



INTELLECTUAL PROPERTY INSTITUTE OF CANADA
MONTREAL CHAPTER – DINNER-CONFERENCE
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INTELLECTUAL PROPERTY VALUATION

by

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Montreal



INTELLECTUAL PROPERTY VALUATIONS

- Transaction support
- Bankruptcy
- Licensing
- Strategic alliances
- Income taxation
- Marital dissolution
- Infringement damages
- Inter-company transactions & transfer pricing
- Collateral-based financing
- Accounting requirements
- Regulatory requirements
- Purchase price allocation

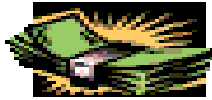
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COMPONENTS OF FAIR MARKET VALUE



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COMPOSITION OF A BUSINESS ENTERPRISE



Working Capital



Other Tangible Assets



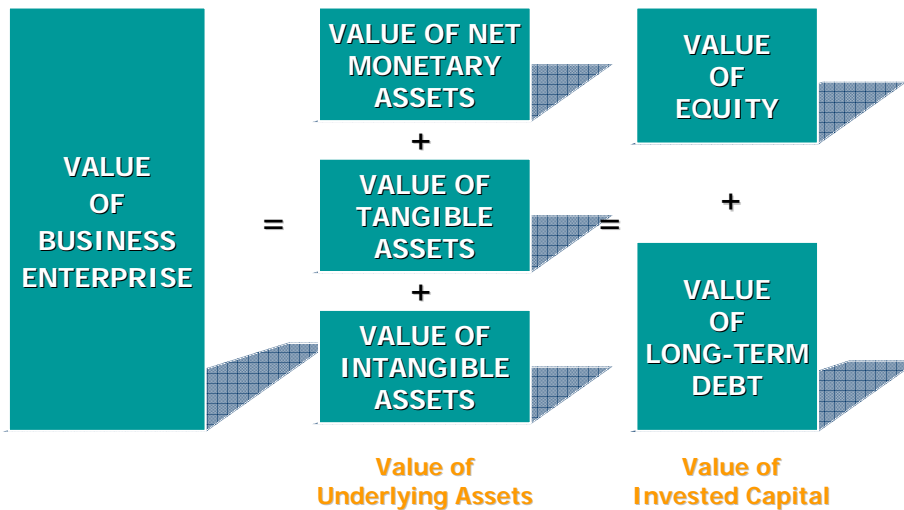
Intangible Assets



Intellectual Property

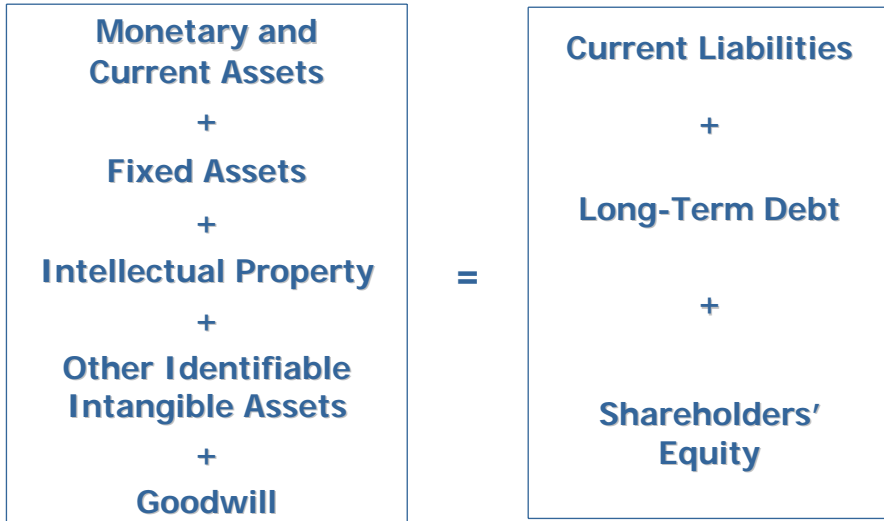
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THE BUSINESS ENTERPRISE EQUATION



