

# C-STORE VALUATIONS

Dear Reader:

Thank you for your interest in our Whitepaper, "Intangible Asset Value in Special-Built Business Enterprises". Enclosed is your complimentary copy. We hope you will find it helpful and informative. This paper explores the micro-economic foundations of how excess earnings are created for retail real estate in perfectly competitive markets.

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4. What Should be in an Appraisal of a C-Store: A Lender's Perspective
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All the Best.



Robert E. Bainbridge MAI, SRA, MRICS  
C-Store Valuations



# **WHITEPAPER NO. 3**

## **INTANGIBLE ASSET VALUE IN SPECIAL-BUILT BUSINESS ENTERPRISES**

By  
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# **Microeconomics: A Missing Link ?**

**In Intangible Asset Value in Special-Built Properties**

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## Summary

This paper examines the potential existence of intangible asset value in special-built properties in perfectly competitive markets, regardless of the actual enterprise ownership or the business management's economic performance in operating the property.

A practical and useful methodology of separating earnings to real estate and earnings to intangible assets is presented. It is the understanding of how microeconomic principles relate to real estate markets that allows this allocation of earnings to be made.

Real estate appraisers can make an important contribution in this area of measuring certain types of intangible asset values.

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Intangible asset value can exist for certain types of real estate or in certain real estate markets regardless of the branding, ownership or operating efficiencies from management for the individual firm. But, perhaps no subject in appraising today generates more debate than the topic of business enterprise value, or the value associated with intangible assets. The Appraisal Institute's, *A Business Enterprise Value Anthology* states in the first sentence of the preface that the issue is “..quite controversial.” (Lenhoff, 2001) A former editor for the *Appraisal Journal* uses very vitriolic language to insist that business enterprise value does not exist at all<sup>1</sup> (Marchitelli, 1996). The argument goes that if a value premium exists because of excess earnings, the extra value is entirely attributable to the land, not the intangible assets.<sup>2</sup> (Lenhoff, 2001)

Indeed, no topic in our industry deserves more attention today than the subject of separation of intangible asset values because of the approaching juggernaut of Valuation for Financial Reporting (VFR) and the adoption in the U.S. of International Financial Reporting Standards (IFRS) where corporations will book

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<sup>1</sup> *How Should Appraisers View Business Enterprise Value?* Richard Marchitelli Letter to the Editor. *Appraisal Journal* July, 1996. Appraisal Institute. Chicago, IL.

<sup>2</sup> *A Business Enterprise Anthology*, op. cit.

their assets at fair value. Although not finalized, the IFRS definition of fair value is not the specific value to an individual business or enterprise ownership. In comment letter to the Financial Accounting Standards Board, Appraisal Institute President Mr. Bruce Kellogg stated, “...*real estate’s market value does not change with the owner...*”<sup>3</sup>. (2005) This paper examines the potential existence of intangible asset value associated with the fee simple ownership of the real estate. As of today, the concepts outlined in this paper are not addressed in the VFR discussion taking place in the U.S<sup>4</sup> (King, 2006) . Yet, they should be. Real estate appraisers can make an important contribution in this area of measuring certain types of intangible asset values.

This paper lays a foundational basis for examining intangible asset value associated with special-built properties by incorporating the principals of micro-economics, a field of study required by all undergraduate business students, but one that has been either forgotten and neglected by most of our appraisal literature.

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<sup>3</sup> Letter from Appraisal Institute to Financial Accounting Standards Board regarding Proposed SFAS 141 Business Combinations Revision. Dated October 26, 2005. Published on the Valuation for Financial Reporting web site of the Appraisal Institute. See [www.appraisalinstitute.com](http://www.appraisalinstitute.com).

<sup>4</sup> *Fair Value for Financial Reporting: Meeting the New FASB Requirements*, Alfred King, John Wiley & Sons Inc. 2006. Is the most important work of its kind to date. Intangible asset values associated with real estate are not discussed.

## ***Special-Built Properties***

This paper focuses on “special-built” properties where the improvements are constructed for a specific economic pursuit and the improvements can not be easily adapted to other uses. Examples include gas stations, car washes, theaters and some types of fast food restaurants, among others. To facilitate discussion in this paper and because it is the primary area of interest for this author, convenience stores will be used as the illustrative property type.

However, the principal conclusions in this paper can be equally applied to the analysis of any special-built real estate.

## **Microeconomics: The Missing Link**

First, it is necessary to re-acquaint ourselves with a subject we had in our undergraduate education. Microeconomics is the study of supply, demand, price and competition at the firm-level. When viewed through the lens of micro-economic principals, intangible asset value comes more clearly into focus.

Any college-level course in microeconomics introduces the student to three types of market structures, *perfectly competitive*, *oligopolistic*, and *monopolistic*. What we understand about the origination economic profit for a particular business depends very much on which one of these three market structures the operation

and real estate falls into. A brief recounting of these three market structures is helpful for establishing a broad context to our thesis. However, for reasons discussed later, of the three, convenience stores operate in perfectly competitive markets. Let's look at the other two first.

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**“Important to our discussion is the slope of the demand curve...”**

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### *Oligopolistic Markets*

Oligopolistic markets are characterized by a few suppliers. Examples include automobile manufacturers and petroleum suppliers (oil companies). Entry into these markets may be limited by the requirement to build large, expensive plants, or limited access to patents or scarce raw materials. Using the oil companies as an example, in the last 20 years no oil refinery has been built in the U.S. No matter the reason, this gives the major oil companies an economic advantage because of increasing demand for refined oil and a limited supply. Oligopolistic markets tend to have rigid and stable prices. We would expect firms to earn economic profits in oligopolistic markets where demand for the good or service is present.

