

# Valuation of Intangible Assets

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## Methods to Value Intangible Assets

### *Introduction*

For various tax and financial reporting reasons, the valuation of a company's intangible assets may need to be performed. Unlike tangible assets, intangible assets lack physical substance. Intangible assets may be categorized as marketing-related, customer-related, artistic-related, contract-based, or technology-based. The following chart includes examples of intangible assets:

Intangible Assets				
Marketing	Technology	Customer	Contract	Artistic
Trademarks	Patents	Customer lists	Licensing agreements	Literary works
Trade names	Trade secrets and know-how	Customer relationships	Service/supply contracts	Pictures and photographs
Trade dress	Software and databases	Backlog	Lease agreements	Audio-visual materials
Service marks	Formulas		Broadcast rights	
	Proprietary technologies		Employment contracts	
	Proprietary processes			

Select characteristics of intangible assets include:

- Legal rights or competitive advantages to the owner
- Purchased or developed by the owner
- A finite or indefinite life
- Transferability

The valuation of intangible assets requires the consideration of the three generally accepted approaches to valuation: the cost, market, and income approaches. Within these applications, however, are subsets specific to the valuation of intangible assets. The value of an intangible asset may be calculated through more than one method. Value indications that can be corroborated through more than one method increase the reasonableness of the value conclusion.

The income approach is the most commonly used approach to valuing intangible assets. Later in this article, we outline several income-based approaches to valuation. However, first we provide broad overviews of the cost and market approaches.

### *Cost Approach*

The cost to replace method is based upon the premise that a prudent buyer or investor would not pay more for an asset than the cost of producing a substitute asset with the same utility. An understanding of the time and costs required to rebuild the intangible asset are important inputs into the analysis. In some instances, obsolescence must also be considered, thereby reducing the value of the asset. Finally, a rate of return on investment is often applied. The rate of return gives consideration to opportunity cost, entrepreneur's profit, and other factors. The cost approach is commonly used to value intangible assets such as assembled workforce, software, and databases. The cost approach is especially useful in cases where the subject asset has not yet been commercialized.

### *Market Approach*

The market approach estimates the value of an asset through a relative analysis. A relative analysis can be performed when transaction prices involving similar intangible assets are available. Since detailed transaction data is often limited, valuing intangible assets through a direct application of the market approach is not typically possible. In certain instances, however, historical transaction prices of governmental licenses such as liquor licenses and water rights are publicly-available, and a direct market-based approach may be performed.

Market-based data may, however, be used as inputs into an income approach valuation analysis. For example, as discussed subsequently, a licensing arrangement between two unrelated parties may provide market-based data that can be used in the form of a royalty rate. Additionally, arm's length real estate leases between unrelated parties represent market-based data. When market-based data is available, the market approach and income approach are often used in combination.

Separately, market-based data is often considered to develop important inputs relative to intangible asset valuation, specifically in the development of prospective financial information and cost of capital.

### *Income Approach*

As mentioned, income-based approaches are most commonly used to value intangible assets. An income approach technique is best used when the intangible asset is income producing or generates cash flow. Among the most common income-based methods are the **Relief from Royalty**, the **Multi-Period Excess Earnings**, **Greenfield**, and **Avoided Loss of Income** methods. Each method is further discussed below.

The **relief from royalty method** quantifies the value of an asset by estimating hypothetical royalty payments for the use of an asset. The relief from royalty method calculates the present value of cost savings created by owning the asset. Cost savings in the form of a royalty payment are typically based on a percent of revenue or profit. Actual licensing agreements of the subject asset may provide the best indication of at-market royalty rates. Often times, however, companies do not license their intangible assets to unrelated third-parties; therefore, one must look to precedent licensing agreements of comparable assets. Various databases are available to extract this information. Further analysis must then be conducted in order to compare the subject asset to the comparable licensed assets. Judgment must then

be made as to whether the subject asset is more or less attractive than the comparable licensed assets and adjustments to market evidence made accordingly. The selected royalty rate is then converted to a royalty stream which must be discounted to its present value over the remaining economic life of the intangible asset at the appropriate risk-adjusted discount rate. In general, goods and services that generate higher profit will command higher royalty rates. Intellectual property such as tradenames, patents, and other proprietary technologies are often valued using a relief from royalty method.

The **multi-period excess earnings method (or “MPEEM”)** isolates the portion of cash flow that can be directly associated with the subject asset. This is accomplished by deducting “expenses” for portions of the cash flow that may be attributed to other assets. Reductions to the earnings stream for the use of other assets are referred to as contributory asset charges.<sup>1</sup> The resulting excess earnings stream is deemed to represent the income applicable to the subject asset and is then discounted to its present value using an appropriate risk-adjusted discount rate. The MPEEM method is commonly used to value customer-related intangible assets such as customer relationships and order backlog. It is also often used to value developed technologies and other assets.

The **greenfield method** quantifies the value of the subject asset based on the discounted cash flows of a hypothetical start-up business. The key assumption is that the subject asset is the only asset owned at the outset. The analyst must contemplate a stream of cash flows which considers the cost of building out all infrastructure required to support a business, as well as the related ramp of revenue. There is a moderate to high degree of subjectivity associated with the projection scenario, thus it is recommended that the analyst use extreme care and judgment to ensure all assumptions are well grounded. The resulting income stream is then discounted to its present value using an appropriate risk-adjusted discount rate. The greenfield method is commonly used to value FCC licenses, although it is not limited to this application.

Lastly, the **with-and-without method**, also sometimes referred to as a differential method, quantifies the value of an asset by comparing two scenarios. In one scenario, the present value of cash flows to a business enterprise assuming ownership of the subject asset is quantified. In the second scenario, the hypothetical present value of the cash flows to the business assuming the subject asset does not exist (at the outset). The loss of the subject asset may have a negative effect on the company’s economic returns, such as a reduction to revenue and/or an increase to expenses. The value of the subject asset is based upon the difference between values indicated by these two scenarios and is often probability adjusted to reflect the likelihood of occurrence. The with-and-without method is commonly used to value intangible assets such as non-competition/employment agreements, licensing agreements, and supply agreements.

### *Conclusion*

In summary, the value of an intangible asset is primarily generated by the economic benefit conveyed to the holder. The stage of development, type, and nature of the intangible asset, among other factors, dictate the appropriate valuation methodology to use. Various income-based methods can be used to value intangible assets while certain assets may be best valued through a cost approach. Market approaches generally are not practical due to a lack of available transaction data. However, certain market driven

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<sup>1</sup> The application of contributory asset charges is beyond the scope of this article.

inputs are readily available and useful as inputs into the income and cost approach models. Lastly, it may be useful to consider calculations of value through more than one method in order to assess the reasonableness of the value conclusion.

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