LESSON 5
The Direct Comparison Approach – Part I

Assigned Reading

   Chapter 14: Comparative Analysis

Recommended Reading

Selected readings can be downloaded via the "Online Readings" link on the BUSI 330 Course Resources webpage. Please note that recommended readings are provided only for your information, should you wish to learn more about these topics. Recommended readings are NOT tested on the final examination.


2. Rodgers, Thomas. 1994. “Property-to-Property Comparison”. *Appraisal Journal* (January): p. 64-67. Comparison of comparable sales with the subject property by means of qualitative analysis is supported as an alternative to the quantitative grid-adjustment process. Although dated, this article is useful in that it warns appraisers to balance their analysis with a focus on both the details (adjustment by adjustment quantitative analysis) and the final result of the adjustment process. Applying the test of a qualitative analysis of pertinent factors can ensure a meaningful conclusion.


5. Wilson, Donald C. 1997. "The Principle of Rank Substitution". *Appraisal Journal* (January): p. 43-54. The most important pages are pages 49-54. This is a technical paper, based on a statistical approach to comparable sales analysis, suggesting that the heuristic logic "Rule of 2" applies in qualitative analysis. This rule states that in the trial-and-error search for similar utility among unique properties, a subject property must fall between at least two properties in terms of its aggregate utility. This thought-provoking article stands the test of time as a very interesting reference.


**Learning Objectives**

After completing this lesson, the student should be able to:

1. Explain the steps in the direct comparison approach.
2. Relate the direct comparison approach to its underlying economic principles.
3. Identify the data required to make a direct comparison analysis.
4. Explain and justify the sources of data used in the direct comparison approach.
5. Describe the various methods of making adjustments in the direct comparison approach.
6. Explain the difference between quantitative and qualitative adjustment techniques.
7. Explain how the adjustment process is applied to valuation.
8. Identify the units of comparison which are applicable to residential properties.
9. Calculate adjustments for basic, quantifiable methods.
10. Explain the term *reconciliation* as it applies to the direct comparison approach.
11. Explain the direct comparison approach’s applicability and its limitations.

**Instructor’s Comments**

Chapter 13 introduces the students to the direct comparison approach and begins by reviewing the appraisal principles that apply: supply and demand, substitution, balance, and externalities. Then, a discussion takes place about the applicability and limitations of the direct comparison approach. This is important for students to know because there may be instances when this approach cannot be used and the appraiser will need to explain this to his or her clients.

The five steps of this approach are:

(1) research the data on real estate transactions,
(2) verify the data,
(3) select units of comparison,
(4) analyze and adjust the comparables, and
(5) reconcile the value indications.
In Chapter 13, each step is explained and discussed as to how it is applied.

Chapter 14, titled "Comparative Analysis", introduces the ten major elements of comparison.

Once the elements of comparison have been selected, the appraiser has to quantify them by using various methods such as paired data analysis, statistical analysis, graphic analysis, trend analysis, cost analysis, or capitalization of rent differences. These adjustments can be percentages or dollar amounts between the comparable and the subject. The sequence of adjustments is important to ensure that the sale price is correctly adjusted. The simplest and most clearly understandable method is to prepare a market data grid so that the client can follow and understand the appraiser’s adjustment process.

In addition to quantitative analysis, a qualitative analysis should also be conducted as this provides a cross-check on the value indication of the quantitative approach. Qualitative analysis, unlike the quantitative approach that analyses each of the elements of comparison, compares each comparable sale on an overall basis with the subject property.

Real property appraisal combines both science and art. In a sense, the quantitative and qualitative comparison techniques illustrate both the scientific and artistic aspects of direct comparison. The quantitative technique is based on market observation and analysis (science), whereas the qualitative technique applies an appraiser’s judgment based on experience (art). Using one as a crosscheck on the other permits the quantitative objective result to be tested by means of the qualitative intuitive result.

The final step in the direct comparison approach is reconciliation, thereby completing the appraisal process and indicating a value estimate for the subject property.

For the purposes of this lesson, students should have a thorough understanding of Chapter 13, and the theory contained in Chapter 14. Students are expected to know the basic techniques of adjustment support. Students must understand the general concepts of the more complex techniques, but are not expected to be able to perform complex mathematical calculations and graphing. This lesson will introduce some of the basic approaches to adjustment support, with additional information and examples in Lesson 6.
Reading Notes

Chapter 13 – The Direct Comparison Approach

The direct comparison approach is based upon the derivation of an indication of value for the subject property by comparing similar properties that have recently sold (been listed for sale or rented) with the property being appraised, identifying appropriate units of comparison, and making adjustments to the sale prices (list prices or rental rates) of the comparable properties based on relevant, market-derived elements of comparison. The direct comparison approach is applicable when sufficient data on recent market transactions is available. It is applicable to all types of property. This approach is normally given most weight in the appraisal of vacant land, single family residential properties, condominiums (stratas), and for owner-occupied commercial and industrial properties.

Relationship to Appraisal Principles

The major principle that applies to the direct comparison approach is the principle of substitution; i.e., the value of a given property should be no more than the cost of buying another substitute property. Because of this principle, the appraiser should be well-informed about the market such that when it is time to locate comparable properties, the appraiser knows what is happening, what comparables are available, and where to find them. Again, nothing replaces market knowledge.

In applying this approach, the appraiser will look at the differences in the legal, physical, locational, and economic characteristics of comparable sales and listings. Also examined are the differences in the property rights, the sales dates, the listing dates, the motivation of the parties, and the financing.

A careful search must be made to find recent sales of similar properties which can be used as comparables. The data from these sales must be verified with one of the parties to the transaction: i.e., the vendor, purchaser, or the agent.

Because real estate is unique, properties are rarely identical. Comparable properties have to be adjusted for any major characteristics which are dissimilar to the subject property. A careful analysis of the market will indicate the size and direction of the adjustments. Adjustment values can be found by using paired sales to isolate certain components, such as condition or location. In other instances, general trends may have to be used if market data is lacking. Each method has its own advantages and disadvantages and should be fully explained in the appraisal report. In making adjustments, ensure that consistency is maintained among comparables, and that the order of adjustments is logical and systematic.

Appraisers need to be aware of how the market is moving and what is happening to the supply and demand for housing in the area. This should be an ongoing process for all appraisers, as they should read the local and national newspapers, trade papers, subscribe to specialized web sites covering real estate issues, network with market participants, and generally keep abreast of what is happening in real estate.

Accompanying this is the principle of balance: over time, one gets to know if there are too many or too few homes on the market in a certain price range or whether the strata condominium market is being under- or over-built and if prices are stagnant, falling, or increasing. Most real estate boards publish information about the number of units for sale as well as the number of units sold every month, broken down by category: residential, strata units, vacant residential lots, and duplexes.
Again, by knowing the neighbourhood and what is happening in and around it, the appraiser will be aware of any existing, new, or disappearing external factors. These factors can have a positive or negative effect on property values in the area. The widening of a road from, say, two to four lanes can mean more traffic and noise thereby making the property less attractive. Alternatively, it could signify that the area is expanding and the older homes on the street may be ready for rezoning from single-family to a multiple-family or even commercial zoning.

