		100.0%				0.2932

Three Year Depreciation / Amortization Assumption

Year	Period	Amortization	Tax Rate	Disc. Rate	PV Factor	Tax Benefit
1	0.5	33.3%	40.0%	14.0%	0.94	0.1249
2	1.5	33.3%	40.0%	14.0%	0.82	0.1095
3	2.5	33.3%	40.0%	14.0%	0.72	0.0961
Total:		100.0%				0.3305

The tax benefit factor increases as the recovery period is shortened. As tax benefits are received over a shorter period, this leads to a higher value for the tax benefits and for the asset overall.

Tax Depreciation / Amortization — Calculation of Step Up Factor

- In determining the fair value of an asset where both direct cash flows and tax benefits need to be specifically address, the correct application of the tax amortization benefit factor is key.

- The general formula for the factor is as follows:

$$\text{Step Up Factor} = 1 / (1 - \text{tax benefit factor}) - 1$$

- For 15 year amortization (standard for tax amortization of value of most intangible assets in the US), the factor is calculated as follows:

$$\begin{aligned}\text{Step Up Factor} &= 1 / (1 - 0.1749) - 1 \\ &= 1 / (.8251) - 1 \\ &= 1.21 - 1 \\ &= 21\%\end{aligned}$$

- The step up factor (21%) is multiplied by the value of the asset before tax amortization benefits and the two values are summed to determine the fair value of the asset.

Illustration of Impact of Differing Tax Benefits

- For the depreciation calculations in the two prior slides, assume the present value of the after tax cash flows from the asset is \$500,000. The values with the tax benefits from the different depreciation figures can be calculated as follows:

	Depreciation Period		
	15 Years	5 Years	3 Years
PV of After Tax Operating CF's	\$ 500,000	\$ 500,000	\$ 500,000
PV of Tax Depreciation Benefits	105,973	207,456	246,837
Fair Value of Asset	605,973	707,456	746,837
Fair Value of Asset (Rounded)	\$ 610,000	\$ 710,000	\$ 750,000
Formula for Inclusion of Tax Depreciation / Amortization Benefits			
Value of Operating Cash Flows / (1 - Tax Depreciation Factor)			
Calculated Step Up Factors	121%	141%	149%

Tax Benefits and the Impact of Transaction Structure

- There is some confusion on whether tax benefits should be included in asset valuations when acquisitions are made using different transaction structures.
- Acquisitions of the stock of a firm may not lead to a change (frequently a step up) in the tax basis of the underlying assets. A business acquisition structured as a purchase of assets would result in a step up in the tax basis of the underlying assets in many tax jurisdictions.
- For financial reporting purposes, tax benefit is included irrespective of whether transaction is a stock purchase or asset acquisition. (An asset cannot be worth different amounts depending on the tax structure of a transaction.)
- 3.1.08 of the Contributory Assets document states “The Working Group believes that the fair value of an asset should not differ depending on the tax structure of a particular transaction.”
- “When the business combination is structured as an **asset** sale for tax purposes (as opposed to a stock sale), practice typically includes the associated tax benefits in the valuation of the assets acquired because it is assumed that the assets acquired will be amortized for both book and tax purposes.” (IPR&D Practice Aid, p. 97, 5.3.99)

Tax Benefits and Transaction Structure

- “When a **stock** sale occurs without a corresponding change in the bases of assets acquired and liabilities assumed for tax purposes, some have argued that no tax benefit should be included in the valuation of the intangible assets acquired because the buyer will not amortize the intangible assets acquired for income tax purposes.” (IPR&D Practice Aid, p. 97, 5.3.99)
- **“The task force believes that the determination of fair value would take into account future income taxes that a market participant purchasing the asset would be expected to pay, without regard to how the transaction is structured for income tax reporting purposes (that is, whether the transaction is structured to result in a change in bases of assets acquired and liabilities assumed for income tax reporting purposes).”** (IPR&D Practice Aid, p. 98, 5.3.102)
- Transaction prices paid for stock vs. asset acquisitions should differ due to different tax bases the buyer will receive.
- Financial reporting impact of a stock purchase where the tax basis of an asset is less than its fair value would be captured in a deferred tax liability recorded by the buyer. This would approximate the TAB foregone.

