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program undoubtedly covers all bases, the reviewer may rave about it—but if it is too difficult to learn and too easy to forget, it won't help the small user.

General market software is difficult to review for a specific market. The reviewer must thoroughly understand the software in order to pick and choose the most important elements, and must recognize the specific uses an appraiser will have for the product. Even though no one may use the full capabilities of modern word processor or spreadsheet programs, the reviewer should have a working knowledge of everything these programs can do to ensure nothing important is left out of the discussion.

Although it isn't always possible to read a review by someone who is knowledgeable in our own field, there are interesting reviews in computer magazines and occasionally in major newspapers. While product reviews in newspapers are often superficial and too "newsy" to be useful, reviews in computer magazines should be highly informative, especially on technical matters. Even in magazines, however, personal preferences still may be given too much weight. Several magazines routinely publish comparative grids that rank programs like software suites and their components. These charts look comfortingly official, but underneath there is inevitably a certain amount of personal preference—or prejudice.

So what—or whom—is an appraiser supposed to believe? The best bet is to read any general reviews to get an overall idea of the program, but also try to find, and read closely, reviews written by other appraisers or people in related fields. Take the advice of other appraisers, but remember that no one knows your office as well as you do. QB

How Valuation Software Could Be Designed to Detect Errors in Cash Flow Analysis

by John Simpson, MAI

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Valuation software vendors try to address the typical appraiser's needs by providing a variety of modules for real estate valuation. Many improvements have been made over the years, but software vendors have yet to develop a simple format that will prove their programs' internal integrity, thus offering an easy and accurate means of checking appraisals for errors.

A simple format that will prove a program's internal integrity would offer an easy and accurate means of checking appraisals for errors.

How well an appraiser understands the valuation software's internal workings is as essential to developing a sound appraisal as his or her understanding of discounted cash flow analysis is. Nowhere is this concept expressed more vigorously than in the interpretations for DCF analysis provided in The Appraisal Foundation's Uniform Standards of Professional Appraisal Practice, Statement 2, which states the following:

"Standards Rule 1-1(b) states that the appraiser must not commit a substantial error of omission or commission that significantly affects the appraisal. Standards Rule 1-1(c) states that the appraiser must not render appraisal services in a careless or negligent manner, such as a series of errors that, considered individually, may not significantly affect the results of an appraisal but which, when considered in the aggregate would be misleading. These two rules are significant for DCF analysis because of the potential for the compounding effect of errors in the input, unrealistic assumptions, and programming errors.

"... the appraiser is responsible for the entire analysis including the controlling input, the calculations, and the resulting output ... The results of DCF analysis should be tested and checked for errors and reasonableness. Because of the compounding effects in the projection of income and expenses, even slight input errors can be magnified and produce unreasonable results."

Think about it for a moment. You prepare a cash flow forecast for a proposed or existing building and then submit the analysis to a reviewer. He or she will carefully scrutinize the cash flow and ask you questions, usually about numbers used in it. Remember that your work is expected to comply with provisions stated in USPAP.

When you are asked a question about the cash flow model, you should know about the internal workings of the software well enough to answer the question. If you are not familiar with your software and it is the source of a mistake in your valuation, getting to the root of the problem could be difficult. Important relationships could be buried among exhaustive printouts, or the software could have been designed in such a way that the numbers themselves are

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hard to derive. Save yourself these headaches—at worst, they could result in lawsuits—by understanding how your software works.

To verify internal integrity, let's use tenant rollover expenses as an example. When a lease ends, there are usually a number of market items that would affect the incomes and expenses for that tenant over the following year. First, the lease rate may or may not roll over to the market rate. You must consider the following: probability that the tenant will renew the lease, number of months of downtime, tenant improvement costs per square foot, leasing commissions, free rent, credit loss, and probability that an option will be exercised.

Wouldn't it be nice to see how each of these items is considered? Some of these relationships are presented in an individual tenant cash flow projection with the incomes and expenses of individual tenants for each year of the projection period. If many of these items are not presented, you are left to guess whether all these items were factored in at rollover time. Since you must answer review appraisers' questions on these items, you need to have all these items presented in a simple, coherent format. This is important, particularly when the manual is vague or only partially explains what's going on for each item.

At least one major valuation software vendor has attempted to explain the inputs in simple English. I'm still waiting for the outputs to become available in a similar format. Vendors have concentrated on providing appraisers with more and expanded printouts that cover almost every conceivable input. This is a great help, but reviewers can't be expected to go through the voluminous printouts found in the appendix to pick up key internal relationships, nor can appraisers be expected to go through all these printouts to verify key relationships in a report. A simpler presentation system is needed.

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Software vendors can prove the internal integrity of cash flow statements for their users in numerous ways. Providing expanded ratio analysis checks could help verify that the appraiser's inputs are logical. For instance, as a building ages, its operating expense ratio increases. If the program could indicate with a warning message or ratio check printout that there is a discrepancy between the operating expense ratio at the beginning of the projection and the ratio at the end, you would automatically know that a condition has been violated.

The option to select a terminal capitalization rate could be another check. Some appraisers believe in adding a premium to a selected terminal rate for the aging of a building over the DCF holding period. Again, a printout of this information and other checks woul be valuable. Better yet, you would have the option to use the ratio check or turn it off if you don't subscribe to the practice of addin premiums.

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