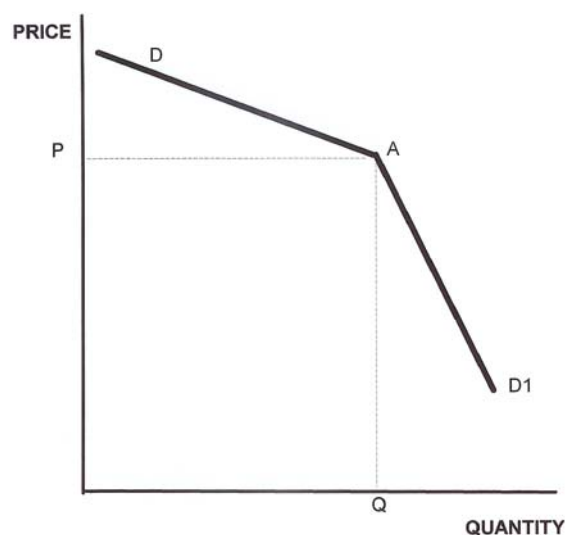
Important to our discussion is the slope of the demand curve for firms in each of these market structures.



The demand curve of the oligopolistic firm is more sloped than the firm in a perfectly competitive market, but less sloped than monopolistic firms. This is due to the *price elasticity of demand*. The price elasticity of demand measures the sensitivity in quantity demanded to changes in price<sup>5</sup> (Mansfield, 1977). A perfectly inelastic demand possessed by a true monopoly would be represented by a vertical demand curve. In theory, this would be one supplier of a good or service that customers had required regardless of price. The good or service could be sold at any price with little regard to price. Conversely, a perfectly inelastic demand, where many substitute suppliers exist in a perfectly competitive market, would be represented by a horizontal demand curve.

In Figure 1, DAD1 is the demand curve typical of oligopolistic market structures. The market price is OP. For the firm in an oligopolistic market, the demand curve is kinked. One common explanation for this is that if an oligopolist cuts prices he or she

**Figure 1**  
**Oligopolistic Firm's Demand Curve**



<sup>5</sup> Mansfield, Edwin, *Principles of Microeconomics*, Prentice Hall, New York, NY 1977 pp 257.

can be sure that rivals will meet the reduction. On the other hand, if he or she increases prices, rivals may not change theirs. For this reason, the demand curve is kinked at the market price because economists believe that the demand curve for an oligopolist's product is much less elastic for price decreases than price increases. Because the marginal revenue curve (not shown) is broken into two segments the optimal output is point "A". The optimal output is maintained even if marginal costs or the demand curve shifts widely.<sup>6</sup> (Mansfield, 1977) Put another way, the firm's profitability is maintained even with substantial shifts in market demand.

Because of the slope of the demand curve, a number of generalizations can be made about oligopolistic market structures.

1. Prices are likely to be higher in oligopolistic markets than in perfectly competitive markets.
2. Output will be less in oligopolistic markets than in perfectly competitive markets.

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<sup>6</sup> Mansfield, op. cit.

3. Profits earned by oligopolies are likely higher on the average than profits earned by firms in perfectly competitive markets.<sup>7</sup> (Bain, 1951)

So, the potential for and ability to sustain economic profit is higher with firms in oligopolistic markets than for firms in perfectly competitive markets.

### *Monopolistic Markets*

A monopolistic market is a market where there exists one, and only one, seller. Monopoly and perfect competition stand as polar opposites. Although a monopoly by definition has no direct rivals, some restraint is imposed indirectly by substitutes for the good or service. A regional shopping mall may be the only one in a given geographic area. However, the non-aligned independent retailers still provide resident customers with an alternate purchase choice.

Monopolies may occur when firms enjoy an exclusive patent on a product or when the total supply of inputs is controlled by the firm. For some goods and services, the government may be the only provider and thus represent a

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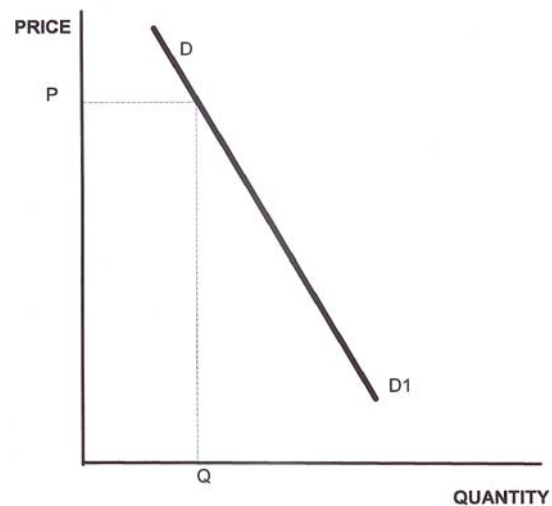
<sup>7</sup> Joe Bain, "Relation of Profit Rate to Industry Concentration: American Manufacturing, 1936 - 1940", *Quarterly Journal of Economics*, August, 1951. Bain found that firms in industries in which the largest few firms had a high proportion of total sales tended to have higher rates of returns.

monopoly. Although not common on a large-scale, retail properties occasionally enjoy a form of monopoly because of location.

For all three market structures, profits are maximized where marginal cost equals marginal revenue. Output is set to this level. The slope of the demand curve is not kinked as in oligopolistic markets, but it is sloped steeply to vertical. A true vertical demand curve would show perfectly inelastic demand. In other words, the firm could charge any price it wanted and demand would remain constant. In reality, because of the competitive pressure of substitute products, the demand curve DD1 is something less than vertical.

**Figure 2**  
**Monopolistic Firm's Demand Curve**

The demand curves for monopolistic firms have more slope than either oligopolistic or perfectly competitive firms. The slope of the monopoly firm's demand curve allows us to reach the following general conclusions:



1. The most significant contrast of monopolistic markets compared to perfectly competitive markets is monopolistic markets may enjoy economic

profits over the long-run, or indefinitely. Monopolistic firms have the potential to earn higher economic profits than oligopolistic firms because of the steeper slope of the demand curve.

2. Prices tend to be higher and production output lower for monopolistic firms as compared to perfectly competitive firms.

### ***Perfectly Competitive Markets***

Economists say that the basic feature of perfectly competitive market structures is their impersonality. Of the three market structures, convenience store markets more closely resemble perfectly competitive markets. Perfectly competitive markets have the following characteristics:

a. *Many buyers and sellers*

No single buyer or seller dominates the market to the extent that they can control pricing or output for the entire market. In fact, the number of buyers and sellers is so large that every seller must take whatever the current price in the market happens to be. In other words, firms are “price takers”. Firms by themselves do not have the ability to set prices.

