

## VALUING GROWTH COMPANIES PART III

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*James P. Catty*

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Accounting is a conservative profession, supposedly the second oldest, and since the days of tokens for keeping track of inventory over 6,000 years ago, before writing, money or even the concept of numbers, we have been taught to record only things we can see, touch, or feel - in short tangible assets; this is also a sound way to cover one's derriere.

Therefore, unless they have been acquired in a transaction, such as a Business Combination we have excluded a firm's intangible assets from its Financial Statements. Until recently, intangibles were often lumped together with Goodwill. Therefore, to financial analysts, a Balance Sheet is similar to a bikini: it discloses a lot, but conceals the essentials.

Goodwill is commonly considered to be all the factors, which cannot be individually identified and valued, which contribute to the earning capacity of an entity. In a business combination, goodwill is represented by the difference between cost and the acquirer's interest in the identifiable, both tangible and intangible assets and liabilities.

The result is that the shareholders' equity according to accountants (Book Value) differs substantially from the same equity established by the stock market (Market Capitalization). Knowledge Assets, which under SFAS 141 and 142 are now required to be separately recorded as Intangible Assets when acquired, form a significant portion of the difference.

While most valuers looking at software companies rely on the Discounted Cash Flow Value of the total firm, we believe that all three traditional approaches can be successfully applied and that all the Intangible Assets, recorded or not can be reasonable valued.

### **Classifying Assets**

Traditionally, accountants have classified assets by their liquidity: Current, Capital (Property, plant and equipment), Deferred: (Costs that create benefits in the future) and Intangible (a catchall of purchased items, mainly Goodwill, that are amortized over their economic lives). After careful consideration we prefer to look at assets according to their characteristics: Financial, Physical (includes inventories), Legal/Separable (SFAS Intangible Assets) and Intellectual (covers Goodwill, Systems, Workforce as well as Alliances & Opportunities etc.). These groupings should be broad, and for example, include in inventories residual costs of a TV series that would be recovered out of syndication revenues.

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Various sources have listed more than 90 types of legal/separable and intellectual assets; every firm will have some of them. Yet companies often fail to take advantage of their Knowledge Assets, simply because they have never identified them and investigated their possibilities.

### Value Drivers

Over the longer term, every business aims to increase its value. Public companies aim to do so by supplying information to analysts and shareholders, sometimes with a spin. Surprisingly, managements often ignore the importance of their firm's Knowledge Assets and base their performance measures on Book Values even though they only represents a portion of the Market Capitalization.

Today, for many companies the amounts invested in Knowledge Assets, which by accounting convention are usually expensed, exceed those made in tangible (financial and physical) assets. Arthur Levitt, when Chairman of the SEC said "As intangible assets continue to grow in both size and scope, more and more people are questioning whether the true value - and the drivers of that value - is being reflected in a timely manner in publicly available disclosure." As a result, ROI is no longer very useful, as both, the return and the investment components, now deviate from historical norms.

Financial analysts, even though under fire for supporting their firm's investment banking activities, use both financial and non-financial performance measures in assessing a firm's position; some studies attribute up to 35% of institutional investors' decisions to non-financial factors. In 1997 Ernst & Young obtained the views of investors regarding various Value Drivers for durable and non-durable manufacturers, as well as e-Commerce companies; the following table sets out their rankings together with the results of a 1996 survey of corporate managements by Forbes.

	<b>Ernst &amp; Young</b>			
	<b>Durable</b>	<b>Non-Durable</b>	<b>e-Commerce</b>	<b>Forbes</b>
Alliances	4	6	1	8
Brands	7	7	4	5
Customers	9	9	3	1
Employees	2	3	n/a	2
Environment	6	5	n/a	10
Financial	n/a	n/a	n/a	5
Innovation	1	1	2	4
Management	3	2	5	n/a
Quality	5	4	n/a	9
Suppliers	n/a	n/a	n/a	3
Technology	8	8	6	7

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The differences between the rankings seem to reflect a significant dichotomy between the views of managements and investors.

### *Valuing Intangible Assets*

For accounting purposes Intangible Assets have to be valued when acquired so that they can be carried at Fair Value. Most of the standard valuation methods can apply to Intangible Assets: Capitalized Earnings, Comparables, Discounted Cash Flows, Rules-of-Thumb, Replacement/Reproduction Cost; each has its strengths and weaknesses. It is advisable to use more than one, as appropriate for the item, or the particular situation. For valuations of intangibles courts and tax authorities have tended to concentrate on the following characteristics:

- Importance to the products, services or processes;
- Revenues, income or cost savings expected from its use;
- Its economic life;
- Competitive alternatives to its use.

The valuation process usually begins by analyzing the industry and the market in which the Intangible Asset will be used. Market size and prevailing economic conditions help establish how much impact the Asset may have on the market position of the firm, how long it will take to achieve that situation, and the available competitive advantage.

