The Future of Appraisal©

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I. Futurism

Like any other science, futurism comprises objective and subjective elements. Similarly, it does require an understanding of the models and sources of information useful for predicting the future. It is similar to what appraisers do when forecasting to a prospective value. This also applies to current value appraisals in that we perform "ex-ante" forecasting from the most recent sales up to the date of value.

What is difficult about predicting the future is that it is about the future, and we can only make estimates with a level of uncertainty.

What is easy about predicting the future is that humans seem to repeat the same behavior. Similarly, organizational behavior also tends to repeat itself. For example, an entrepreneur creates a new service or product. Start-up phases are usually quite similar, in terms of investment capital, gaining market acceptance or regulatory approval, and even the types of more 'adventurous' employees that are comfortable with a riskier (but more creative) situation. As an industry matures, a more conservative type of management and employee tends to run the show. Bureaucracies develop, and the 'old reliable way' can hold sway. Often this is a 'cash cow' phase, in that neglected research and development may serve to increase return on investment, and make the more 'conservative' management look good. In time, the lack of competitiveness with newer products made in more modern facilities and processes causes a decline in profits – then finally a shift in direction, or simply a dying business.

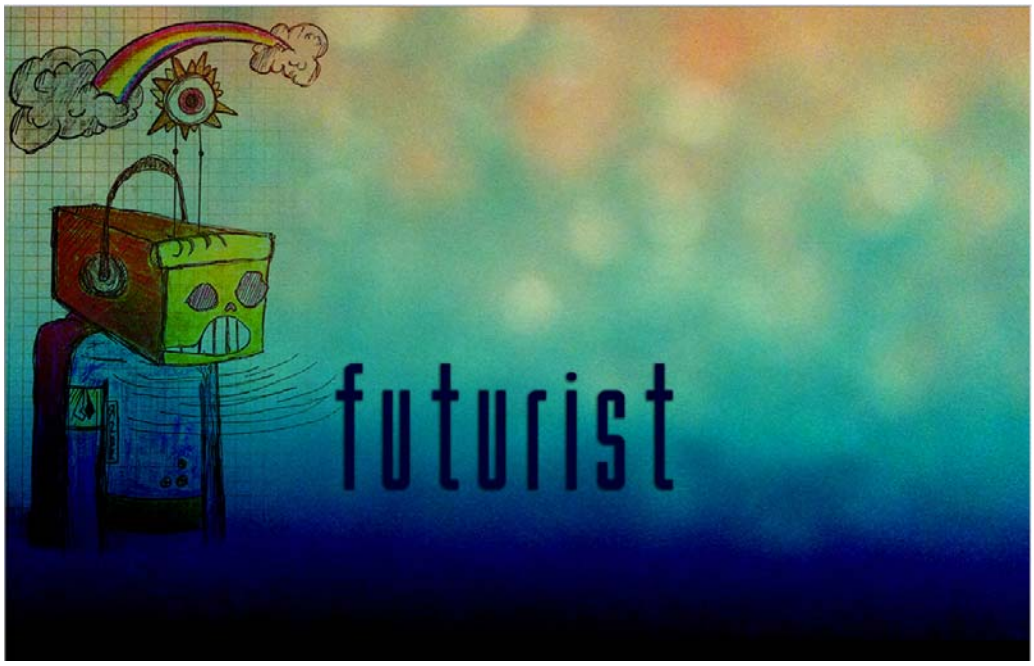
In a similar way, new processes and ways of doing things seem to have a path of adoption and success in certain industries and business cultures, but are sometimes met with resistance and even mistreatment in other, more conservative organizational environments.

The appraisal profession has been generally **resistant to new techniques** and even business models. This has caused a number of forces to 'chip away' at the services traditionally provided by appraisers.

More specifically, and to the point – valuation technology has been slow to be adopted by the profession. This is the technology of electronic and complete data sets, analytical software, and the statistical underpinnings of such analysis.

Futurism allows us to look at other professions and academic disciplines, and watch how the progress of new knowledge and methods has entered the mainstream of each. We can look to the recent past for similar situations, and see how the progression of new capabilities and new tools has proceeded. A bit

more difficult, but still useful, is to follow the *trajectory* of what is imminent (say, computer memory and speed), and follow it to obvious market needs and opportunities.



II. The Present Future

The present future comprises things that are cutting-edge technologies that are not yet permeating, the discipline. It is not surprising; given the resistance to change we have as human beings, and given the inertia of our social structures and organizational 'truisms'.

