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The Underlying Factors of Regional U.S. Hotel Market Resiliency Post 9/11

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I was motivated to do this study because I worked in the Real Estate industry in the summer of 2010, and I became interested in what factors in a market effect real estate values. I would like to thank my uncle Mr. Greg Hartman for helping me choose my specific topic of looking at the effect of September 11, 2001 on regional U.S. Hotel markets. I think September 11, 2001 was an important shock to examine due to its significant effect on America as a country as well as on the hotel industry. I would also like to thank Mr. Bob Bowers from Smith Travel Research for giving me regional hotel data at no cost. My parents, Jeannette and Grant Heidrich, also provided me with a great deal of support and encouragement throughout the semester. Lastly, I would like to thank Professor Henrik Cronqvist, my reader and Research Methods advisor, for providing me with helpful input and guidance throughout the process.

Abstract

I was interested in researching the underlying factors that drove resiliency in regional U.S. hotel markets. I did this by conducting an empirical analysis of twenty nine different markets post September 11 and investigating general, leisure and business variables. I concluded that leisure variables were the underlying drivers of resiliency in regional U.S. hotel markets.

I then conducted an event study to try to apply my findings to stock market prices of publically traded hotel companies. Although it was a challenge to differentiate between companies that depended more on leisure versus business customers due to their asset diversification, I categorized each company into one of the two subsets. If my findings held, I would assume that that the cumulative abnormal returns for the companies that relied on business customers would be more negative than the companies who relied on leisure customers. However, this was not the case, so the findings that leisure variables drive market resiliency were not a good predictor of stock market reaction.

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1. Introduction

The United States hotel industry is affected by both economic factors and exogenous shocks, as well as the travel industry generally. I decided it would be interesting to do an empirical study of variables that are found throughout all regional markets in the United States. From my results I would identify which variables, either business (the size of convention centers and the number of large companies headquartered in a market), or leisure (the average temperature and average sunny days in a market) are responsible for driving the resilience of a market. In essence, I want to identify the fundamentals of what makes a market resilient to exogenous shocks. I will then attempt to translate my results to the stock market and determine if companies that are dependent on business travel or leisure travel are affected differently. I chose to peruse this question due to my interest in Real Estate, and if significant results are found, my paper could assist Real Estate investors in making investments in the future.

There were five significant variables in my models. Two were business variables, two were the leisure variables and the fifth was the unemployment rate. The variables that were significant in the 2000-2001 regressions were the number of large companies (5% level and 10% level in convention center dummy variable regression), the convention centers dummy variable, average temperature and average sunny days (all 5% level) are significant in the 2000-2001 dummy variable regression. The variables that are significant in the 2000-2002 regressions are the convention centers variable (10% level) and the convention center dummy variable (5% level). Also, the large companies headquartered in each market and unemployment rate were significant (5% level) in both regressions.

I picked the date September 11, 2001 as the terrorist attacks created an exogenous shock to the economy. After the attacks, the economy slowed down into a recession, and the travel industry suffered because people did not feel safe flying or traveling. Due to the material effects these events had on the hotel industry, September 11, 2001 is a good event to examine the resiliency of regional United States hotel markets.

I attempted to classify my variables into two different groups, leisure and business. I thought this would be interesting because the results could tell me which type of variables lead to higher market resiliency. Unfortunately, I was not able to classify all variables into the leisure and business groups, only several of them. I classified the average sunny days per month, and the average temperature per month as leisure variables. As business variables, I classified the number of larger companies that are headquartered in each market, and the size of convention center space in each market.

Hypothesis: I believe that the stronger the business related variables are in a market, the more resilient the market will be. My results will not be a good predictor of hotel company returns due to the diversification of each publically traded hotel company.

The U.S. Hotel Industry: Financial Background

The hotel industry falls within the broader industry of Real Estate, and in 2008 accounted for $144.9 billion in revenues. Additionally, the industry follows macro economic trends and is susceptible to exogenous shocks. This is illustrated in an industry report by Datamonitor, an industry research firm, which shows the pre 2008 recession hotel industry growth numbers contrasted to the post recession growth projections. From 2004-2008, the average revenue growth rate was 6.5%, compared with

the projected 2008-2013, growth rate of 3.4% and estimated growth rate of -4.2% in 2009[1]. This data makes it clear that the hotel industry is effected by economic trends and exogenous shocks.

