

Strategy of Analysis

by Maury Seldin and Michael Sumichrast

Increasing uncertainty for builder-developers calls for more powerful analytical techniques. Yet, the structure of the industry is such that few builder-developer organizations can afford to spend much on analysis. Typically the firms underspend and underanalyze. Furthermore, what they do get for their cost and effort provides little real help compared with what they could get for the same expenditure.

Unfortunately, most of the so-called "analyses" are really prepared to help convince the lenders, or others, of the merits of the projects; they may then rely on the reputation of the consultant firm so that their loan officer is covered when a loan turns bad. The excuse that "it happens to everyone" is no consolation if the organization goes into receivership. Therefore, the lenders get caught in the "emperor's clothes syndrome": everyone pretends the analysis answers the question, but no one sees how it actually relates to the decision.

Counselors, professors, researchers, and other professionals should be sensitive to the users' needs and realize that the body of knowledge is of special importance. This paper focuses on an application of what we already know and contributes to the fund of knowledge by explaining a strategy of analysis

This article is adapted from a speech given at the mid-year meeting of the American Real Estate and Urban Economics Association and Federal Home Loan Bank Board and is based on the authors' book *Housing Markets: The Complete Guide to Analysis and Strategy for Home Builders, Lenders, and Other Investors*, just published by Dow-Jones-Irwin.

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which has been developed and applied to the real world laboratory. The research results are more fully reported in *Housing Markets: The Complete Guide to Analysis and Strategy for Home Builders, Lenders, and Other Investors*. What follows is an adaption of that presentation.

INCREASING UNCERTAINTY

If we were to index uncertainty in the businesses relating to home building, we would see relatively low numbers for the 1950s and the first half of the 1960s. Figures for the last twelve years, however, would be very high.

Cost and Availability of Credit

The cost and availability of credit has been on an upward swing since the end of World War II, with the first critically uncertain time during the credit crunch of 1966. Perhaps it is fortunate that we did not know how close we were then to a financial crisis.

Variations in the cost of money now cover a much wider amplitude than they did in the comparable period prior to the 1966 crunch, and resulting variations in residential construction are dramatic. *Table 1* shows the change in starts from peak to trough. There we see drops that typically ran under 40% were up to a whopping 65%. Also note that the next highest drop—during 1965-66—was 49%, marking what we have described as the beginning of this era of increasing uncertainty.

TABLE 1
PEAKS AND TROUGHS IN HOUSING—STARTS CYCLES

	Months	Difference	Percent Change
1950-51	11	735,000	-39%
1954-57	27	635,000	-37%
1958-60	24	563,000	-35%
1965-66	10	813,000	-49%
1969-70	12	661,000	-37%
1973-74	23	1,606,000	-65%

Adapted from Table 4-3 in *Housing Markets: The Complete Guide to Analysis and Strategy for Home Builders, Lenders, and Other Investors*, p. 91.

Demographics and Demands

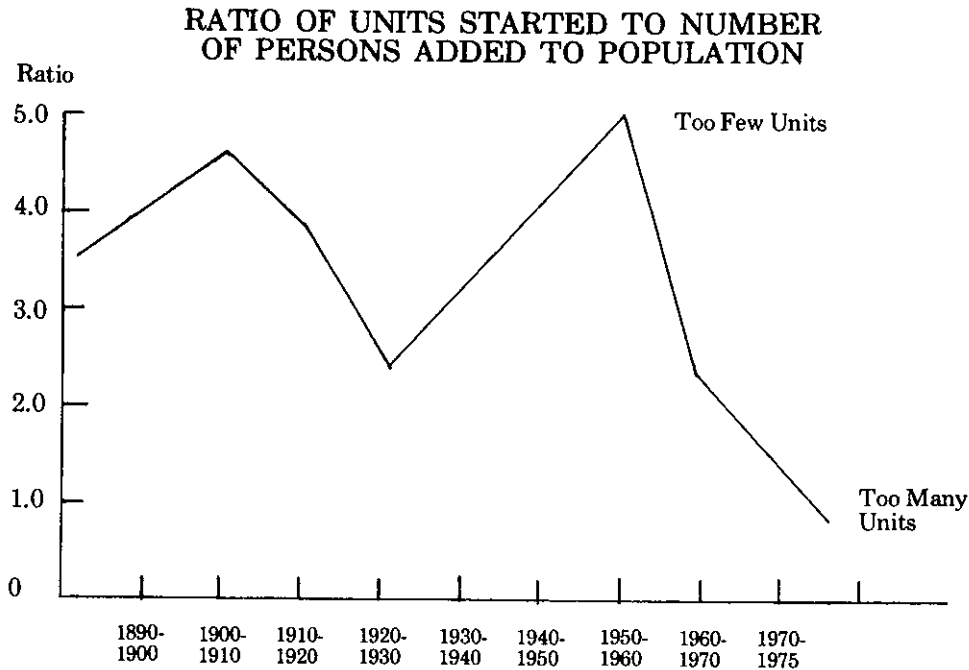
We traditionally relate demographics to demand and generally start with the size of population. Now, in our era of increasing uncertainty, we would make two points. First, the elements relating to number and size of households have undergone dramatic changes in recent years. Secondly, the long-run trends are not closely tied to short-run demand, anyway. The significance of these facts is that anyone trying to forecast housing demand is going to have a difficult time with demographics, although in the short run this is not in any case crucial.