Tax Benefits — Selection of Discount Rate

- Tax benefit reflects future tax savings and requires a discount rate estimate.
- There is diversity in practice in selecting discount rate

Reference Rate	Rationale
Asset discount rate	Consistency with the risk associated with the underlying asset being valued
Risk free rate	The tax benefit is received from the appropriate government agency. This would suggest use of government debt cost. Use of risk free rate is rarely observed.
Cost of debt	The uncertainty associated with the receipt of the tax benefit is rooted in the company's ability to generate enough profit to cover its losses (similar to the risk of generating just enough profit to make interest payments on debt)
Overall business risk (WACC or IRR)	The ability to generate future profit and use tax amortization benefits is a risk of the overall business

- Observed practice primarily includes use of return of the overall business (WACC) or using the asset's own rate of return
- Discount rate lower than the WACC may be appropriate if market participant buyer has significant earnings allowing use of the tax benefit



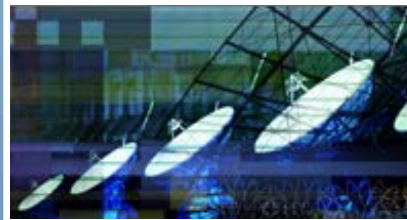
Economic vs. Tax vs. Financial Reporting Lives for an Asset

Alternative Lives for an Asset

- Three different lives may be observed for an asset. These include:
 - Economic life—The period over which an asset is expected to be economically useful to one or more users
 - Tax life—The period over which the tax basis of an asset can be depreciated (tangible asset) or amortized (intangible asset)
 - Financial reporting life—The period over which the book basis of an asset can be depreciated (tangible asset) or amortized (intangible asset)
- In valuation, the concepts of economic and tax lives are relevant.
 - Economic life reflects the period that benefits from the cash flows generated by an asset are received.
 - Tax life reflects the period of time that tax benefits from expensing the tax basis can be received.
 - Although financial reporting depreciation is the relevant concept for financial reporting, this concept would be of no value in a valuation context.

Alternative Lives for an Asset — Use of Tax and Economic Depreciation

- The following table from the CAC document highlights the use of economic depreciation concepts.
 - EBITDA
 - Less: Tax Depreciation
 - EBIT (Amortization assumed to be zero)
 - Less: Taxes
 - Debt Free Net Income
 - Add: Tax Depreciation
 - Less: Return of the fixed assets (economic depreciation of fair value)
 - Less: Return on the average balance of the fixed assets (at fair value)
 - Less: Other CACs (as necessary)
 - Equals: Excess earnings or cash flow
 - Source: CAC Document paragraph 3.4.07



Cost Approach Insights

Cost Approach —Definition from ASC 820

- “The cost approach is based on the amount that currently would be required to replace the service capacity of an asset (often referred to as current replacement cost). From the perspective of a market participant (seller), the price that would be received for the asset is determined based on the cost to a market participant (buyer) to acquire or construct a substitute asset of comparable utility, adjusted for obsolescence. 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).” (ASC 820-10-35-34)
 - The approach assumes that the fair value would not exceed what it would cost a market participant to acquire or construct a substitute asset of comparable utility, adjusted for obsolescence.

- **“Definition of Cost Approach in Real Estate:** In real estate, the Cost Approach is defined as “a set of procedures through which a value indication is derived for the fee simple interest in a property by estimating the current cost to construct a reproduction of, or replacement for, the existing structure **plus any profit or incentive** [emphasis added]; deducting depreciation from the total cost; and adding the estimated land value. Other adjustments may then be made to the indicated fee simple value of the subject property to reflect the value of the property interest being appraised.” (Appraisal Institute – The Appraisal of Real Estate)

Specific Elements of the Cost Approach

- In applying the Cost Approach, **all relevant costs require consideration**. These include:
 - **Costs of development**
 - **Labor**—Fully-burdened direct labor including all related payroll benefits (primarily taxes, pension, and insurance)
 - **Material**—All materials directly consumed in the development of the intangible asset development process. (Rare for many intangibles.)
 - **Overhead**—Facility costs, management and administrative support, and other unallocated expenses
 - **Investment return**—Return on capital invested (often not seen)
 - **Opportunity costs** (foregone profits)
- Many asset valuations only consider direct costs and overhead.
- Investment returns and opportunity costs should also be considered!

Return on Investment and the Cost Approach— Introduction

- For real estate assets, a provision for **profit or incentive on the costs associated with the development of an asset** is regularly included and is a specific element of the definition of the Cost Approach.
- An asset acquired from a third party would presumably reflect both their costs associated with creating the asset and a profit mark-up required to provide a return on the required investment.
- A profit element should be considered in applying the cost approach for tangible or intangible assets.

Return on Investment and the Cost Approach — Introduction

- Return on Investment—Any investment requires returns to incentivize / compensate market participant investors to assume risks. **Alternative forms of calculating the return** required to motivate an investor include:
 - **Return on Capital Invested**—Adds an estimated return requirement to the investment (costs) in an asset. Best for assets requiring significant investment over a lengthy period (and therefore higher development risk). Infrequently observed in intangible asset valuations.
 - **Mark-up on Costs**—Mark-up factors applied to costs incurred. Could be based on analysis of guideline data. Better for assets with a shorter development period and required investment where market alternatives are available.