One important factor concerning the hotel industry is its correlation with the travel industry. This connection is illustrated by components of hotels' 2008 revenue. Domestic consumers accounted for $105.3 billion in revenues, equating to 72.7% of the total United States hotel industry revenue. The domestic business segment is the second largest source of revenues for the hotel industry, accounting for $21.2 billion in revenues, and 14.6% of the United States hotel industry revenue. The third and smallest portion of the industry is foreign travelers, who provide $18.4 billion in revenues, translating to 12.7% of the industry revenue[2]. When comparing these numbers to each other, the domestic consumer accounts for the vast majority of hotel revenue. When the domestic consumers use a hotel or motel, there is a good chance that they will also use some form of transportation. Many hotels find that the most cost effective way to increase sales is to build good relationships with travel agents or travel agencies (Garcia-Falcon and Medina-Munoz, 1999)[3]. This strategy can be more cost effective than traditional advertising channels because the marketing dollars are directed to interested parties as opposed to a general audience.

Supply and Demand of the U.S. Hotel Industry

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[1] Datamonitor. *United States – Hotels & Motel*. Reference Code: 0072-0520, December 2009.

[2] Ibid.

[3] Garcia-Falcon, Munoz. *The relationship Between Hotel Companies and Travel Agencies: An Empirical Assessment of the United States Market*. The Service Industries Journal, Vol. 19, No. 4 (October 1999), pp. 102-122.

Another important aspect of the United States hotel industry is its cyclic behavior. The three major parts of the industry are demand (measured in room stay nights), the supply (which includes both new hotel completions and change in room stock), and the occupancy rate, all of which are driven by cyclic factors. First, the demand, measured in millions of rooms rented moves tightly with the Gross Domestic Product (GDP), although demand typically grows at a slightly greater rate. The supply of the industry, unlike the demand of the industry, does not have a clear connection to GDP. The best to explain the changes of supply is a lagged increase. This means that when demand increases, the supply will not increase immediately, but will increase in the future. Lastly, occupancy rates move ahead of rental rates creating a peak and valley type model. If hotels were more likely to adjust their prices in the short run, the model would start to smooth out relative to historical trends (Wheaton Rossoff, 1996)[4]. The movement in demand probably occurs due to the fact that when GDP is higher, there is more disposable income in the economy, which raises the demand for hotel room nights.

2. Literary Review

The existing research provides valuable insights into which factors might be expected to effect the resiliency of different geographical hotel markets. In this section, I will explain what factors I presume to effect the resiliency of regional hotel markets within the United States.

Unambiguous Variables

[4] Wheaton, Rossoff. *The Cyclic Behavior of the U.S. Lodging Industry*. Real Estate Economics, Vol. 26, (1996), pp.67-82.

While reviewing relevant literature focused on the hotel industry, I found several variables which I believe will be useful in my model. The first set of variables which I believe will be useful are the unemployment rate of the market, the population of the market, the amount of hospital space in the market, the amount of office space in the market, and the median income of the market. These variables were found to be important drivers of operating margin[5]. The goal of their paper is to identify, "The success of a site… based on competitive, demographic, physical, market awareness, and demand generator variables"[6]. This is similar to my topic, but it is focused on La Quinta Inns, not regional markets. An interesting conclusion drawn in another paper by Ingram and Roberts, *Friendships Among Competitors in the Sydney Hotel Industry*, was that occupancy was not a good dependent variable, which led them to use yield as the dependent variable.[7] Kimes and Fitzsimmons come to similar conclusions, but they used operating margin, not yield. Regarding Kimes and Fitzsimmons' analysis of the variables, I believe that my findings, in general, will be similar to their findings. However, they found that the lower the median income of the area surrounding the inn, the better the inn preformed. I think that because La Quinta Motor Inns target a middle class demographic, the inns would be more successful in lower income areas, while given that I am doing an aggregate market study, I believe that my findings will be the opposite of Kimes and Fitzsimmons.

