# The Impact of LDS Temples on Local Property Values 

by Steven J. Danderson

Opponents of temples of the Church of Jesus Christ of Latter-day Saints claim that by drawing tourists and traffic into residential neighborhoods, they cause local homes to lose value. Others admit that churches, by themselves, do not detract from local property values, but claim that the large size and the ornate nature of temples is the detriment. This paper tests both contentions by using a regression analysis on a sample of 207 properties taken from three U.S. cities where the Church of Jesus Christ of Latter-day Saints have built temples.

## Background

In July of 2001, Sally Braid announced that she was selling her home after hearing from Belmont, Massachusetts resident Charles Counselman that the Boston Temple of the Church of Jesus Christ of Latter-day Saints caused local homes to become "unmarketable," by drawing traffic jams of "Mormon tourists" into surrounding residential neighborhoods. ${ }^{1}$

Counselman was one of the plaintiffs involved in a lawsuit against the Church of Jesus Christ of Latter-day Saints to prevent construction of the Boston Temple, or at least the steeple that tops it. The theory is that such a large structure not only draws the faithful, but also curious onlookers into an area that had been zoned for residences only. The increased traffic (so the theory goes) deprives the neighbors of their property of peace and quiet, as reflected in the value of their homes. ${ }^{2}$

Perhaps there is another factor involved in concerns that LDS temples impose costs on the local community. Historically, secular governments support official churches in their respective nations, but the first amendment of the U.S. Constitution makes this illegal in the United States.

This was especially true in ancient Israel. King Solomon erected a temple to the Lord, which was quite ornate and lavishly furnished. ${ }^{5}$ This was quite costly to the people of Israel, though. Solomon's own son likened the tax structure imposed to build the temple to the sting of whips. ${ }^{6}$

Since the Church of Jesus Christ of Latter-day Saints base their temples on those of ancient Israel, ${ }^{7}$ it is perhaps natural to assume that the whole community would bear the costs of temple building, as did ancient Israel. However, the costs of LDS temples in Boston and elsewhere differ from those of ancient Israelite temples in that the costs are wholly borne by the LDS minority; not by the greater community. Indeed, it may be argued that there are not enough LDS temples, as the benefits are diffuse throughout the community, while the costs, which are less than the total benefits, are wholly borne by members of The Church of Jesus Christ of Latterday Saints.

But what if Counselman and other opponents of the temple are only wrong in the supporting theory, but right in their conclusion that the temple is harmful to local property values? Does the temple make local homes unmarketable? Windermere, Florida filed suit to prevent construction of the Orlando Temple using the same theory. However, the expected traffic volume did not appear. Daily attendance at the Orlando Temple averages 600 or less. ${ }^{3}$ It is hard to substantiate a charge that high traffic volume is detrimental to local property values if there is no high traffic volume.

## Methodology

How does one test such the claim that LDS temples lower local property values? Damodar N. Gujarati of West Point Academy provides us with a general model for exploring economic theories:

Broadly speaking, traditional economic methodology proceeds along the following lines:

1. Statement of theory or hypothesis
2. Specification of the mathematical model of the theory
3. Specification of the econometric model of the theory
4. Obtaining the data
5. Estimation of the parameters of the econometric model
6. Hypothesis testing
7. Forecasting or prediction
8. Using the model for control or policy purposes ${ }^{8}$

## The Hypothesis

While most people who have reservations with the LDS temples would like to have a scientific measure of the impact of the temple, John Dearie, of Harrison, New York, who invited Charles Counselman to agitate against the LDS, wants any study "to go beyond" measuring the temple's impact to "learn about the modus operandi, the style, the tactics, the contempt-I might say-that [the LDS show] for communities." ${ }^{9}$ It seems that Dearie and Counselman have already concluded that their theory (that the LDS temples lessen property values) is a fact.

Still, Dearie and Counselman have done economic analysts a service by providing both a hypothesis and a prediction: Temples built by the Church of Jesus Christ of Latter-day Saints cause nearby homes to become "unmarketable." The hypothesis this study will test is whether or not temples of the Church of Jesus Christ of Latter-day Saints cause homes in the same community to become "unmarketable," specifically by drawing traffic jams of "Mormon tourists" into surrounding residential neighborhoods.