Return/Profit Elements— Return on Capital Invested: Discussion

- A return on capital invested would be most appropriate for an asset investment where there is significant risk with the development of the asset. This development effort would not be expected to be outsourced to a third party. An example would be the development of a new drug.
- The following slides provide an example.

Return/Profit Elements— Return on Capital Invested: Example

- A pharmaceutical company invested in developing a new drug for three years prior to the current valuation date of December 31, 2011. The **investment in each of the prior years was: \$100mm in 2009, \$120mm in 2010 and \$140mm in 2011**. For an investment of this nature, Management believes a **market participant rate of return is 25 percent**. Management indicated that the historical investment was “well spent” with no “wasted” investment. The **total annual investments include all direct costs** associated with development plus appropriate overhead allocations. The **overhead allocations do not include any form of return** for the support functions required.
- Based on the Cost Approach, what is the value of this development stage drug with and without a return on the capital invested (for ease of computation assume all investment made at start of each year)?

Return/Profit Elements— Return on Capital Invested: Example

- The value of the development stage drug based on the costs incurred is \$360.0 million.
- Including annual returns on the capital invested (with compounding) using a 25 percent return requirement yields a value of \$560.0 million.

	Initial Investment	Investment Return			Total
		2009	2010	2011	
2009	\$ 100.0	\$ 25.0	\$ 31.3	\$ 39.1	\$ 195.3
2010	120.0	-	30.0	37.5	187.5
2011	140.0	-	-	35.0	175.0
Total	\$ 360.0				\$ 557.8
Indicated Fair Value of IPR&D, Rounded					\$ 560.0

Cost Approach— Inclusion of Opportunity Costs: SEC Perspective

- SEC Speech on December 10, 2007 by Sandie E. Kim
 - “For certain intangible assets, it may be appropriate to use a replacement cost approach. In order to determine the replacement cost of an intangible asset, do not forget to ask the following questions: **“Would a market participant pay a premium for the benefit of having the intangible asset available for use today, rather than waiting until the asset is obtained or created?”** If the answer is yes, and the **premium for immediate use would be material, we believe that an “opportunity cost” should be considered in the fair value of the intangible asset under a replacement cost approach.** That opportunity cost represents the foregone cash flows during the period it takes to obtain or create the asset, as compared to the cash flows that would be earned if the intangible asset was on hand today.”
- This concept could be relevant for certain fixed assets or assemblages of fixed assets.

Cost Approach— Inclusion of Opportunity Costs: SEC Perspective

- SEC Speech on December 10, 2007 by Sandie E. Kim
 - “Some of the questions to keep in mind include, but are not limited to, the following:
 - Is the asset **difficult to obtain or create**?
 - Is there a **long period of time required to obtain or create the asset**?
 - Is the asset **scarce**?
 - Is the asset **critical to the business operations**?”



Advanced Technical Guidance on Business and Intangible Asset Valuation

Intangible Asset Valuation

- 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
- AICPA Practice Aid entitled “*Assets Acquired to Be Used in Research and Development Activities*”, Working Draft Released November 18, 2011
- The Appraisal Foundation, “*The Valuation of Customer-Related Assets*”, discussion draft issued June 5, 2012

Business and Stock Valuation

- AICPA, “*Valuation of Privately-Held-Company Equity Securities Issued as Compensation*”, final document issued June 2013
- The Appraisal Foundation, “*The Measurement and Application of Market Participant Acquisition Premiums*”, discussion draft issued April 16, 2013.
- IVSC has prepared various materials as well. At the current time, these are generally viewed as standards rather than technical guidance.

Technical Guidance—Contributory Assets and Economic Rents Document: Key Elements

- Document developed to assist in the valuation of intangible assets pursuant to ASC 805, Business Combinations. Key elements include:
 - Comprehensive discussion of the Multi-Period Excess Earnings Method (“MPEEM”)
 - Discussion of role of different assets in contributing to generation of cash flows
 - Explain relationships of rates of return for different asset classes
 - Reconciliation of WACC and WARA (and IRR for a transaction)
 - WACC—Weighted Average Cost of Capital
 - WARA—Weighted Average Return on Assets
 - Discussion of concepts of return ON and OF different assets
 - Differences between economic, tax and accounting depreciation
 - Relationship of contributory asset charges for an asset to its value