Other important factors are: the distribution networks and supply chains in which the firm participates, its manufacturing capability & capacity, management structure and financial status as well as the products' position in their life cycles.

The various methods, and when each is appropriate, are best understood within the traditional framework of three approaches: cost, which represents the effort to recreate the asset; income, reflecting the future economic benefits; and market, based on transactions in comparable assets.

### **The Cost Approach**

The Cost Approach is based on the following seven concepts:

- Substitution - The maximum amount a prudent buyer will pay for a Knowledge Asset is the cost to construct or develop an Asset of equal functionality and utility, allowing for time-to-market.
- Supply & Demand - Shifts in supply or demand can cause costs to increase or decrease, and changes in the need for, and the supply of, different Knowledge Assets.
- Externalities - External factors may cause a newly created Knowledge Asset to be worth more than its original cost.
- Functional Deterioration - The inability of a Knowledge Asset to continue to perform the function, or offer the utility for which it was originally designed.

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- Technological Obsolescence - The result of improvements in design, engineering, or technology leading to a replacement being more productive than the Asset; this is often considered a specific form of Functional Deterioration.
- Physical Decline - A reduction in the functionality or utility of the Knowledge Asset due to age, leading to higher maintenance costs.
- Economic Depreciation - A reduction in the value of the Asset due to changes in the external situation rather than from its current use or condition, and thereby beyond the control of the owner; generally considered incurable.

While three methods may be chosen under this approach: original, reproduction and replacement costs, the last is most common. This is the amount required to obtain the functionality and utility of the asset, even though its form and appearance may be quite different from that of the item being valued. Functionality, an engineering concept, is the ability of an asset to perform the task for which it was designed (effectiveness). Utility, an economic concept, covers the ability of another asset to provide equivalent satisfaction as the original (efficiency).

All three methods require a comprehensive definition of cost, not only hard (materials) and soft (engineering, design, labour and overhead) costs, but also the creator's profit, and sometimes an entrepreneurial incentive to motivate the development process. This approach also covers cost avoidance due to ownership of the Asset eliminating existing or prospective expenses.

The replacement asset would use modern methods, be developed according to current standards, state-of-the-art design and layout, and of the highest possible quality. Its cost typically is the maximum amount a prudent investor will pay for an item. If the item is less useful than a new replacement, its value must be reduced for: Functional Deterioration, Technological Obsolescence and Economic Depreciation. In estimating such amounts, its actual age and expected remaining useful life are important.

All assets have deficiencies; these are considered curable when the projected future economic benefits of enhancing or modifying it exceed the current cost of the material, labour and time required. For valuation purposes, they are regarded incurable when such costs exceed the benefits.

Fair Market Value is obtained from Replacement Cost - New, by the formula shown below, together with illustrative amounts:

### **The Income Approach**

The Intangible Assets owned by a firm are one of the most important contributors to its Market Capitalization. This is due to their ability to: increase income, reduce costs, avoid paying others for the same functionalities and utilities. The income approach is based on the concept that the value of an asset or business represents the future economic benefits available to its owners. The

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various methods used fall into two categories: capitalization of current, and discounting of future benefits.

In capitalization methods, the valuator estimates a measure of the economic benefits for a single period, usually the year ending at the Valuation Date, and then divides that figure by an appropriate Capitalization Rate. Discounting methods require a projections, for several periods, the appropriate the benefits; these are then converted into a present value by discounting at the required rate of return. This may be in perpetuity or for a specified period, depending upon the expected duration of the benefits. The present value of any tax shields, and, if benefits continue after the projected periods, the Terminal Value, are then added.

The measure of the economic benefits chosen depends on the purpose and the method selected. The projection period and whether a Terminal Value is appropriate depend on the situation. Measures for valuing Intangible Assets include: Revenues, Net Revenues, EBITDA (Earnings before Interest, Taxes, Depreciation & Amortization), Operating Profit (Before Interest, Taxes and Other Income), Pre-tax Profit, Net Income, Operating Cash Flow (Operating Profit plus Depreciation & Amortization), Net Cash Flow (Net Income plus Depreciation & Amortization together with changes in non-cash working capital), Free Cash Flow (Net Cash Flow less mandatory debt repayments and maintenance capital expenditures), Incremental Income (Increase in revenues related to the use of the Asset less direct costs), Cost Savings (Reduction in otherwise required investment or operating expenditures)

As many different measures of economic benefits may be used in the income approach, an essential element in its application is to ensure that the Discount or Capitalization Rate selected is consistent with the measure of the benefits chosen. Either directly capitalizing or discounting the expected future economic benefits gives an indication of the value of the Asset.

### **Determining Appropriate Capitalization or Discount Rates**

Valuation theory and practice have established that the appropriate rate of return for valuing an investment is the related cost of capital. Depending on the measure of economic benefits adopted, this figure may include both debt and equity elements, thus reflecting how the Asset has been financed. In general, Intangible Assets are supported only by Equity.

