

Measuring the Relationship Between Economic Conditions and Affordable Housing Trends



Community Research Services, LLC

2380 Science Parkway, Suite 107 ■ Okemos, MI 48864 ■
Phone (517) 827-6411

kmurdock@cr-services.com ■ www.cr-services.com

Background Information & Topic Interest

- What is driving prevailing market trends within affordable housing/rental housing in Michigan?
- What is the impact of local and regional employment shifts?
- Tests of “Conventional Wisdom”
- MI Statewide Housing Needs Assessment issues
- Internal uses/policy changes

The primary tool to address these issues systematically is a statistical model or equation that helps describe potential interactions and relationships

Measurement Alternatives

#1 – Regression Analysis

- Statistical measure of variables and relationships
- Heavily data dependent
- Typically a strong measure of macro-economic issues, correlations, and the impact of change

Similar Types of Analysis include:

- *Correlation Coefficients*
 - *Cluster Analysis*
 - *Other tests of statistical significance*
- Weaknesses include smaller data sets, limited data, time-sensitivity, qualitative data, and interpretation

Measurement Alternatives

#1 – Regression Analysis

Example:

$$\text{Price} = f(H + P + J + HG + I + W)$$

With the determination of Price as a function of:

H = Number of Housing Units

P = Population change

J = Job growth

HG = Household Growth

I = Interest Rate

W = Average Wage



Measurement Alternatives

#2 – Index

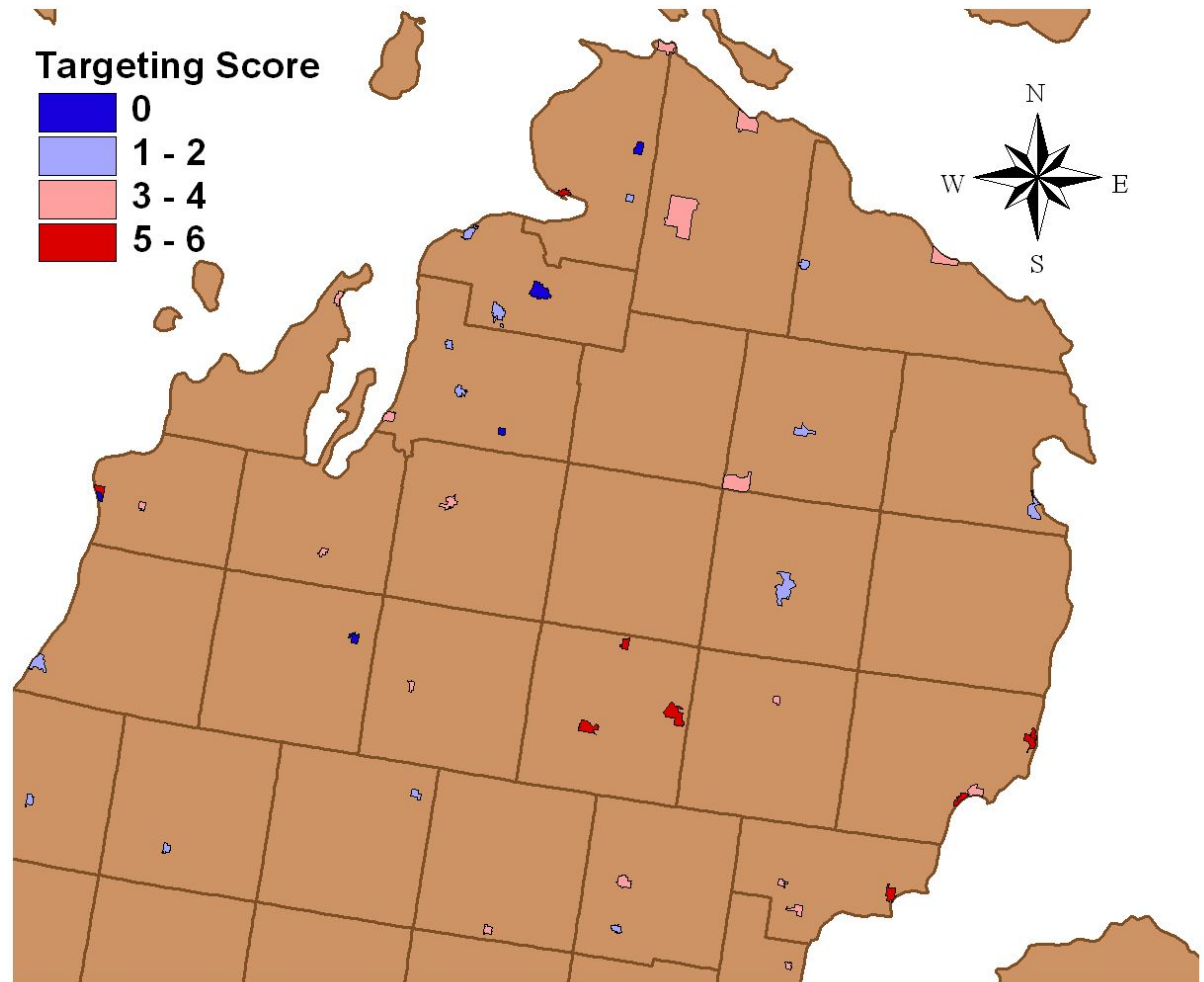
- Allows for the use of demographic and economic information within a housing analysis
- Creates a value that can be compared
- Includes qualitative as well as quantitative measures
- Advantages:
 - *Adaptable*
 - *Comparisons*
 - *Longevity*
- Disadvantages:
 - *Hard to understand relationships between variables*
 - *Data issues*
 - *Ideal for ranking, but not for projections*