Regarding population forecasting, we would first note that the long-run record for forecasters is poor, due to such factors as the volatility of the birth rate and

the change in household size. The dramatic point is that there is wide variation in the number of units started relative to the number of persons added to the population.

Chart 1 shows that in the mid-1940s we were adding only one housing unit for every five new persons, while in the mid-1970s we built one unit for every additional person—which is far too many.

CHART 1



There are, of course, explanations for these variations, not the least of which is the use of residential construction as a contra-cyclical device. (These are discussed in the book, as are policy implications.) The point here, however, is that the increasing uncertainty is a fact of life, with which the decision-maker should deal realistically.

Public Policy Constraints

There is another type of public policy constraint—one that inhibits construction by regulations implemented at the local level. This is in contra-distinction to public policy constraints of national stabilization policies.

The conflict of housing and other goals is a separate topic. At this point, it is only necessary to note the existence of a laundry list of public policy constraints, the vast majority of which are of recent vintage. They play havoc with a local market by shutting down production in certain areas—as with sewer moratoria—further magnifying the instability in local construction levels.

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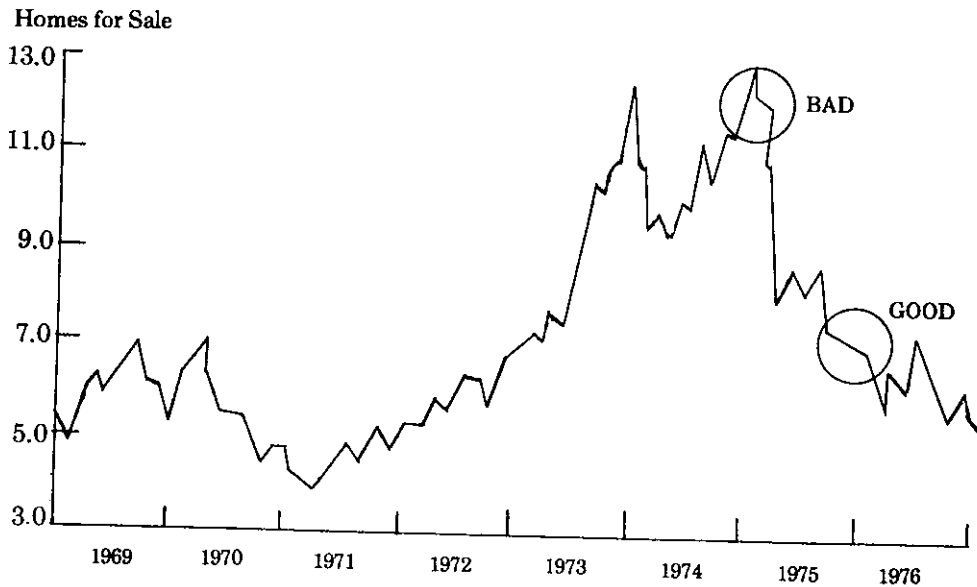
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Conclusion in Uncertainty

In conclusion, a quick way to gauge uncertainty is to inspect the net result. How far out of balance are the local markets getting? The answer can be determined by examining the ratio of homes for sale to homes sold.