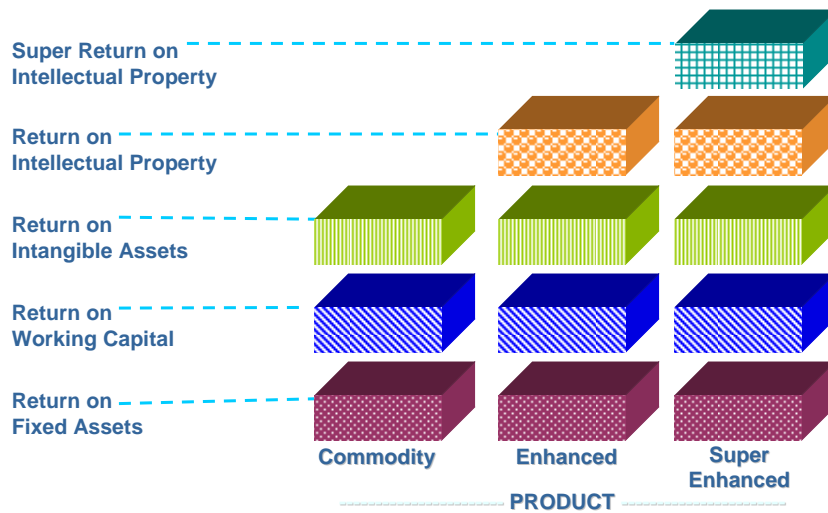
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GENERAL ALLOCATION FORMULA



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EXCESS RETURNS FROM INTELLECTUAL PROPERTY



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VALUATION OF INTELLECTUAL PROPERTY SELECTED U.S. BRANDS – IN U.S. \$ BILLIONS

| <u>Brand Name</u> | <u>2003</u> | <u>2002</u> | <u>2003 Book Value</u> |
|-------------------|-------------|-------------|----------------------------|
| Coca Cola | 70.5 | 69.6 | 1.8 |
| Microsoft | 65.2 | 64.1 | 0.1 |
| IBM | 51.8 | 51.2 | 0.1 |
| Gillette | 15.9 | 14.9 | 0.1 |
| Kellogg's | 7.4 | 7.2 | 1.4 |
| Nike | 8.2 | 7.8 | 0.4 |

SOURCE: *Business Week*, August 4, 2003.

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BASIS OF INTELLECTUAL PROPERTY'S VALUE

- Present value of future benefits/
income approach
- Market approach
- Avoided cost approach

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INTANGIBLE ASSET CATEGORIES

Canada **U.S.A.**
CICA 1581 **SFAS 141**

Appendix Section References

| | | |
|--------------------------|-----------|-----------|
| Marketing-related | A20 – A22 | A15 – A17 |
| Customer-related | A23 – A28 | A18 – A21 |
| Artistic-related | A29 – A30 | A22 |
| Contract-based | A31 – A33 | A23 – A24 |
| Technology-based | A34 – A38 | A25 – A28 |

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INTANGIBLE ASSET CATEGORIES

1. Marketing-related, including:

- ✦ Trademarks, trade names, brands, logos
- ✦ Foreign trademark rights
- ✦ Service marks, collective marks, certification marks
- ✦ Product distribution channels
- ✦ Delivery systems
- ✦ Internet domain names
- ✦ Trade dress (unique colour, shape or package design)
- ✦ Non-competition agreements






2. Customer-related – customer structure of the business, including:

- ✦ Customer lists
- ✦ Order backlog
- ✦ Customer contracts and the related customer relationships
- ✦ Non-contractual customer relationships









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INTANGIBLE ASSET CATEGORIES

3. *Artistic-related — artistic works (to which the business has title), including:*

-  Books, magazines
-  Musical works, including advertising jingles
-  Literary
-  Video and audiovisual material, motion pictures, music videos
-  Pictures, photographs

4. *Contract-based — with fixed or definite term, including:*

-  Licenses
-  Facility leases and others
-  Franchise agreements
-  Permits
-  Royalties
-  Advertising, construction, management and service or supply contracts
-  Employment contracts/collective agreements
-  Financing agreements
-  Insurance contracts

