

# The Identification and Extraction of Intangible Property from Unit Principle Valuations

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*Many taxing jurisdictions do not tax intangible property for property tax purposes. However, many taxing jurisdictions assess certain industrial or commercial property based on the unit principle of property valuation. The application of the unit valuation principle typically includes the value of all of a taxpayer's operating property, including intangible property. The inclusion of intangible property in such a tax assessment can, in some cases, substantially affect the amount of the assessment. For this reason, property owners may retain a valuation analyst to value and subtract any intangible property from the unit principle valuation. First, this discussion summarizes the unit principle valuation of industrial and commercial property. Second, this discussion describes the identification of intangible property and the generally accepted intangible property valuation approaches and methods applicable for property tax purposes. Finally, this discussion presents two methods that are frequently applied to remove the value of intangible property from a unit principle valuation prepared for property tax purposes.*

## INTRODUCTION

The word “assets” is an accounting term and the word “property” is a legal term. These two terms do not necessarily mean the same thing (i.e., all assets are not necessarily property and vice versa). However, for simplicity, these terms are used interchangeably in this discussion.

Intangible property can be very valuable. Valuation analysts (“analysts”) are often retained to estimate the value of intangible property for a variety of reasons. Such reasons may include transaction pricing and structuring, financial accounting and reporting, taxation planning and compliance, bankruptcy and reorganization, intercompany use

and ownership transfer, and so on. The focus of this discussion is the identification and extraction of intangible property value from unit principle valuations prepared for property tax compliance, appeal, or litigation purposes.

First, this discussion summarizes the unit principle valuation of industrial and commercial property. Second, this discussion describes the process that analysts follow in the identification of intangible property and in the application of generally accepted intangible property valuation approaches and methods. Finally, this discussion presents the methods that analysts may apply to subtract the value of intangible assets from the total unit value in taxing jurisdictions that do not tax intangible property.

## THE UNIT VALUATION PRINCIPLE

For property tax purposes, many taxing jurisdictions assess certain types of industrial or commercial property based on the unit valuation principle—and not on the summation valuation principle.

In a summation principle valuation, a separate appraisal is performed for each asset category (or component) of the taxpayer property. The total value of the taxpayer property is the sum of the individual asset category values.

To perform a summation principle valuation, each category of taxpayer property is subject to separate identification and individual valuation. It can be difficult to separate each asset category for certain types of industrial and commercial properties. For this reason, the summation valuation principle is typically applied to value relatively simple properties, such as high-rise apartment buildings or high-rise office buildings.

The unit valuation principle is typically applied to value more complex properties. In a unit principle valuation, all of the taxpayer's operating assets are valued collectively, in the aggregate, as a single unit of property. The total unit value equals the value of all of the taxpayer operating assets (both tangible assets and intangible assets) functioning collectively on a going-concern, or value in continued use, basis.

The unit valuation principle is often applied when the taxpayer's real estate and tangible personal property is physically, functionally, and economically integrated. For example, the unit valuation principle is often applicable when an industrial or commercial property operates as a continuous operating process. Examples include oil and gas refineries, chemical and other processing plants, mining and mineral extraction facilities, cable television properties, electric generation plants, hospitals and nursing homes, and others.

Additionally, the unit valuation principle is often applied when the taxpayer property is a utility-type property that crosses over several counties, states, or other taxing jurisdictions. Examples of such properties include railroads, airlines, interstate and intrastate pipelines, water distribution systems, wastewater distribution systems, gas distribution systems, electric distribution systems, and telecommunications systems.

The value conclusion of the unit principle valuation includes all of the categories of taxpayer property, including working capital accounts, real estate, tangible personal property, and intangible personal property. Importantly, not all of these property categories may be subject to property taxation in the relevant taxing jurisdiction.

In taxing jurisdictions that do not tax intangible property, both the taxpayer and the assessment authority should ensure that any intangible property value is excluded from the assessment based on the unit valuation principle.

If the assessment includes intangible property that is not subject to taxation, the value of that intangible property should be removed from the assessment (which may be the total unit value).

