BUSI 330

Suggested Answers to Review and Discussion Questions: Lesson 8

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1. The cost approach to value is based on the principle of substitution, which says that a property's value will tend to be equal to the cost of acquiring an equally desirable substitute property. In applying this principle specifically to the cost approach, acquisition cost means the cost to construct this substitute property.

   Other associated principles are:

   - Supply and demand
   - Contribution
   - Externalities
   - Highest and best use
   - Stabilization

2. Strengths of the cost approach:

   - Useful for the valuation of special-purpose or unique properties for which there is no market sales information
   - Can work well for newer buildings
   - Can be useful to determine "contributory value" of construction, i.e., how does the cost of building something relate to the expected sale price (and profitability)
   - Useful when the function of the report is to estimate value for insurance purposes

   Points that could be made to explain the disadvantages of the cost method of appraisal:

   - Assumes that cost represents value; however, this is only likely when the building is new and represents highest and best use
   - Difficult to determine the cost of improvements
   - Difficult to estimate depreciation
   - Less effective for older buildings because of the difficulties of reliably estimating accrued depreciation
   - May be unable to estimate site value accurately
   - Does not reflect market behaviour unless the market is in equilibrium
   - Cannot be used to value leasehold interests, or cases in which the property possesses latent value

3. The steps in the cost approach are:

   1. Estimate the market value of the site as if vacant.
   2. Estimate the replacement or reproduction cost new of the building(s) and site improvements.
   3. Estimate depreciation applicable to the building(s) and site improvements.
   4. Apply the following formula:
   5.

Market value of site (land)
+
Replacement or Reproduction Cost New of Building(s) and Site Improvements
–
Depreciation on Building(s) and Site Improvements
=
Market Value of Property

4. (a) The three components of the cost of improvements are:

(i) *"Hard" Construction Costs (or Contractor's Price)*

Hard costs are the costs of physical inputs to construction, such as materials, construction labour, equipment, etc. Hard costs can be calculated in three ways:

- Quantity Survey — pricing each unit of each input, them summing to get total hard cost
- Unit-in-Place — cost of each element (eg. roof, foundation, etc.), then sum to get total hard cost
- Unit of Area or Volume — take a standard cost per square foot or per unit volume, then multiply by area or volume to get total hard cost

(ii) *"Soft" Costs (or Developer's Overhead)*

Soft costs are the costs of administration fees for consultants, lawyers, etc; financing costs; or any other cost to the developer that is not actually a direct input to construction (hard cost).

(iii) *Developer's Expected Profit*

Developer's expected profit is the amount of profit taken by the developer as a fee to build the structure. This must be included because it is a cost the property owner would have to pay unless he or she acted as the developer.

(b) In appraising a typical residential property, you would calculate costs based on current costs. Current costs are used in the cost method because you are trying to make some measurement of the cost to replace the structure at the present time. Therefore, current costs must be used.

(c) Sources of building costs include:

- Cost manuals and computerized services
- Quantity surveyors and costing experts
- Local developers or builders
- Market comparables of new construction from which building costs new can be calculated
- Appraiser's files
- Construction contracts

5. (a) *Reproduction cost* is the cost to reproduce an exact replica of the subject improvements. Replacement cost is the cost of replacing the subject property with a structure that provides a similar level of utility. Replacement cost does not attempt to replicate what currently exists, but instead looks only to supply a building that offers the equivalent of whichever attributes the market deems to be important.

Replacement cost analysis can be used when some of the features of a building are outdated and cannot easily be reproduced with today's technology. For example, if the subject is an older building with excessive ceiling heights, the appraiser could calculate the replacement cost based on normal ceiling heights, and not have to deal with the excessive features as depreciation.

(b) *Quantity survey method* is a detailed breakdown of all materials, labour, fees, profits, and equipment required to reproduce or replace the building new as of the appraisal date. It requires the detailed costing of each item of material based on local prices. Because the cost estimate is specific to each property, this method can account for the individual characteristics of a given property. This is the most detailed, complex, costly, and time-consuming method of cost estimation. This method requires an expert in costing, and should never be attempted by the appraiser who is doubtful of his/her costing abilities.

Unit-in-place method is a simplified quantity survey that involves pricing each component part of a building separately, e.g., the cost of the materials and labour to build the roof, walls, foundation, and bathrooms. The cost can be expressed as total cost for the unit or as cost per square foot/metre. This method abbreviates the complicated quantity survey method, but still requires a level of detail that is beyond the expertise of most appraisers.

Comparative-unit method estimates replacement or reproduction cost for a subject property by investigating the cost of constructing other similar buildings. The appraiser must find properties that are similar in size, specifications, date of construction, and location. Then, the total construction cost is divided by the number of square metres/feet (or cubic metres/feet) to find the rate per unit of area, e.g., $10 per square metre. This rate could then be used to estimate replacement/reproduction cost for the subject property. This method is common for appraisers to use because it is simple to apply and it is generally not difficult to find market data. However, care must be exercised in using this method, since it assumes that the subject and comparable are similar and does not account for any unique or different features.

Cost services method estimates the replacement/reproduction cost new of an improvement using cost information from a cost services company (typically in the form of cost manuals or from online sources). These companies publish cost figures for different structures in various locations, which must then be adjusted for time of sale, location, and other factors that may be specific to the subject property. Cost manuals can provide an accurate reproduction or replacement cost of a building without requiring a great deal of time compiling cost figures from market data. However, the appraiser using this method must stay aware of market activity to ensure that the cost information provided is up-to-date and accurate.

Cost index trending may be used to convert historical data into a current cost estimate. Cost indexes are published as part of a cost manual or computerized costing service. Also, other sources, such as Statistics Canada, publish statistics on construction costs. If the historical construction cost (including all hard and soft costs) is known, a cost index can convert that cost into an indication of cost new for the date of appraisal. It can be useful in the absence of a more accurate approach, but its reliability decreases as the time from the original date of construction increases.

(c) Reproduction costs can be used for newer buildings, since they are likely built to modern standards and therefore their cost of construction should be close to their market value. Reproduction cost can be used for special purpose properties (i.e., industrial buildings) only if they are of a typical design required by most users. Unique or custom-made buildings that have features not normally expected or required require the use of replacement cost.

6. Entrepreneurial profit is the return expected by a developer to compensate them for their time, expense, and risk in undertaking a development project. It must be considered in the cost approach because profit potential is the motivating force behind most construction projects and is typically a significant portion of total cost. To not include entrepreneurial profit would be to understate the cost required to construct a building.

7. The three major causes of depreciation are:

   (a) Physical deterioration - wear and tear from regular use, the impact of the elements or damage.
   (b) Functional obsolescence - flaw in the structure, materials or design that diminishes the function, utility and value of the improvement.
   (c) External obsolescence - a temporary or permanent impairment of the utility or saleability of an improvement or property due to negative influences outside the property.