The opening or closing of a major retail development nearby may affect prices positively or negatively. It is up to the appraiser to investigate and assess what trend is occurring in this market.

The expansion of a rapid transit system or fast commuter bus line may mean new developments in and around the transit lines. Transit stations areas are a magnet for redevelopment of commercial and multi-family residential. Also, large industrial or vacant sites may be ripe for some form of redevelopment. This may have a positive effect on some properties and a negative effect on others. It is the appraiser’s job to decide how these external factors affect property values.

Again, nothing replaces market knowledge, so it is important to continually gather facts and data. Take different travel routes through a neighbourhood to observe any new developments or changing land uses. These may not be useful today, but they may prove to be very important in the future.

**Market Analysis and Highest and Best Use**

The conclusions of the market analysis and highest and best use are fundamental to the direct comparison approach. The market analysis in support of highest and best use identifies and analyzes properties in competition with the subject property, and the demand factors that influence its desirability and value. **Comparable properties analyzed in the direct comparison approach should have the same highest and best use as the subject.** If they do not, then consideration should be given to finding more relevant comparables.

**Bracketing the Subject Property**

When selecting comparable properties for analysis in the direct comparison approach, every effort should be made to bracket the subject property. Ideally, to present the most convincing appraisal analysis and strongest support for the estimate of value, the comparable properties analyzed should present a range of values and attributes both superior and inferior with respect to the subject property. The subject’s value should be within the unadjusted price range and be bracketed by the high and low prices defined by the comparables.

**Procedure**

The student should read and understand the five steps in the direct comparison approach and must be able to apply and verify each step.

Today, the gathering of information is easy since there are many sources of data, from government agencies to private reporting companies. Information is often available on-line or is sent directly to the appraiser by mail or electronic mail. There are many real estate websites that should be investigated to see what information they have on-line and how this could be useful when conducting appraisals. MLXchange, the MLS system used by
brokers throughout Canada reports detailed information and often includes photographs of listed properties. The final sale price may also be published. Other published primary sources of data on comparable property transactions include:

- public records (land titles or land registry records, municipal records, assessment records);
- commercially available data from electronic reporting, multiple listing and subscription services;
- published news articles in local newspapers or real estate periodicals; and
- interviews with market participants, such as parties to transactions - buyers, sellers, attorneys, appraisers, counsellors, brokers, property managers, mortgage lenders.

The best market information involves sales that are considered to be arm's-length transaction. These are transactions between unrelated parties under no duress. The common definitions of market value usually set you the criteria for an arm's-length transaction.

While the information from many of these sources has been checked for its accuracy before it is sent to the appraiser, it is important to stress that it is the appraiser's obligation to independently verify the data. Often when verification is required, it can be done online with the local government Land Title or Registry Office for a small fee.

Data Verification

Appraisers should verify information to ensure accuracy and to gain insight into the motivation behind each transaction.

Students should read Table 13.1 in the text and know the units of comparison for the various property types.

<table>
<thead>
<tr>
<th>Note: Adjustments are always made to the comparable properties in order to have them become as similar as possible to the subject property.</th>
</tr>
</thead>
</table>

For vacant land, add the bulk basis as a unit of comparison. Comparing properties on a "bulk basis" means a one-to-one comparison between the properties' attributes, as opposed to using some specified unit of comparison (such as dollars per front metre). For instance, if the subject property has 13m frontage and other lots in the subdivision with 13m frontage (and similar depth) are selling for $75,000, then the subject must be worth $75,000 since no adjustments are required. The bulk basis as a unit of comparison is appropriate only if the site dimensions are comparable and equally competitive in the subject market.

If the subject lot and comparables were a slightly different size, then they might be compared on a price per front foot. By dividing the sale price of the comparables by their frontage, you would find that these lots sold for $1,500 per front foot (ff). This rate could then be applied to similar lots. On the other hand, larger frontage lots may sell on a comparatively lower rate per front foot, so a 60 foot lot may sell for $1,400/ff or $84,000, while a 40 foot lot might sell for $1,700/ff or $68,000. The market data will reveal this information. If there was enough data, then a statistical analysis could be carried out and a trend line developed to specify the relationship between the frontage and the rate per frontage foot.

Single-family homes are compared on a one-to-one basis with adjustments added to or subtracted from the selling price. For instance, you are appraising the market value of a home with no garage. Your investigation has indicated that comparable properties (all with garages) have recently sold for $230,000 and that the market value of a garage is $15,000. Because these comparables are superior to the subject property, you would have to deduct $15,000 off their selling price to reflect what they would have likely sold for had they not had a garage (in other words, if they had been more similar to the subject property). Therefore, the adjusted sale price of the comparables would be $215,000. For comparables with inferior features, you would have to add to the sale price of the comparables, to reflect the fact that had they sold with superior features, they would have obtained a higher price. An important point to remember is that the prices of the comparables are always adjusted to make
them more similar to the subject, and not vice versa. These adjustments are summarized in Figure 5.2. They can be remembered by the acronym IASS Inferior-Add, Superior-Subtract.

<table>
<thead>
<tr>
<th>COMPARABLE PROPERTY</th>
<th>ADJUSTMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>If a feature of the Comparable Property is <strong>INFERIOR</strong> to the Subject Property</td>
<td><strong>ADD</strong> to the Sale Price of the Comparable Property</td>
</tr>
<tr>
<td>If a feature of the Comparable Property is <strong>SUPERIOR</strong> to the Subject Property</td>
<td><strong>SUBTRACT</strong> from the Sale Price of the Comparable Property</td>
</tr>
</tbody>
</table>

The units of comparison can be either metric or imperial depending on what the client wants or what is commonly used in the local market.

Analysis is generally carried out using a grid with the information laid-out in a chart-form so it is easy for the appraiser and client to follow the adjustments made to the comparables. See Table 13.2 of the text for an example. In Project 2, examine Forms 28 and 29. One is for the collection of the data relating to the comparables and the subject and the other chart is to show all the adjustments the appraiser has made to the comparables.

Under the heading "Elements of Comparison", it is important for the adjustments to be carried out in the exact order shown as it affects the final value. Refer to Table 13.4 of the text.

Since an appraisal is a gathering of facts followed by an analysis of these facts, the quantitative approach carries the most weight. However, there are times when not everything can be proven with facts from the market and a qualitative approach is required. This approach relies on personal observations and the appraiser’s instincts about the property, both of which are difficult to attach exact dollar values to. A comparable may just appear to be better or worse because of some innate quality.

When the analysis is complete, the appraiser must then reconcile the conclusions into a final value or a range of values, depending on what the client requested and the purpose of the appraisal.