The first step is to define the word "unmarketable." Do Counselman and Dearie mean that homes near LDS temples are unwanted by buyers at any price? ${ }^{10}$ The facts that homes are selling and that people are paying for them, as well as the new homes being constructed in these neighborhoods, would seem to silence this argument. ${ }^{11}$

Perhaps Dearie and Counselman speak hyperbolically and use the word "unmarketable" to describe a substantial decline in the value of homes surrounding the temple? In this case, what constitutes substantial? It
seems unreasonable to use the word "umarketable" to describe a decline in value of only a few dollars. In financial circles, a bear market occurs when the decline of a commodity's value or a security index' value is substantial. Peter Lynch of Fidelity investments, considered one of America's top investors, fixes that amount at $25 \%$ or more. ${ }^{12}$ Accordingly, I have used a $25 \%$ loss to define "umarketable" in this study.

Finally, it is also necessary to clarify what is meant by the "community" impacted by an LDS temple. Our definition has to be balanced by the ability to collect accurate and usable data. Two criteria have been selectedfirst, that all homes in this study are in the same city as the temple (even when a part of a larger metropolitan area), and second, that the homes are within two miles of the temple site. The first criterion was established largely to help manage the data in this study. Dr. Murray Cohen, of the University of South Florida, researched property values in the Tampa Bay area in Florida, and found that the values of similar houses in different cities within that metropolitan area were notably different. Dr. Cohen's work shows that home prices differ from town to town, even in the same metropolitan area. ${ }^{13}$ This restriction avoids having to deal with multiple scenarios, while still providing useful and accurate data.

The second criterion is connected more to the likelihood of direct impact on a home. What is the dividing line between being in the area of an LDS temple and not being in the area? This writer remembers seeing the statue of the Angel Moroni atop the 258-foot-tall Los Angeles Temple ${ }^{14}$ from the other side of that smog-ridden city. Since the Boston and Orlando Temples are only about 150 feet tall, ${ }^{15}$ it does not seem reasonable to view "having a temple in the neighborhood" from very far away. Considering the height of the temple, one mile seems to be a reasonable distance, as most temples can easily be seen from that distance, but not much farther than that. The goal is to compare the homes with ready views of the temple with homes in the same town without such a view, since the claim was that it is the view of a large, ornate temple that causes the traffic jams which decreases property values. Using a two-mile radius provides us with a definition of community that gives a sample size sufficient to demonstrate the validity of the hypothesis, and that also includes those most likely to be impacted by the presence of the temple.

Prices of commercial property have been excluded from consideration on the grounds that buyers take somewhat different considerations into account when purchasing commercial property. For example, merchants like high traffic volume (to a point), for it translates to increased revenue, all else being equal.

## The Economic and <br> Mathematical Models

What model should be used to test the claim that the LDS temples lower local property values? When comparing the impact of an "independent variable" (in this study, the existence of the temple) on a "dependent variable" (in this study, home prices) one should do a regression analysis. The regression calculations allow researchers to calculate the impact of changes in one factor while holding other factors constant. ${ }^{16}$ While a regression analysis is not proof of an actual impact of an independent variable on a dependent one, an inference can be made of a relationship between the two. ${ }^{17}$ If a regression shows a relationship that is diametrically opposed to a claim, one can infer that such a claim is without merit.