This is certainly the case with convenience store operators in most sub-markets. A convenience store operator can not raise the price of gasoline by \$1.00 per gallon when he or she chooses because the store's customers will shop at a competitor's store.

b. *Homogeneous product*

The market basket of products sold in perfectly competitive markets are not distinguished. Specific products are pretty much similar to other specific products offered by competitors. This is very much the case for convenience store markets. A package of Twinkies or a hot dog in a 7-Eleven store is pretty much the same as would be found in a Circle K store. In response to discounters, such as Walmart selling unbranded gasoline, the major oil companies have launched multi-million dollar ad campaigns to convince consumers that their brand of gasoline is of higher quality. Shell has their "V-Power Additive" and Chevron their "Tectrol". Sales figures show that consumers still view price, not quality, as the primary determinant of where they buy gasoline. The hypermarket, such as Walmart and Costco continue to expand their market share of total U.S. gasoline sales.

c. *Perfect information*

Today, we are in the Information Age. The advent of the Internet and global communication has allowed almost every business to be keenly aware of what is happening around them. The National Association of Convenience Stores publishes their *State of the Industry Report* every year, which is the operating standard of the industry. Nearly every metric of a convenience store operation is published. The Oil Pricing Information Service (OPIS) is the industry's primary source for gasoline market information, showing retail prices and retailer profits in all major markets. Although this type of information was difficult to obtain 20 years ago, it is widely available today. Little happens in the convenience industry that is not soon known by everyone.

d. *No transaction costs*

This characteristic does not refer to sale commissions or taxes on transfers. It simply means that the price paid for a transaction is the market value. No economic loss to the parties is experienced by inefficiency of the market or some other source.

e. *Free entry and exit*

Unlike oligopolistic or monopolistic markets, firms can easily enter and exit perfectly competitive markets. The same is true of convenience store markets. The Small Business Administration made it possible for just about anyone to purchase or build a convenience store in the 1990s. Indeed, the U.S. market became saturated in that period. Today, many foreign nationals are buying convenience stores in the U.S. where economic, cultural and social barriers are minimal or absent altogether.

At this point, it is noted that the concept of *free entry and exit* prevents any excess earnings being attributable to the land alone the way the argument is made regarding regional shopping centers.<sup>8</sup> (Miller, Jones, & Roulac, 1995) Convenience store markets do in fact become over-built at times. This happens because the mere presence of existing stores does not prevent other stores from entering a market. This has been observed in the real world over and over. Please see End Note No. 3 for how this characteristic of convenience store markets may be different from other types of real estate.

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<sup>8</sup> *In Defense of the Land Residual Theory and the Absence of a Business Value Component for Retail Property*, Miller, Jones, Roulac, *The Journal of Real Estate Research*, American real Estate Society, April, 1995.



Exit is facilitated by simply closing the store or filing for bankruptcy.

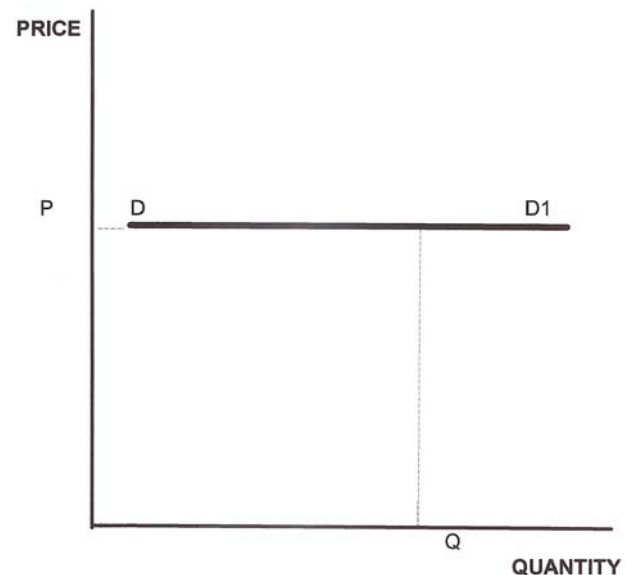
Convenience stores fit the perfectly competitive market better than the other two structures.

### Shape of the Convenience Store

#### Demand Curve

Because perfectly competitive markets are characterized by many substitute suppliers of goods and services, no single firm can control prices. For this reason, economists say that firms in perfectly competitive markets are *price takers*. They must take whatever price the market is currently offering. Because firms are price takers, the shape of the demand curve is horizontal for firms in perfectly competitive market structures, as is shown in Figure 3. This horizontal demand curve illustrates perfectly elastic demand, where demand for the firm's products is infinitely sensitive to the price the firm charges. In theory, a one cent price increase will cause the firm to lose all customers, and a one cent price decrease will cause the firm to gain all customers. Of course this does not

**Figure 3**  
**Perfectly Competitive Firm's Demand Curve**



happen in the real world. But, to the greater degree that substitutes exist for the firm's products, the greater the price elasticity of demand and the more horizontal the shape of the demand curve. Think about gasoline prices. Gasoline retailers have little control over the market price of gasoline because many other competitors exist in most U.S. markets. It is this competitive pricing ceiling that prevents an individual gas station from raising the retail price from, say for example, the \$3.00 per gallon that everyone is charging to \$5.00 per gallon.

To summarize this section on demand curves, market structures with the greatest slope have the highest potential for profit because this slope of the demand curve represents the price elasticity of demand. In descending order from highest to lowest, monopolistic markets have the highest slope in their demand curves; followed by oligopolistic market; and finally, perfectly competitive markets. Perfectly competitive markets are characterized by demand curves with no slope at all, or perfectly elastic demand.

### **A Difference Between Accounting Profit and Economic Profit**

While the fields of accounting and economics have long known the difference, the appraisal industry has little considered the difference between "accounting profit" and "economic profit" in debating business enterprise value. For example,

*Valuing a Business*<sup>9</sup>, a leading industry text book does not address the topic of economic profit. (Pratt, Reilly & Schweihs, 2000) Another authoritative source, *A Guide to Business Valuations*<sup>10</sup>, does not discuss accounting profit nor economic profit as separate concepts. (Fishman & Pratt)

This failure to separate economic profit from accounting profit has been one of the leading causes of confusion and dissension.