**Reconciliation Process**

The importance of the reconciliation process is often underappreciated in the appraisal analysis. Appraisers should attempt to develop indications of value using as many methods as possible and plausible for the subject property. Even when using a single unit of comparison, each comparable will provide its own indication of what the subject property may be worth. The various value indications from the adjusted sales, for each unit of comparison, must be carefully considered and evaluated by the appraiser in reaching a conclusion. Once this has been done for each unit of comparison that has been applied, the value indications from each unit of comparison must be evaluated and reconciled into a final indication of value by the direct comparison approach. Figure 13.2 of the text provides an excellent summary of the questions the appraiser asks about the data and techniques applied in the direct comparison approach as the reconciliation process.
Lesson 5

Lesson 11 will address the reconciliation process in more detail. Suffice it to say at this point that reconciliation in its simplest form is reflected by mathematically averaging the results. However, except in simple situations, such as in estimating a monthly time adjustment as will be illustrated in the next section of this workbook, arithmetic averaging is not an acceptable method of reconciliation. The preferred approach is to reconcile via a reasoned and evaluative approach as indicated in Figure 13.2 of the text.

Applicability and Limitations

The appraiser should know the advantages and disadvantages of the direct comparison approach because it is so widely used and relied upon by the public. Any problems with the application of this approach should be noted in the appraisal report so that the reader understands the pros and cons. Its advantages include:

1. It reflects the actions of buyers and sellers and therefore should result in "market value"; and
2. It is easily understood and explainable.

However, the direct comparison approach also has a number of disadvantages:

1. In some instances, comparable sales might be difficult to find, being either few in number or non-existent;
2. Difficulties may be encountered in making comparisons between properties and between locations;
3. Since prices are historic, they may not represent current market activity;
4. Listings or unconditional offers may need to be used to indicate a value range, even though they are not completed sales transactions; and
5. Special use properties do not lend themselves to this approach, e.g., government properties, churches, sports arenas, etc.

While the direct comparison approach is the most appropriate method to use in most residential appraisals, it must be applied with care.

In the analytical and adjustment processes, the appraiser uses mathematical techniques to assist in adjusting sales prices of the comparables to the subject. Consideration must be given to the degree of similarity of the comparables and the subject. It is important not to lose sight of "reasonableness" of adjustments, or in other words, you must only make adjustments which an informed purchaser would consider when making an offer on the property. Attempts should be made to find those comparables that require a minimum of absolute adjustments.

The adjustments are best presented in a grid, because this allows readers to logically follow the reasoning of the appraiser. Written support for the adjustments should be provided in the report, each under its own heading, explaining the reasoning for why and how the dollar or percentage adjustments were calculated.

The appraisal report should discuss all methods used and the reasoning behind their application. Remember, all data and appraisal procedures must be backed up with common sense and market knowledge.
Chapter 14 – Comparative Analysis

Comparative analysis is the process by which a value indication is derived through the application of quantitative or qualitative techniques to adjust comparable property sale prices, list prices or rental rates in order to provide an estimate of value for a subject property in the direct comparison approach. Comparative analysis may also be known as adjustment analysis.

Elements of Comparison

The text lists ten elements which form the basis of comparison. These are summarized in the table below, along with examples of each element:

<table>
<thead>
<tr>
<th>Elements</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Rights Conveyed</td>
<td>Property subject to easements or restrictions.</td>
</tr>
<tr>
<td>2. Financing Terms</td>
<td>Down payment less than &quot;norm&quot;; Financing terms significantly different from &quot;norm&quot;.</td>
</tr>
<tr>
<td>3. Conditions of Sale</td>
<td>Sale part of foreclosure action; Non-arms' length transaction; Longer/shorter marketing time than &quot;norm&quot;.</td>
</tr>
<tr>
<td>4. Expenditures Made Immediately After Purchase</td>
<td>Repair costs; Remediateing contamination.</td>
</tr>
<tr>
<td>5. Market Conditions (Time)</td>
<td>Prices increased/decreased over time; Change in supply and demand.</td>
</tr>
<tr>
<td>6. Location</td>
<td>Market evidence that comparable sales reflect different price because of location.</td>
</tr>
<tr>
<td>7. Physical Characteristics</td>
<td>Size, condition, age, design, quality, extras, landscaping, etc.</td>
</tr>
<tr>
<td>8. Economic Characteristics</td>
<td>Aspects that affect net operating income of a property.</td>
</tr>
<tr>
<td>9. Use</td>
<td>Zoning bylaws, building codes, landscaping requirements.</td>
</tr>
<tr>
<td>10. Non-Realty Items</td>
<td>Personal items, business concerns, or other items that do not involve real property.</td>
</tr>
</tbody>
</table>

Items 1 to 4 are not common in most sales situations, but they have to be considered in analyzing the data since if they are present, they can have a significant impact on sale price. Items 5 to 10 will usually require some adjustment to make the comparable(s) more similar to the subject.

Quantitative adjustments must be applied in a specific order, first adjusting for property rights, financing, conditions of sale, expenditures made immediately after purchase, and time; then, the remainder of the adjustments can be in any order.

Rights Conveyed

When the potential of the real estate is affected either positively or negatively due to restrictive covenants, in-place leases, caveats, etc., adjustments within the evaluation must be made to account for their impact. The appraiser must, therefore, identify the real property interest that exists in the subject and comparable properties to determine the difference created by non-market contracts.
Rights conveyed are not typically a problem in most residential appraisals because if there is enough sales data to choose from, any comparable which involves less than a full bundle of rights can be omitted from the analysis.

**Financing Conditions**

- low interest rate mortgage assumptions
- conditional sales contracts
- purchase-money mortgages
- seller-paid concessions
- atypical financing

**Financing Conditions**

Differences in financing terms which may exist between the subject and the comparable properties utilized can affect the purchase price. In these situations, the appraiser must perform a cash equivalency analysis to determine the mathematical adjustment to account for financing which is different than that available in the open market as of the effective date of the appraisal. This involves the discounting of the cash flows created by the mortgage contract available as at the effective date at market interest rates. This is a precise mathematical calculation and must be supported by the analysis of market data to confirm the validity of the process.

Financing is another category which is not typically a problem, as long as there is sufficient sales data. Comparables with any unusual financing are typically omitted. However, if an adjustment is required, then the appraiser must try to determine what the market actually paid for the beneficial financing. Lesson 6 shows an example of this type of calculation.

**Conditions of Sale**

- motivated sellers
- motivated buyers
- related parties
- sales of adjacent properties
- sales with only one buyer or one seller

**Conditions of Sale or Motivation**

Motivation is sometimes difficult to determine because people do not always disclose their reasons for buying or selling. A sale with suspicious motivation behind it may have to be omitted from the analysis, unless one of the parties is willing to discuss it with the appraiser or the appraiser can find out the details of the transaction from a third party. In many fee reports, it is important to try and find out from one of the parties involved, the seller, the buyer or the salesperson, if there were any unusual circumstances involved in the transaction. If there were, then they should be explained in the report.

An unusual circumstance could include any expenditures that the purchaser must make once the sale is concluded, and this would typically be deducted from the market value of the property. In other words, a buyer expects to pay a certain price for a property, but if major expenditures have to be made then they will reduce their offer by what has to be spent to bring it back to a normal condition, similar to the price of other competitive properties.