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INTANGIBLE ASSET CATEGORIES

5. *Technology based — relate to innovations or technological advances within the business, including:*

-  Patents
-  Non-patented technology
-  Computer software (operational software) and licenses
-  Databases
-  Technical drawings
-  Research and development
-  Trade secrets
-  Know-how

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VALUATION METHODS

| <u>ASSET</u> | <u>PRIMARY</u> | <u>SECONDARY</u> |
|---------------------------------|----------------|------------------|
| Patents and technology | Income | Market |
| Trademarks and brands | Income | Market |
| Copyrights | Income | Market |
| Assembled workforce | Cost | Income |
| Management information software | Cost | Market |
| Product software | Income | Market |
| Distribution network | Cost | Income |

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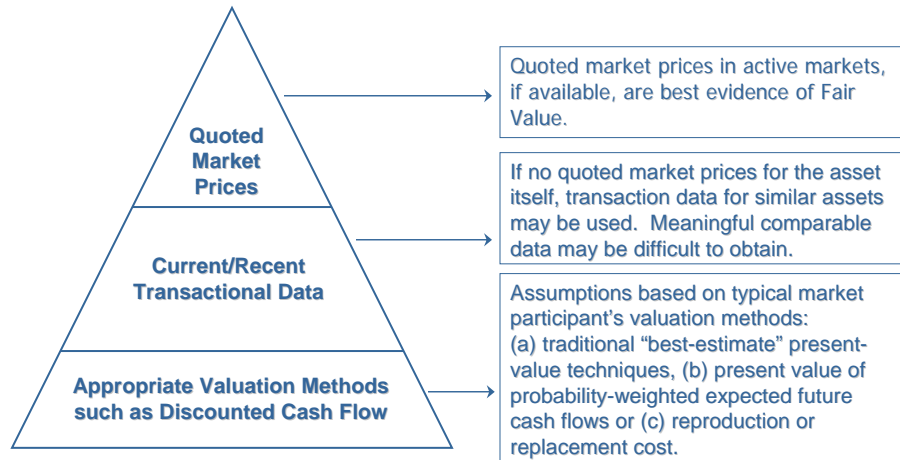
VALUATION METHODS (cont'd)

| <u>ASSET</u> | <u>PRIMARY</u> | <u>SECONDARY</u> |
|----------------------------------|----------------|------------------|
| Customer relationships | Cost | Income |
| Franchise rights | Income | Market |
| Corporate practices & procedures | Cost | Income |
| Elements of a going concern | Cost | Income |
| Goodwill | Market* | Income** |

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FAIR VALUE

HIERARCHY FOR EVIDENCE IN DETERMINING FAIR VALUE OF AN ASSET:



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FAIR VALUE HIERARCHY

LEVEL 1

Quoted market prices in active markets, if available, are best evidence of fair value and therefore used as basis for fair value measurement, when available.

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FAIR VALUE HIERARCHY

LEVEL 2

When quoted market prices are neither available nor representative of fair value, estimates of fair value are based on best information available, including prices for similar items and results of other valuation techniques.

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FAIR VALUE HIERARCHY

LEVEL 3

A valuation technique based on multiples of earnings, revenue or a similar performance measure may be used if technique is consistent with objective of measuring fair value. ...

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**RELEVANT PRONOUNCEMENTS FOR
"FAIR VALUE" ACCOUNTING MEASUREMENTS AND
DISCLOSURES UNDER GAAP**

| | <u>CANADA</u> | <u>U.S.A.</u> |
|--|---------------|--------------------|
| Purchase Price Allocation in Business Combinations | CICA 1581 | SFAS 141 |
| Annual Impairment Test – goodwill and other intangible assets | CICA 3062 | SFAS 142 |
| Financial reporting for reorganizations under bankruptcy laws: "fresh start" accounting (CCAA in Canada; Chapter 11 in U.S.) | CICA 1625 | SOP 90-7 |
| Impairment or disposal of long-lived assets; Using Cash Flow Information and Present Value in Accounting Measurements | CICA 3063 | SFAS 144, CON 7 |

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**SPECIFIC GUIDANCE
CICA HANDBOOK**

- Estimates of future cash flows must be consistent with objectives of measuring fair value
- Cash flow estimates must incorporate assumptions that marketplace participants would use in their estimates of fair value, or
- Company can use its own estimates if marketplace participant data are not available "without undue cost and effort."