CHART 2

RATIO OF HOMES FOR SALE TO HOMES SOLD



With results like those we have experienced in the last few years (including exceptionally large numbers of bankruptcies), it seems that there must be a better way to decide what and where to build. We submit that the better way calls for a strategy of analysis that enables one to recognize and capitalize on opportunities.

ANALYTICAL TECHNIQUES

We have developed some useful analytical techniques which can help builder-developers and their financiers do two things: identify gaps in the market where home building may profitably take place and, perhaps more importantly, identify conditions of excessive supply to avoid the trap of overbuilding.

Among the analytical systems are the following: 1) a perpetual inventory system of housing (see *American Real Estate and Urban Economics Association Proceedings*, 1969), 2) an urban development information system (reported in "Creating an Urban Development Information System" by John L. Hysom, et al., Fairfax County, Virginia) and 3) a system of segmenting

demand and evaluating pipeline supply (reported in *Housing Markets: The Complete Guide to Analysis and Strategy for Home Builders, Lenders, and Other Investors*). The first is simply a system of measuring stock and flow so that an analyst can evaluate the demand and supply on a site specific basis. The latest addition is a combination of systemic explanations, procedural explanations, and case examples on implementing the process.

The more powerful techniques require an economy of scale and a level of detail that lenders and local governments who need similar information for managing capital improvement programs can afford—with the latter, incidentally, providing the information to small and medium-size builders. Most builders and lenders encounter difficulty because they operate—or at least think they operate—on a scale which precludes their use of an integrated market analysis system.

What we intend to show in this and the final section of this article is that the rudiments of an integrated market analysis system are not that difficult. Once the analyst conceptually grasps the logic it's just a question of the quality of numbers, a matter that can be dealt with through another of our approaches.

Short Methods

The short methods of assessing the market conditions are useful for two purposes. They provide a practical tool through which a decision-maker can come to grips with a situation and make a reasonably good decision, and serve as a vehicle for understanding the system so the analyst and decision-maker can refine techniques, improve measurements, and reach substantially better decisions.

The logic of the system is quite simple. Start with the current situation; if it is overbuilt, the market probably does not need more new construction. Then find out where the market is going. If commitments have been made which will lead to overbuilding, stay out.

TABLE 2
SHORT METHOD FOR DETERMINING
THE NEW-HOUSING MARKET SITUATION

Base data needed	Rating of the market	
	Normal	Overbuilt
Unsold completed new homes as a percentage of:		
a. For-sale units, annual production	10-15%	25%
b. Houses currently under construction	30-50%	100%
c. Annual starts	100-150%	250%
d. Unsold units under construction	50-75%	100%
Unsold houses under construction as a percentage of:		
e. Total houses under construction (could be sample)	40-60%	75%
All unsold houses, completed and under construction, as a percentage of:		
f. For-sale annual production	20-25%	40%
Presold units as a percentage of:		
g. All completed new units	50%+	30% and below

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A good way to begin your investigation of the current situation is to analyze production relative to sales, or "inventory ratios." The key numerator is "unsold completed new homes." The denominators are: 1) annual units for sale, 2) houses currently under construction, 3) annual starts, and 4) unsold units under construction.

The logic of the ratios is quite straightforward. Some new houses must be produced for inventory, the numbers varying with the strength of the market and the anticipated shifts in demand. But one can expect a "normal range" which can be expressed as a ratio of unsold completed new homes to various measures of the volume of production. A variation of the measure of unsold houses calls for relating *unsold houses under construction* as a percentage of total houses under construction; this refers to that portion of the production that does not have committed purchasers. A sharp speculation fervor rapidly escalates the numbers.

Another variation—simply a combination of the first two—deals with presold, rather than unsold, units. We have not constructed an internally consistent mathematical model to show the mechanical relationship between these ratios, a step that would be very helpful on a metro-area basis. The key, of course, is to segment the markets by price and type of units, a case illustration of which is provided in *Table 3*.