**Expenditures Made Immediately**

- immediate repairs, deferred maintenance
- demolition, if warranted
- zoning or development approvals or changes
- remediation of contamination

**Expenditures Made Immediately After Purchase**

A knowledgeable buyer considers expenditures that will have to be made upon purchase of a property because these costs affect the price the buyer agrees to pay. Examples include costs to cure deferred maintenance, to demolish where warranted, to obtain land use control approvals or changes, or to remediate environmental contamination.
Market Conditions

Market conditions require a "time adjustment". This adjustment is done to account for changes in market prices since the historic date of the sale. If all comparable sales are current and the market is not changing quickly, then this adjustment is not necessary. However, if the sale is a month or two old or older, then the selling price may need to be adjusted up or down if market values have changed in the meantime.

Sales are analysed to determine the extent to which the pricing of the real estate has changed as a function of the time between transaction dates. The change is generally measured as a percentage from the previous pricing and is only valid after adjustments have been made for the other 4 elements affecting the sale price. The most reliable indicators are repeat sales in which the same property sells a number of different times in the marketplace, although if a property such as a house turns over very often in an otherwise stable neighbourhood, this may indicate some underlying problem.

A time adjustment is usually determined by paired sales analysis, where two similar or identical sales are compared to see what has occurred between the two dates. For instance, if a 15m x 34m vacant lot sold May 1 of this year for $100,000 and then sold again (or an identical lot sold) on August 1 for $110,000, then it has increased in value by $10,000 over these 3 months. This indicates an increase of 10% over 3 months or 3.33% per month.\(^1\)

Remember that time adjustments for vacant land and improved may not be the same. Do not apply generic city-wide statistical data to individual classes of property. For instance, improved properties may change at a different rate than vacant properties or commercial properties. They are all in separate markets and must be analysed as such. Also, properties with different zoning, different locations, and different sizes may have different rates of change.

Location

A location adjustment is made to adjust for comparables which are similar to the subject, except for the fact that they are in a different location which has some impact on value. An adjustment must be made to reflect how the value of a better or poorer location would have affected the sale price of the comparable.

For example, consider two properties which sold on the same date and were identical in all respects other than location. Sale #1 is in a cul-de-sac and sold for $110,000; Sale #2 is on a through-street with moderate traffic and sold for $100,000. The resulting difference of $10,000 is attributable to the better location of Sale #1. So, if we were appraising a property on a cul-de-sac and found a good comparable sale which is located on a high-traffic street, we would have to add $10,000 to its selling price to adjust for its inferior location. Alternatively, the adjustment could also be 10%. This adjustment brings the comparables to the same level as the subject, i.e., as if both were located on a cul-de-sac.

Physical Characteristics

Market derived adjustments should be utilized in order to account for physical differences between the subject and the comparables. Commonly found differences are building or lot size, frontage of lot on street, quality and condition of the improvements, extras or amenities as well as the functional utility of the property.

\(^1\) This is a simple time adjustment calculation which is sufficient in most instances. A more precise calculation would account for compounding, resulting in a monthly increase of 3.23% \([P V = 100,000; F V = -110,000; P M T = 0; N = 3; P / Y R = 1; \text{calculate I/YR}].\)
When making adjustments for physical characteristics, it is impossible to adjust for every single detail. You must know which characteristics the market considers to be most important and adjust only for those items. In some markets, certain items are more important than others. For example, in an upscale neighbourhood, swimming pools may be a positive feature, while in average class neighbourhoods, they may add less value or detract from value. Adjustments can also vary by property type in the same market. For example, house size may be a very important factor in smaller homes, but becomes less important as house size increases to a certain point. In determining adjustments, it is vital to know and understand how your market functions.

**Economic Characteristics**

This is more applicable to income type properties and not so much as to residential properties. These include all of the attributes of the property affecting its net operating income, such as operating expenses, quality of management, tenant mix, rent concessions, lease terms and expiration dates, renewal options, and expense recoveries.

**Use/Zoning**

An appraiser must address any difference in the use or the highest and best use of a potential comparable and the subject property. The appraiser must recognize this difference and determine whether the sale is an appropriate comparable and whether an adjustment is required.

This is most applicable to the valuation of vacant land, especially land other than residential. In most instances, appraisers will attempt to find properties with the same zoning so that everything is truly comparable. However, there may be times when this is impossible, requiring that comparables with different zoning be used and adjustments made to make them comparable to the subject.

**Non-Realty Items**

Non-realty components of value include personal property, business concerns, or other items that do not constitute real property but are included in the sale price of either the comparable or the subject property. Furniture, fixtures, and equipment in a hotel or restaurant are typical examples of personal property.

Almost every residential sale includes certain used appliances such as a fridge, stove, and maybe a washer and dryer. In relation to the overall selling price, the value of these items is usually insignificant. Therefore, appraisers do not normally adjust for these items (it can also be difficult to determine an amount for these items). However, if the sale price seems outside the normally expected range for that property type, then the appraiser should ask if anything else was included. Sometimes there can be other assets involved other than cash, such as other assets taken in trade (e.g., a car or boat) or other real estate (e.g., a vacant parcel of land or another home).

**Measurement and Application of Adjustments**

Once the appraiser has determined what has to be adjusted for, they then need to decide how to determine the size of the adjustments and the technique to quantify them. There are various methods available as explained in the text, but again it all comes down to what and how the market reacts to these items. Unless the appraiser knows how the market participants, buyers and sellers, determine the adjustments, then no matter what the appraiser does it will not accurately reflect the market.

Various analytical techniques may be used to identify and measure adjustments. Comparative analysis includes the consideration of both quantitative and qualitative adjustments. Quantitative adjustments are developed as either dollar or percentage amounts. Factors that cannot be quantified are dealt with using qualitative analysis. Various techniques used in quantitative and qualitative analyses are listed below.
Adjustment Methods

Where do adjustments come from? The answer is … from the real estate market. Adjustments are derived from analyzing market data by applying one or more of the following methods.

There are two types of analysis that an appraiser may undertake in the adjustment analysis: quantitative and qualitative. Quantitative analysis develops adjustments as dollar, percentage, or decimal amounts (“quantities”). Qualitative analysis makes non-numerical adjustments, such as rating comparable properties as superior or inferior to the subject, ranking them, and then placing the subject within this rank (evaluates comparables on relative "qualities").

Quantitative techniques include the following:

- paired data analysis (sales and resales of the same or similar properties)
- grouped data analysis
- secondary data analysis
- statistical analysis
- graphic analysis
- scenario analysis
- cost analysis
- direct comparisons
- capitalization of income differences

Qualitative techniques include:

- trend analysis
- relative comparison analysis (superior, inferior)
- ranking analysis
- personal interviews

Appraisers often use more than one method to support adjustments, and rely on a combination of techniques as a cross-check. Quantitative adjustments are much more common than qualitative adjustments, probably because of appraisal’s quantity surveying (cost-based) roots and also because both appraisers and appraisal clients find comfort in seeing concrete numerical values. However, some critics argue that qualitative methods better reflect how purchasers actually establish values: looking at a property’s quality as a whole versus making specific dollar adjustments for individual attributes. The following sections will illustrate these various adjustment techniques in the context of fairly simple, residential situations. The same techniques apply to all types of properties. The revenue generating characteristic of income properties provides additional data (revenues/rents, expenses, net operating incomes) that can provide further inputs to quantitative techniques.