## IDENTIFICATION OF INTANGIBLE PROPERTY

The initial step in performing an intangible asset valuation is to identify the subject intangible asset.

There are numerous legal, accounting, and taxation definitions for the term “intangible asset.” Most of those definitions typically relate to the specific purpose and are extracted from a particular statutory authority, administrative ruling, or judicial precedent. This discussion focuses on the general economic attributes that help analysts determine the existence of an intangible asset. It is important for the taxpayer and analyst to research whether a purpose-specific definition of intangible asset exists.

According to the textbook *Valuing Intangible Assets*,<sup>1</sup> the characteristics or economic attributes necessary for identification as an intangible asset include the following:

1. It is subject to a specific identification and a recognizable description.
2. It is subject to legal existence and legal protection.
3. It is subject to the rights of private ownership, and that private ownership should be legally transferrable.
4. It is documented by some tangible evidence or manifestation of its existence (e.g., a contract, a license, a set of financial statements).
5. It is created or comes into existence at an identifiable time or as the result of identifiable event.
6. It is subject to being destroyed or to a termination of existence at an identifiable time or as the result of an identifiable event.

In other words, there should be a specific bundle of rights associated with the existence of any identifiable intangible asset. These identifiable intangible assets should be transferable.

However, this statement does not imply that the intangible asset has to be readily marketable or that the taxpayer owner would ever plan to transfer the intangible asset.

And, this statement does not imply that the intangible asset has to be sold separately from all other assets. In fact, just the opposite is true. Intangible assets are often sold with tangible assets and/or with other intangible assets.

The above-listed items describes the economic attributes of an intangible asset. Analyst consider these economic attributes in order to determine the existence of an intangible asset.

There is a distinction (sometimes substantial) between the existence of an intangible asset and the value of the intangible asset. It is possible for an intangible asset to have economic existence while having little or no quantifiable value.

For an intangible asset to have a quantifiable value from a valuation perspective, it should possess certain economic attributes. According to the textbook *Best Practices: Thought Leadership in Valuation, Damages, and Transfer Price Analysis*,<sup>2</sup> these attributes may include the following:

1. The intangible asset should generate some measurable amount of economic benefit to its owner. This economic benefit could be in the form of an income increment, a cost decrement, and/or an investment decrement. This economic benefit may be measured in any one of the several ways, including net income, net operating income, net cash flow, and so on.
2. The intangible asset should be able to enhance the value of the other assets (tangible or intangible) with which it is associated. These other assets may encompass all other assets of the operating business enterprise of an owner/operator, including tangible personal property, real estate, or other intangible assets.

Some inexperienced analysts may confuse the term intangible asset with intangible factors, elements, influences, or attributes. Some economic phenomena attributes may contribute to the existence of—and value of—identifiable intangible assets. However, such economic phenomena may not possess the requisite characteristics to distinguish them as identifiable intangible assets.

Some economic phenomena that do not qualify as an intangible asset—but may be considered intangible factors or influences—include the following:

- High market share
- Lack of regulation
- Monopoly position (or barriers to entry)
- Market potential
- Competitive advantage (i.e., technological superiority, uniqueness, economies of scale, synergies, efficiencies)
- General positive reputation

## TYPES OF INTANGIBLE PROPERTY

For a variety of accounting, legal, taxation, and other reasons, industrial or commercial property are often distinguished between tangible assets and intangible assets. Industrial or commercial intangible assets can further be grouped into two categories:

1. Intangible real property
2. Intangible personal property

### Intangible Real Property

Intangible real property is a familiar category for many taxpayers. This is because it is not uncommon for legal interests in real estate to be subdivided and transferred. Intangible real property is the transferable legal interest in real estate.

The value of intangible real property is not derived from the ownership of the real estate itself. The real estate ownership is vested in a separate party (e.g., landlord, the lessor, or the licensor). The value of intangible real property is derived from the legal rights it grants to real estate.