Personal resistance consists of beliefs, habits, access to new information, reactance to challenge, sufficing ("good enough" behavior), and communication (semantics – the power of words to control).

Organizational resistance consists of "written down" inertia (how we do things around here), protectionism ("don't threaten my turf"), those in charge (the 'elders'), and the work and learning effort required of those in charge, and those who find it easier to continue with administrative tasks, but not engage in the work required by change.

Regulatory pressures and requirements can stabilize and stagnate change, but with unintended consequences they may require more regulation (and can even punish a new, better way). Prescriptive rules cause problems in unforeseen situations. Arbitrary enforcement of outdated rules can make progressive improvements 'illegal'. These embedded elements of inertia effect even currently possible improvements.

Many analytical tools have long been available to appraisers; unfortunately, these tools exist in an environment where the clarity of the appraiser's analytical task(s) had been muddied by the history of difficult, sparse, and inaccurate data. The data required to utilize today's computing power is generally

complete, and continues to improve. In the past, the appraiser's job substantially consisted of gathering three to six comparables, similar to the subject. The main and first criterion was *availability*. Close enough was good enough, (sufficing) even if we suspected a better comparable might be available out there, if we could just get the confirmation. In fact, the issue of quantifying "how good is a comparable" continues to have scant presence in the appraisal literature. I have been able to find *nothing* founded on a scientific basis.

One of the results of the historical focus on 'getting the comps" has been an under-emphasis on the importance of getting the right market segment, to which the subject properly belongs. While there has been considerable movement toward better market analysis, much of this effort has been in the arena of developmental properties, not for appraisal problems involving existing properties. So what is the big picture? The **appraiser's two separate analytical tasks** are:

- Identify the right market segment
- Position the subject in that market

Why is this important? The nature (statistically speaking) of each task is quite different. The answer to the first task (market segment) substantially and definitively clarifies the nature of the statistical techniques needed for the second task (market position). Effectively, trying to pretend that somehow, some way, the appraisal problem involves a random sample of a hypothetical population – is a sham. For the three approaches, the only data that matters are the sales that are directly or indirectly competitive to the subject. These constitute the market segment. These data points constitute the complete data set. These are the complete population of comparables. They are not a sample of anything. They are it.

What this means statistically is that we need only use descriptive statistics. We are not describing the mean, median, shape, modality or anything about the population -- from a random sample. We have all or nearly all the available data. We can simply measure and calculate the parameters.

What we have already, but have not fully implemented are the following quantitative methods:

- Proper use of descriptive statistics
- Trained use of graphs
- Geographic information analysis (GIA)
- Quantitative delineation of market segments

Examples of some useful tools include:

- Trend analysis
- Forecasting
- Contrasting for adjustment support
- Covariance adjustments to refine simple regression results

Many, many tools to make the appraisal process far more objective are the present future. The blocks are not technical in nature. They are solely due to personal, cultural/organizational, and regulatory inertia. But they are fully possible today.

The Future Present Changes are possible, but there has been little energy applied to implementation. The achievement of critical mass or a simple paradigm shift has not occurred to motivate these changes.

We have witnessed any number of solutions. The most interesting is one that actually blocks a correct solution to the very problem it purports to solve. This is the 1004mc form, as promulgated by the GSE's (Government Sponsored Enterprises), specifically FannieMay and Freddie Mac.

The broader problem was the over-inflation of real estate prices toward the mid 2000's. Loose and unsafe lending policies focused on quick commissions and capitalized income streams from bad loans on exaggerated security – **fluffed values based on comparison to other fluffed values**.

Appraisal business was required to pretend that the prices paid were somehow 'normal'. Buyers were:

- Not prudent and knowledgeable -- they were speculative and wishful;
- Affected by undue stimulus;
- Not typically motivated for a place to live;
- Not well-informed nor well-advised as to the nature of the speculative bubble;
- Purchasing the property severely affected by special and creative financing granted by a party associated with the sale.