Technical Guidance—IPR&D Guide: Key Elements

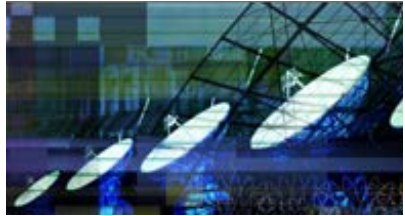
- First released in 2001. In process of update to reflect subsequent accounting and valuation changes
- Detailed discussion of valuation of in-process technology
 - In-process technology is technology which is not yet completed.
 - It can have significant value to the buyer of a business.
 - Valuation involves numerous complex elements.
- Technical overlap with many valuation concepts of the Contributory Asset and Economic Rent document
- Added guidance specific to in-process technology
- Detailed discussion of accounting considerations

Technical Guidance— Customer-Related Assets: Key Elements

- Developed to enhance understanding of customer-related assets for IFRS 3 and ASC 805 reporting purposes
- Presents alternative valuation methodologies
 - Customer is primary asset
 - MPEEM
 - Customer is NOT the primary asset
 - Distributor Method – value customers based on profit margins of distributors (brand name is often the enabling asset)
 - With and Without Method
 - Differential Cash Flow Method
- Discussion of frequent areas of concern
- Provide limited guidance on selection of amortization method and life for financial reporting
- A primary asset is the most important asset of an entity which drives the profitability of the entity.

Technical Guidance—Market Participant Acquisition Premium: Key Elements

- Control premiums are an important consideration in performing business enterprise valuations for goodwill impairment reporting purposes
- When public companies are acquired, in many cases, the acquisition price exceeds the stock price prior to the announcement of the acquisition.
- This difference is commonly referred to as a “control premium”
- Guide introduces a new term for a control premium – market participant acquisition premium (MPAP)
- MPAP would be expected to be paid when multiple interested strategic buyers would be interested in acquiring the firm
- Strategic buyers typically have synergies than enhance cash flows to be received from the target
- Synergies include:
 - Revenue
 - Cost
 - Other



Questions

Area of Focus

Managing Director at Globalview Advisors LLC. Independent valuation firm with offices in Irvine, Boston and London.

Recognized leader in the valuation of businesses, securities interests and intangible assets. Performs valuation projects for financial and tax reporting, transactions and litigation projects.

Extremely active in enhancing the quality of valuation practice both domestically and internationally. Organize and moderate eight annual one-day conferences for the American Society of Appraisers on fair value issues including presentations by staff of the SEC, PCAOB, FASB and IASB. Led the development of two three-day valuation courses for the American Society of Appraisers (ASA) - *Valuation of Intangible Assets* and *Special Topics in the Valuation of Intangible Assets*. Led efforts resulting in an education and certification program for an Intangible Assets valuation specialty designation.

Presenter's Bio—Raymond Rath

Professional Experience

- Managing Director, Globalview Advisors, LLC, November 2012 to present.
- Director, Transaction Services, Valuation Services Practice, PricewaterhouseCoopers LLP, April 2002 to October 2012.
- Senior Manager, Valuation Services Practice, KPMG LLP and KPMG Consulting, Inc. 1994 to April 2002.
- Experienced Manager, Arthur Andersen & Co., 1987 to 1994, Senior Consultant, 1984 to 1987.

Presenter's Bio—Raymond Rath

Professional Affiliations

- Member, AICPA Investment Companies Task Force for AICPA Accounting and Valuation Guide, *Determining Fair Value of Portfolio Company Investments of Venture Capital and Private Equity Firms and other Investment Companies*. Guide is presently in development.
- Treasurer, Business Valuation Committee of the American Society of Appraisers.
- Past Secretary and Member, Business Valuation Committee of the ASA. Elected by ASA international business valuation membership twice (maximum allowed).
- Past President, Los Angeles Chapter of ASA (2004-2005).
- Accredited Senior Appraiser (“ASA”), American Society of Appraisers. Accredited in Business, Intangible Asset valuation & Appraisal Review & Management.
- Chartered Financial Analyst (“CFA”), CFA Institute.
- Member, Appraisal Issues Task Force.

Presenter's Bio—Raymond Rath

Course Development and Instruction

- Lead Developer and Instructor, ASA courses *Valuation of Intangible Assets* (BV 301) and *Special Topics in the Valuation of Intangible Assets* (BV 302).
- Organize and moderate eight one day annual fair value conferences (May 2006 - 2013) for the ASA BVC. Presenters include SEC, PCAOB, FASB and IFRS.
- Instructor, ASC courses BV 201, 202, 203 and 204.
- Course Developer and Instructor, IIBV 301, *Valuation of Intangible Assets*, in Sao Paulo, Brazil. June 2012.
- Instructor, *Current Developments in Valuation*, Beijing, China, December 2010.