A notable exception has been Mr. Marv Wolverton and Mr. Dave Lenhoff's *Separating Intangible Asset Value*

Course 800 for the Appraisal Institute. Here, the

fundamentals of economic profit were stated and distinguished from accounting profit. Unfortunately, this course is no longer available and its absence leaves a void in the appraisal industry's progress toward understanding the issues surrounding the creation of intangible asset value.

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<sup>9</sup> *Valuing a Business*, Shannon Pratt, Robert Reilly, Robert Schweihs, Mcgraw-Hill, Fourth Edition, 2000.

<sup>10</sup> *A Guide to Business Valuations*, Jay Fishman, et al. Practitioners Publishing Company. 12<sup>th</sup> Edition. 2002.

### *Accounting Profit*

Accounting profit on the other hand, is the typical and normal return on the assets of the business that are not real property or personal property. In other words a return from intangible assets, but the return is not in excess of industry norms. This may include a trained workforce, favorable contracts, and working capital. Of course, this assumes that all operation expenses, such as labor costs and utilities, have been satisfied. A business must have accounting profit before economic profit can exist.<sup>11</sup> (Investopedia, 2005) However, the presence of accounting profit does not require nor even suggest that economic profit is present. Industry norms for accounting profit are widely published. The National Association of Convenience Stores annually publishes the national average “*pre-tax profit per store*”, which conceptually is very close to the concept of accounting profit. This is the figure a convenience store operator can expect to earn when all other tangible asset investment requirements have been satisfied. Over the last few years this number has been increasing and it is about \$42,000.00 today.

### *Economic Profit*

Mr. Wolverton and Mr. Lenhoff rightly point out that economic profit is any

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<sup>11</sup>*Economic Profit or Loss*, Investopedia owned and operated by Equade Internet Ltd, www.investopedia.com. 2005.

earnings over and above the opportunity cost of all the resources involved in producing goods or services<sup>12</sup>. “*Economic profit is related to market disequilibria.*”<sup>13</sup> (Wolverton & Lenhoff) In other words, economic profit is caused by scarcity. This scarcity can take the following forms with regard to convenience stores:

1. *Under-Supplied Sub-Market* - In sub-markets, or trade areas, with too few convenience stores, excess earnings may accrue to those operators until the sub-market reaches equilibrium. It is these excess earnings that provide the economic incentive for new operators to enter a particular sub-market. As more operators enter the sub-market, market prices for convenience store goods and services fall to the point where excess earnings are eliminated. Under-supplied convenience store sub-markets will generally attain equilibrium within two to three years.

2. *New Products* - Excess earnings may accrue to a convenience store operator who introduces a new product demanded by consumers. For the

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<sup>12</sup> Course Handbook, Separating Real and Personal Property from Intangible Business Assets Course 800, Appraisal Institute, Chicago, IL. pp 3-4.

<sup>13</sup> Ibid.

extent of time that this operator enjoys a monopoly or semi-monopoly on this new product, he or she may experience economic profit from the excess earnings. For example, in the early 1990s the concept of co-branding fast food restaurant and convenience stores was introduced. The convenience industry embraced the idea that a nationally-branded fast food restaurant, such as McDonalds or Burger King, could be built in a scaled down version on the same site as a convenience store. These are called quick-serve restaurants, or QSRs. The perceived advantages were that greater convenience was offered to the customer. The lunch-time convenience store customer could not only purchase gasoline and convenience merchandise, but could also purchase lunch without leaving the site. Development cost would be lower because the costs of site development costs were shared by both the convenience store operator and the restaurant.

In the early, 1990s, many of the convenience store operators that offered this new product did enjoy higher sales and lower development costs which translated into higher (excess) earnings and economic profits. However, as the fast food restaurant industry itself become saturated in the late 1990s, and many other convenience operators offered the same co-

branded concept, the excess earnings declined. The highly competitive fast-food environment spawned the “dollar menu”, which bled away the profits for many restaurant operators. The largest Burger King franchisee in the nation filed for Chapter 11. Today, co-branding is no longer viewed as a sure way to increase profits. Earnings and development costs are more in balance. The excess earnings have disappeared. This is what we would expect. The competitive advantage is competed away as more competitors offer the same product.

3. *Technological Innovation* - Closely related to the example above, those operators that are the first to introduce a new technology demanded by the consumer can also experience excess earnings in the form of reduced operating expenses or higher sales. This is also a form of economic profit. In the late 1980s, the new point-of-sale technology was introduced, allowing a convenience store customer to purchase gasoline at the dispenser without the need to enter the store. This new technology offered greater convenience and time-saving for the customer. The promoters of the new POS technology told operators that surveys had shown that gasoline volume, or gallonage, would increase by about 30% when this technology was installed because more customers would seek out the

more convenient method of buying gasoline.

This increased volume of gasoline sales is a form of economic profit.

But, the technology was expensive because it included the installation of card readers and new dispensers, on-site satellite communications to process the credit card order, and software to manage the whole system. By the mid-1990s nearly every convenience store operator was installing POS technology as customers came to expect and take for granted the new found convenience. Soon, the new technology was not an investment for higher earnings, but a necessary capital outlay just to stay in business. Every convenience store operator had to install the POS systems simply because competitors had installed it. By the early part of this decade, any excess earnings enjoyed by those operators who had first installed the technology were now competed away.

One of the first in this country to establish the concept, economist Joseph Schumpeter said, "*Economic profit is the return to innovation - new methods, products, and forms of organization.*"<sup>14</sup> (Schumpeter, 1912)

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<sup>14</sup> Schumpeter, Joseph, *The Theory of Economic Development*, 1912



In other words, economic profit originates when markets are out of balance.

In perfectly competitive markets, economic profits are zero in the long-run.