Some Basic Quantitative Techniques

Paired Data Analysis

One of the most common and most effective techniques for supporting adjustments and quantifying their amount is through the analysis of paired data. This involves comparing two sets of information, isolating a single characteristic as the subject of adjustment, and determining that characteristic’s impact on sale price.
Consider the following example.

*Sale 1 is a bungalow on a standard lot that sold one year ago for $150,000. Sale 2 is a bungalow on a standard lot, and is highly similar to Sale 1 but sold one month ago for $166,500. Because these properties are similar in all respects other than date of sale, they can be paired to indicate an adjustment for market movement (time):*

<table>
<thead>
<tr>
<th>Sale</th>
<th>Sale Price</th>
<th>Date of Sale</th>
<th>Sale Price Difference</th>
<th>Time Diff.</th>
<th>Adjustment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$150,000</td>
<td>12 mos. ago</td>
<td>+$16,500</td>
<td>11 mos.</td>
<td>+$1,500/mo. or +11%</td>
</tr>
<tr>
<td>2</td>
<td>$166,500</td>
<td>1 mo. ago</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thus, on a simple basis via division of the total change by the number of months, this paired sale gives an indication of a time adjustment of +1.0%/per month over the past 11 months. The appraiser would ideally find several pairs and reconcile (often by simple averaging the results. Furthermore, other sources of data, such as MLS sales statistics for the area, would serve as helpful secondary support. Many real estate boards publish statistical data on changes in real estate values over time. Before relying on statistical data and trend information, the appraiser must confirm it is applicable given the characteristics of the subject property and must evaluate its reliability as adjustment support.

The paired sales technique can also be used to quantify other adjustments. Consider the following example.

*Sale 3 is a bungalow with an attached, single-car garage that sold one month ago for $169,000. Sale 4 is similar in all respects to Sale 3, except that it has no garage. It sold one month ago for $159,000. By pairing these two sales and analyzing as per the example above, they indicate that an attached garage has an impact of $10,000 on sale price, all other factors being similar."

In some cases, the paired sale adjustment can then be used to help isolate other characteristics. For example, with the time adjustment established (continuing our example above at a rate of +1.0% per month), further sales may be eligible for analysis. In the above example of the garage, if Sale 4 occurred 4 months ago, this would represent a second difference between it and Sale 3, ie time and the absence of a garage. The appraiser first applies the time adjustment of +1.0% per month, then Sale 4 can be equated to Sale 3 to isolate on the sale price difference due solely to the garage.

<table>
<thead>
<tr>
<th>Sale</th>
<th>Sale Price</th>
<th>Date of Sale</th>
<th># Months</th>
<th>Time Adj.</th>
<th>Time adjusted Sale Price</th>
<th>Garage Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>$169,000</td>
<td>1 mo. ago</td>
<td>0</td>
<td>0</td>
<td>$169,000</td>
<td>$5,230</td>
</tr>
<tr>
<td>4</td>
<td>$159,000</td>
<td>4 mo. ago</td>
<td>3</td>
<td>+ 3.0%</td>
<td>$163,770</td>
<td></td>
</tr>
</tbody>
</table>

So the difference attributed to the garage is not indicated by the difference between the two sale prices, i.e., it is not $10,000. There is another value-impacting difference, date of sale and the passage of time, which must be accounted for as well in the analysis.

Assuming that other paired sales support a garage adjustment of $5,200, two adjustments are now quantified - for time and the single-car garage. Now, this information can be used to analyze other paired sales where the difference in sale price can be attributed to more elements beyond time and the single-car garage. Assume two other sales were similar, except that one was more dated in time, and the other had a single-car garage and fireplace. By applying the conclusions already reached concerning the time and garage adjustment, one can isolate on the third potential value-impacting factor, the fireplace, and calculate its contributory value to the sale price in order to quantify the adjustment for the fireplace. Essentially, we are seeking the value in contribution of value-impacting differences between the comparable and the subject property.
Paired data analysis is an excellent method of quantify adjustments, particularly when there are few value-impacting differences between the comparables and the subject properties. This method becomes problematic in the absence of sufficient comparable sales, and appraisers are forced to use other techniques which may be less reliable and result in less reliance on the resultant indication of value.

Resale Analysis - A Form of Paired Data Analysis

A related approach that is specifically for time adjustments uses resales of the same property. A resale is a property that has sold twice in the past. Thus, its earlier sale transaction is paired with its latter transaction, as a type of paired sales approach. Consider the following example.

*Sale 5 occurred one year ago at $180,000. The property has just resold for $198,000. There were no changes made to the property in the intervening year. This indicates a change in sale price of $18,000, or 10% of the earlier sale price of the house. This equates to an adjustment for time of +10%/12 or +0.83% per month*

In resale analysis, the appraiser must investigate both sales of the subject property to ensure that there were no changes that would impact its sale price between the two sale dates, and confirm that any change in value was due solely to the passage of time (market conditions).

It is advisable to analyze two or more sets of pairings to make sure your results support one another. As we said before “one sale does not make a market”, likewise “one set of pairings may not indicate an accurate adjustment figure”.

Analysis of Simple Statistical Data

Most real estate boards in Canada publish general statistics on average prices, especially for residential properties. Various commercial firms publish similar information for commercial properties. Used appropriately, with due consideration of the strengths and weaknesses of using such data, these statistics can provide a useful indication of adjustment amounts. While direct market evidence is the strongest support for the quantification of adjustments, the analysis of general statistics can provide a useful back-up. One has to ensure that the data behind the statistics is as homogenous as possible, and related closely to the subject property. In statistical terms, homogenous data is uniform and of the same kind. For example, if you are appraising a corner service station, the most homogenous statistical data relevant to the service station would be derived from other corner service station with the same physical and financial characteristics as the subject property. When appraising a duplex property, statistics on apartment buildings would not be relevant. The best data is the sale of other duplex properties.

The relevance and degree of applicability of statistical information to the subject property must be carefully analyzed and considered by the appraiser in determining how or if it can be applied to the subject’s valuation, and what weight it can be given in helping to estimate value.

The following is an example of the use of general, published statistics as support for a time adjustment. The data for the case study is taken from a quarterly, online publication provided by *The Royal LePage House Price Survey*\(^2\). This is just one of several sources of similar information.

As a first step, one looks at the glossary of housing types to select the most appropriate model to ensure that the statistical information is as homogenous as possible with the subject property. Let’s say the subject property is a bungalow in West End, Halifax, Nova Scotia. Here is the Royal LePage definition of the bungalow housing type.

---

Having established that the "Detached Bungalow" is appropriate for the subject property, review the data for this model for Nova Scotia.

For West Halifax, the table indicates a +10.5% increase in value of a detached bungalow over the past year. This equates to a time adjustment of approximately 0.9% per month over that time frame. This information may now be used in support of the results of analyzing paired sales or resales, or on its own in the absence of better information. However, since this adjustment is derived from less reliable sources than specific, detailed market comparison, the appraiser must appropriately assess its reliability as an indicator of an adjustment amount.