Presenter's Bio—Raymond Rath

Presentations

- Presenter, Valuation Developments in the United States, 2nd International Forum on New Developments in Valuation, WuHan, China, November 2012.
- Lecturer, Valuation of Intangible Assets, Zhongnan University of Economics and Law, WuHan, China, November 2012.
- Moderator, Fair Value Auditor Panel, ASA Conference, Chicago, IL 2011.
- Panelist, IPR&D Toolkit Update Panel, ASA Conference, Chicago, IL 2011.
- Presenter, Valuation of Debt, ASA, Miami, FL 2010.
- Presenter, Valuation of Intangible Assets, 25th Pan Pacific Conference, Bali, Indonesia, September 2010.
- Presenter, Attrition Measurement and Estimation, ASA Conference, Boston, MA, Oct 2009.

Presenter's Bio—Raymond Rath

Publications

- Author, Private Company Valuation chapter in the CFA Institute text Equity Asset Valuation. Chapter is a required reading for CFA level 2 candidates globally.
- Author, Intangible Asset Valuation: The Distributor Method, Financial Valuation and Litigation Expert, FVLE Issue 41, February/March 2013.

Education

- M.B.A., University of Southern California.
- B.S., Business Administration, University of Kansas, Cum Laude.



Appendices

Appendices

- I - Definitions
- II - Accounting Requirements for Fair Value



Appendix I: Definitions

Definitions—Asset (IFRS)

- An asset is a resource controlled by the entity as a result of past events or transactions and from which **future economic benefits** are expected to flow to the entity (IFRS SME Framework Par 49a).
- This means that:
 - The **probable present benefit involves a capacity, singly or in combination with other assets, in the case of profit oriented enterprises, to contribute directly or indirectly to future net cash flows**, and, in the case of not-for-profit organizations, to provide services;
 - The entity can control access to the benefit;
 - The transaction or event giving rise to the entity's right to, or control of, the benefit has already occurred.

Definitions—Asset (US GAAP)

- 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?

Definitions—Business

- IFRS 3 and ASC 805 provide a business is “an integrated set of activities and assets that is capable of being conducted and managed for the purpose of providing a return in the form of dividends, lower costs, or other economic benefits directly to investors or other owners, members, or participants. A business consists of inputs and processes applied to those inputs that have the ability to create outputs. Although businesses usually have outputs, outputs are not required for an integrated set to qualify as a business.” The three elements of a business are defined as follows:
 - Input: Any economic resource that **creates, or has the ability to create, outputs** when one or more processes are applied to it.
 - Process: Any system, standard, protocol, convention, or rule that when applied to an input or inputs, creates or has the ability to create outputs.
 - Output: The result of inputs and processes applied to those inputs that provide or have the **ability to provide a return in the form of dividends, lower costs, or other economic benefits** directly to investors or other owners, members, or participants.

Source: ASC 805-10-55-4. See also ASC 805-10-55-5 through ASC 805-10-55-9.

Definitions—Business

- An integrated set of activities and assets in the development stage might not have outputs. If not, the acquirer should consider other factors to determine whether the set is a business. Those factors include, but are not limited to, whether the set:
 - Has begun planned principal activities;
 - Has employees, intellectual property, and other inputs and processes that could be applied to those inputs;
 - Is pursuing a plan to produce outputs; and/or
 - Will be able to obtain access to customers that will purchase the outputs.
- Not all of those factors need to be present for a particular integrated set of activities and assets in the development stage to qualify as a business.

Source: ASC 805-10-55-7

Definitions—Intangible Assets

- International Accounting Standard 38, paragraph 8 defines intangible assets as “identifiable non-monetary asset without physical substance.”
- ASC 350, *Intangibles-Goodwill and Other* defines intangible assets as “Assets (not including financial assets) that lack physical substance. (The term intangible assets is used in this Statement to refer to intangible assets other than goodwill.)”
- IVSC GN 4 *Valuation of Intangible Assets* paragraph 3 defines an intangible asset as “A non-monetary asset that manifests itself by its economic properties. It does not have physical substance but grants rights and economic benefits to its owner or the holder of an interest.
- The International Glossary of Business Valuation Terms (IGBVT)¹ defines intangible assets as “non-physical assets such as franchises, trademarks, patents, copyrights, goodwill, equities, mineral rights², securities and contracts (as distinguished from physical assets) that grant rights and privileges, and have value for the owner.”
- Note difference in definition of goodwill between accounting bodies (IAS and ASC 350) and IGBVT.

¹IGBVT 2001 is a glossary of business valuation terms prepared jointly by the AICPA, ASA, CICBV, IBA, and NACVA.

² EITF 04-02 states that mineral rights are a tangible asset.