The popular form of a simple regression analysis is: ${ }^{18}$

$$
y_{i}=\alpha+B x_{i}+\varepsilon_{i}
$$

The popular form of a multiple regression is: ${ }^{19}$

$$
y_{i}=B_{r} x_{l i}+B_{2} x_{2 i}+\ldots B_{\kappa} x_{k i}+\varepsilon_{i}, i=1, \ldots, \mathrm{n}
$$

The x indicates the independent variable, while the y indicates the dependent variable. The alpha indicates the constant, which is the value of the dependent variable when the independent variable equals zero. The beta is the measure of the average relationship of the independent variable with the dependent variable. Since the beta is only an average, the predicted value for the dependent variable is only an estimate, and hence, will not necessarily equal the actual value. The epsilon represents this error, or standard residual. ${ }^{20}$ Ideally, the error should be zero, since it has an inverse relationship with how well the model "fits" reality. ${ }^{21}$ Five assumptions are made when running a simple linear regression:

1. The error variable, epsilon, is unrelated to or independent of the independent variable
2. The error is normally distributed. ${ }^{22}$
3. The average error is zero.
4. Any two errors, $\varepsilon_{i}$ and $\varepsilon_{j}$, associated with dependent variables $y_{i}$ and $y_{j}$, are statistically independent of each other.
5. The variance of the error is assumed to be finite and constant for all values of $x$ in the regression analysis. ${ }^{23}$

Using the above assumptions, variables in a simple regression analysis are determined using the Method of

Ordinary Least Squares (OLS), ${ }^{24}$ which, simply stated, is the sum of the squares of the error values, or the sum of the squares of the difference between the actual value of the dependent variables and the value predicted by the econometric regression equation. ${ }^{25}$

Related to the error variable in determining the "goodness of fit" of a regression model is the "coefficient of determination" or $R^{2}$. The total variance of the dependent variable from its mean is called the "total sum of squares" (TSS). The amount of that variance that is "explained," or accounted for, by the regression equation is called the "explained sum of squares" (ESS), and the error, unexplained, or residual part is called the "residual sum of squares" (RSS). $\mathrm{R}^{2}=\mathrm{ESS} / \mathrm{TSS}=1-(\mathrm{RSS} /$ TSS). $\mathrm{R}^{2}$ always has a value between 0 and 1 ; and the closer $R^{2}$ is to one, the better the fit of the estimate of regression equation is to the actual value. ${ }^{26}$

To get the $\mathrm{R}^{2}$ closest to one, it is best to not only have as many samples as practical, it is also necessary to have as many independent variables as possible.

## Factors in Getting a "Good Fit"

In order to have the regression equation properly reflect true influences, one must posit factors that really influence property values.

Size is an obvious choice, because the bigger the house is, the more materials and man-hours of labor are used to build it, and hence, the higher the total cost is.

Closely related to size are the number of stories, bedrooms and baths. This is because each has special features not found in simple size. For example, builders of a house with multiple stories must include stairs, which logically would make that house more expensive than a single-story house with the same floor space. Bathrooms have plumbing, which no other room except the kitchen has, and bedrooms must have closets.

Another size factor is lot size. Bigger yards give more privacy, which people do demand and buy.

Yet another factor is the added amenity, like a swimming pool. Pools do seem to be a status symbol.

In many ways, age speaks for itself. After all, an antiques market does exist. ${ }^{27}$

A final factor is the general price level. Obviously, if prices in general rise, prices of houses would usually rise as well. ${ }^{28}$

Interestingly, the presence or absence of the temple must be represented by a "dummy variable," with 1 denoting a presence and 0 denoting an absence (either the temple is there or it is not; however, since the floor area of temples are quantifiable, no dummy variable is necessary here). Other dummy variables include each city in the study. ${ }^{29}$

However, gauging the effect of a temple's size on local property values does not require a dummy variable. ${ }^{30}$

The preliminary regression equation is:

$$
\begin{aligned}
& \text { Price }=\mathrm{B} 1(\text { Land })+\mathrm{B} 2(\text { Bed })+\mathrm{B} 3(\text { Bath })+ \\
& \mathrm{B} 4(\text { Story })+\mathrm{B} 5(\text { Sq ft })+\mathrm{B} 6(\text { Pool })+\mathrm{B} 7(\text { Temple }) \\
& +\mathrm{B} 8(\text { Age })+\mathrm{B} 9(\mathrm{CPI})
\end{aligned}
$$