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SPECIFIC GUIDANCE *CICA HANDBOOK*

- **Must be based on reasonable and supportable assumptions and consider all available evidence**
- **Range can be estimated and likelihood of possible outcomes must be considered**
- **Multiples may be used if technique is consistent with objective of measuring fair value.**

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VALUATION CONSIDERATIONS FOR IP

- **Historical track record.**
- **Risk of failure.**
- **Scientifically proven?**
- **Product-life cycle.**
- **Commercial viability proven?**
- **Structure of deal.**
- **Speculation vs. worth?**
- **Financing requirements.**
- **Growth potential.**

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USEFUL LIFE

- Defined as “the period over which an asset is expected to contribute directly or indirectly to future cash flows of an enterprise”
- Relevant factors:
 - Expected use of asset by enterprise
 - Expected useful life of another asset to which intangible is linked
 - Legal, regulatory or contractual provisions
 - Effect of obsolescence, demand, competition
 - Level of maintenance expenditures required
 - Industry practice

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GOODWILL IMPAIRMENT TEST

- Performed annually, unless all following criteria are met:
 - ✓ No significant change in reporting unit’s assets and liabilities
 - ✓ Most recent fair value determination results in an amount exceeding carrying amount by substantial margin
 - ✓ Analysis of events and circumstances since most recent fair value determination indicate remote likelihood of impairment
- May be performed at any time during year

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CICA *HANDBOOK*, SECTION 3063

- **Impairment loss recognized when carrying value of long-lived asset exceeds total undiscounted cash flows expected from its use and eventual disposition**
- **Impairment loss equals excess of carrying value over fair value**

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GOODWILL IMPAIRMENT TEST

- **Two-step impairment test applied to “reporting units”, defined as operating segments or components (one level below operating segments) for which financial data are available and regularly reviewed by management**
- **If no impairment under Step 1, Step 2 is not required**

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GOODWILL IMPAIRMENT TEST

■ Step 1:

- If fair value of a reporting unit exceeds its carrying amount on balance sheet, no impairment and Step 2 not necessary

■ Step 2:

- Fair value of reporting unit's goodwill is compared with its carrying amount on balance sheet.
- Fair value of goodwill determined in same manner as for purchase price allocation in business combination: all assets and liabilities are restated at fair values (for test purposes only – not for financial reporting)

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AOL TIME WARNER INC. YEAR ENDED DECEMBER 31, 2002

| <u>Reduction in Carrying Value of</u> | <u>Billions (U.S.)</u> |
|--|----------------------------|
| Goodwill (AOL) | \$33.5 |
| Cable segment | 10.6 |
| Music segment | 0.6 |
| Brands and trademarks at Music segment | <u>0.9</u> |
| Impairment charge (to operating income) | \$45.6 |

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AOL MANAGEMENT EXPLANATION OF WRITE-DOWNS

"The \$33.489 billion charge at the AOL segment reflects the AOL segment's lower than expected performance, including the continued decline in the online advertising market. The \$10.550 billion charge at the Cable segment reflects current market conditions in the cable television industry, as evidenced by the decline in the stock prices of comparable cable television companies. The \$1.499 billion charge at the Music segment reflects declining valuations in the music industry, primarily due to the negative effects of piracy.