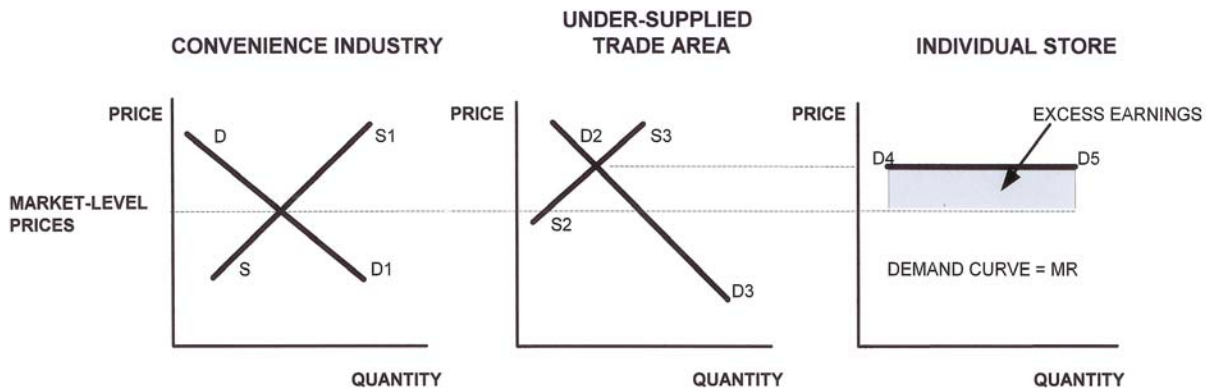
Economic profits only exist for firms when the market is in imbalance, and this condition is only temporary. Over time, in perfectly competitive markets, economic profit is zero because new firms will enter the market to realize the excess earnings derived from economic profit, or any successful product or technological innovation is quickly copied by rivals.

Once the concepts of accounting profit and economic profit have been recognized, and because accounting profit is easy to identify from published industry sources, the challenge for the appraisal industry has been in measuring the earnings associated with economic profit. Put another way, after measuring accounting profit, when does the income stream stop flowing to the tangible assets and begin flowing to the intangible assets?

For special-built properties in perfectly competitive markets, the answer is disarmingly simple.

### **Economic Profit from Under-Supplied Trade Areas**

**Figure 4**  
**Excess Earnings**  
**Created by an Under-Supplied Trade Area**



Economic profit can accrue to the fee simple value of the real estate associated with a convenience store operation for any of the three reasons noted above. All three examples change the shape of the firm's demand curve by either elevating the firm's demand curve or changing it from a horizontal line to a sloped line. An elevated demand curve can result when a trade area, or sub-market is under-supplied, as is depicted in the Figure 4 below. **(Figure 4)**

The three supply and demand curves in Figure 4 show the relationship between the industry, trade area and individual firm, where “Price” is the price customers pays for the goods and services offered by typical convenience stores throughout the industry. “Quantity” is the number of convenience stores offering these goods and services. The industry supply and demand curves define market-level prices. The intersection of industry-wide supply and demand is the market level price for goods and services. The positioning of both curves can change over time. But, the intersection on the date of appraisal is market price. This is depicted in the graph furthest to the left. The center graph shows an example of an under-supplied trade area. Here, the supply curve (S2,S3) is shifted left. Because the intersection point of the supply and demand curve intersection is higher in the trade area than for the industry as a whole, the prices for goods and services that convenience stores in this trade can obtain are higher than industry averages. The intersection of supply and demand in the trade area then becomes the demand curve for the individual firm. In perfectly competitive markets, this is also the firm’s marginal revenue curve. This translates into higher earnings for the individual stores within this trade area, all other factors being equal. The excess earnings is the difference between the higher prices enjoyed in the under-supplied trade area versus the level of normal industry prices, depicted as the slashed line. This area is colored in gray in the third graph in Figure 4. This is

economic profit.

Over time, it is expected that the supply curve ( $S_2, S_3$ ) will shift right as more competitors enter this trade area to exploit the higher earnings. As the supply curve shifts right, trade area prices will decline to the point that no further economic profit exists. This is market equilibrium.

Notice, that all convenience stores in this under-supplied trade area can enjoy the economic profit for as long as it lasts. The benefits of economic profit here are not restricted to branding, ownership, or operating contracts. This is an example of how fee simple ownership of the real estate can experience a form of economic profit due to excess earnings. This is not the only form of economic profit for a business. Many other forms of economic profit can exist from brand names, advantageous contracts, and operating efficiencies from management. However, the point here is that economic profit can exist for specialty real estate regardless of the ownership. This type of economic profit is not caused by the business ownership, but accrues to the real estate itself and has an impact on the value of that real estate. An under-supplied trade area is one example of how this can happen. Product or technological innovation are two other examples that we will examine below.

## Economic Profit from Product or Technological Innovation

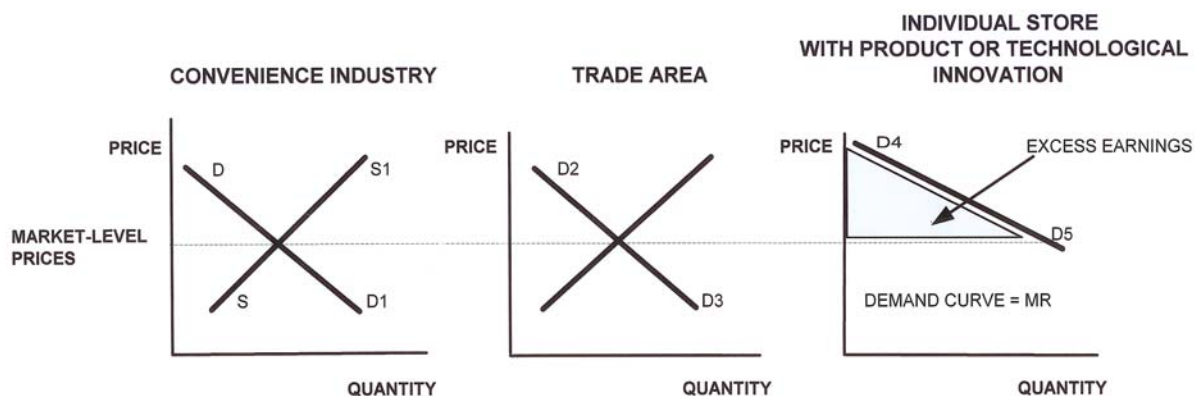
Product or technological innovation can also cause higher earnings for the firm.

However, in this case it is the shape of the demand curve that changes, not its position relative to the industry. This is illustrated below in the Figure 5. **(Figure 5)**

The convenience industry and trade area graphs in Figure 5 show this trade area is at equilibrium, no excess earnings due to under-supply exist. However, a store may still have excess earnings if the individual firm's demand curve is sloped, as is shown in the graph furthest to the right.