A preliminary substitute is:

```
Price = B1(Land) + B2(Bed) + B3(Bath) +
B4(Story) + B5(Sq ft) + B6(Pool) + B7 (Temple
Size) + B8(Age) + B9(CPI) + B10(Orlando) +
B11(Boston)
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Where

- $\quad$ Price $=$ residential housing price,
- Land $=$ lot size,
- $\quad$ Bed $=$ number of bedrooms,
- Bath = number of bathrooms,
- Story $=$ number of stories,
- $\quad \mathrm{Sq} \mathrm{ft}=$ area of floor space in the home, in square feet,
- Pool $=$ whether there is a swimming pool,
- Temple $=$ whether there is a temple within one mile of the home at the time of purchase,
- Temple size $=$ the size of the temple within one mile of the home at the time of purchase, in square feet,
- $\quad$ Age $=$ age of the home in years at the time of sale,
- $\quad \mathrm{CPI}=$ consumer price index, to factor in inflation,
- Orlando $=$ whether the home is in the Orlando area, and
- Boston $=$ whether the home is in the Boston area. ${ }^{31}$


## Obtaining Data; Some Clarifications

To get a true idea of prices and their influences, first it is necessary to get proper prices. Hence, when gathering data is was necessary to obtain the prices that people actually paid for their properties, rather than prices asked for by house sellers, or assessed values of those homes. Asked-for prices are merely offers that have not cleared by the arbitration of the equilibrium prices of the market. Assessed valued are what government officials think homes are worth, but since assessors are unrelated to the market, assessed prices are usually quite different from actual prices.

However, the price of the labor and materials used to build homes where the only owners moved in shortly after completion is considered the price of the home, even though that price is probably less than the home would actually be worth if it were on the market now. This would probably skew results downward, especially in Raleigh and Orlando, where most homes within one mile of temple grounds were built after the temple was built.

The author was also careful to limit the outside the temple area to within the same community. A total of 207 sample home prices (and other data) were taken in the Boston, Orlando, and Raleigh metropolitan areas. All 207 were within two miles of the nearest temple, and within the same town. Of the 207 homes sampled, 103 of them were within a radius of one mile. Comparing home values in different metropolitan areas was accomplished using the expedient of dummy variables that accounted for the differing costs of living in each area.

This writer specifically confined research to housing prices, rather than commercial property prices, in order to compare "apples with apples." Somewhat different motivations govern commercial values than govern residential prices, one of which is that traffic is a plus for commercial property, but a minus for residential property.

The author got his data either from government sources, from the Church of Jesus Christ of Latter-day Saints, or from local realtors. The actual data is listed in the appendix.

## Analysis of the Data

The claim of Dearie and Counselman, that the LDS temple makes surrounding homes "unmarketable,"
serves as the "null hypothesis." The opposing view is called the "alternative hypothesis." ${ }^{32}$ In this case, it is the theory that the temple does not affect or actually increases local home values. (The opposing view should include all options.)

The beta variable (also known as the coefficient) that corresponds with each factor in the regression is called an "estimator." Actual effects actually vary from observation to observation. $95 \%$ of the observations fall with two standard deviations of the estimate. ${ }^{33}$ If the coefficient falls more than two standard deviations from the theorized value (three, if the researcher wants to account for $99 \%$ of the observations), one must reject the null hypothesis in favor of an alternative hypothesis. When this is the case, the finding is "statistically significant. ${ }^{34}$