"The impairment charges are non-cash in nature and do not affect the company's liquidity ... "

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IMPLIED FAIR VALUE OF GOODWILL – REPORTING UNIT 1

| | | |
|--|-----------|-------------------|
| Fair Value of reporting unit | | \$ 6,128 |
| LESS: Fair value of tangible net assets | | (4,500) |
| Fair value of identifiable intangibles | | <u>(500)</u> |
| Implied fair value of goodwill | (A) | 1,128 |
| LESS: Book value of goodwill | (B) | <u>(3,334)</u> |
| Goodwill Impairment Loss | (B) - (A) | <u>\$ (2,207)</u> |

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**DEF CO.
TEST FOR GOODWILL IMPAIRMENT
EXAMPLE OF NO IMPAIRMENT**

GOODWILL IMPAIRMENT TEST — STEP 1

| | |
|---|---------------------|
| Fair value of DEF Co. reporting unit equity* | <u>\$10,000,000</u> |
| Book value of DEF Co. reporting unit equity** | <u>8,500,000</u> |
| Impairment of recorded goodwill*** | <u>NIL</u> |

- * Indicated reporting unit equity value based on valuation analysis.
** Indicated reporting unit equity value based on balance sheet.
*** No impairment of purchased goodwill. Step 2 test not necessary.

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**XYZ CO.
TEST FOR GOODWILL IMPAIRMENT
EXAMPLE OF GOODWILL IMPAIRMENT**

GOODWILL IMPAIRMENT TEST — STEP 1

| | |
|---|---------------------|
| Fair value of XYZ Co. reporting unit equity* | <u>\$ 8,500,000</u> |
| Book value of XYZ Co. reporting unit equity** | <u>10,000,000</u> |
| Impairment of recorded goodwill*** | <u>\$ 1,500,000</u> |

- * Indicated reporting unit equity value based on valuation analysis.
** Indicated reporting unit equity value based on balance sheet.
*** Impairment of purchased goodwill. Step 2 test therefore necessary.

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INTANGIBLE ASSET TRANSFER PRICING METHODS

- Comparable uncontrolled transaction (CUT) method
- Comparable profits method
- Profit split method
- Unspecific methods

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PLAINTIFF COMPANY CALCULATION OF DAMAGES FOR LOST PROFITS

| <i>Absorption Costing</i> | | <i>Direct Costing</i> | |
|---|-----------------------|---|-------------------------|
| Lost sales – 1000 units @ \$10 | \$10,000 | Lost sales | \$10,000 |
| Cost of lost sales | Unit Cost | Variable mfg costs | \$6,600 |
| • Variable mfg costs – 1100 units | \$6 \$6,600 | Ending inv'y (100 units @ \$6) | <u>600</u> |
| • Fixed mfg costs | <u>2</u> <u>2,200</u> | Variable mfg cost of lost sales | 6,000 |
| Cost of goods available for sale | \$8 \$8,800 | Variable selling & admin | <u>400</u> |
| Ending inv'y (100 units) | <u>8</u> <u>800</u> | Total variable costs charged to lost sales | <u>6,400</u> |
| Cost of lost sales | <u>8,000</u> | | |
| Gross margin on lost sales | \$ 2,000 | Contribution margin (LOST PROFIT) | \$ 3,600 |
| Less total selling & admin costs (or expenses saved), including \$400 variable costs | <u>900</u> | Less fixed costs: | |
| | | • Mfg | \$2,200 |
| | | • Selling & admin | <u>500</u> <u>2,700</u> |
| Net income (LOST PROFIT) | <u>\$ 1,100</u> | Net income | <u>\$ 900</u> |

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SELECTED FACTORS IN DETERMINING VALUE OF PATENT

- Degree of patent or trademark protection.
- Exclusive vs. non-exclusive rights and development.
- Strategic attraction to notional purchaser.
- Ability to increase royalty rates.
- Market strength (patent or trademark).
- Industry and competition.
- Perspective re value-to-owner or user.
- Special purchaser considerations (value to competitor).

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MOST TYPICAL MEASURES OF ECONOMIC INCOME USED FOR VALUING INTANGIBLES

- Gross or net revenues
- Gross profit
- Net profit from operations
- Profit before interest and taxes
- Profit before tax
- Profit after tax
- Gross cash flow before tax
- Gross cash flow after tax
- Net cash flow before tax
- Net cash flow after tax

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FAIR VALUE MEASUREMENT

A present value technique is often best available technique and generally includes:

- (a) estimate of future cash flows at different times;
- (b) expectations about possible variations in amount or timing of those cash flows;
- (c) time-value of money, represented by risk-free rate of interest;
- (d) price for bearing uncertainty (risk) inherent in asset or liability; and
- (e) other factors, if identifiable, including illiquidity and market imperfections.