Examples of intangible real property include leases, occupancy permits, building permits, surface rights, air rights, mining rights, water extraction rights, drilling rights, and so forth. In contrast, examples of tangible real property include land improvements, buildings, and so on.

Intangible real property is often documented in a license, lease, easement, or other contract. This written document provides evidence of the existence of the intangible real property. This written document has a tangible element (i.e., the paper it is written on).

All intangible assets should have some form of physical evidence of their existence. However, the value of the intangible real property does not depend on the tangible evidence (e.g., the actual physical paper). Rather, the value of intangible real property depends on the legal rights (and economic expectations) associated with the written document.

## Intangible Personal Property

The value of intangible personal property is derived from the legal rights, the intellectual property content, and/or the expected economic benefits that are associated with this category of intangible assets.

Analysts often group intangible personal property into four categories. The categorization process may be relevant from a property tax valuation perspective. This is because the four different categories of intangible personal property (although fundamentally similar) have slightly different economic attributes.

Sometimes this intangible personal property categorization process may have accounting, taxation, regulatory, or legal significance. Often, this categorization process makes sense because the four different categories of intangible personal property (although fundamentally similar) have slightly different economic attributes.

These four categories of intangible personal property are as follows:

1. Financial (working capital) assets
2. General intangible assets
3. Intellectual property
4. Intangible value in the nature of goodwill

## Financial Assets

Most analysts are familiar with financial assets. For a business, financial assets are recorded as “current assets” for financial accounting purposes. Common examples of financial assets include cash, accounts

receivable, notes receivable, stocks and bonds, and other negotiable investment securities. However, inexperienced analysts may not automatically think of financial assets as intangible assets.

As an example, let’s consider cash—in the form of a \$100 bill. The \$100 bill clearly qualifies as an asset. It is unlikely for anyone to question that the \$100 bill (1) is subject to ownership and (2) has value.

What may not be immediately clear is the \$100 bill’s classification as an intangible asset. The value of the \$100 bill does not result from the physical paper note (i.e., the physical attributes). Rather, the value of the \$100 bill results from the fact that the intangible asset owner has the legal right to exchange the paper instrument for goods and services. The value of this \$100 bill comes from the expected economic benefits it can provide to the owner.

## General Intangible Assets

The second category of intangible assets includes most other intangible assets that are not elsewhere categorized.

One categorization of general intangible assets follows:

- Technology-related (e.g., proprietary technology)
- Customer-related (e.g., customer lists, customer engineering drawings and technical documentation relationships, customer contracts)
- Contract-related (e.g., favorable supplier contracts, technology sharing agreements, franchise agreements)
- Data-processing-related (e.g., computer software, automated data bases)
- Human-capital-related (e.g., a trained and assembled workforce, noncompete covenants, employment agreements)
- Marketing-related (e.g., advertising materials, marketing brochures and materials)
- Location-related (e.g., leasehold interests, mineral or mining exploration rights)
- License-related (e.g., operational or environmental licenses or permits, pollution control permits)



It is important to note that the above-listed general intangible asset categories are for discussion purposes only. They do not represent any particular categorization for financial accounting, taxation, regulatory, legal, or other authority.

## Intellectual Property

Intellectual property is created by human intellectual and/or inspirational activity. Such activity is typically specific, conscious, and can be attributed to the activity of specific individuals. In contrast, other intangible assets are created in the normal course of business operations.

In the United States, intellectual property is typically registered under—and is protected by—specific federal and state statutes. These statutes give the intellectual property owner specific legal rights with regard to commercial development and economic exploitation of the intellectual property. These statutes also give the intellectual property owner the right to prevent other parties from commercializing the intellectual property.

There are four types of intellectual property:

1. Trademarks and trade names (e.g., service marks, service names, and trade dress)
2. Patents (e.g., utility, design, and plant patents and the associated patent application)
3. Copyrights (e.g., musical and literary compositions, other works of art, and copyrights in computer software and engineering drawings)
4. Trade secrets (e.g., processes, designs, diagrams, drawings, schematics, memoranda, etc.)