Measurement Alternatives

#2 – Index

Example:

Identification of strong development options with positive economic and demographic characteristics



Measurement Alternatives

#3 – Modified Demand Forecasts

- Combine existing demand methods with economic or market factors, such as occupancy rates and employment growth

Example #1:

Demand = (((Age & Income Qualified RHH) + (Age & Income Qualified RHH growth)) x (Occupancy Factor)) x movership rate

Occupancy factor assumes stabilization occupancy of 95%

If below 95% - demand is reduced incrementally

If above 95% - demand is increased incrementally

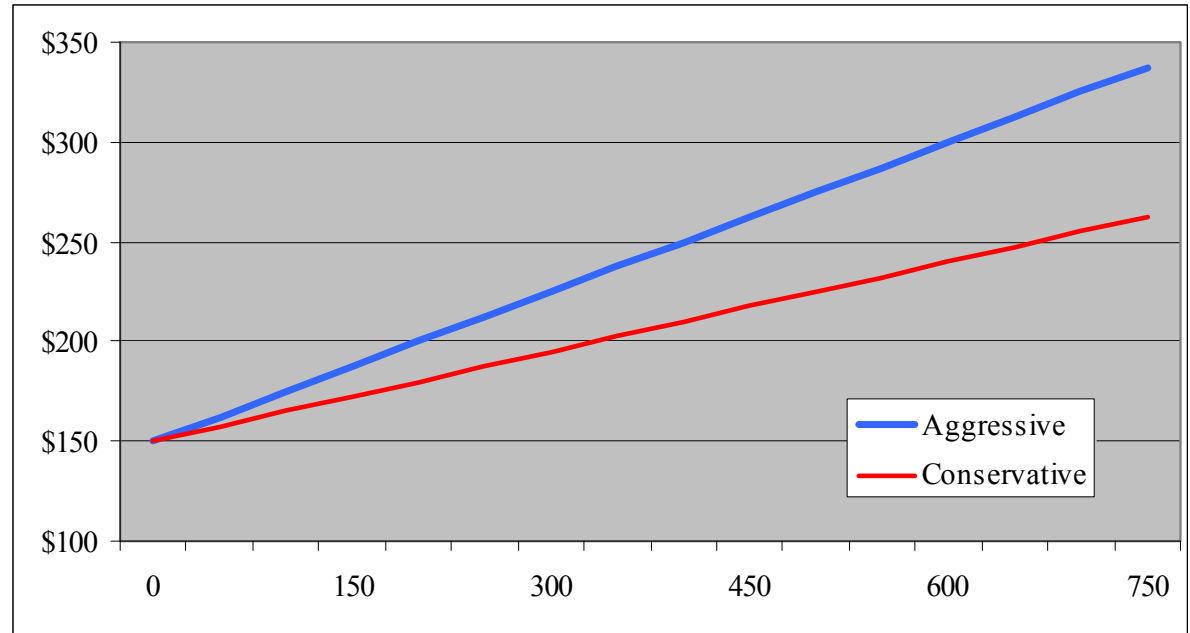
Measurement Alternatives

#3 – Modified Demand Forecasts

- Allow for the use of scenarios that reflect different economic conditions, resulting in variations in demand potential

Example #2:

A change in the household growth results in two alternatives – as long as agreement on the assumptions is present, demand forecasts between the alternatives would be acceptable



Measurement Alternatives

#3 – Modified Demand Forecasts

- Include the demand potential due to the presence and potential demolition of substandard or overcrowded rental housing

Example #3:

Demand = (Age & Income Qualified RHH) + Age & Income Qualified RHH growth + Age and Income Qualified RHH in Substandard Housing + Age and Income Qualified RHH in overcrowded units) x movership rate

- *Often used in many southern states to reflect local housing conditions*
- *Need to adjust calculations to avoid over-estimation of demand potential*
- *Need to avoid over-counting of households*
- *Need to ensure that statistics are accurate and reflect local conditions*

Remaining Questions/Issues:

- Predictive abilities?
- Garbage in – Garbage out?
- Practical applications
- Niche markets (Seniors/Special Needs/Migrant Housing)
- Rural vs. Urban issues