As discussed before, product or technological innovation is something customers

**Figure 5**  
**Excess Earnings**  
**Created by Product or Technological Innovation**



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prefer, but few stores supply. That is what makes it an innovation. Once everyone supplies the need, it ceases to be innovative. We previously gave examples of co-branded fast food restaurants (QSRs) as an example of product innovation, and POS card readers on dispensers as an example of technological innovation. To create excess earnings or economic profit for the firm, the good or service must be something that customers are willing to pay more for or more customer volume is generated than market norms.

The more sloped the demand curve (D4,D5 line) in Figure 5, the more inelastic the demand for the firm's goods and services. This greater elasticity allows for above-normal prices for those goods and services compared to the national averages. That portion of the price which is above the industry norm represents economic profit, which is shaded in gray in the graph furthest to the right.

In this example, this type of economic profit is a function of the store's tangible assets regardless of the branding, ownership, or operating efficiencies from management. As in the under-supplied trade area example, this form of economic profit accrues to the fee simple value of the real estate, not the intangible enterprise value of the individual business. Just as in under-supplied trade areas, the value of the specialty real estate can be impacted by product or

technological innovation.

## **Separating Intangible Asset Values from Real Estate Values**

Value to the intangible assets of any business operation exist only when earnings are in excess of the economic return required for the tangible assets. It is well established in appraisal theory that the tangible assets receive their return first.<sup>15</sup> (Fishman & Pratt, 2000)

The intangible asset value originates from two sources: *accounting profit* and *economic profit*.<sup>16</sup> (Investopedia, 2005) Intangible asset value is present when earnings from the business exceed the investment requirements of the tangible assets.

*Accounting Profit* may consist of value associated with an assembled and trained workforce, business reputation, cash and equivalents. These items are characteristics of accounting profit. In the convenience industry, accounting profit is reported by the trade organizations on a per-store-basis. Accounting profit will

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<sup>15</sup> Jay E. Fishman, Shannon Pratt, et al., *Guide to Business Valuations*, 12<sup>th</sup> ed. (Fort Worth: Practitioners Publishing Company, 2000), 7-28.

<sup>16</sup> Investopedia.com, *Dictionary*, 2005.

exist as long the business is viable. Only when earnings drop to a level approaching liquidation value will accounting profit cease to exist. Accounting profit must exist before any economic profit can be present.

NACS publishes average per-store pre-tax profits, which is similar in concept to accounting profit. As stated before, this figure is \$42,000.00 today.<sup>17</sup> (National Association of Convenience Stores, 2005)

*Economic Profit* is a different concept. Economic profit arises when the earnings from the business operation are over and above the investment requirements of the tangible assets and accounting profit. Thus, the difference between capitalized excess earnings and accounting profit is economic profit.

As we have seen, some forms of economic profit can originate from the real estate, or tangible assets, regardless of the ownership or management of the business. We saw examples of *under-supplied trade areas*, *product innovation* and *technological innovation*. As presented In these examples, if any excess earnings arises from these sources, the extra income is associated with the real estate, not the business ownership. We will offer a suggested solution as to

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<sup>17</sup> National Association of Convenience Stores, *State of the Industry Report*, 2005.



where the line of separation exists between excess earnings accruing to real estate and that portion of the income stream accruing to intangible assets

Not every business has intangible asset value. Value accrues to intangible assets only when excess earnings exist and the required economic return for all other assets and investment requirements has been satisfied. Likewise, simply because a business enterprise has intangible asset value today does not mean that it always will. If excess earnings are ever diminished, the value of the intangible assets will decline.

### **Separating Economic Profit to Real Estate**

The point of separation in excess earnings flowing to real estate and that portion of excess earnings flowing to intangible assets is the investment requirement of the *replacement value* of the tangible assets (emphasis added). This is the most important point, and if anything is new and original in this paper, this is it.

When the excess earnings results from an under-supplied trade area, the breakpoint is the replacement value of the real estate.  
When the excess earnings is due to product

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**“...replacement value (as the breakpoint of earnings) [...] is the most important concept [...] in this paper.”**

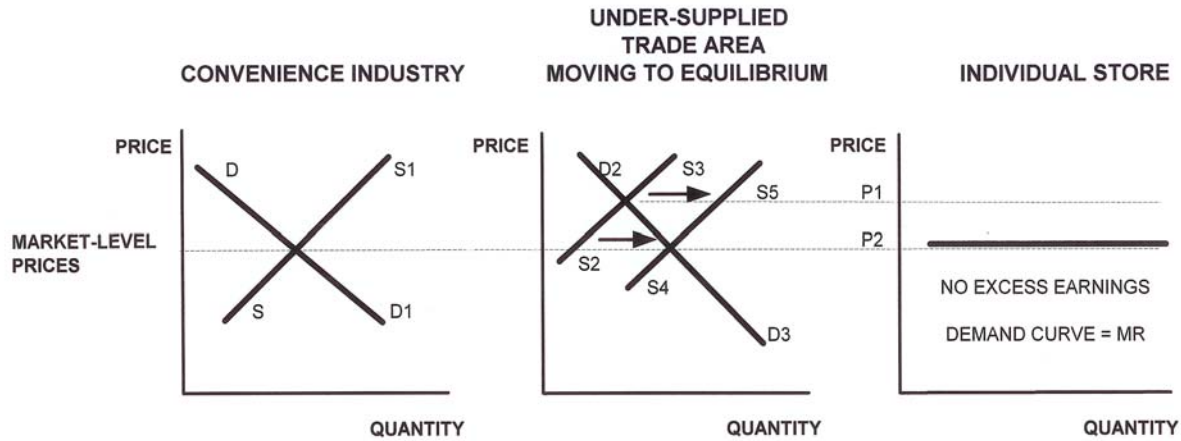
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or technological innovation, the breakpoint is the replacement cost of duplicating the innovation. We will use an under-supplied trade area as an illustrative example.