The rate of return required by an investor has four components:

1. The general level of medium-term risk-free interest rates.
2. A premium that takes into account the financial risks relating not only to traded shares, but also the size of the firm.
3. Specific increments to reflect business risks.
4. A deduction to allow for the expected earnings growth.

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The Build-up method is normally used to develop a rate from those components; it establishes an amount for each of them separately. Various techniques are used to establish the increments for the business risks of private companies or their assets; CVS applies a range of one to ten to each specific risk, with the increments rising from 0% to 4.5%, in 0.5% steps.

The specific business risk factors considered should include:

- Industry (ease of entry, technology in use)
- Nature of the Asset (legal protection, purchased or created)
- Diversification (product lines, types of customers)
- Management (skills/experience)
- Capitalization (debt/equity ratio, cash flow coverage)
- Dependence (customer/supplier)
- Environmental Impact (legal framework, regulations, permits)
- Geographic Locations (concentration, distance from markets)
- Profit Margins (levels, variability, operational gearing)
- Regulatory Situation (statutory requirements, union contracts)

Based on these factors, an appropriate Capitalization or Discount (which excludes the growth component) Rate may vary greatly. An established Intangible Asset, such as a widely licensed patent, may use an industry rate, while knowhow in an emerging technology, with potentially high obsolescence, will require a greater return.

Establishing the Capitalization or Discount Rate for an Intangible Asset is normally a two-step process. First, an appropriate rate, which reflects its unique risks, is developed for the entire business. This is then adjusted to represent the situation of the specific Asset and the measure of economic benefits selected, by identifying and quantifying the relative risks.

A major characteristic of Intangible Assets recognized by FASB is that they have a legal identity or can be separated. In any valuation assignment it is essential to determine all the assets, recorded or not, that are owned by a business and their estimated useful lives.

### Terminal Values

A Terminal Value can be estimated in several ways. The most common is capitalising the final cash flow, but multiples of net income, EBIT or EBITDA, are often used as well as net tangible assets. The implicit assumption is that at the end of the forecast period, the business, could be sold for a multiple of earnings based on publicly traded guideline companies or at least Book Value. If continued real growth is assumed, working capital needs, capital expenditures and tax payments have to be built into the cash flow.

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For Intangible Assets with relatively short useful lives, it is often assumed the benefits remain unchanged at the level of the last year of the projected period for the remainder of their life.

### **Avoided Royalties**

In this method, the value of an Intangible Asset is estimated by capitalising the royalty income the owner could earn if it were licensed to a third party; this is assumed to be the amount the owner avoids having to pay others for its use. Although it is difficult to estimate the royalty rate and the additional revenues a purchaser could generate, there are some helpful databases.

### **Incremental Profitability Method**

This method establishes the value of some Intangible Assets by comparing the operating performance of the business that owns them with that of comparable firms without them. The value is the incremental Net Income from owning the Assets capitalized at suitable rate. This method requires intricate assumptions and comparisons, as well as subjective judgements.

### **The Market Approach**

A value based on actual arm's length transactions is preferable to one based solely on investment criteria. In any valuation it is desirable to apply the market approach, using information on both sales and license transactions. The process is as follows:

- Research available databases for information on sales or license transactions, listings and offers to purchase or license comparable Knowledge Assets. Comparability is based on factors such as the type of Asset, its use, the industry in which it functions, and the date.
- Select a relevant unit of comparison (e.g. income multiples, royalty rates, or dollars per unit) and develop a comparative analysis.
- Compare guideline sales or licenses with the Asset using the selected unit of comparison, after appropriately adjusting each guideline; without this guidelines are not useful.

The factors set out below are generally used in selecting and analyzing guideline intellectual property sales and licenses:

1. The specific rights of ownership conveyed;
2. Special financing terms or other arrangements;
3. If the sale or license is at arm's length;
4. Market conditions at the time of the transaction;
5. The industry in which the guideline intellectual property was or will be used;
6. A comparison of the physical, functional, technological and economic characteristics of the guideline property with those of the Asset;
7. The inclusion of other items in the guideline transaction, such as the sale of a bundle or portfolio of physical as well as legal and intellectual assets.

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The last phase of the market approach is the reconciliation of the values that have been derived from the guideline transaction to reach an overall conclusion. In this, the valuator summarizes the empirical data, reviews the analyses, considers the strengths and weaknesses of each transaction as a guideline and examines the re-liability and appropriateness of the material.

To conclude let's look for "the gold in them thare hills", Balance Sheets in our case; looking for something precious is always hard work, but I hope that your quest will not end as Humphrey Bogart did in "The Treasure of the Sierra Madre", but like the successful forty-niners, make it to The Promised Land.