<table>
<thead>
<tr>
<th>Atlantic Provinces</th>
<th>Nova Scotia, Prince Edward Island, New Brunswick &amp; Newfoundland</th>
<th>Detached Bungalow</th>
<th>Price Jul-Sept 2010</th>
<th>Price 3 months ago</th>
<th>Price 1 year ago</th>
<th>% Change 1 year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nova Scotia</td>
<td></td>
<td>Bedford</td>
<td>279,000</td>
<td>330,000</td>
<td>275,000</td>
<td>1.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dartmouth</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Cole Harbour/Colby/Willowdale</td>
<td>197,000</td>
<td>200,000</td>
<td>197,000</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Eastern Passage</td>
<td>184,000</td>
<td>240,500</td>
<td>183,000</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Woodlawn/Montebello</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Halifax</td>
<td></td>
<td></td>
<td>240,000</td>
<td>249,000</td>
<td>240,000</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Clayton Park/Fairmount/Rockingham</td>
<td>312,000</td>
<td>300,500</td>
<td>299,000</td>
<td>4.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- North End</td>
<td>220,000</td>
<td>225,000</td>
<td>214,000</td>
<td>2.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- West</td>
<td>232,000</td>
<td>232,000</td>
<td>210,000</td>
<td>10.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Sackville</td>
<td>210,000</td>
<td>212,000</td>
<td>209,000</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Cost-based Adjustments

Cost-based adjustments are also an example of the application of a quantifiable adjustment. The advantage of cost-based adjustments is that they are easily obtained and verifiable. Builders, contractors and cost manuals can provide accurate estimates of costs to repair, costs to modernize, costs to add a component to a building either when under construction or as a renovation afterwards. The challenge to using cost-based adjustments is whether they reflect market value. Remember Lesson 1 - cost does not necessarily equate to market value, but it may act as a guide or help establish a range of values.
Consider Figure 2.1 in Lesson 2 which looked at the principle of contribution. The full cost invested in improving or adding an element to a property is not always reflected in the impact on the market value of the property. There is not necessarily a direct relationship between cost and market value. Further consider the fact that buildings depreciate over time. Should cost new be the measure, or depreciated cost?

Cost-based adjustments are most reliable as the basis to estimate the adjustment for elements such as expenditures immediately after purchase. If the purchasers of an older commercial building knew (and therefore, reflected in their sale price) that the roof was leaking and in need of immediate replacement and would cost $20,000, this cost would be the basis for making an adjustment. However, using the cost estimate to build, say a two-car garage, to adjust a comparable sale with a two-car garage versus the subject property with no garage, may not be an accurate estimate of the contribution of a two-car garage to the market value. More direct market evidence, such as that offered via a paired sales analysis, would be a much more accurate gauge of the correct market value adjustment associated with the existence or not of a garage.

Other Quantitative Techniques

There are other methods of quantifying adjustments in the application of the direct comparison approach, but it is beyond the scope of this introductory course to describe them in detail. A general understanding of what is included in the assigned reading will suffice.

**Adjustment Substantiation and Support**

Appraisal standards mandate appraisers must have support for all adjustments made. However, in residential form reports, it is common for appraisers to simply provide conclusions of the adjustment analysis in the report, with no substantiation offered. Sometimes the appraiser will explain where these numbers came from, other times not. While the reasons for this omission may be understandable, such as the time constraints on appraisers and the space constraints in the form, it does not excuse the requirement for adjustment support. An appraisal client should review adjustments critically, in particular where the adjustments are significant (e.g., say 20% or more of sale price).

- Is the direction of the adjustment (plus or minus) logical?
- Does the size seem reasonable, relative to the sale price?
- Did the appraiser provide support or at least explain the basis for adjustments?

If the appraiser neglected to explain and/or support significant adjustments, the client may want to question the appraiser about this omission.

Paired sales analysis is the best option because it reflects market behaviour. However, in practical terms it can be difficult to apply in all situations. It is probably best for large adjustments, like the size of a home, basement finish, or adjusting for the size of the garage. For smaller adjustments like the overall condition of the house, or where the subject and comparable differ in floor area by less than 100 sq.ft., or where there may be small design differences, the paired sales analysis may not be applicable and the appraiser’s experience may be more important.

Statistical, graphic, and trend analysis may also be used, but for many appraisers the time and effort to do this is not warranted and they may not have the expertise or education in statistical analysis to do a proper job. Larger companies or government agencies, like assessment and government land departments, may have the necessary resources and expertise and carry out these types of analyses.
Types of Adjustments

Percentage adjustments

There are two different methods used when making percentage adjustments, depending on whether the subject is being compared to the comparable or the comparable is being compared to the subject. For example, consider a comparable which sold for $100,000 and is considered to be 10% superior in location and 15% inferior physically to the subject. The superior location of the comparable requires a downward adjustment to its sale price, while its physical inferiority requires an upward adjustment. The net adjustment to the comparable is an upward adjustment of 5% which, when the comparable is being compared to the subject, is treated as follows:

\[
\begin{align*}
$100,000 &= X(1 - .05) \\
X &= $100,000 / .95 \\
X &= $105,263
\end{align*}
\]

Conversely, if the subject property was considered to be 10% inferior in location and 15% superior physically to the comparable then, again, the comparable's net adjustment would be an upward adjustment of 5%. However, in this case the subject is being compared to the comparable and therefore results in the following treatment:

\[
\begin{align*}
X &= $100,000 \times (1 + .05) \\
X &= $105,000
\end{align*}
\]

The method used should correspond with what the market uses. In most instances, appraisers tend to state the comparable is better or worse than the subject, so the first method would be used.

Dollar adjustments

In some situations, it is easier to make a dollar adjustment rather than a percentage adjustment. It is up to the appraiser to decide which is best and to explain and show in the report how the adjustments were derived.

It should be pointed out that if percentage adjustments are used, quite often the appraiser will convert that percentage adjustment to a dollar figure and show this in the adjustment grid. See Table 13.4 in the text.

<table>
<thead>
<tr>
<th>Method</th>
<th>Technique</th>
<th>Strength/Weakness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage</td>
<td>Difference with comparables expressed as a percentage.</td>
<td>Best suited to market (time) and location adjustments.</td>
</tr>
<tr>
<td>Dollar</td>
<td>Difference with comparables expressed as dollars.</td>
<td>Best suited to physical, motivation, financial.</td>
</tr>
</tbody>
</table>

Sequence of Adjustments

Table 13.4 also shows the sequence of the adjustments to be applied to the comparables, as does the foregoing content of this Lesson. In most instances, it is important for this sequence to be followed, unless local market conditions show otherwise. When making adjustments, it is important that all of the comparables be adjusted in the same sequence to ensure that they remain comparable to each other and the subject. Changing the order of adjustment for each comparable will result in incorrect value estimates rendering the final value estimate incorrect.
Market Data Grid

Market data grids should be used as a guide by the appraiser when collecting and analyzing the data and making adjustments. They assist the appraiser and client to see what adjustments were made, the amount of each adjustment, and the total of all the adjustments. Net adjustments are the difference between the property’s sale price and adjusted sale price. Gross adjustments are the total adjustments made, ignoring negative signs. For example, if a property were adjusted for time +$10,000, location -$5,000, and size -$6,000, then the net adjustment is -$1,000 and the gross adjustment is $21,000.

