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Intangibles: The Next Frontier in Stock Valuation

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Over the last few decades, the U.S. economy has undergone a radical transformation from an industrial/manufacturing economy to a services-based economy. The magnitude of this transformation has been dramatic, as illustrated by the chart below which shows the share of the services sector relative to manufacturing.

Transition from a Manufacturing Economy to an Information-Based Service Economy

Source: Bureau of Economic Analysis
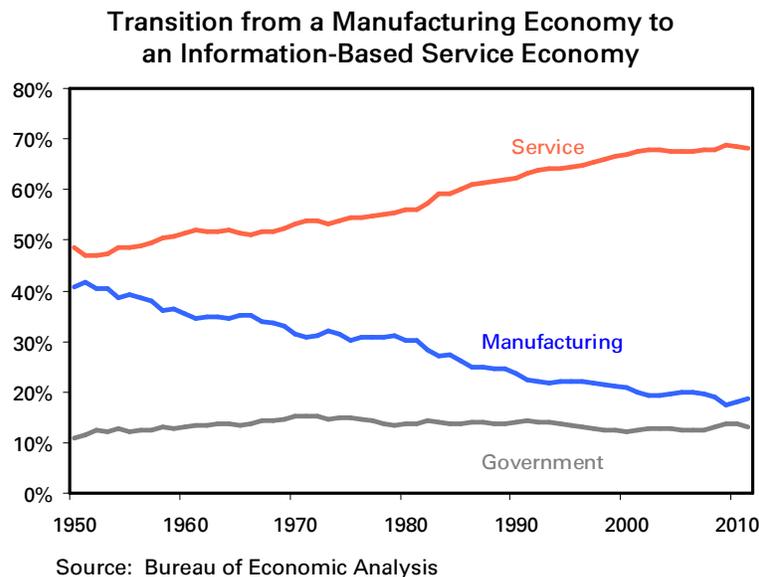
Current accounting standards were first developed during the industrial era and were designed for companies that were engaged primarily in manufacturing activities. These standards have not kept pace in an increasingly services-based economy characterized by rapid technological and financial innovation.

During the past thirty years, investment in intangible assets (i.e., research and development, advertising, brand equity, and patents) by U.S. companies has grown steadily. According to a study done in 2003 by the Federal Reserve Bank economist, Leonard Nakamura, U.S. companies now spend $1.1 trillion per year on intangible assets, about 10% more than the amount they spent on tangibles assets. He also calculates that more than one-third of the value of U.S. companies is now attributable to intangible assets.

The charts below show the increasing amount of investment in three types of intangibles assets (advertising, research & development, and software), both on an absolute basis and on a relative (to GDP) basis. The magnitude of the increase is quite evident.
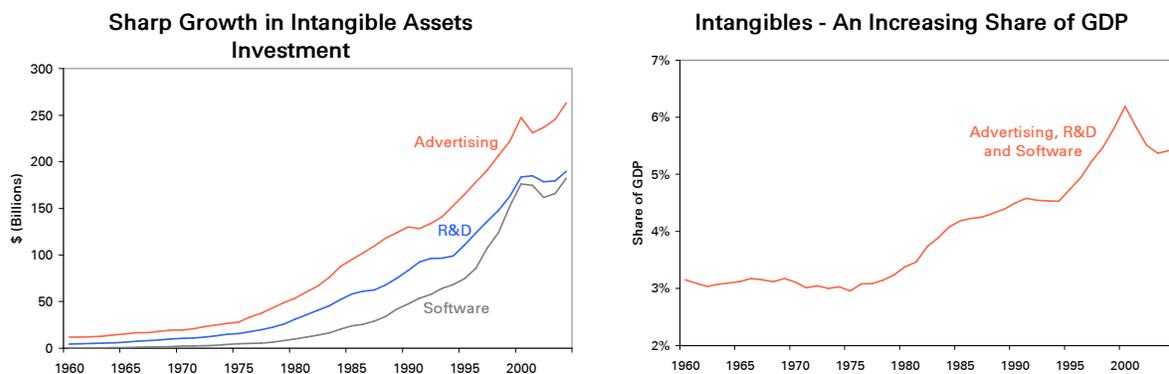
Source: Leonard I. Nakamura, Federal Reserve Bank of Philadelphia.