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[5] Kimes, Fitzsimmons. *Selecting Profitable Hotel Sites at La Quinta Motor Inns*. The Institute of Management Sciences, Interfaces, Vol. 20, No.2 (Mar.-Aprl., 1990), Pp. 12-20

[6] Ibid.

[7] Ingram, P and Roberts, P. 2000. *Friendships among competitors in the Sydney Hotel Industry.* The American Journal of sociology, Vol. 106 No. 2: 387-423.

The next two variables which I will explore are the size of the government presence in the market, and the size of the GRP (Gross Regional Product). These variables are discussed in an industry publication by Hotel and Leisure (H&L) [8]. The paper explores future outcomes for the Washing, D.C. hotel market, and the reasons for those outcomes. It is evident that I will perform a similar analysis of many regional United States hotel markets. The publication states that Washington, D.C. is more resilient than other markets due to a large government presence and its connection to the local economy. Additionally, the size of the local economy is an important factor effecting market resiliency. In 2008, when the article was written, Washington, D.C. had the fourth largest GRP at just over $540 billion, behind only Chicago, Los Angeles and New York. Of this GRP, the government contribution is just under 15%. Due to the size, and government presence within the local economy, the study finds the Washington, D.C. hotel market to be more resilient compared to other regional hotel markets within the United States. The resilience is measured in revenue per available room (RevPAR)[9]. I believe that these variables will be useful in my regression analysis, and that they will have a similar effect in my model as was explored in the publication.

Ambiguous Variables

Based on an ongoing review of the relevant research that has already been conducted, it became evident that many of the variables which others have found to have positive effects on hotel performance may not have the same effect in my study. The first variable of this would be the number of airport hotels used as a proxy to measure

[8] Larentz. *Washington, D.C. Lodging Market's Resiliency & Outlook,* Hotel & Leisure Advisors, March 2010.

[9] Larentz. *Washington, D.C. Lodging Market's Resiliency & Outlook,* Hotel & Leisure Advisors, March 2010.

business activity in the area. The idea that hotel airports have become increasingly important to the business sector is explored by McNeill. He found that, "'the emerging, characteristic pattern of the twenty-first century work is not that of telecommuting, as many futurists had once confidently predicted; it is that of the mobile worker who appropriates multiple, diverse sites as workplaces'" [10]. Following the increase in the number and level of amenities of airport hotels and the rising real estate costs associated with development in downtown area of most cities, "downtown came to the airport".[11] This shows that working people no longer needed to commute into the city for meetings because the airport hotels now take care of their business needs. Regarding family travel, one of the first areas that will be cut back upon during financially hard times is air travel. This is illustrated through the Newsweek article[12]. The article advocates for the notion that airport hotels could be a good proxy for business because over time, and through different economic cycles, family trips can easily be changed to a closer location that can be accessed by driving. Although families can cut back on their air travel budgets, businesses still need to run during all stages of economic cycles. Because businesses still have to hold meetings, and meet with clients, their demand for travel is less elastic. However, it will be impossible to decipher the historical occupancy of airport hotels by business travelers versus leisure travelers

[10] McNeill, D. (2009): 'The airport hotel as business space', Geografiska Annaler: Series B, Human Geography 91 (3): 219-228.

[11] Ibid.

[12] Weingarten. *Vacations a Short Drive Away*. Newsweek; 8/11/2008, Vol. 152 Issue 6, pp. 60.

The next ambiguous variable which I will look at, convention centers, could have either a positive or a negative relationship with my dependent variable of RevPAR. In the paper by Boo and Kim, they explore the effects of convention centers in a metropolitan city in the mid Atlantic region of the United States. The authors conclude that exhibit hall Gross Square Footage (GSF), meeting room GSF and ballroom GSF have a positive relationship with hotel room nights, although, show days and number of attendees do not (Boo, Kim, 2009)[13]. Due to the fact that several of the size measurements of the convention centers do have positive effects on the number of hotel rooms rented implies that the number of convention centers in each market would be a good independent variable to include in my regression analysis because it could help drive the resiliency of a market. However, the convention center variable may also produce opposite results. For example, if the hotel industry in a market depends on conventions and trade shows to drive up occupancy rates, and a recession hits, then the number of convention centers may have the opposite effect on hotel performance if many of the companies cancel their trade shows to try to cut costs. However, if many companies hold trade shows that are essential to selling their product, they would not cancel them and the convention centers could stabilize the market.