In the analysis in Figure 1, the adjusted $\mathrm{r}^{2}$ is 0.8698. This indicates that the regression is a good fit with reality.

In $95 \%$ of observations, the temple adds between $\$ 29,455$ and $\$ 77,445$. Since the Dearie/Counselman hypothesis
calls for a reduction of at least $\$ 51,000$, it is best to reject their hypothesis.

Another way of hypothesis testing is the use of the "student's t." The formula is:

$$
\mathrm{t}=\left[\left(\mathrm{Z} 1 *(\mathrm{k})^{1 / 2}\right) / \mathrm{Z} 2\right]
$$

Where Z 1 is a standardized normal variable [Z1~ $\mathrm{N}(0,1)$ ], and $Z 2$ is a second variable with k "degrees of freedom. ${ }^{, 35}$

The Orlando Temple's coefficient's $t$ of 4.4178, with 110 degrees of freedom, indicates that there is a greater than $99.9 \%$ probability that the temple adds to the value of area homes. ${ }^{36}$

These findings are consistent with rejecting the null hypothesis and substituting the alternative hypothesis for the null one.

Looking at the findings of the Boston Temple (Figure 2), while the temple coefficient is consistent with findings for the Orlando Temple, the fact that this writer was unable to conclusively prove either the old or the


Figure 1: Regression of the Orlando Temple

| Regression Statistics |  | Mean home value: $\$ 638,454$ |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Multiple R | 0.9423 |  |  |  |  |  |  |
| R Square | 0.8879 | Ho: |  |  |  |  |  |
| Adj. R Square | 0.4137 | Homes lose \$159.613 |  |  |  | or more |  |
| Std. Error | 149127.8317 |  |  |  |  |  |  |
| Obs. | 13 |  |  |  |  |  |  |
| ANOVA | $d f$ |  | SS | MS | $F$ | Significance F |  |
| Regression | 9 |  | $7.0457 \mathrm{E}+11$ | $7.8 \mathrm{E}+10$ | 3.5202 | 0.1643 |  |
| Residual | 4 |  | $8.8956 \mathrm{E}+10$ | $2.2 \mathrm{E}+10$ |  |  |  |
| Total | 13 |  | $7.9353 \mathrm{E}+11$ |  |  |  |  |
|  | Coefficients |  | Standard Error | t Stat | $P$-value | Lower 95\% | Upper 95\% |
| Lot size | \$ 969,926.90 | \$ | 1,120,058.31 | 0.8660 | 0.4354 | \$ (2,139,859.96) | \$ 4,079,713.75 |
| Bedrooms | \$ 162.60 | \$ | 111,590.49 | 0.0015 | 0.9989 | \$ (309,662.92) | \$ 309,988.13 |
| Baths | \$ 96,565.97 | \$ | 136,330.48 | 0.7083 | 0.5178 | \$ (281,948.92) | \$ 475,080.85 |
| Stories | \$ 123,561.54 | \$ | 158,121.87 | 0.7814 | 0.4782 | \$ ( $315,456.06$ ) | \$ 562,579.14 |
| Sq. Feet | \$ 74.61 | \$ | 194.60 | 0.3834 | 0.7209 | \$ (465.70) | \$ 614.92 |
| Pool | \$ 44,029.67 | \$ | 279,906.40 | 0.1573 | 0.8826 | \$ (733,116.68) | \$ 821,176.03 |
| Temple | \$ 61,826.08 | \$ | 141,512.78 | 0.4369 | 0.6847 | \$ ( $331,077.20$ ) | \$ $454,729.36$ |
| Age | \$ 956.98 | \$ | 4,254.06 | 0.2250 | 0.8330 | \$ (10,854.21) | \$ 12,768.18 |
| CPI | \$ $(1,599.88)$ | \$ | 1,872.12 | -0.8546 | 0.4409 | \$ (6,797.74) | \$ 3,597.97 |

Figure 2: Regression of the Boston Temple


Figure 3: Regression of the Raleigh Temple
new null hypothesis. While the $r^{2}$ shows that the factors are adequate, the number of observations are simply too few, as Essex county does not list its property values online, and realtors do not advertise homes that have sold, but homes that are for sale.

Looking at the regression analysis for the Raleigh Temple (Figure 3), it appears that temples do not increase local home values in every instance. However, the lower bound of the estimate does not attain the substantial loss required would make homes unmarketable by the definition above. In fact, the Raleigh Temple has no statistically significant impact on area property values.

