

Counseling Under Conditions of Uncertainty

Probability Analysis in Real Estate Practice

BY ROLAND DEAN NELSON, CRE

PLACE YOURSELF IN THIS POSITION. You are asked to counsel a client on a piece of vacant land currently zoned single-family residential, with all common municipal utilities, located on a paved two-way street. This site is also a corner location and was originally occupied with a single-family home built in the 1920s, which burned to the ground several years ago. Just one block north of the Subject rezoning took place one year ago for a small, new, neighborhood strip shopping center, which is in the process of being leased out. The Subject's neighborhood is seen to be in the process of revitalizing itself and becoming more commercially oriented.

A doctor has indicated that he would be most interested in occupying a small, new, neighborhood medical clinic on this site. An investor, who would build to suit, has asked you to provide him with a reasonable "current" value of this site. Your investigations with the local zoning board indicates a general reluctance by the community to rezone the property now, or in the near future.

From researching current vacant land transactions, you are able to ascertain the indicated value "if" rezoning to office

use were permitted, and you can also estimate the indicated value "if" rezoning will not take place; a much lower value, as single-family would be the result.

Your client, the investor, wants a current indicated value. With this he will feel confident to make an offer to buy the property.

How would your valuation be effected by these factors?

You really cannot just say that it is worth so much without rezoning and is worth so much rezoned, and split the difference.

This situation offers the appraiser the opportunity to provide the client with a Probability Analysis.

It could require the counselor to question the local community planning department for an insight into their opinions.

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It would be reasonable to explore other similar recent rezoning actions. It could also cause the counselor to consult with attorneys experienced in this field and cause you, as the counselor, to estimate the costs during the rezoning (taxes, insurance, and interest on the value) process.

With the current "as zoned" value (assuming a normal marketing period) and the present worth of the rezoned value in mind, the counselor can decide if indeed the probability is 75/25 or, say for illustration purposes, a 75% probability that the property would end up being rezoned and a 25% probability that it would not be rezoned. At this point the counselor could take 75% of the rezoned value and add to it 25% of the non-rezoned value with a time and expense allowance for a current "as is" value estimate. However, does this take into consideration the time value of money or cost(s) to rezone? If not, then deductions to account for them would be required.

This is a relatively simple probability analysis. Now let's look at another situation that is a little more complicated.

Let's hypothecate a high quality "headquarters" office building that you have been asked to analyze, assuming it is vacant and available in the current marketplace. Let's assume that your instructions are further stated that you are not to assume the present occupant is going to be available as a potential occupant/purchaser.

Typically, you find out that a headquarters office building is in the area of a +60% "efficiency" building. This "efficiency" rate means +60% is usable office space and 40% is interior atrium, or decorator lobby space, not typically rentable space. This fits the subject's description.

Usually, "headquarters" buildings of this type are show-off grandiose, prestige-type status symbols for the occupant.

Typically, modern office buildings have a +90% efficiency (usable building) ratio to total building area.

Your observations of the market quickly tell you that the typical office building investor usually pays for "usable" areas and this further means that the typical office building owner does not want the "carrying costs" of the non-usable building areas. These carrying costs can include property taxes, maintenance, insurance and utilities. These costs can and most often do, contribute to lower values as a typical income investment office building in the +90% efficiency area, with everything else from location to construction and condition being equal.

So now your investigation suggests that the highest value for this property would be as a headquarters office building, probably based upon a Cost Approach, and the lowest value as an investor office building with multi-tenant occupancy. Suppose you also find another niche in the marketplace to be a single user who is not a headquarters occupant and who is not an income-investor type of owner. This potential ego-driven occupant could be an owner-user or partial owner user and part income investor who would most probably pay much more than the net-income-driven investor and pay substantially less than the headquarters occupant.

This is where the counselor can effectively utilize a Probability Analysis.

For illustration purposes, let's say the counselor has come up with the following suggested values:

Suggested Value as Headquarters Building:
\$10,000,000

Suggested Value as an Owner-User Building:
\$7,000,000

Suggested Value as an Investor Building:
\$5,500,000

This scenario is not considered to be that unusual in the marketplace. Both the potential owner-user and the investor know that the excessive improvements required by many headquarters users are not recoverable in the market in the event of a sale.

Now, the counselor who has done his or her work and investigations carefully can apply a Probability Analysis. Let's say that the appraiser believes that there is only a 10% probability that "if" the property were offered on the open market, for a reasonable time period, a headquarters buyer could be found. Also suppose that the counselor feels that there is a 30% probability, or chance, that a partial owner-user can be obtained in the same general time period. This also means that there is a 60% probability that an investor will be the eventual purchaser if the property is offered on the open market.

Using the Probability Analysis Approach to value, we find the following:

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Indicated Value as Headquarters Building:

$\$10,000,000 \times 10\% = \$1,000,000$

Indicated Value as an Owner-User Building:

$\$7,000,000 \times 30\% = \$2,100,000$

Indicated Value as an Investor Building:

$\$5,500,000 \times 60\% = \$3,300,000$

Total Indicated Value: \$6,400,000

Is the \$6,400,000 a valid indicator of Value?

The counselors cannot say for certain that the office building will be sold to any one of the three. If the counselor says the value is \$10,000,000 as a Headquarters building and it is put on the market and does not sell, the counselor has done his client a disservice. If the appraiser picks either of the other two possibilities as the Highest and Best Use, he has also not responded to the proper counseling assignment solution.

When the counselor is confronted with a counseling assignment where the property has more than one highest and best use, it is considered most reasonable by the authors to value each good possibility separately and, with reason and forethought, apply a Probability Analysis.

In general most commercial counselors are using Probability Analysis when they utilize a Discounted Cash Flow (DCF), whether it be for an office building, shopping center, etc.

Often times in counseling, utilizing the DCF approach different scenarios are used for rent or sale price projections, suggesting different values, and often a range in value is indicated by employing different yield rates.

The reader can easily see that a Probability Analysis is really nothing new. It has wide application possibilities and can be utilized very effectively. ■