## Intangible Value in the Nature of Goodwill

There are different definitions (or types) of goodwill for transaction, taxation, financial accounting, litigation, and other purposes. For property tax purposes, the relevant type of goodwill is often business or institutional goodwill.

Analysts often refer to business or institutional goodwill as intangible value in the nature of goodwill. This is because the value of business or institutional goodwill is related to several components.

The components of business or institutional goodwill include the following:

- **Going-concern value**—This goodwill component is related to the fact that all of the elements of a taxpayer's total unit are physically and functionally assembled in place and ready to use.

- **Excess income**—This goodwill component is related to income generated by a taxpayer's total unit that is greater than amount needed to provide a fair rate of return on all of the tangible assets and identifiable intangible assets of the total unit.
- **Present value of future growth opportunities**—This goodwill component is related to the expectation of growth in future income associated with future assets (both tangible and intangible) that do not yet exist on the assessment date.

## GENERALLY ACCEPTED INTANGIBLE PROPERTY VALUATION APPROACHES AND METHODS

There are three generally accepted intangible property valuation approaches. These valuation approaches encompass a broad spectrum of applied microeconomics principles and investment concepts. Within each valuation approach, there are several valuation methods.

The three generally accepted intangible property valuation approaches are as follows:

1. The cost approach
2. The market approach (sometimes referred to as the sales comparison approach)
3. The income approach

The following discussion summarizes the generally accepted intangible property valuation approaches and methods. The discussion is presented in the context of applying the unit valuation principle to value industrial or commercial property. An in-depth explanation of each valuation approach and method is beyond the scope of this discussion.

### Cost Approach

The cost approach indicates the value of an intangible asset as the cost (in terms of current dollar expenditures) required to create a hypothetical substitute intangible asset with equivalent utility and functionality as the actual intangible asset. The cost components in a cost approach analysis typically include direct costs, indirect costs, developer's profit, and entrepreneurial incentive.

If the substitute intangible asset is superior to the actual intangible asset, then allowances should be made for all forms of depreciation (including physical depreciation, functional obsolescence, and economic obsolescence) in order to estimate the value of the actual intangible asset.

The intangible asset cost approach valuation methods include the following:

- Reproduction cost new less depreciation method—The total cost, at current prices, to construct an exact duplicate or replica of the subject intangible asset, adjusted for depreciation
- Replacement cost new less depreciation method—The total cost to create, at current prices, an asset having equal functionality or utility of the intangible subject asset, adjusted for depreciation
- Historical cost less depreciation method (or an alternative method referred to as the trended historical cost less depreciation method)—Actual historical asset development costs may be identified and quantified and sometimes “trended” to the valuation date by an appropriate inflation-based index factor, adjusted for depreciation

The cost approach may have certain application limitations for intangible assets with unique qualities. Unlike some fungible assets, certain intangible assets are not fungible.

## Market Approach

The market approach indicates the value of an intangible asset based on valuation pricing multiples derived from arm’s-length sale or license transactions regarding either comparable or guideline intangible assets. Typically, individual intangible assets are not bought and sold in fee simple interest.

Accordingly, individual intangible asset sale transactional data are not often readily available. However, many intangible assets (such as trademarks, copyrights, and patents) are licensed in arm’s-length transactions. When available, these transactional data may be used to prepare a market approach analysis.

The generally accepted intangible asset market approach valuation methods include the following:

- The sales comparison method
- The relief from royalty method
- The comparable profit margin method

Market approach methods are particularly applicable when there is sufficient quantity of comparable (almost identical) or guideline (similar from a risk and expected return perspective) intangible asset transaction data.

## Income Approach

The income approach recognizes the prospective revenue, expenses, profitability, and investments associated with the ownership of an intangible asset. This approach indicates intangible asset value as the present value of future income.

That metric income may be measured as operating income, net income, net cash flow, operating cash flow, or some other measure of income, and it should be estimated over the asset’s expected useful economic life (“UEL”). This expected income stream is brought to a present value by the use of an appropriate market-derived, risk-adjusted rate of return (or capitalization rate).