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VALUATION OF INTANGIBLE ASSET EXCESS-EARNINGS METHOD

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|--|----------------|----------------|----------------|----------------|----------------|
| Revenues | \$50,000 | \$52,500 | \$55,125 | \$57,881 | \$60,775 |
| Earnings before depreciation, interest and taxes | 10,000 | 10,500 | 11,025 | 11,576 | 12,155 |
| Less: Depreciation | <u>(2,000)</u> | <u>(2,200)</u> | <u>(2,200)</u> | <u>(2,100)</u> | <u>(1,900)</u> |
| Earnings before interest and taxes | 8,000 | 8,300 | 8,825 | 9,476 | 10,255 |
| Less: Income taxes | <u>(3,200)</u> | <u>(3,320)</u> | <u>(3,530)</u> | <u>(3,791)</u> | <u>(4,102)</u> |
| Debt-free income | 4,800 | 4,980 | 5,295 | 5,686 | 6,153 |
| Depreciation | 2,000 | 2,200 | 2,200 | 2,100 | 1,900 |
| Capital expenditures | <u>(2,500)</u> | <u>(2,200)</u> | <u>(2,200)</u> | <u>(1,800)</u> | <u>(1,800)</u> |
| Changes in working capital | <u>(682)</u> | <u>(716)</u> | <u>(752)</u> | <u>(789)</u> | <u>(829)</u> |
| Reasonable after-tax return on fixed assets | <u>(1,200)</u> | <u>(1,320)</u> | <u>(1,320)</u> | <u>(1,260)</u> | <u>(1,140)</u> |
| Reasonable after-tax return on net working capital | <u>(750)</u> | <u>(801)</u> | <u>(855)</u> | <u>(911)</u> | <u>(970)</u> |
| Reasonable after-tax return on other intangible assets | <u>(100)</u> | <u>(100)</u> | <u>(100)</u> | <u>(100)</u> | <u>(100)</u> |
| Net cash flow attributable to subject intangible | 1,568 | 2,043 | 2,268 | 2,925 | 3,214 |
| Present value factor | 0.833 | 0.694 | 0.579 | 0.482 | 0.402 |
| Present value | \$ 1,307 | \$ 1,419 | \$ 1,313 | \$ 1,411 | \$ 1,292 |

| |
|--|
| VALUE OF INTANGIBLE ASSET = TOTAL OF PRESENT VALUES = \$6,741 |
|--|

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VALUATION OF INTANGIBLE ASSET RELIEF-FROM-ROYALTY METHOD

| | <u>Year 1</u> | <u>Year 2</u> | <u>Year 3</u> | <u>Year 4</u> | <u>Year 5</u> |
|---------------------------------|---------------|---------------|---------------|---------------|---------------|
| Projected sales of product | \$50,000 | \$52,500 | \$55,125 | \$57,881 | \$60,775 |
| Fair market royalty rate — say | <u>5%</u> | <u>5%</u> | <u>5%</u> | <u>5%</u> | <u>5%</u> |
| Avoided royalties | 2,500 | 2,625 | 2,756 | 2,894 | 3,309 |
| Less: Income taxes — say 40% | <u>-1,000</u> | <u>-1,050</u> | <u>-1,103</u> | <u>-1,158</u> | <u>-1,216</u> |
| After-tax income | 1,500 | 1,575 | 1,654 | 1,736 | 1,823 |
| Present value (discount) factor | 0.889 | 0.790 | 0.702 | 0.624 | 0.555 |
| Present value | \$1,333 | \$1,244 | \$1,161 | \$1,084 | \$1,012 |

**VALUE OF INTANGIBLE ASSET:
= TOTAL OF PRESENT VALUES
= \$5,835**

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REASONABLE ROYALTY

- An established royalty
- A notionally (hypothetically) negotiated royalty
- Adopting analytical approach (which determines reasonable royalty as excess of anticipated profits from infringing sales over normalized level of industry profit margin)

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AUDITING MANAGEMENT'S SIGNIFICANT ASSUMPTIONS

- Assumptions go to heart of projections.
- Evaluating whether “significant assumptions” used by management to estimate fair value, taken individually and as a whole, provide reasonable basis for inclusion of the fair values in entity’s financial statements.
- GAAS requires auditor to evaluate whether assumptions made by management were reasonable and reflect, or are not inconsistent with, market information (such as that used by market participants).