Definitions—Going Concern and Liquidation Value

- **Going Concern Value**—The value of a business enterprise that is expected to continue to operate into the future. The intangible elements of Going Concern Value result from factors such as having a trained work force, an operational plant, and the necessary licenses, systems and procedures in place. [IGBVT]
- **Liquidation Value**—The net amount that would be realized if the business is terminated and the assets are sold piecemeal. Liquidation can be either "orderly" or "forced."
- **Orderly Liquidation Value**—Liquidation value at which the asset or assets are sold over a reasonable period of time to maximize proceeds received. [IGBVT]
- **Forced Liquidation Value**—Liquidation value, at which the asset or assets are sold as quickly as possible, such as at an auction. [IGBVT]
- The liquidation value and going concern value of specific assets may differ dramatically depending on the characteristics of the asset and the facts and circumstances unique to the business. For a going concern, the liquidation value of an asset would often be significantly reduced (or \$0) as the value of many assets can often best be recognized as a part of a ongoing business enterprise.

Fair Value (Accounting Definition under IFRS 13 and ASC 820):

- “Fair value is 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.” (IFRS 13 and ASC 820-10-20).
- “An orderly transaction is a transaction that assumes exposure to the market for a period prior to the measurement date to allow for marketing activities that are usual and customary for transactions involving such assets or liabilities . . .” (IFRS 13 and ASC 820-10-20)
- “The transaction to sell the asset or transfer the liability is a hypothetical transaction at the measurement date, considered from the perspective of a market participant that holds the asset or owes the liability. Therefore, the objective of a fair value measurement is to determine the price that would be received to sell the asset or transfer the liability at the measurement date (an exit price).” (IFRS 13 and ASC 820-10-35-3)
- Fair value was previously thought to be an **entry price** (buy-side); what a company would pay to acquire an asset or pay to settle a liability.

Definitions—Fair Value in a Financial Reporting Context

- A fair value measurement is for a particular asset or liability. Therefore, the measurement should consider attributes specific to the asset or liability, for example, the condition and/or location of the asset or liability and restrictions, if any, on the sale or use of the asset at the measurement date. (IFRS 13 and ASC 820-10-35-19)
- “The asset or liability might be a standalone asset or liability (for example, a financial instrument or an operating asset) or a group of assets and/or liabilities (for example, an asset group, a reporting unit, or a business).” (IFRS 13 and ASC 820-10-35-21)
- It is essential to view fair value from the point of view of market participants rather than a specific entity. Market participants are unrelated parties, knowledgeable of the asset or liability given due diligence, willing and able to transact for the asset/liability, and may be hypothetical. (IFRS 13 and ASC 820-10-20)

Definitions—Fair Market Value

- **Fair Market Value: Fair market value (FMV) is a common standard of value used in many appraisals. Two definitions are classically given to this standard:**
 - The price, expressed in terms of cash equivalents, at which property would change hands between a hypothetical willing and able buyer and a hypothetical willing and able seller acting at arm's-length in an open and unrestricted market, when neither is under compulsion to buy or sell and when both have reasonable knowledge of the relevant facts. [IGBVT]
 - The price at which the property would change hands between a willing buyer and a willing seller, when the former is not under any compulsion to buy and the latter is not under any compulsion to sell; both parties having reasonable knowledge of relevant facts. [U.S. Revenue Ruling 59-60 – tax related definition]

Definitions—Intrinsic Value and Investment Value

■ Intrinsic Value

- The value that a prudent investor considers, on the basis of an evaluation or available facts, to be the "true" or "real" value that will become the market value when other investors reach the same conclusion. [IGBVT]
- What the value should be based on analysis of all the fundamental factors inherent in the business or the investment. Intrinsic value does not consider extreme aspects of market conditions and behavior (such as observed during the peak of the 1998-2001 bubble).
- Does **NOT** reflect current market but expectation of what the market will eventually realize as value.

■ Investment Value—The value to a particular investor based on individual investment requirements and expectations. [IGBVT]

Accounting Requirements on Fair Value—Key Releases

- Fair Value Measurement
 - IFRS 13 (May 2011 final release) and ASC 820 (formerly FAS 157)
 - Two standards are fully converged – joint presentation by FASB and IASB Valuation Specialists at ASA Fair Value conference in May 2011
- Business Combinations
 - IFRS 3, ASC 805 (formerly FAS 141R)
 - Two standards are highly converged
- Intangible Assets
 - IAS 38, *Intangible Assets*
 - ASC 360, *Property, Plant and Equipment*

■ **Goodwill Impairment**

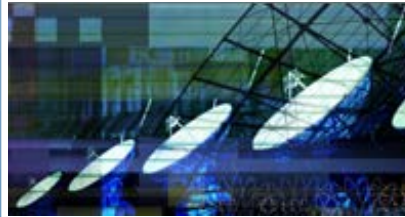
- IAS 36, *Impairment of Assets* (one standard for finite and indefinite lived intangibles)
- ASC 350-20, *Intangibles-Goodwill and Other-Goodwill* (formerly FAS 142)