The generally accepted intangible asset income approach valuation methods include the following:

- Differential income (with/without) method
- Incremental income method
- Profit split method (or residual profit split method)
- Residual (excess) income method
- Capitalized excess earning method
- Multiperiod excess earnings method

Intangible asset income approach valuation methods are particularly applicable in situations where the intangible asset is used to generate a measurable (and separately identifiable) amount of income.

## INTANGIBLE PROPERTY VALUE EXTRACTION METHODS

Many taxing jurisdictions do not tax intangible property from property taxation. However, property tax assessments are sometimes based on the unit valuation principle, which typically concludes a value for all of the taxpayer’s operating property (both tangible and intangible). For this reason, the value of intangible property may need to be subtracted from the total unit value.

There are several methods that may be applied to subtract intangible asset value from the unit principle valuation conclusion. These value subtraction methods include the following:

1. Direct subtraction method
2. Transfer price (income allocation) method

When selecting an intangible asset value subtraction method, the analyst should refer to any legal precedents or statutes in the subject taxing

jurisdiction. In the event the taxing jurisdiction does not have a subtraction standard or precedent, the analyst should select the subtraction method that makes the most sense for the analysis.

For example, the intangible asset may have no separately identifiable income stream. In such a case, it would be difficult to deduct a specific amount of income from the total unit operating income in the income approach, as would be the case with the transfer price (income allocation) method.

Not having an identifiable income stream does not necessarily imply that the asset is not an exempt intangible asset. The question of whether an intangible asset is taxable or not depends on the particular taxing jurisdiction.

## Direct Subtraction Method

The direct subtraction method is the simplest to understand. There are two factors of the direct subtraction method:

1. the synthesized value of the total unit (based on any/all unit principle valuation approaches), and
2. the synthesized value of all exempt intangible assets (based on any/all intangible asset valuation approaches)

The concluded value of the intangible assets is subtracted from the total unit value to conclude the residual value of the taxable property.

### Direct Subtraction Extraction Method Illustrative Example

Let's assume that the taxpayer refinery (the "Refinery") is assessed in its taxing jurisdiction based on the unit valuation principle. Let's assume that the local assessment authority values the Refinery total unit of operating property at \$1 billion as of the valuation date.

Let's also assume that intangible personal

property is not subject to property taxation in the Refinery's taxing jurisdiction. The Refinery owns internally developed software that is used in its operations. For simplicity, let's assume the Refinery does not have any other intangible property.

The Refinery retained an analyst to estimate the value of the internally developed software as of the valuation date. Based on this valuation analysis, the Refinery will exclude the value of the intangible personal property (i.e., the internally developed software) from the total unit value.

To value the Refinery's software, the analyst applied the cost approach, replacement cost new less depreciation method. The analyst concludes the value of the Refinery software, as of the valuation date, is \$160 million.

As presented in Exhibit 1, the valuation synthesis indicates a value conclusion of the Refinery total unit of \$1 billion. Subtracting the value of the software intangible personal property of \$160 million, yields a residual value of \$840 million for the Refinery taxable property (i.e., real estate and tangible personal property).

In this example, the software valuation analysis resulted in reducing the Refinery property tax assessment by 16 percent.

**Exhibit 1**  
**Assessment Authority's Valuation of Taxpayer Refinery Total Unit**

| Unit Principle Valuation Approach and Method   | Value Indication     |
|--|----------------------|
| Income Approach:   |                      |
| Yield Capitalization Method [a]  | \$1,100,000,000      |
| Direct Capitalization Method [b]   | \$900,000,000        |
| Sales Comparison Approach:   |                      |
| Comparable Sales Method [c]  | \$960,000,000        |
| Valuation Synthesis and Concluded Value of Refinery Total Unit   | \$1,000,000,000      |
| Concluded Value of Refinery Total Unit   | \$1,000,000,000      |
| Minus: Concluded Value of Refinery Computer Software [d]   | <u>\$160,000,000</u> |
| Equal: Residual Value of Refinery Taxable Property   | <u>\$840,000,000</u> |
| <p>[a] Based on present value of Refinery total net cash flow.<br/>           [b] Based on direct capitalization of Refinery total net operating income.<br/>           [c] Based on comparable sales of operating refineries and market-derived pricing multiples.<br/>           [d] Based on replacement cost new less depreciation method.</p> |                      |

## Transfer Price (Income Allocation) Method

The transfer price (income allocation) method (hereinafter called the “transfer price method”) assumes that an economic rent is charged to the taxpayer for the use of the intangible assets.