The third ambiguous variable is seen though an intriguing connection between intercompetitor friendships and hotel performance in the Sydney, Australia hotel industry was drawn. The paper explored how the relationships between hotel executives in the Sydney hotel industry effected hotel performance. They found that the variable of

[13] Boo, Kim. *The Influence of Convention Center Performance on Hotel Room Nights.* Journal of Travel Research,2010, 49:297 originally published online 20 October 2009. DOI: 10.1177/0047287509346855

friendships with competitors does in fact have a positive impact on performance. They also found that different hotels enjoy even better performance when each managers' friends are friends with each other[14]. It appears that interpersonal relationships would be a good variable to include in my analysis; however, it will be difficult to measure the friendships of different hotel managers in all of the markets because I do not have personal information about hotel managers. However, I will put a proxy variable in my analysis, the number of hotels in each market, to try to simulate friendships. I am going to do this because the more hotels that are in a market, the more likely is the chance for friendships to build. However, with a more dense hotel population, the competition for customers increases, which has a negative effect on yield. This means that my proxy for friendship could be measuring the wrong effect so I will be careful in interpreting the results associated with that variable.

An interesting ambiguous variable that is difficult to document on a large scale is operating experience. The topic of operating experience level and how it may or may not effect the hotels' ability to stay in business in the Manhattan hotel industry was explored (Baum, Ingram, 1998). The authors found that new hotel developments benefited from the managers experience at the time of the development of the new hotel, but did not benefit from any experience accumulated thereafter (Baum, Ingram, 1998)[15]. They also found that a small number of hotels in the Manhattan hotel industry accumulated too much operating experience and that accumulated experience actually increased their

[14] Ingram, Roberts. *Friendships among Competitors in the Sydney Hotel Industry*. The American Journal of Sociology, Vol. 106, No.2 (Sep., 2000), pp. 387423.

[15] Baum, Ingram. *Survival-Enhancing Learning in the Manhattan Hotel Industry, 1898-1980.* Management Science, Vol. 44, No. 7 (Jul., 1998), pp. 996-1016.

chances of failure. The experience variable would be an interesting variable to include in my regression model, but due to the anonymity of the data preventing me from telling which data point corresponds to which hotel and how long it has been in business, I will not be able to include an experience variable in my analysis.

3. Data

Data Sources

Variables	Source
Revenue Per Available Room	Smith Travel Research reports
Number of Hotels	Smith Travel Research reports
Unemployment Rates	The Bureau of Labor Statistics
Population	The Bureau of the Census
Major Company Headquarters	Forbes and Google
Average Age	Bureau of the Census
Average Temperature	National Oceanic and Atmospheric Association
Average Sunny Days	National Oceanic and Atmospheric Association
Average Income	The Bureau of Economic Analysis
Gross Domestic Product	The Bureau of Economic Analysis
Convention Centers	Meetingsource.com

Variable Definitions

Revenue Per Available Room: The total revenue earned divided by the number of rooms
Number of Hotels: The number of hotels
Unemployment Rate: The percentage of people who are considered unemployed
Population: The number of people that live in an area
Major Company Headquarters: The number of large companies whose headquarters are located in an area
Average Age: The average age of the population in an area
Average Temperature: The average temperature of the climate in an area
Average Sunny Days: The average number of sunny days in an area
Average Income: The mean income in an area
Gross Domestic Product: The amount of goods and services produced in an area
Convention Centers: The square footage of convention centers measured in thousands of square feet

Summary Statistics (See Table 1)

The variables on which I was able to obtain sufficient data were the number of hotels, RevPAR, unemployment rate, population, mean income, headquarters of the

seventy largest domestic companies, average age of the population, average temperature, average sunny days, the GDP, and size of the convention centers in each market. I was not able to find the data for every variable in one location, so in this case compiled the information from several different places.

I was able to obtain the data for RevPAR and the number of hotels in each market from Smith Travel Research (STR). STR is the leading authority of hotel information for the industry. They sent me a data set for each market that I requested of the total revenue, total room supply, and number of hotel. This data starts in 2000 and ends in 2005. STR did not have data for Las Vegas because they do not accumulate data for that specific market due to the large influence of the gaming industry. They did not send me the RevPAR, but I was able to calculate it by dividing the total revenue of the market by the total room supply for each market.