However, because Wake County, NC does not include data on the number of bedrooms or baths in every instance, the adjusted $r^{2}$ indicates only a fair fit of reality. A census may indicate either the unmarketable claim or the alternative claim.

Since the Raleigh Temple has no statistically significant effect on local home values, it may be that only the larger temples that increase local residential values, or
that the Raleigh Temple is too new to have affected residential values at the time of this study.

Figure 4 indicates the findings of a regression analysis of all 207 samples in Orlando, Boston, and Raleigh. While a slight increase is evident in local hosing prices, negative values fall within one standard deviation.

However, this finding demonstrates beyond a $95 \%$ probability that the LDS temples do not cause local homes to substantially decline in value, as the lower bound is more than $\$ 30,000$ more valuable than the critical level of "unmarketability." The Dearie/Counselman null hypothesis that the temple renders nearby homes "unmarketable" must be rejected.

## A Question of Temple Size

Figure 5 shows the analysis of the effect of the temple's size on local property values. Since each square foot of floor space in the temple adds 43 cents on average to the value of each home within one mile, and has a standard deviation of $211 / 2$ cents, there is better than a $95 \%$

| Regression Statistics |  | Mean home value: |  | \$ 224,031 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Multiple R | 0.9118 |  |  |  |  |
| R Square | 0.8313 |  |  |  |  |
| Adj. R Square | 0.8194 | Ho : |  |  | \$56,007 | ormore |  |
| Std. Error | 64200.3551 |  | Homes lose |  |  |  |  |
| Observations | 207 |  |  |  |  |  |
| ANOVA | $d f$ | SS | MS | $F$ | Significance F |  |
| Regression | 9 | $4.0215 \mathrm{E}+12$ | $4.4683 \mathrm{E}+11$ | $1.0841 \mathrm{E}+02$ | $2.2901 \mathrm{E}-71$ |  |
| Residual | 198 | $8.1609 \mathrm{E}+11$ | 4.1217E+19 |  |  |  |
| Total | 207 | $4.8375 \mathrm{E}+12$ |  |  |  |  |
|  | Coefficients | Standard Error | $t$ Stat | $P$-value | Lower 95\% | Upper 95\% |
| Lot size | \$ 350.89 | \$15,976.39 | 0.0220 | 0.9825 | \$ (31,154.81) | \$31,856.59 |
| Stories | \$ 25.975 .56 ) | \$ 10,725.31 | -2.4219 | 0.0163 | \$ (47, 126.05) | \$ (4,825.06) |
| Sq. Feet | \$ 65.04 | \$ 5.32 | 12.2143 | 0.0000 | \$ 54.54 | \$ 75.54 |
| Pool | \$ 19,000.16 | \$ 13,796.60 | 1.3772 | 0.1700 | \$ $(8,206.97)$ | \$46,207.29 |
| Temple | \$ 4,398.34 | \$12,476.44 | 0.3525 | 0.7248 | \$ (20,205.40) | \$ 29,002.08 |
| Age | \$ $(1,418.01)$ | \$ 642.85 | -2.2058 | 0.0285 | \$ $(2,685.71)$ | \$ (150.30) |
| CPI | \$ 620.82 | \$ 140.03 | 4.4334 | 0.0000 | \$ 344.67 | \$ 896.97 |
| Orlando | \$(84,841.62) | \$ 15,331.26 | -5.5339 | 0.0000 | $\$(115,075.12)$ | $\$(54,608.13)$ |
| Boston | \$541,140.83 | \$49,849.63 | 10.8555 | 0.0000 | \$442,836.54 | \$639,445.13 |

Figure 4: Regression of the three temple samples
probability that bigger temples add more value than smaller temples．The calculated t－distribution in figure five concurs with that assessment．${ }^{37}$

## Conclusions

While not completely conclusive，this study has demon－ strated that the hypothesis is not correct．The sale prices of private real estate near the three LDS temples in this study show fairly conclusively that the presence of the temple does not make a house unmarketable（un－ der any understanding of the term）．In cases where the temple would seem to have added value to local homes， it also suggests that the larger the temple is（i．e．the greater the local impact），the more value is added．We could speculate on the reasons for this．The temples are beautiful buildings．They are well maintained with im－ maculate gardens and lawns．They draw respectful visi－ tors．The specific purposes of an LDS temple tend to limit its uses，compared to other similar－sized religious