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TABLE 3

Price range	Units			Percent		
	Singles	Townhouses	Condos	Singles	Townhouses	Condos
Under \$17,500						
\$17,500-19,999			1			3%
\$20,000-22,499			10			42
\$22,500-24,999			[236]			[92]
\$25,000-27,499	4		320	9%		70
\$27,500-29,999	254	30	[654]	48	22%	[72]
\$30,000-34,999	279	258	969	44	50	76
\$35,000-39,999	[600]	[421]	[714]	[60]	[62]	[81]
\$40,000-44,999	298	281	234	(27)	(33)	67
\$45,000-49,999	356	120	138	53	35	48
\$50,000-59,999	2,094	423	[269]	52	[66]	33
\$60,000 & over		193	(145)		46	(24)
	<u>3,885</u>	<u>1,726</u>	<u>2,680</u>	<u>49%</u>	<u>48%</u>	<u>63%</u>

○ = Good market.

[] = Weak market.

[] = Very weak market.

(average) (average) (average)

Source: Federal Home Administration, January 1, 1975.

Adapted from Table 12-24 in *Housing Markets: The Complete Guide to Analysis and Strategy for Home Builders, Lenders, and Other Investors*.

The data for the unsegmented inventory counts are generally available either from local publicly-collected sources and/or relatively low-cost field investigations. The advantage of using multiple types of measurements is that some counts are easier to obtain in one area than in others. The refined, and particularly the segmented, data are harder to locate. *Table 3* is based upon a year-end FHA survey for Washington, D.C. Although it does not contain full coverage, it is complete enough to indicate which segments are overbuilt and which are not.

More Detailed (or longer) Methods

More detailed or longer methods are required when one seeks to refine analyses of the current situation or forecast demand and supply, as illustrated in *Table 4* and *Table 5*.

TABLE 4
FORECAST OF QUANTITATIVE HOUSING DEMAND,
MONTGOMERY COUNTY, MD., 1974

<u>Step</u>	<u>Item</u>	<u>Total</u>
1.	Projected household increase	6,365
2.	Net removals	+ 1,236
3.	Gross demand (1 + 2)	7,601
4.	Available vacancies	5,040
5.	Normal vacancies	4,040
6.	Excess of vacancies (4 - 5)	1,000
7.	Quantitative demand (3 - 6)	6,601
8.	Units under construction	7,500
9.	Normal rate of construction	5,500
10.	Excess of new construction (8 - 9)	2,000
11.	Net demand (7 - 10)	4,600
12.	Annual demand	4,600

TABLE 5
NET EFFECTIVE DEMAND,
MONTGOMERY COUNTY, MD., 1974

<u>Item</u>	<u>Number of units</u>		
	<u>Total</u>	<u>For sale</u>	<u>For rent</u>
Net demand	4,600	3,326	1,275
Adjust for 1 percentage increase in mortgage rates	-500	-400	-100
Adjustment for changes in employment	-3,610	2,575	1,035
Adjust for sewer moratorium	-1,620	1,160	460
Net effective demand for 1974	-1,990	1,415	575

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On the supply side the objective is to see what the pipeline contains. Of importance are units under construction, outstanding permits, approved plans, and so forth. Where there is an extreme shortage of waste water treatment

capacity one can use sewer taps as an indication of pipeline supply for housing, particularly by location. These pipeline measures reveal specific locations, an aid in assessing builders' intentions. Furthermore, an analysis of developable land by zoning category can indicate the potential supply.

These kinds of analyses enable builders to respond to opportunity and to pull in their horns when markets get overbuilt or fade as demand falls off. No matter how good the analyses are, they will leave room for some uncertainty, an obstacle with which builders and lenders must learn to cope. Obviously, more analyses will help; the question is how much and what kind. The answer, we submit, is not simply related to the project. Rather it stems from the builder, his objectives, resources, and propensity to take risks. He needs a strategy of growth and development for his organization, from which to develop a strategy for analysis.

STRATEGY

Strategy is becoming an overworked word, probably because increasing uncertainty calls for greater defensiveness in policy. The concept of strategy is to plan for the defense against adversity—the “just in case” plan. For growing builder organizations that means programming a diversity of locations, in the event that they find themselves in an unfavorable political jurisdiction with a no-growth or slow-growth posture. It also means building in various watersheds so that sewer moratoria do not shut down the entire operation.