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AUDITING MANAGEMENT'S SIGNIFICANT ASSUMPTIONS (CONTINUED)

Auditor will review assumptions to determine whether they are realistic and consistent with:

- General economic environment and entity’s economic circumstances;
- Existing market information;
- Entity’s plans, including management’s expectations of outcome of specific objectives and strategies;

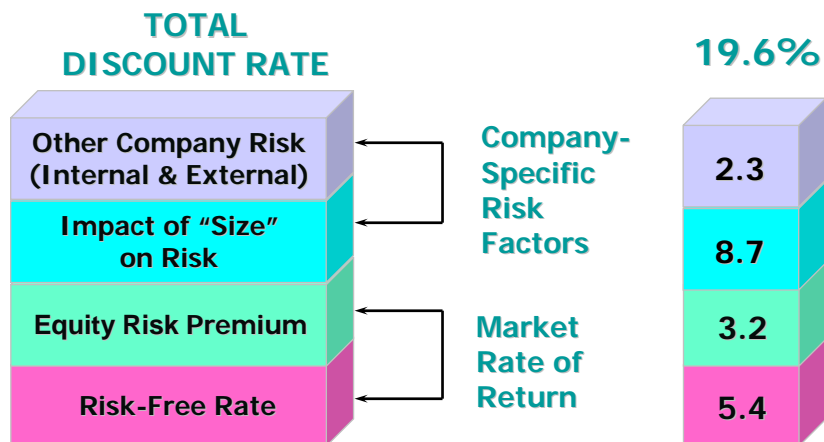
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AUDITING MANAGEMENT'S SIGNIFICANT ASSUMPTIONS (CONTINUED)

- Assumptions made in prior periods, if appropriate;
- Past experience of, or previous conditions experienced by, entity to extent currently applicable;
- Assumptions used by management in accounting estimates for financial statement accounts (other than those relating to FVM&D);
- Any risk associated with cash flows, including potential variability thereof and related effect on discount rate.

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DEVELOPMENT OF DISCOUNT RATE BUILD-UP METHOD



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VENTURE CAPITAL RATES OF RETURN

| Stage of Development | Required Rate of Return |
|---------------------------------|------------------------------------|
| Start-Up | 50% |
| First Stage | 40% |
| Second Stage | 30% |
| Third Stage | 25% |

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ABC CO. VALUATION OF ACQUIRED GOODWILL PURCHASE PRICE ALLOCATION

| | <u>Fair Value</u> (\$000's) |
|--|--------------------------------|
| Total ABC Co. acquisition purchase price of target | 10,000 |
| Indicated value of acquired assets: | |
| Cash and marketable securities | 500 |
| Accounts receivable | 1,500 |
| Inventory | 750 |
| Total current assets | (A) <u>2,750</u> |
| Property, plant and equipment | 1,500 |
| Land | 1,000 |
| Total fixed assets | (B) <u>2,500</u> |

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ABC CO.
VALUATION OF ACQUIRED GOODWILL
PURCHASE PRICE ALLOCATION
 (CONT'D)

| | | <u>Fair Value</u> (\$000's) |
|---|------------------|--------------------------------|
| Identifiable intangible assets: | | |
| Proprietary software | | 1,500 |
| Customer relationships | | 1,250 |
| Trademarks and trade name | | 750 |
| Patents | | 400 |
| Favourable supply contracts | | 400 |
| Total identifiable intangible assets | (C) | <u>4,300</u> |
| Total fair values of identifiable assets | (A)+(B)+(C) | <u>9,550</u> |
| Estimated fair value of acquired goodwill | (10,000 - 9,550) | <u>450</u> |