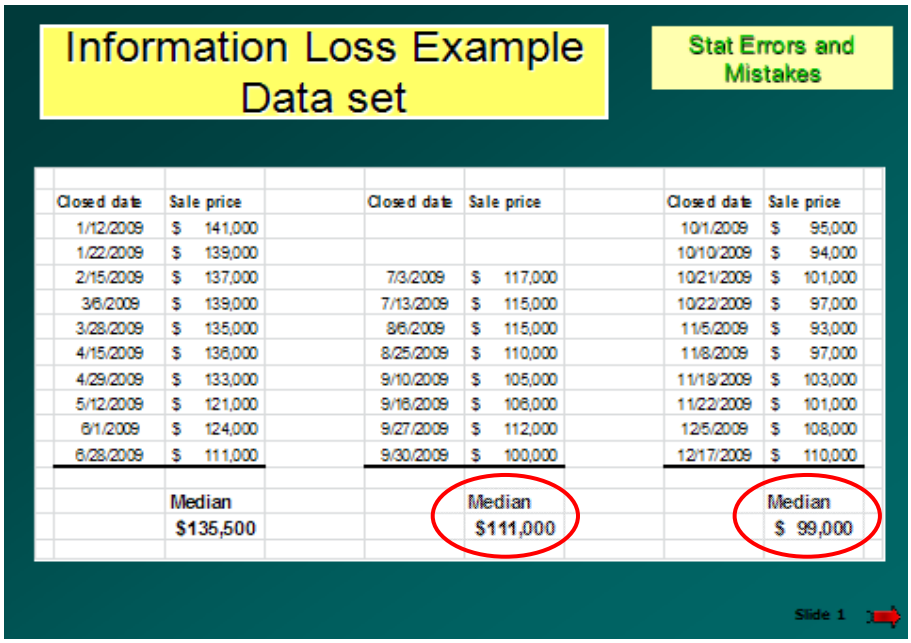
As for appraisers – the overwhelming reliance on market price as an indicator of market value completed the 'circle of lies'. The market price of homes rose significantly over the intrinsic economic utility of a home -- a place to live. The market price of shelter rose greatly, in proportion, over the price of everything else. We were not measuring economic value; we were comparing inflated market prices to other artificially inflated market prices and calling it "value".

The GSE's came under fire. It suddenly became important to provide the *appearance* of caring and working to a solution. Viola! The 1004mc. We can just make those darned appraisers look at the market trend more carefully. (There are significant other problems of conflict with good appraisal practices, but we postpone a look at those to another time).

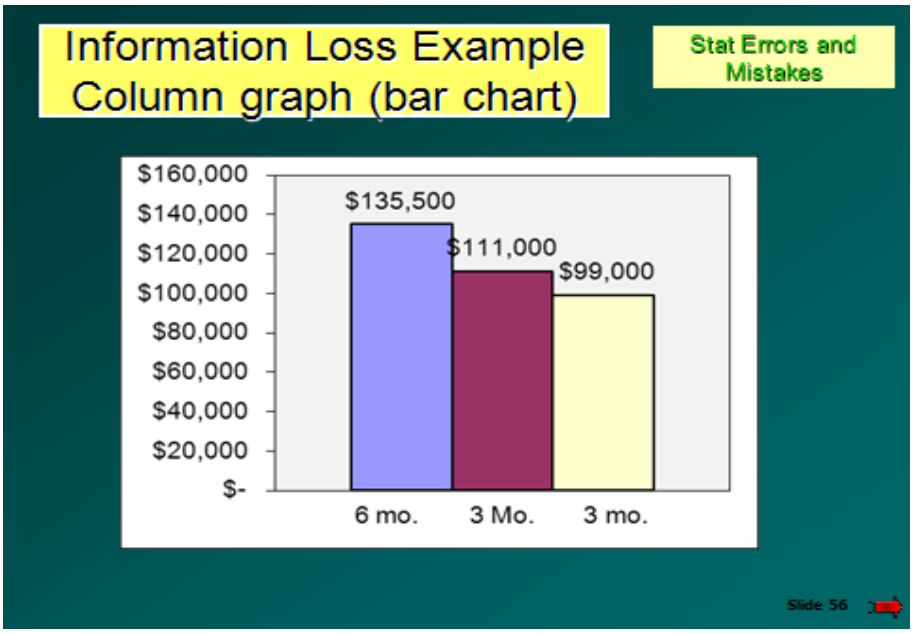
The claimed intent of the 1004mc form is to provide a picture of the market conditions (trend). It states the appraiser must consider the trend in the "neighborhood". Unfortunately, the "neighborhood" may include vastly different residential market segments. E.g., high-rise luxury condos vs. small old structures on the 'other side of the tracks'. If we ignore this issue of neighborhood vs. market segment, we can examine the major issue -- the issue of **information loss** caused by the use of the wrong statistical model to 'solve' this problem.