The same logic applies to different market segments. Thus, when one segment is getting overbuilt there is some stability in the others. This necessitates a level of detail in the market analysis that allows the large firm to diversify or the smaller firm to choose its project very carefully. Diversification is a great defensive policy and, thus, an important element in strategy. Unfortunately, a diversification of poor projects gets only poor projects. That was a lesson learned by a number of real estate investment trusts which went into various metro areas to diversify but knew little about the respective surroundings and were hurt in almost all of them. What the firm needs to inspect is the volume of business and number of projects it expects over the ensuing three to five-year period. It may then plan a diversification to secure these projects.

The multi-year plan—one of the advance land acquisition programs that have killed many builder-developers and made others rich—will involve commitments to land, people, and capital. The strategy is to select that land which is developable for the kind of market that will be ready, an approach that requires a longer run view of the market demand and the competitive position of particular parcels of land—a market-based approach for corporate development planning. The “what is needed and what can be supplied” method must be integrated into the determinants of company goals; sometimes the shifting market calls for shifting objectives based on type, price, or location of markets.

After the market or markets to serve have been determined and a strategy of advance land acquisition or an alternative policy for buying finished lots has been established, the development plan requires the assembly of a manage-

ment team that can expand to meet the markets and contract to a digestible overhead level during slow markets. It also calls for a versatile staff capable of producing despite the organization's rapid size changes; these are also tied to market changes and, furthermore, have tremendous implications on capital requirements. Exceptionally large amounts of capital may be needed for the aggressive expansion state, with good liquidity positions necessary for the slowing stage.

The strategy must then deal with a capital planning program that shows cash-flow requirements for a multi-year program or an annual and quarterly basis, depending on the time horizon. (This is aside from the monthly cash flow for current operations.) Variations in the market will influence planned and actual starts and sales, and then the cash requirements. A firm should know what it is capable of handling and how much risk it can take.

Strategy for Analysis

This brings us to the point of strategy for analysis. First, realize that some projects may be appropriate for one builder-developer, but not for another. The decision should be based upon how it fits into the firm's development plan and how well it can be handled. Aside from considering managerial capability and other necessary production resources, one must ask: "Can the company stand the risk?" To determine this, it is imperative to learn the nature of the risk and the firm's staying powers. If the problem is the developability of a site and the time involved, that is where the analysis should focus. The strength of the market may not be at issue and relatively little effort may be needed on market analyses.

Sometimes the critical step will be selecting the market segment. It may be advisable to take 20 units-to-the-acre apartment grounds and build 14 units-to-the-acre piggyback townhouses. The right question must be asked to get the right answer. We can cover a whole host of analyses in applying the logic of formulating the right research question. The strategy of analysis is to pick the right question to ask.

A prerequisite for selecting the right question is the development of the proper reference points. Thus, if a firm has a multi-year plan, a set of forecasted absorption rates, and expectations which are articulated in numbers, it can gauge current activity against the expectation. This method of interpreting the data is illustrated with a multi-year market forecast and the variables included. (Incidentally, the National Association of Home Builders offers the service.)

If any of the key indicators are changing beyond acceptable ranges it may be necessary to reanalyze the project or projects, realizing that analysis, like planning, is a continuing process. The builder-developer makes a preliminary analysis when he decides what kind of land to look for; he completes another when he makes a tentative commitment to the land, refining it when the final commitment is made. More market analysis takes place when the product is designed, which should be when the starts are made.

Consider the response to one builder's query, "Can I build 400 a year?": "Yes, but you'll be lucky to sell 250." The strategy of analysis calls for setting parameters of operations and successively moving through the process of analysis, the most critical variables in the company development plan.

Land developability obstacles and market volatility have been compounding the problem in recent years. Most developers, and indeed lenders, have not come to grips with the real issues. The evidence is the trouble in which they have found themselves and it is obvious that a better analysis should have been executed. But, it's not simply more analyses that are needed—rather, it is those which focus on the real problems. Furthermore, the most effective way to evaluate the result is through the use of this systemic approach whereby one can see how the project and its risks fit into the company development plan. One then knows what is really being evaluated.