■ **Impairment of Finite Lived Assets**

- IAS 36, *Impairment of Assets*
- ASC 360, *Property, Plant and Equipment* (formerly FAS 144, *Accounting for the Impairment and Disposal of Long-Lived Assets*)

■ **Reorganizations**

- ASC 852-10-45-19, *Reorganizations* (formerly SOP 90-7, *Financial Reporting by Entities in Reorganization Under the Bankruptcy Code*)



Appendix II: Accounting Requirements

IFRS 13 and ASC 820—Introduction

- Both IFRS 13 and ASC 820, Fair Value Measurement, establishes a framework for “**how**” to apply fair value concepts; however, it does **not** provide further guidance on “**what**” to fair value or “**when.**”
- Over 60 FASB pronouncements require or allow FV measurement.
- Many of these deal with financial and assets other than intangible assets which are the focus of this course. Much of IFRS 13 and ASC 820 relate to financial assets rather than intangible assets.
- Prior to IAS13/ASC 820, there was diversity in practice as to what represents “fair value” for financial reporting purposes.
 - Is fair value the same as the transaction price?
 - Various accounting standards defined “fair value” differently.

- Fair value is defined in IFRS 13—IN8 and ASC 820-10-35-3 as “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 (ie an exit price).”
 - Fair value is now an exit price (sell-side), which means the price a company would receive if they were to sell the asset in the marketplace or paid if they were to transfer the liability.
 - Fair value was previously thought to be an *entry price* (buy-side), which is generally what a company would pay to acquire an asset or would receive to assume the liability.
 - The exit price for an asset or liability is conceptually different from its transaction price (an entry price). While exit and entry price may be identical in many situations, the transaction price is no longer presumed to represent the fair value of an asset or liability on its initial recognition.

- It is essential to view fair value from the point of view of market participants rather than a specific entity. Market participants are unrelated parties, knowledgeable of the asset or liability given due diligence, willing and able to transact for the asset/liability, and may be hypothetical.
- The transaction to sell the asset or transfer the liability is a hypothetical transaction as of the measurement date and assume an appropriate period of exposure to the market, such that the transaction is considered orderly.

IFRS 13/ASC 820—Market Participants

- Market participants are buyers and sellers in the principal or most advantageous market for the asset or liability.
- Market participants are:
 - Unrelated (i.e., independent) to the reporting entity
 - Knowledgeable about factors relevant to the asset or liability and the transaction
 - Financial and legal ability to transact
 - Willing to transact without compulsion
- Market participants may be either strategic or financial buyers.

IFRS 13/ASC 820—Key Elements of a Transaction

- Key elements of a transaction:
 - Transaction between unrelated parties
 - Transaction is orderly and not carried out under duress
 - Does not include transaction costs (not inherent part of an asset)
 - Price available in principal (or most advantageous) market
- Principal Market—The market with the greatest volume and level of activity for the asset or liability
- Most Advantageous Market—The market where the highest selling price for an asset or the lowest price to transfer a liability
- Principal and most advantageous market distinction are more relevant for assets (certain financial assets or liabilities as an example) other than intangible assets.

- Fair value assumes the **highest and best use** for an asset.
- **Highest and Best Use:**
 - Maximizes the value of the asset
 - Use must be physically possible and legally and financially feasible
 - Market participant perspective
- Reporting entities to determine if highest and best use for an asset is **in-use** or **in-exchange** (valuation basis) regardless of management's intended use for the asset. (Market participant perspective)

IFRS 13/ASC 820—Highest and Best Use

- Highest and Best Use is **In-Use** if:
 - Asset has maximum value in combination with other assets as a group (installed or configured)
 - Typically non-financial assets
- Example: Land that is used as site for a plant. Operating the plant provides a higher return than considering the land for resale after demolition of the plant. Therefore, land is valued on an in-use basis as it is the highest and best use of the land.
- Highest and Best Use is **In-Exchange** if:
 - Asset has maximum value on a stand-alone basis
 - Typically financial assets
- Assets may be grouped under guidance of ASC 350-30-35-21 through ASC 350-30-35-28.
- Grouping of assets doesn't change pursuant to the guidance in ASC 820.19

- IAS13/ASC 820 indicates that fair value should be **based on an exit price** for an asset rather than an entry price.
- An **exit price** is the amount **received to sell the asset or paid to transfer a liability**.
- An entry price is the amount paid to acquire the asset or received to assume the liability.
- In the context of intangible asset valuations, the implications of this requirement are still being evaluated by practitioners.