Gross adjustments are helpful in understanding the degree of manipulation by the appraiser from a property’s actual sale price. The less adjusting needed, the more similar the comparable, and thus preferable for an appraisal. Consider a second comparable that only required one adjustment: time +$2,000. On a net basis, the first comparable above seems superior, but on a gross basis you can readily see that it required more adjusting for market movement, superior location, and superior size. The second comparable is more similar to the subject.

Adjustments can be compared to the original selling price to find the overall percentage adjustment. If the absolute/gross percentage adjustment is high, say in the 15-30% range, then the comparability of that sale may be suspect. Lower absolute/gross percentage adjustments will make the comparable sale more credible in indicating a value for the subject.

Market data grids are ideally prepared using spreadsheet programs which will automatically calculate the adjusted sale price of the comparables and the absolute/gross dollar amount or percentage.

Remember to write a thorough and detailed analysis of why and how the adjustments were arrived at so the reader can see and follow your work.

Qualitative Analysis

Application of a quantitative analysis followed by a qualitative analysis provides a strong framework upon which to provide an estimate of value. Each technique provides a crosscheck on the value indication of the other. In qualitative analysis, comparable sales are identified as inferior, similar, or superior overall to the subject property in order to bracket the probable value range of the subject property.

As mentioned earlier in this lesson, it is often difficult to prove every adjustment with sales evidence and in these cases the appraiser has to rely on qualitative data such as relative comparison analysis, ranking analysis, and personal interviews.

Relative comparison analysis is the study of the relationships indicated by market data without recourse to quantification. This technique reflects the imperfect nature of real estate markets. Comparable sales are analysed to determine whether or not the comparables’ characteristics are inferior, similar, or superior to those of the subject property. Unlike quantitative analysis, the adjustments considered in relative comparison analysis are not expressed in dollar or percentage amounts.

Ranking analysis is a variant of relative comparison analysis. In ranking analysis the comparable sales are ranked in descending or ascending order and the appraiser positions the subject property in its appropriate relative position in the array. Ranking analysis can also be used to array or sort the comparable data for differences in specific elements of comparison, e.g., size, corner of interior lot, frontage, etc. Specific value trends can thereby be established.
Personal interviews to solicit professional opinions of the subject’s value vis-à-vis the comparable sales provide secondary data for qualitative analysis, hence should supplement rather than replace one of the other qualitative techniques. Do not hesitate to contact knowledgeable market participants such as developers, real estate salespeople, and property managers because they will usually willingly provide their opinions. These interviews provide insight into establishing appropriate ranking. If possible talk to the purchasers to see how and why they arrived at their purchase price. What was their motivation?

The next lesson further explains and provides examples of how the qualitative analysis techniques are applied.

Reconciliation

When the above analysis has been completed, the next task of the appraiser is to reconcile the findings into an estimate of value. At this point, the appraiser will review the methods used to see if the value indications arrived at are reasonable.

The text poses a number of questions that appraisers should answer to ensure that their analysis seems reasonable; it is important that the questions be rigorously applied to all of the comparables. Failure to do so will result in incorrect value estimates and an incorrect final estimate of value for the subject.

The appraiser should check and recheck their figures as mathematical calculation errors are quite common. Also, typographical errors are also very common and may occur where the appraiser has transposed numbers incorrectly from one document to another, from one page to another, or from their notes. Make sure your rough notes are easy to read and the numbers you write down are clear, so that you do not get confused when reading them.

Are the house and sites sizes correct? When a house is measured and sketched in your notes, make sure that the measurements are correct. When you arrive back in your office and check your measurements, you may find that one side of the house is shorter than the other. The only alternative is to go back and re-measure the house. So always check your figures before you leave the property.

The idea of adjustments is to narrow the price range of the comparables. If the range between the high and low sales comparable was say $30,000 then the adjusted range should be less than that amount as the idea of the adjustments is to try and have all the comparables bracket very closely the final estimated value of the subject. There have been situations where the range has widened instead of narrowed and indicates the adjustment process should be reviewed to try and reduce the range.

When you have arrived at your final estimate of value by this approach, take the time to think about the final value and does it make sense in light of the comparables used in the report and is this what a reasonable person would buy or sell the property for in the open market. In other words, does it meet the criteria of market value.
Summary

The direct comparison approach is the most common and most accepted approach to estimate real property value. Lesson 5 addressed the selection and verification of comparables, the types of adjustments that may be required to the comparables, and the order of applying the adjustments. Three types of adjustment analysis were presented: quantitative, qualitative and hybrid. Lesson 6 will further explain and demonstrate these three techniques.

Review and Discussion Questions

1. (a) Explain the basic principle which underlies the direct comparison approach.

   (b) In your own words, briefly describe the process used in appraising a property using the direct comparison approach.

2. List three sources of data found in your area of residence that can be used in the direct comparison approach.

3. List the nine main elements of comparison in the proper order and briefly describe each. Explain why elements 1, 2, and 3 have to be considered first before elements 4 through 9.

4. What is meant by a unit of comparison and what principal units of comparison are associated with what types of residential property? Find a publication in your area which lists real estate for sale, and use information from this publication to illustrate two of these units of comparison.

5. (a) What is meant by reconciliation?

   (b) When you are reconciling the adjusted values in the direct comparison approach, explain how you would decide which represent the best comparables.

6. Why is the principle of supply and demand critical to the direct comparison approach?

7. When is the direct comparison approach to value the most useful? When is it least applicable?

8. What is the main difference between the quantitative and qualitative adjustment techniques?

**PLANNING AHEAD**

Go to Project 2 and read what you will be required to do in this assignment. This assignment will require you to do significant research on characteristics of the property you choose in terms of market value for appraisal purposes. You will likely find this assignment much more manageable if you do some of the work required for it well in advance. You may find that the best sources of information for this assignment are professionals or consultants in this area, such as real estate brokers or appraisers. Finding appropriate contact people and establishing a relationship such that they will be willing to assist you may take some time, so it is strongly recommended that you begin this process as soon as possible.
ASSIGNMENT 5
Chapter 13: The Direct Comparison Approach
Chapter 14: Comparative Analysis

Marks: 1 mark per question.

1. The principle of ___________ holds that the value of a property tends to equal the cost of acquiring an equally desirable substitute property.
   
   (1) supply and demand
   (2) balance
   (3) substitution
   (4) externalities

2. In the sequence of adjustments, when is an adjustment for time made?
   
   (1) First, before any other adjustments.
   (2) Last, after all other adjustments have been applied.
   (3) Immediately before property adjustments are made.
   (4) It does not matter.

3. Which of the following statements about reconciliation is/are TRUE?
   
   A. Reconciliation is inherent throughout the appraisal process.
   B. Reconciliation is only done after the three approaches to value have been completed.
   C. Reconciliation involves the appraiser asking several questions about the data and techniques applied in the direct comparison approach.
   D. Reconciliation is only used in the direct comparison approach.

   (1) A, B, C and D are all true.
   (2) Only A, B and C are true.
   (3) Only C and D are true.
   (4) Only A is true.

4. ______________ is a qualitative technique used to study comparable sales.
   
