

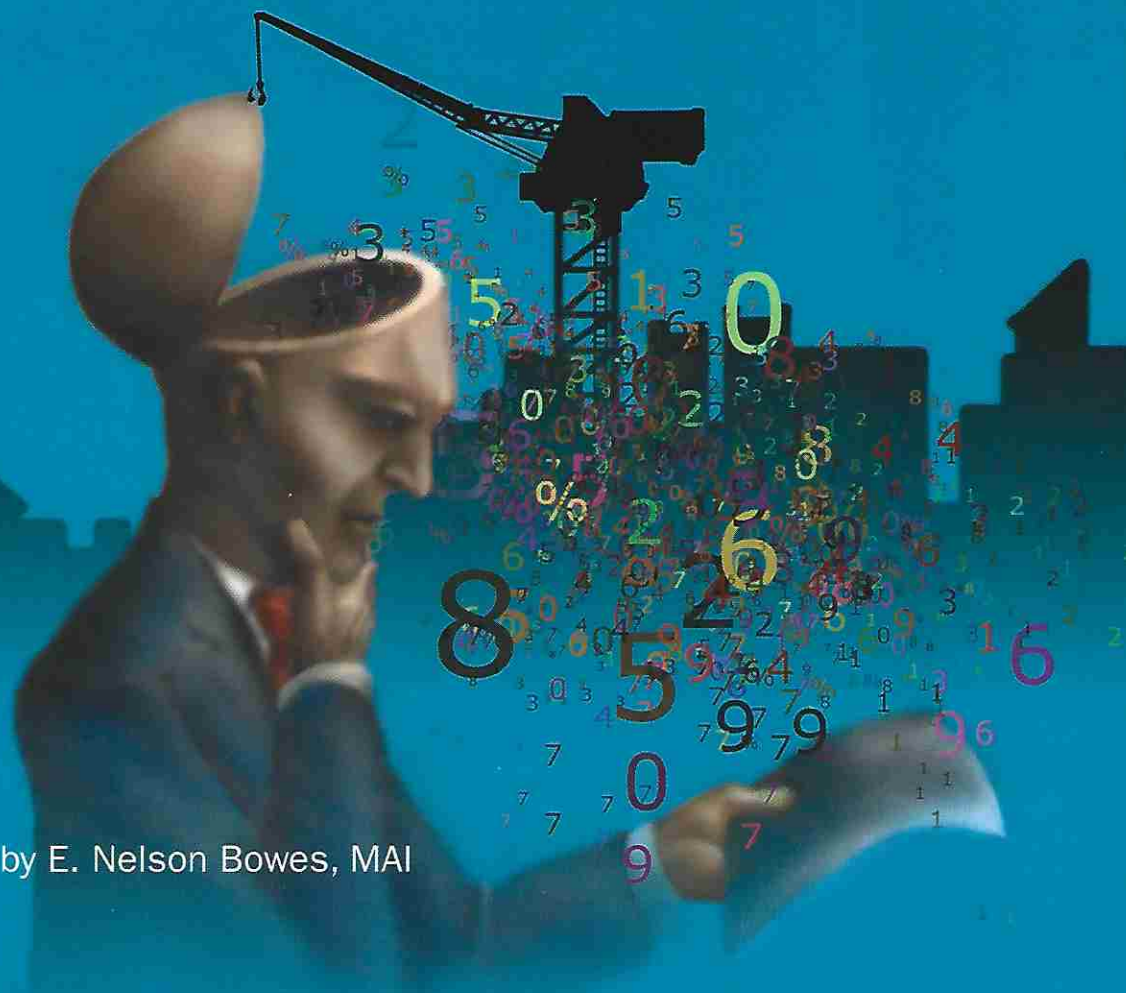
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In Defense of the Cost Approach

A Journey into Commercial Depreciation

by E. Nelson Bowes, MAI



Foreword

Of the three approaches to real estate valuation, the cost approach is probably the most misunderstood by appraisers. Our latest book—*In Defense of the Cost Approach: A Journey into Commercial Depreciation*—seeks to debunk many of the myths surrounding this approach and help real estate appraisers develop the skills needed to use it effectively in their commercial assignments.

This illuminating book focuses on the three types of loss in property value (physical deterioration, functional obsolescence, and external obsolescence), discusses the obstacles they often present to appraisers, and presents practical ways to overcome these obstacles. The estimation of depreciation—often considered the most difficult aspect of the cost approach—is explained in detail. Numerous examples are presented with tables and graphs to help break down the logic and mathematics involved. The author, E. Nelson Bowes, MAI, draws upon his many years of experience as a practitioner and instructor and uses humor and common sense to help even the strongest opponent feel confident using the cost approach.

Although the cost approach is avoided by many appraisers, the information it reveals proves useful in other parts of the valuation analysis. *In Defense of the Cost Approach* sheds much-needed light on this dark area of real estate appraisal and will help commercial real estate appraisers in their daily work.