One of the issues is that sometimes an uneducated, intuitive, common-sense solution may be wrong. In this case it has economy-wide impact that helps perpetuate the housing crisis. We start with a data set of neighborhood sales of homes. Phone calls to agents reveal that the market has turned upward. A review of market times shows a significant shortening from date of listing to the date of sale. More so, the *ratio* of list prices and sale prices is narrowing.

The following page shows the sale data, with the 6-month, 3-month, and 3-month median prices, as required. Clearly the trend is downward. (Following the intuitive logic of the form).



From the above 1004mc data the appraiser must report a *declining market*. As the best comparables will come from the last three to six months, the time adjustment would be compelled as *downward* perhaps $4,000 per month (a $12,000 change in three months 'average').



This graph depicts the three groupings of sale prices, and shows the median averages in what appears to be a clear demonstration of the downward direction of the selected market.

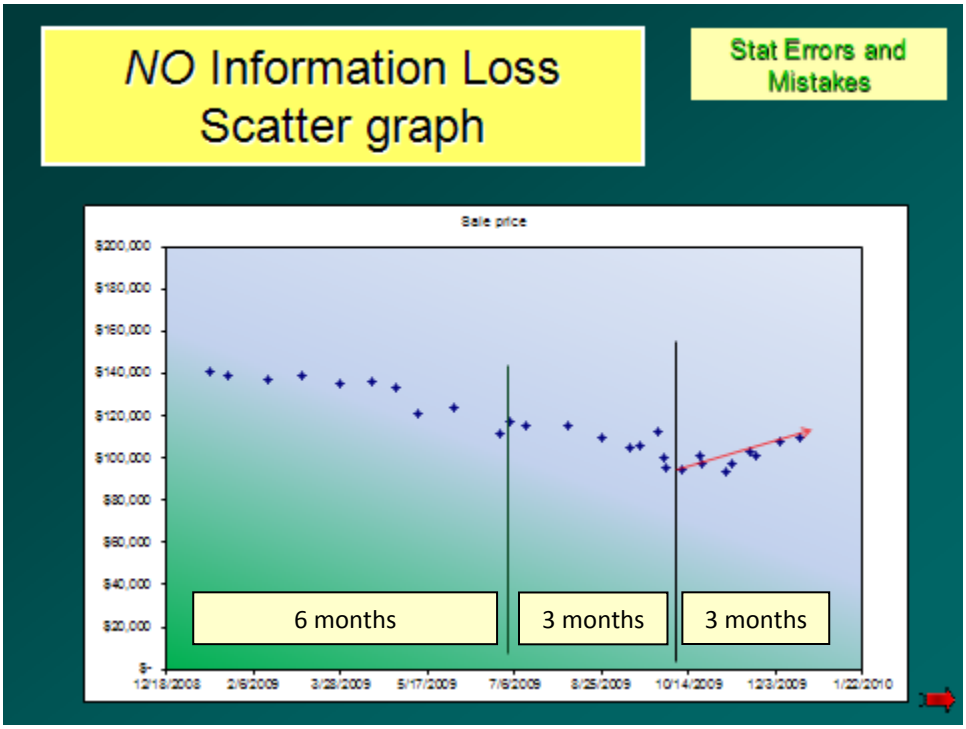
The following page shows the 'best practice' model for trend analysis, utilizing all the information provided, including the exact date of sale for each property, not 'lumping' groups of sales together in irregular time periods.

The graph below is a scatter graph. It shows the exact date and contract price for each sale in the area defined. Note the obvious difference. There is no information loss due to the median groupings. This graph is considered the 'best practice' for trend analysis. It clearly shows what is really happening in this market.

Appraisers' best practices require the use of the most recent comparable sales. These would best come from the sales during the last three months. Yet the 1004mc, forces a conclusion of the need for a **downward time adjustment** for those best comparables.

The FannieMae form compels a time adjustment.

Not only is the required adjustment in the wrong amount . . . It is in the *wrong direction.*



This error will occur 100% of the time at the worst possible moment – when the market has turned.

Even as the economy continues to falter. Even as homeowners and Realtors© complain that lenders are not making loans. Even as taxpayers continue to subsidize the losses of value of hundreds of thousands of homes. Appraisers must dutifully report yet another lie: "The market is declining".