   (1) Paired sales analysis
   (2) Statistical analysis
   (3) Ranking analysis
   (4) Graphic analysis

***Assignment 5 continued on the following page***
5. Which of the following statements regarding the direct comparison method of appraisal is TRUE?

(1) The direct comparison approach must always be used for properties that possess latent value.
(2) The direct comparison approach reflects market behaviour and uses a combination of qualitative and quantitative approaches to account for dissimilarities in comparables.
(3) To apply the direct comparison method of appraisal, the appraiser estimates the market value of the subject property using as evidence, the sale prices of similar properties which sold at any time prior to the appraisal.
(4) The direct comparison method of appraisal is the most inexact approach for finding market value since cost and market value are not necessarily equal at any particular time.

6. Fred is an apprentice appraiser, and has been asked to undertake a quantitative analysis in support of adjustments as part of a new assignment to estimate the market value of an apartment building. Which of the following would Fred NOT consider applying?

(1) Trend analysis
(2) Grouped data analysis
(3) Statistical analysis
(4) Scenario analysis

7. Philip has been asked to appraise the site of a potential apartment building, containing 25,000 square feet. The land is zoned R-4, which permits a density of 40 units to the acre. A 25,000 square foot site zoned R-6, two blocks away, sold recently, between two unrelated parties, at market value. R-6 is also a residential zoning, and it permits 60 units to the acre. How would Philip treat the R-6 sale in considering whether or not to use it as a comparable for the subject’s appraisal?

(1) Philip would reject this sale as it has a much greater permitted density for development.
(2) Philip would use this sale to develop a sale price per actual square foot of land as an indicator of the subject’s value.
(3) Philip would use this sale to develop a sale price per developable unit as an indicator of the subject’s value.
(4) Since the sites are the same size, Philip would value the subject property based on the unadjusted sale price of the nearby sale.

8. Which of the following statements is FALSE?

(1) The subject’s highest and best use is not relevant to the highest and best use of the comparables that are selected.
(2) The highest and best use of the comparables should match that of the subject property.
(3) The highest and best use of the subject is fundamental to the direct comparison approach.
(4) The highest and best use of the subject provides the basis for research for comparable properties.

***Assignment 5 continued on the following page***
9. Adjustments for real property's rights conveyed reflect:
   (1) physical differences in the subject and the comparables.
   (2) differences in the rights in realty transferred between the subject and the comparables.
   (3) differences in the market on the effective date and the comparables.
   (4) differences in the motivations of the sellers and buyers on the date of sale.

10. Which of the following factors should be considered when using the direct comparison method of appraisal to value a house?
   A. Whether the comparables being used can be classified as "recent" sales.
   B. If there is an adequate number of comparables that can be used for comparison.
   C. Whether the dimensions of a comparable property's lot are different from the subject property's lot.
   D. Whether or not the comparables are similar to the subject with respect to legal title.
   (1) Only factors A, B, and D should be considered.
   (2) Only factor D should be considered.
   (3) Only factors A and B should be considered.
   (4) All of the above factors should be considered.

11. Current listings that have been exposed to the market for a reasonable time:
   (1) tell the appraiser what the subject's market value cannot exceed.
   (2) tell the appraiser what the subject's market value is.
   (3) tell the appraiser what the subject's value-in-use is.
   (4) tell the appraiser what the subject's investment value is.

12. Which of the following statements is TRUE?
   (1) The direct comparison approach is most applicable for special purpose, unique properties.
   (2) The direct comparison approach is used only to establish vacant land value.
   (3) The direct comparison approach is applicable for all types of properties if sufficient comparables exist.
   (4) The direct comparison approach is inappropriate for owner-occupied, income properties.

13. Which of the following is NOT a typical unit of comparison for an office property?
   (1) Price per square foot of net rentable area
   (2) Price per square metre of usable area
   (3) Price per square foot of gross building area
   (4) Price per square foot of building site
14. Edna has been researching a property transaction where a neighbourhood shopping centre sold from ABC Company to a subsidiary of itself in order to transfer tax obligations. Based only upon this information, how would Edna categorize this transaction?

(1) A good sale comparable.
(2) A non-arm's length transaction.
(3) An arm's-length transaction.
(4) A distress sale.

15. You have just been assigned to complete the appraisal of an old, one-storey house in Coquitlam and are conducting an analysis of comparable sales. You have found a comparable property that is similar in all respects except that when sold, the seller arranged a buydown, offering the buyer an interest rate of 1% below the market rate. Which of the following statements is/are TRUE?

A. You must consider the fact that the buyer may have paid more than the market value of the property because of the below-market financing.
B. You must consider the fact that the buyer may have paid less than the market value of the property because of the below-market financing.
C. The financing terms of a sale have no bearing on its price, and therefore do not need to be considered when analyzing comparable sales.
D. Non-market financing arrangements only warrant adjustments to the sale price of comparable properties if market data suggests that they affect value.

(1) Only statement C is true.
(2) Only statements A and D are true.
(3) Only statements B and D are true.
(4) Only statement D is true.

16. An opinion of market value via the direct comparison approach is through the eyes of:

(1) well-informed purchasers
(2) well-informed sellers
(3) well-informed brokers
(4) uninformed buyers

17. Which of the following statements regarding quantitative adjustment techniques is FALSE?

(1) In paired data analysis, an adjustment derived from a single pair of sales is not necessarily indicative of market value.
(2) Regression coefficients developed for a given statistical model cannot be mixed with other market adjustments developed from paired sales analysis or other market data comparison techniques.
(3) When performing a graphic analysis, a simple graphic display of grouped data may reveal market trends.
(4) When performing a paired data analysis, the difference measured when analyzing pairs of adjusted values always represents the actual difference attributable to the distinguishing characteristic.
18. A conditions of sale adjustment reflects:

(1) the differences in the market on the effective date of the appraisal and the dates of sale of the comparables.
(2) the differences between the motivations of the seller and buyer on the date of sale of a comparable and the typical motivations of buyers and sellers as described in the definition of value.
(3) the differences in sale prices of properties that sold for cash and the ones that sold with financing.
(4) the differences in the sale prices of properties that sold from no-related parties.

19. Marcus is using the direct comparison approach to appraise two single-family, residential properties in Montreal. The two properties have similar features, are located in the same neighbourhood, and all other characteristics are very similar, except for the size. Property A is substantially smaller than property B. Which of the following is TRUE?

(1) There should be no appreciable difference in the price per square foot because all other characteristics of the properties are so similar.
(2) The price per square foot of Property A may be less than that of Property B because of economies of scale.
(3) The difference in size would only result in a difference in total property price and would not affect the price per square foot of the home.
(4) The price per square foot of Property A may be greater than that of Property B because of economies of scale.

20. Which of the following statements is TRUE?

(1) By analyzing the highest and best use of land as though vacant, an appraiser addresses the question of whether an existing improvement should continue in use or be replaced by a new improvement.
(2) When a site is not vacant, an appraiser determines only the highest and best use of the property as improved.
(3) In an analysis of highest and best use, the market usually limits the number of alternatives to a few logical choices.
(4) The four criteria for highest and best use analysis are generally not considered in a specific sequence.

20 Total Marks

***End of Assignment 5***