Replacement value is the threshold because this is the opportunity cost for one new entrant to enter the market. Put another way, what is the economic requirement to shift the trade area supply curve to the right? What is required to increment "Quantity" on the x-axis by "1" ? The answer is the cost of building a new store. This is replacement cost new. The answer can not be market value of an existing store because stores simply changing hands does not cause the quantity of stores in the trade area to increase. For an outsider who recognizes excess earnings in a particular market, the opportunity cost of entering that market is the cost of building a new store. This is the only dollar amount that will cause the supply curve to shift right. Figure 6 below shows the trade area supply curve shifting right in the middle graph. Note that the new earnings equilibrium level declines for the firm as this happens, moving from P1 to P2 in the third graph in Figure 6. It is only when excess earnings have been eliminated for firms in the trade area that new stores will cease to be constructed. **(Figure 6)**

Similarly, if new competitors must incur replacement cost new as the price of

**Figure 6**  
**TRADE AREA SUPPLY SHIFTING RIGHT**



entering a favorable market, sellers will not accept anything less. In other words, the price that can be fetched for the existing stores in a under-supplied trade area, assuming all stores are equal, rises to replacement value. Replacement value is the point of indifference. A buyer will not pay one dollar more because he or she can build their own store for any price in excess of replacement value. Likewise a seller is under no compulsion to take anything less, and it would be imprudent to do so.

The ramifications of what this implies is far reaching and unsettling to our accustomed thinking. What this means is that in the presence of excess earnings, all forms of depreciation are eliminated, or at least are not recognized by the market. The closest thinking in the published literature to date is an article

by T. Alvin Mobley, MAI that appeared in the *Appraisal Journal* in 1997 and was later re-printed in *A Business Enterprise Anthology* published by the Appraisal Institute.<sup>18</sup> In this article, Mobley goes so far as to state:

*“If goodwill exists in a going-concern, it is not likely (although not impossible) that functional and/or external obsolescence is present in the going concern and its components.”* (Mobley, 2001)

For the microeconomic reasons outlined above, I agree with Mobley. An additional observation will help the skeptic. One of the ways appraisers quantify obsolescence, whether it be functional or external, is a capitalization of rent loss. A rent loss can not and should not be present while at the same time excess earnings are being forecasted. Conceptually, a rent loss and excess earnings are opposite sides of the same coin. They both can not be true for the same property at the same time.

I will go further than Mobley. As earnings rise higher and higher, all forms of market recognition of obsolescence are extinguished and indeed any market

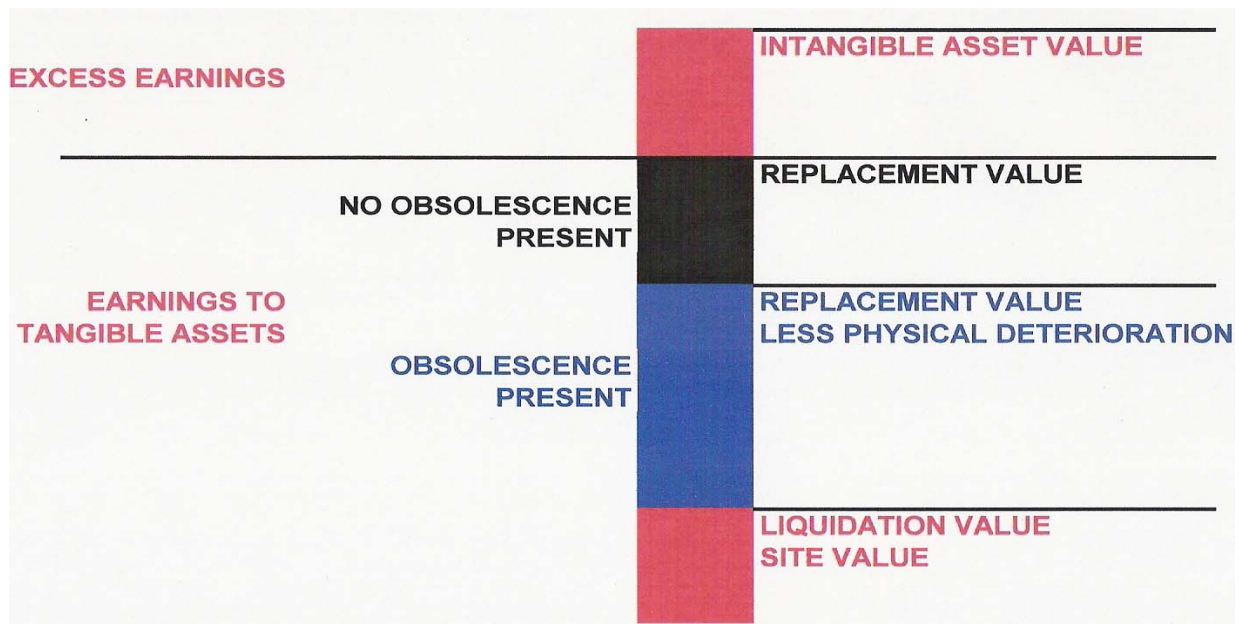
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<sup>18</sup> *Defining and Allocating Going-Concern Value Components*, T. Alvin Mobley, MAI as it appeared in *A Business Enterprise Anthology*, David C. Lenhoff, MAI, CRE, editor, 2001, Appraisal Institute, Chicago. pp 45.

recognition of physical deterioration is likewise extinguished until the equivalent earnings at replacement value for the tangible assets is reached. At that point earnings stop flowing to the real estate because at this pricing level, market buyers will build new stores instead of purchasing existing ones. In other words, the supply curve does not move right for anything less than replacement value and because of the *principle of substitution*, the earnings to real estate can never go higher. Replacement value is the point of indifference. The level of replacement earnings is where earnings stops flowing to real estate, or tangible assets, and begins flowing to intangible assets because higher earnings are in excess of the investment requirements to real estate. This excess above replacement value to real estate, if it exists, then becomes earnings to intangible assets, regardless of ownership or management. This intangible asset value, which can arise from under-supplied trade areas or product or technological innovation, is due to the particular deployment of the tangible assets, not any characteristic of the business management or operational ownership. Figure 7 below illustrates this concept. **(Figure 7)**