- ASC 820-10-35-3 states “The transaction to sell the asset or transfer the liability is a hypothetical transaction at the measurement date, considered from the perspective of a market participant that holds the asset or owes the liability. Therefore, the **objective of a fair value measurement is to determine the price that would be received to sell the asset or paid to transfer the liability** at the measurement date (an **exit price**).”
- ASC 820-10-30-2 indicates: “Conceptually, entry prices and exit prices are different. Entities do not necessarily sell assets at the prices paid to acquire them. Similarly, entities do not necessarily transfer liabilities at the prices received to assume them.”

- ASC 820-10-30-3 provides “In many cases, the transaction price will equal the exit price and, therefore, represent the fair value of the asset or liability at initial recognition. In determining whether a transaction price represents the fair value of the asset or liability at initial recognition, the reporting entity shall consider factors specific to the transaction and the asset or liability. For example, a transaction price might not represent the fair value of an asset or liability at initial recognition if:
 - The transaction is between related parties.
 - The transaction occurs under duress or the seller is forced to accept the price in the transaction. For example, that might be the case if the seller is experiencing financial difficulty.”

IFRS 13/ASC 820—Exit Price: Details

- The unit of account represented by the transaction price is different from the unit of account for the asset or liability measured at fair value. For example, that might be the case if the asset or liability measured at fair value is only one of the elements in the transaction, the transaction includes unstated rights and privileges that should be separately measured, or the transaction price includes transaction costs.
 - The market in which the transaction occurs is different from the market in which the reporting entity would sell the asset or transfer the liability, that is, the principal or most advantageous market. For example, those markets might be different if the reporting entity is a securities dealer that transacts in different markets, depending on whether the counterparty is a retail customer (retail market) or another securities dealer (inter-dealer market).
- The first two recognition factors are of more concern to BV practitioners focusing on ASC 805 and ASC 350 issues.
 - Factors C and D are more relevant for financial assets.

- **Active market**—A market in which transactions for the asset or liability take place with **sufficient frequency and volume** to provide pricing information on an **ongoing basis**.
- **Entry price**—The **price paid to acquire an asset** or received to assume a liability in an exchange transaction.
- **Exit price**—The **price that would be received to sell an asset** or paid to transfer a liability.
- **Expected cash flow**—The **probability-weighted average (ie mean of the distribution)** of possible future cash flows.
- **Unit of account**—The level at which an asset or a liability is aggregated or disaggregated in an IFRS for recognition purposes.
- **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.

- **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.
- **Orderly transaction**—A transaction that assumes exposure to the market for a period before the measurement date to allow for marketing activities that are usual and customary for transactions involving such assets or liabilities; it is not a forced transaction (e.g., a forced liquidation or distress sale).

- B3 When measuring the fair value of a non-financial asset used in combination with other assets as a group (as installed or otherwise configured for use) or in combination with other assets and liabilities (e.g., a business), the effect of the valuation premise depends on the circumstances. For example:
 - (a) the fair value of the asset might be the same whether the asset is used on a stand-alone basis or in combination with other assets or with other assets and liabilities. That might be the case if the asset is a business that market participants would continue to operate. In that case, the transaction would involve valuing the business in its entirety. The use of the assets as a group in an ongoing business would generate synergies that would be available to market participants (i.e., market participant synergies that, therefore, should affect the fair value of the asset on either a stand-alone basis or in combination with other assets or with other assets and liabilities).

- (b) an asset's use in combination with other assets or with other assets and liabilities might be incorporated into the fair value measurement through adjustments to the value of the asset used on a stand-alone basis. That might be the case if the asset is a machine and the fair value measurement is determined using an observed price for a similar machine (not installed or otherwise configured for use), adjusted for transport and installation costs so that the fair value measurement reflects the current condition and location of the machine (installed and configured for use).
- (c) an asset's use in combination with other assets or with other assets and liabilities might be incorporated into the fair value measurement through the market participant assumptions used to measure the fair value of the asset. For example, if the asset is work in progress inventory that is unique and market participants would convert the inventory into finished goods, the fair value of the inventory would assume that market participants have acquired or would acquire any specialized machinery necessary to convert the inventory into finished goods.

(d) an asset's use in combination with other assets or with other assets and liabilities might be incorporated into the valuation technique used to measure the fair value of the asset. That might be the case when using the multi-period excess earnings method to measure the fair value of an intangible asset because that valuation technique specifically takes into account the contribution of any complementary assets and the associated liabilities in the group in which such an intangible asset would be used.

(e) in more limited situations, when an entity uses an asset within a group of assets, the entity might measure the asset at an amount that approximates its fair value when allocating the fair value of the asset group to the individual assets of the group. That might be the case if the valuation involves real property and the fair value of improved property (i.e., an asset group) is allocated to its component assets (such as land and improvements).

END