Joseph C. Magdziarz, MAI, SRA
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Cost in the Vernacular

This book will not show you how to estimate costs. Other manuals, courses, and books do an excellent job of teaching that skill. Instead, the goal here is to identify the various components of cost and provide a practical understanding of the words used to talk about them. In later chapters, we will examine how to depreciate those components.

Some History of the Cost Approach

The earliest reference I can find to the cost approach is in the Bible, Luke 14:28-30:

For which of you, intending to build a tower, sitteth not down first, and counteth the cost, whether he have sufficient to finish it? Lest haply, after he hath laid the foundation, and is not able to finish it, all that behold it begin to mock him. Saying, this man began to build, and was not able to finish.¹

Economists Adam Smith and Karl Marx both thought cost was the basis of value. Marx called it the “proper” price and Smith called it the “natural” price. Both had profit in their calculations. They treated (and thought of) profit differently, but profit was an integral part of the system.

The earliest edition of *The Appraisal of Real Estate* that I have is the third edition, published in 1960. That edition has some good and some not-so-good qualities. Unfortunately,

- It did not accurately address curability of functional obsolescence.
- It improperly allocated external obsolescence between land and improvements.

1. These days we have half-finished subdivisions and abandoned sites of McMansions. The more things change, the more they stay the same.

- It did not address fill-up costs (which didn't really appear until the eighth edition).

On the other hand,

- It did a nice job of addressing cost to cure being higher than original construction costs.
- It discussed equity earning interest.
- It included an excellent demonstration of the soft costs and profit deteriorating just like the hard costs.

Overall, an appraiser could have learned a good deal about the cost approach from the third edition of the textbook. Since 1960, the appraisal community has rethought the way some calculations are done, but the cost approach itself remains fundamentally unchanged. The cost approach has been tested over time in the classroom and in the daily practice of appraisers. It remains a robust and functional technique worthy of inclusion in successive editions of the textbook.

We are about to journey together through the nuanced applications that are the cost approach. It can be a rewarding journey and can shield us from, haply, being mocked.

“Cost” vs. “Cost Approach”

In this book, the word *cost* means all costs—hard, soft, fill-up, site, profit. Everything. If a cost is only one part of the total, that “cost” will be modified by an adjective such as *hard*, *soft*, *site*, and so forth. This bears repeating because it is easy to forget, and some narrative in later chapters will not be clear if this usage is forgotten.

The *cost approach* involves further calculations with cost. It adds land, deducts wear and tear, deducts obsolescence, and adds or deducts a property rights adjustment. *Cost* is the dollar amount needed to get the improvements up and running. Applying the *cost approach* yields the indicated market value.

Every appraiser has heard that “the cost approach sets the upper limit of value.” It does not. The cost approach does not set anything. It is another approach to value with calculations, estimates, judgments, and ample opportunity to introduce error, just like the other approaches to value.

If cost includes everything (hard, soft, profit, and so on), it probably does indicate an upper limit of a new building. If value is higher than cost, either land value is about to increase dramatically or overbuilding will depress values.

Some of the fundamental philosophy of the cost approach can be summarized in two simple equations:

$$\text{Equation A: Cost} - \text{Depreciation} = \text{Value}$$

$$\text{Equation B: Cost} - \text{Value} = \text{Depreciation}$$

That's it. Not at all complicated. We sometimes lose sight of the straightforward relationship of basic cost approach variables when we are confronted with many pages of numbers and details (and when we confront our clients with the same). This book will refer to these equations repeatedly.

This book also uses many tables and graphs to illustrate the fundamental relationships between cost, depreciation, and value. These exhibits are not intended to be the only way to set up the cost approach, but are one way of going about it. If you have a format and presentation that you are comfortable with and that is, as Alan Ladd said in the 1953 western *Shane*, "as good as any and better than most," then you should stick with it.

Reproduction Cost vs. Replacement Cost

Reproduction cost is the cost to reproduce exactly what exists. For instance, if an upscale apartment has gold doorknobs, reproduction cost includes the cost of those doorknobs.² If an office building has a conference room with hardwood paneling that slides apart to reveal a wet bar with three different backgrounds that change depending on the type of client, reproduction cost includes the cost of the sliding panels and the wet bar.³

Replacement cost is the cost of an alternative that has the same function. For instance, the replacement cost of the apartment with the gold doorknobs would probably include the cost of excellent brass doorknobs. The replacement cost of the office conference room would probably exclude the sliding panels and wet bar because those features would be atypical in most markets. Also, a certain building material or piece of construction equipment needed for the installation of the sliding panels and wet bar may no longer be available.

Often, when a building component has cost that is obviously beyond its value (such as in the case of the gold doorknobs), we eliminate some of the functional obsolescence attributable to that component by using replacement cost. It should be noted here that replacement cost only eliminates functional superadequacies; it doesn't get rid of deficiencies.