The increasing importance of intangibles was recognized by FASB in June 2001 when it issued Financial Accounting Standard (FAS) 142. This standard requires companies to estimate a fair value for *acquired* intangible assets on an ongoing basis. In issuing the Standard, FASB said "Intangible assets are an increasingly important economic resource for many entities . . . as a result, better information about intangible assets is needed." To date, FASB has not developed any standards requiring companies to assign a fair value to their *internally developed* intangible assets, although it has had a wide ranging discussion on the topic.

The shortcomings of the current accounting standards in terms of providing useful information regarding valuable intangible assets are summarized in the following table.

What Accounting Data Show	What Really Matters
History	Future
Cost	Value
Inventory	Information
Sales	Brand Equity
Machinery & Equipment	Technology & Patents
Number of Stores	Customer Information
Size	Competitive Advantage

In the next section, we discuss how equity investors can overcome the limitations of accounting data regarding intangible assets and make intelligent stock selection decisions.

Incorporating Intangibles into a Stock Selection Process

It would take years to agree on standards for valuing intangibles. However, it is possible to design techniques right now to incorporate intangibles into a logical investment decision making process without assigning precise values to intangibles. One such technique developed by the author is described below.

This technique takes the view that assigning a dollar value to each intangible is an impractical idea at this time. Instead, it focuses on the impact of a company's intangibles on its business quality and value. For example, pharmaceuticals enjoy the benefits of barriers to entry made possible by patents. Brand-oriented companies, e.g., Coke, experience long periods of competitive advantage sustained by their investment in advertising over the years. Pricing power is an advantage for companies like Gillette and Starbucks, which enjoy relatively inelastic demand for their products.

We believe that great businesses have some or all of the following intangible characteristics:

- High Barriers to Entry;
- Low Barriers to Exit;
- Value Added Products;
- High Degree of Scalability;
- Few and Weak Competitors;
- Diverse and Fragmented Customer Base;
- Significant Pricing Power;
- Long Period of Competitive Advantage; and
- Strong Market Position.

We convert this thinking into a framework for calculating a *Business Quality Score™* based on these intangibles, as described below. We start by assigning each company a score on a scale of 1 (least desirable) to 5 (ideal) for each of the intangible factors. This is explained below with the help of an example for Moody's, a leading company in the bond rating business.

Factor	Score	Rationale for Scoring
Barriers to Entry	5	Difficult to get SEC approval
Barriers to Exit	4	Low fixed costs
Value Added	4	Essential service with no substitutes
Degree of Competition	5	Only three suppliers (Moody's, S&P, Fitch)
Pricing Power	5	Oligopoly, fragmented buyers, and inelastic demand
Sustainability of Advantage	5	Stable nature of business combined with High ROIC
Competitive Positioning	5	Moody's is a leader in the industry.

In this example, Moody's gets a composite score of 33 (out of a maximum total of 35). This exercise is conducted for each company. Then the composite *Business Quality Score*™ is used as one of the several explanatory variables in a regression model to identify stocks that are undervalued relative to their characteristics.

Integrating Intangibles into a Stock Valuation Model

An example of a regression model that includes the *Business Quality Score*™ is specified below.

$$P/E = \alpha + \beta1 \text{ (Business Quality Score)} + \beta2 \text{ (Factor 2)} + \beta3 \text{ (Factor 3)} + e$$

It is possible to show the similarities and differences between this model and a standard discounted cash flow model, e.g., the dividend discount model. To do that, we start with the dividend discount model as shown below.

Dividend Discount Model
$$P = D / (k - g)$$

By rewriting dividends as earnings multiplied by the payout ratio, we get:
$$P = (E * \text{Payout Ratio}) / (k - g)$$

Dividing both sides of the equation by E, we derive the following equation.
$$P/E = \text{Payout Ratio} / (k - g)$$

In its functional form, this equation can be written as follows.
$$P/E = f \text{ (Payout Ratio, Discount Rate, Growth Rate)}$$

Our view is that Discount Rate in the Dividend Discount Model is essentially a proxy for the Business Quality Score in our model. Therefore, the dividend discount model can be thought of as being equivalent to our regression model, with the following three factors.

 Factor 1: Business Quality Score
 Factor 2: Payout Ratio
 Factor 3: Growth Rate

The regression model specified above can be used to identify undervalued stocks, i.e., stocks that are selling at P/E ratios that are lower than expected when intangibles, measured by Business Quality Score, are taken into account.

Summary

Current accounting standards shed little light on intangibles. Even though it is impossible to measure the value of intangibles precisely, it is essential for investment professionals to come up with a logical approach to incorporate intangibles into their decision making; otherwise they risk being relics in the age of information.