III. The Future Future

Railroads saw themselves as in the railroad business. As the Wright brothers and other visionaries released us to fly, new competitors took market share away from the 'railroad' business. Where the railroads once had 100% of the post office business, now they have about 0%. (And now the postal business itself is being replaced by the 'communication' business). Had the railroads seen themselves as in the transportation business, today we might have "Santa Fe Airlines".

For the appraisal business, we must consider this type of context. Do appraisers only appraise– to a point value estimate, based on the performance of the recent past? Or are we something more?

Should we consider what it is the world needs? What is it that appraisal clients really want? With few exceptions, what clients really need is an estimate of risk.

Risk.

What will clients need in the future?

Perhaps to understand the future, should we reconsider what an appraiser does? Is it a point value in the recent past, or might it be to answer a broader question? Might it be asset assessment?

The erosion of appraisal as an industry and as a profession has occurred. There are inroads by cheap BPO's (Broker Price Opinions), AVM's (Automated Valuation Models), and CPA's (Certified Public Accountants), and financial MBA's. Clients will seek market trends and economic forecasts from other sources, including economists and housing market analysts.

The point is that the appraisal profession will be forced to change, or continue be forced out. Client needs will forecast and control this future. As we answer this question, "what will clients need?", we may see the future, future of appraisal.

The context of the future is a continuation of what has happened in the recent past. Data will improve. Analytical software will continue to improve. Computer speed and delivery will continue to improve. But in addition, the element of risk will have to be explicitly managed. Finally, the appraisal process and the appraisal model will have to become more precise, more objective, and faster.

The big, but most probable changes to come will involve the following:

- Risk analytics
- Forecasting to future values
- Real-time delivery (on demand)
- Intrinsic-value definition (rather than market price)
- Auditable process

Risk analytics

Clients to not really need a point value in the recent past. But they do need a measure of the *reliability* of the value that is provided. This is something that the appraisal profession has never really done, yet can be done using statistical modeling. *Risk* is the obverse of reliability. A natural outcome of the measurement of reliability (precision, in statistical terms), is that it becomes possible to directly compare results of one model over another.

Risk measurement will naturally tie in with measures of forecast value. The forecast values themselves will carry measures of precision or *forecast reliability*. Furthermore, the explicit use of macro variables and externalities (outside the property market segment), can provide exposure to the causes of major failures, such as we have experienced in the late 2000's. "**Common-cause failure**" such as the market-price equals market-value fallacy – will be exposed, and more easily considered by investors, regulators, and the setters of public policy, including congress and the administrative branch responsible for the regulatory and standard setting organizations. Speculative exuberance and financial abuse may be stopped earlier, rather than later.

Forecasting to future values

Economic forecasting is common and assumed in other financial fields. There is no reason that forecasting for expected future value cannot become common. Appraisers already do it, but only in limited situations, such as relocation valuations and new construction. It can be accomplished through the inclusion of predictor variables of a more macroeconomic, regional and even company-based employment demand and demographic influences.

Real-time delivery

Data is available almost instantaneously. Analytics are also fast. The only slow-down today is in the modeling process. But appraisers may be the best equipped to handle fast decision-making relative to unique situations or unusual properties. All the technology is here. All that is needed is the clarification and streamlining of the appraisal model process.

Intrinsic-value estimates

Intrinsic value is really nothing more than market value from the perspective of all other competing goods and services. (Rather than just other real estate). The basic principle here is that at times transaction prices *may not* equal market value. We found this to be true in the late 2000's, where all house prices were affected by prices which were far from meeting the requirements of definitions of market value:

- Buyers were motivated by speculation, not shelter;
- They were not prudent and knowledgeable
- They were not well-informed nor well-advised about the extreme cyclicality and over-exuberance occurring;
- Prices were affected by market-wide special and very creative financing;
- The undue stimulus was universally ignored by appraisers (and everyone else).

In the long run, the price of a good approaches its marginal production cost. This is similar to the cost approach without an adjustment for economic obsolescence or 'superlescence'.

Auditable process

Appraisals will be performed in compliance with best practices for auditabiilty. An appraisal conforming to these practices will be independently reproducible, and therefore auditable. This breakthrough practice is enabled through stable databases, analytics, appropriate models, exception handling, sensitivity analysis, and reporting standards.

In essence the subjective 'review' process will be replaced with the objective 'audit' process. While some 'art' and stochastic realities remain, the improvement in precision and accuracy is sufficiently dramatic so as to revolutionize the industry and the profession.

The only remaining question will be **who will be in control** of the new valuation concepts.