That rent (or “capital charge”) is subtracted from the total unit operating income. In other words, the transfer price method makes the assumption that if the taxpayer did not in fact own the intangible assets, it would have to rent those intangible assets from the marketplace at an arm’s-length price.

The total unit operating income is reduced by this intangible asset rent. The reduced total unit operating income is included in any income approach analysis or any sales comparison approach analysis applied to estimate the taxable property value. Since the intangible-asset-related income is excluded from the total unit operating income, no additional adjustment is necessary to subtract the value of the intangible assets from the total unit value.

### Transfer Price (Income Allocation) Extraction Method Example

In this example, let’s continue using the Refinery as the illustrative taxpayer. Let’s also use the same assumptions that were applied in the direct subtraction extraction method example.

In the transfer price method, the analyst will estimate a fair rate of return on the value of the Refinery’s computer software. The fair rate of return can be the taxpayer’s weighted average cost of capital (“WACC”) or some other industry/taxpayer return on investment measure. Let’s assume that the Refinery WACC is 12.5 percent.

If the concluded cost approach value of the Refinery computer software is \$160 million and the fair rate of return on investment on the Refinery’s computer software is 12.5 percent, then the annual transfer price (or economic rent) for the use of the software is \$20 million (\$160 million multiplied by 12.5 percent).

The Refinery’s operating income is reduced by this “rent” associated with the use of the computer software. The taxpayer may apply the same Refinery unit principle valuation income approach methods that the assessment authority applied to conclude the Refinery unit value. Of course, the operating income included in this income approach analysis is reduced by the rent (or arm’s-length transfer price) on the software intangible asset. The result of this adjusted application of the income approach is a Refinery unit value conclusion that has been implicitly reduced by the value of the software intangible property.

## SUMMARY AND CONCLUSION

Property owners and assessment authorities often have to consider the value of intangible property. Some taxing jurisdictions exempt intangible property from property taxation. And, some taxing jurisdictions tax intangible property for tax purposes.

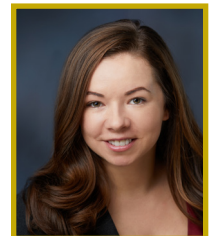
For property tax purposes, the industrial and commercial property of utilities, transportation, communication, and other similar utility-type properties are often assessed by applying the unit valuation principle. The unit valuation principle involves the collective valuation of all of a taxpayer’s operating property as a single “unit.” For this reason, property tax assessments that are derived using the unit valuation principle implicitly include the value of the taxpayer’s intangible property.

In jurisdictions that do not tax intangible property, property owners and assessment authorities should ensure that the value of any exempt intangible property is excluded from the unit valuation principle assessment. If the assessment includes exempt intangible property, the taxpayer should identify the intangible assets, value the intangible assets, and subtract the value of those intangible assets from the total unit value.

This discussion focused on the economic attributes that are necessary for the identification of intangible property. Additionally, this discussion summarized the generally accepted intangible property valuation approaches and methods. Finally, this discussion illustrated two methods for subtracting the value of the intangible property from the taxpayer’s total unit value.

### Notes:

1. Robert F. Reilly and Robert P. Schweihs, *Guide to Intangible Asset Valuation* (New York: American Institute of Certified Public Accountants, 2014), 2–3.
2. Robert F. Reilly and Robert P. Schweihs, *Best Practices: Thought Leadership in Valuation, Damages, and Transfer Price Analysis* (Ventnor, NJ: Valuation Products and Services, 2019), 288.



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