buildings that may host daycare centers or large meet－ ings．

This paper completely ignores cities with large LDS populations，as this author did not want to show home values enhanced by large numbers of Latter－day Saints wanting quick access to their temples．Early in the his－ tory of the Church（at least in the USA），Latter－day Saints built temples in areas where Latter－day Saints were concentrated．Later construction tended to facili－ tate temple access for Latter－day Saints in more remote areas．Because the Church of Jesus Christ of Latter－ day Saints is accelerating its temple construction（there are more than one hundred operating temples today ${ }^{38}$ ）， there are not enough Latter－day Saints to guarantee a market for surrounding homes．This study tested the effect of the temple only on those who have no use for the temple，since they would constitute the vast major－ ity in cities where new temples are built．

This study however，has only dealt with sale prices of homes，and has not attempted to explore local economic

| Regression Statistics |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Multiple R | 0.9135 |  |  |  |
| R Square | 0.8345 |  |  |  |
| Adj．R Square | 0.8228 |  |  |  |
| Std．Error | 63584.5496 |  |  |  |
| Observations | 207 |  |  |  |
| ANOVA |  |  |  |  |
|  | $d f$ | SS MS | $F$ | Significance F |
| Regression | 9 | $4.0370 \mathrm{E}+124.4856 \mathrm{E}+11$ | 110.9473 | 3．4700E－72 |
| Residual | 198 | $8.0051 \mathrm{E}+114.0430 \mathrm{E}+09$ |  |  |
| Total | 207 | $4.8375 \mathrm{E}+12$ |  |  |


|  | Coefficients | Standard Error |  | t Stat | $P$－value | Lower 95\％ | Upper 95\％ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Intercept | 0 |  | \＃\＃／A | 剘／A | 剘／A | 剘／A | 剘／A |
| Lot size | \＄10，030．20 | \＄ | 15，657．00 | 0.6406 | 0.5225 | \＄（20，845．67） | \＄40，906．06 |
| Stories | $\$(19,679.33)$ | $\$$ | 10，655．54 | －1．8469 | 0.0663 | \＄（40，692．23） | \＄1，333．57 |
| Sq．Feet | \＄ 59.65 | \＄ | 5.64 | 10.5728 | 0.0000 | \＄ 48.52 | \＄ 70.77 |
| Pool | \＄12，351．78 | \＄ | 13，939．38 | 0.8861 | 0.3766 | \＄$(15,136.91)$ | \＄39，840．46 |
| Temple Size | \＄ 0.4304 | \＄ | 0.2157 | 1.9951 | 0.0474 | \＄ 0.005 | \＄ 0.855 |
| Age | \＄$(1,363.67)$ | \＄ | 631.57 | －2．1592 | 0.0320 | \＄$(2,609.14)$ | \＄（118．20） |
| CPI | \＄ 576.77 | \＄ | 128.69 | 4.4820 | 0.0000 | \＄ 323.00 | \＄ 830.54 |
| Orlando | \＄（76，864．86） | $\$$ | 14，227．85 | －5．4024 | 0.0000 | \＄$(104,922.42)$ | \＄（48，807．30） |
| Boston | \＄524，150．47 | \＄ | 49，692．85 | 10.5478 | 0.0000 | \＄426，155．35 | \＄622，145．60 |

Figure 5：Regression of the three－temple sample of size
conditions or real estate swings or bubbles. Additional research into comparative markets unaffected by the temple in the same communities would help to confirm our results.

The data, however, does show that charges that temples of the Church of Jesus Christ of Latter-day Saints render neighborhood homes "unmarketable" are at best overstatements of people's fears, and, as the data suggest, completely unfounded.

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16. Gujarati, 195.
17. Robert C. Graham, Managerial Economics, (New York: HarperPerennial, 1994), 45-46.
18. Ibid., 47.
19. William H. Green, Econometric Analysis, 4th ed. (Upper Saddle River, New Jersey: Prentice Hall, 2000), 210.
20. Ibid., 46, 47, 49.
21. Ibid., 52.
22. That is, a chart of occurrences appears as a bell curve, with roughly equal numbers of occurrences falling on both sides of the mean, with more occurrences falling near to the mean, and less occurrences as one retreats from the mean. See Gujarati, 771.
23. Graham, 52.
24. Ibid., 51-52. All regression calculations were done using the Regression Data Analysis tool in the Microsoft Excel 2000 spreadsheet program, and the SPSS 8.0 statistical program. The author will not go into further detail in any calculation.