2. An actual example.

3. Also an actual example.

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What We Talk About When We Talk About Depreciation

Depreciation is a loss in value from any cause. The causes are classified as *physical deterioration*, *functional obsolescence*, and *external obsolescence*. As these terms are discussed, keep these two important items in mind:

1. Almost all depreciation, including physical, has an economic component.
2. The loss may be curable or incurable.

In short, *curable* means that whatever is wrong can be *economically fixed*.¹

Physical Deterioration

Physical deterioration is just what the words imply: wear and tear, or the process of wearing out physically. The three classifications of physical deterioration are as follows:

1. **Deferred maintenance** refers to the items that must be fixed now, such as a broken window, a dead tree, a leak in the roof, or a faulty roof that must be completely replaced. These items are almost always curable. If a property is so badly trashed that it is not worth fixing, we are not likely to be performing the cost approach in the first place. Deferred maintenance can sometimes be complicated, and it will be discussed in depth in Chapter 5.
2. **Short-lived depreciation** is the partial wearing out of a short-lived item. The Kings Oak office flooring from Table 1-6 on

¹ Anything, and I mean anything, can be done physically. If we wanted to, we could build an auto-rail bridge from New York to Oslo, Norway. It would almost never get used and would cost the gross domestic product of the planet for 100 years, but it is physically possible.

page 17 would be an example. When the floor (6.3% of total cost of the improvements) is two-thirds worn out after, say, seven years, then the remaining value of the floor is 2.1% of the whole. The 4.2% depreciation (the cost of the floor minus the value of the floor) is incurable because it cannot be separated from the 2.1% that is still good. That is, to fix the 4.2% bad, the 2.1% good would have to be torn out.

3. **Long-lived depreciation** refers to the wear and tear of long-lived items. Obviously, a piece of steel (structural framing) or a hole in the ground (excavation) is not actually going to wear out and be replaced. Long-lived depreciation will be examined further when we discuss *life*.

Structural steel is an example of a long-lived component. Sometimes what is considered a short-lived component can seem to have a really long life. For instance, a water heater will usually wear out and need to be replaced. On the other hand, a stove and oven may never actually wear out, but people do get tired of that avocado green color (circa 1966) and replace those sorts of appliances.

Functional Obsolescence

Functional obsolescence is a loss in value due to something *inside* the property boundaries; it can be an overimprovement, an underimprovement, or something that is not there.

Examples of functional obsolescence in the form of overimprovements include the following:

- The gold doorknobs mentioned on page 9 are too elegant, too luxurious, and just plain too much to charge extra rent for.
- The Enron office building in Houston, Texas, was opulent beyond anything that the Class A market would pay for.
- A luxury hotel with hallways that are 18 feet wide offers more than the market needs or is willing to pay for.

Examples of functional obsolescence in the form of underimprovements include the following:

- A luxury apartment builder who is running out of money cuts corners at the end of the development process. The cheap-looking hardware and other details that result make the real estate unacceptable to the targeted renters.
- An office building has a 10-story glass-enclosed atrium with huge HVAC operating costs.

- An apartment building has narrow hallways that tenants do not like. To attract tenants, the building's rent must be below the market rate.
- A four-story apartment building has no elevator. The rent on the upper floors is significantly below that of comparable units in buildings with elevators.
- A hotel in the mountains was built without air-conditioning because the developer mistakenly thought that the mountainous location would not get hot in the summer.
- A two-story store does not have escalators.

Many of these examples lead us to ask, "What were they thinking?" When we look at a building and find ourselves asking this question, we might want to think about the functional obsolescence present. To paraphrase the famous basketball coach John Wooden, failing to prepare (with market analysis) is preparing to fail (in the market).

External Obsolescence

External obsolescence is a loss in value due to something *outside* the property boundaries. (Please note the word *outside*.) An improvement may have been built just right, but something outside the property causes a loss in value.

External obsolescence is caused by problems having to do with the location or the market. A far-fetched example usually used to illustrate a location with an obvious problem is a luxury apartment building near a hog-slaughtering facility.² Clearly, the apartments will not get good rents. The property loses value due to outside forces. If the slaughterhouse had been built after the apartment building, it would have removed the luxury from the apartment. If the slaughterhouse had been built first, the apartment developer would have been an idiot. Either way, the apartment is not worth what it cost.

Market externalities apply to the whole market (and have nothing to do with the hog-slaughtering facility down the street.) Possible market externalities include

- Overbuilding or a decline in employment
- An increase in vacancies in rental properties or warehouses
- A decline in rents
- A decline in sale prices
- Any combination of these

2. Many appraisers know of actual examples that are more far-fetched than this.

However this external obsolescence manifests itself, it is evident for the whole market. External obsolescence is rarely curable.

In this chapter, we have looked at the language of depreciation. In the next, we will take a closer look at two seemingly innocuous words—*age* and *life*—and work through the difficulties that poor understanding and imprecise use of those words can cause in the application of the cost approach.