As earnings rise up the colored column, several benchmarks are passed in succession. The bottom red section represents liquidation value. If earnings are so low that the only economic return provided is just sufficient to cover the value of the underlying site, then no excess earnings exist and the capitalized value is equivalent, or nearly equivalent to the value of the site (assuming no net salvage value). The blue section represents all forms of functional or external

**FIGURE 7  
EARNINGS AND INTANGIBLE ASSET VALUE**



obsolescence. At liquidation value, obsolescence is at the maximum. As earnings increase beyond the liquidation threshold, measured obsolescence is

progressively reduced as earnings become higher and higher up the column. Still higher earnings will begin to eliminate market recognition of physical deterioration as still higher earnings fall into the black section of the column. Once earnings have reached the replacement value of the real estate, or tangible assets as the case may be, no further income can flow to the tangible assets. At replacement value, the principal of substitution states that new stores will be built. Any earnings in excess of replacement value earnings goes beyond the economic return to the real estate and should by definition be classified as intangible asset earnings. These earnings will be short-lived in perfectly competitive markets. Typical capitalization rates for intangible asset (excess) earnings in the convenience industry are 40% to 50%. In other words, the market is willing to pay for 2 to 2 ½ years of excess earnings, but no more. These higher capitalization rates are due to the uncertain duration of excess earnings. It is critical for the analyst-appraiser to bear in mind that whatever capitalization rate is being used for intangible asset capitalization, the rate should be consistent with the expected duration of that excess earnings. For example, a 25% intangible asset capitalization rate implicitly assumes a four-year duration, a 33% rate implies a three-year duration, etc. One should not be using a 20% intangible asset capitalization rate while at the same time forecasting a two-year duration for the excess earnings. A 50% intangible asset capitalization rate implies that the

market will correct itself, or reach equilibrium within two years.

To illustrate where earnings to real estate separates from earnings to intangible asset value, the following cursory example is provided. Let's imagine that we are projecting the market-level earnings of a convenience store. Our analysis has shown that this sub-market, or trade area, is under-supplied. We have made our earnings projections based upon national benchmark averages, our trade area reconnaissance, and a facilities review.

EBIDTA	\$500,000.00
A. Less: Return to Tangible Assets, Non-realty (\$40,000.00 @ 25%)	<u>\$10,000.00</u>
B. Equals Return to Tangible Assets, realty and Intangible Assets, if any.	\$490,000.00
C. Less Accounting Profit (published industry average)	<u>\$42,000.00</u>

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D. Equals Return to Tangible Assets, realty \$448,000.00  
and Economic Profit, if any

E. Calculate Required Economic return to Real Estate  
at Replacement Value:

\$3,000,000.00 Replacement Value

9.38 gross income multiplier<sup>19</sup>

$\$3,000,000.00 / 9.38 = \$319,829.00$

F. If the figure in E is less than D, Less: \$319,829.00  
then subtract E from D

G. Economic Profit \$128,171.00

The calculation of intangible asset value would then be:

Accounting Profit \$42,000.00

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<sup>19</sup> A gross return is necessary in redacting EBIDTA because this is not the net income to real estate. Therefore, a gross income multiplier is used rather than a net income capitalization rate.

Economic Profit \$128,171.00

Intangible Asset Return: \$170,171.00

\$170,171.00 capitalized at 50% equals \$340,342.00.

Intangible Asset Value: \$340,342.00.

EBIDTA (earnings before interest, depreciation, taxes and amortization) represents the gross return to all asset categories. EBIDTA is easily calculated simply being the gross earnings less cost of goods sold less re-curing operating expenses.

In this example, intangible asset value totals approximately \$340,000.00, of which \$128,171.00 is due to the real estate alone, without regard to the specific ownership or management of the business. This is intangible asset value under fee simple ownership of the real estate, which contemplates what a typical operator would do with these assets at this particular location. In most mortgage-related appraisals for convenience stores, for example, it is this fee simple value of the real estate that is being requested from the lender.

This is not to say that the actual management never has any effect on the fee simple value. Indeed, that can be the case. For example, management could be so poor that routine maintenance was never performed and the real estate value suffered as a result. However, this would be accounted for in a facilities review and reflected in a lower earnings projection or higher capitalization rate. But, that is not the point.

This paper has demonstrated, that when properly understood within the context of microeconomics, some property types can generate intangible asset value regardless of actual ownership or management.

In perfectly competitive markets, anything in the sub-market or anything in the deployment of the physical assets (real estate) that causes the demand curve to be sloped has the potential to add intangible asset value.

### ***End Thoughts***

If this paper were lengthier or the reader not overly taxed at his point, the following additional observations are worthy of further deliberation.

1. The discussion above was kept simple for the purpose of clarity. A

better approach rather than saying the market does not recognize physical deterioration in the presence of excess earnings would be to weigh the cost-to-cure of physically curable deterioration against any intangible asset value. The parity is appealing. Physical curable items are costs that a buyer would incur in the short-run. Like a roof repair, or asphalt patch, they must be made early to preserve the value of the property. Likewise, intangible assets are short-lived. Here, we have stated that the convenience industry will amortize this value within two to three years. So, subtracting physical curable deterioration from any intangible asset value would seem a more theoretically correct procedure.

2. Generic real estate does not have the potential to generate economic profit. It is only specialty, or uniqueness, that allows demand curve to be either elevated or sloped in perfectly competitive markets.

3. Although it is not the subject of my investigation, not all types of real estate fall into a perfectly competitive market structure. Some types, such as regional shopping malls, may better fit a monopolistic or oligopolistic market. If that is the case, the observations here would not necessarily apply.

4. The appraiser or analyst can certainly parse the earnings to accounting profit and economic profit. It may well be the case that the duration expectation of accounting profit is longer than that of economic profit. If this be the case, then earnings to accounting profit would have a lower capitalization rate than that of economic profit.

5. Intangible asset value as described here is a function of earnings alone. It is not possible to extract a sales adjustment in the marketplace for intangible assets value unless every sale were comparable to the subject in terms of physical deployment of the assets and trade area characteristics. For all practical purposes, the capitalized earnings approach is the only reliable methodology of measuring intangible asset value.

6. Because replacement value is easily calculated and marks the division point, the most troubling aspect of applying the earnings approach to measure tangible and intangible asset value separation is largely overcome.