25. Gujarati, 54-59.
26. Ibid., 74-80.
27. Data on size, amenity, and age factors homes in the Orlando area were obtained from the Orange County, Florida, Py Assessors (http://www.ocpafl.org/docs/ address_form.html). Data on homes in the Raleigh area were obtained from the Wake County, North Carolina, Property Assessors (http://aws1.co.wake.nc.us/realestate/main.htm). Since the Essex County Property Appraisers do not have online data, data on housing prices in Belmont, Massachusetts were obtained from Natoli Real Estate's Web site, accessed 18 June 2002. Available from http://www.natolirealestate.com/
28. Consumer Price Index data is in Bureau of Labor Statistics, Consumer Price Index (Washington, DC: U.S. Department of Labor, 18 September 2002), available from ftp://ftp.bls.gov/ pub/special.requests/cpi/cpiai.txt.
29. Gujarati, 499-502.
30. The size of the Orlando and Raleigh temples are from the Orange and Wake county assessors' office, respectively. The size of the Boston Temple is from the Web page of the Church of Jesus Christ of Latter-day Saints; accessed 8 October 2002. Available from http://www.lds.org/media/newsrelease/extra/ display/0,6025,1650-1-153-3,00.html
31. This writer recognizes that it is not always possible to get all the data to run the above regressions. Whenever it was not possible to get data on a particular independent variable for every sample, then that particular variable was ignored.
32. Gujarati, 121.
33. Graham, 63-67.
34. Gujarati, 121-131.
35. Gujarati, 775. Degrees of freedom equal the number of observations minus two. Ibid., 70.
36. Orlando's $t$ distribution is compared with the Table D. 2 in Gujarati, 809. With only 60 degrees of freedom, the probability that the temple lowers local house values falls to 0.001 (1/ 10 of $1 \%$ ) when a $t$-distribution reaches 3.232 .
37. Gujurati, 809.
38. Church of Jesus Christ of Latter-day Saints, Official Web Site.

## About the Author

Steven J. Danderson is an Adjunct Professor of Finance at Saint Leo University and an Adjunct Professor of Economics and International Management at the University of Phoenix. He has served in the US Army and is a decorated veteran of Operation Desert Storm. Steven is married and lives in Florida. He has served in two branch presidencies and is currently ward clerk.

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## Appendix One: The Data

In the following five pages, 207 samples have been gathered from three cities where the Church of Jesus Christ of Latter-day Saints have built temples.

The following is a list of abbreviations used to list data from each sample (* indicates a dummy variable, where 1 means yes and 0 means no; 0 in both Orlando and Boston indicates that the house is in Raleigh).
*Inc? = Indicates whether the house is in an incorporated area
Land $=$ lot size,
Bed $=$ number of bedrooms,

Bath $=$ number of bathrooms,
Story $=$ number of stories,
$\mathrm{Sq} \mathrm{ft}=$ area of floor space in the home, in square feet,
*Pool? = whether there is a swimming pool,

* $<1$ mile $=$ whether the homes is presently located within one mile of the nearest LDS temple grounds
*Tem? = whether there is a temple within one mile of the home at the time of purchase,
Tsize $=$ the size of the temple within one mile of the home at the time of purchase, in square feet,
YrBlt $=$ the year the home was built
Year $=$ the year the home was purchased by the owner.

Age $=$ age of the home in years at the time of sale, $\mathrm{CPI}=$ consumer price index, to factor in inflation, Price $=$ the price of the home at the time of sale,
*Orl? $=$ whether the home is in the Orlando area,
*Bos? = whether the home is in the Boston area, and
N/A $=$ Not Available.




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