I was able to find the data for the unemployment rate on the website for the Bureau of Labor Statistics. I found a data set that consisted of monthly and annual unemployment figures by metropolitan area beginning in 2000 and ending with the most current figures.

I found the information for the population variable on the website of the Bureau of the Census. The data I was able to obtain was the population by city starting on July 1, 2000 and ending July 1, 2009. I was also able to find the mean income of each market on the website of the Bureau of Economic Analysis. This data set is organized by metropolitan area starting in the year 2000, and ending in the year 2005.

I found the data concerning the headquarters of the seventy largest domestic companies in several places. I was able to identify the companies on the Forbes website.

After I identified the companies, I did a Google search of the company, and then identified where their headquarters are located.

The average age of the population variable was identified on the website of the Bureau of the Census. This variable, however, could prove to be problematic. I was not able to find the data in each individual market, but was only able to find statewide data. The data was not exact either; it was broken up into age groups consisting of ages 0-5, 5-13, 14-17, 18-24, 25-44, 45-64 and 65+. Each group of ages had its population listed, and the total population of the state. I assumed that each person in each group was the average age of the bracket, and obtained the average age of the state by taking a weighted average. I then assumed that the average age of the state was the same as the average age of each market within that specific state.

I obtained the variables of temperature and sunny days in each market through the website of the National Oceanic and Atmospheric Administration. This data was not given in a time series, but as monthly averages.

The data concerning the GDP of each market was obtained on the website of the Bureau of Economic Analysis (BEA). This data was presented by metropolitan area, and ranged from the year 2001 though the year 2008. I made an inquiry to the BEA, and they explained that the data of GDP by metropolitan area does not exist before the year 2001 because that is the year they started collecting that specific data set. In order to make this data set match my other data, I obtained an average growth rate for each market from the year 2001-2008, and then applied the negative growth rate to the year 2001 figures to find the year 2000 numbers.

During my research for convention center data, I found two data sets on meetingsource.com. This website listed major cities, the number of convention centers in those cities and the square footage associated with each convention center. I will use two models from this data. The first variable I will add to my model is the square footage of convention centers in each market. This data set is not perfect because several cities only had one convention center listed when intuitively there would be more than that. Also listed on meetingsource.com, I found the top twenty five rated convention cities, from this data, I will make a convention centers dummy variable and run a separate regression including this variable and excluding the square footage of convention centers variable.

4. RevPAR Movements

I chose RevPAR as my dependent variable, but it was not the first variable which I considered . The first variable I considered using as the dependent variable in my analysis was hotel occupancy. I thought occupancy would be a good proxy variable for the success of hotels because intuitively it seems as though the more people who stay at an establishment the more successful it will be. However, in my research, I found that hotel management room rates effect occupancy, which would make occupancy a weak indicator of success[16]. RevPAR would be a good measure for hotel success because it accounts for the occupancy and average daily rate of the hotel. RevPAR is much harder to artificially manipulate than occupancy rates. That is why I chose it as the dependent variable.

[16] Kimes, Fitzsimmons. *Selecting Profitable Hotel Sites at La Quinta Motor Inns*. The Institute of Management Sciences, Interfaces, Vol. 20, No.2 (Mar.-Aprl., 1990), Pp. 12-20

To see how much September 11 effected each market, I plotted the RevPAR for each market, and calculated the percentage change for each year from the year 2000 to the year 2002. The top five markets that were effected least by the events on September 11, in 2001 were the Houston, Texas market (+2.7%), the San Antonio, Texas market (-1.7%), the Jacksonville, Florida market (-3.1%), and the Forth Worth and the El Paso, Texas markets (-.1% and +.3%). (See Charts 1-5). The five markets that were effected the most by September 11, 2001 were the New York City, New York market (-20.3%), the Dallas, Texas market (-16.1%), the San Jose, California market (-22.3%), the San Francisco, California market (-22.9%) and the Boston, Massachusetts market (-20.0%), (See Charts 6-10).

The markets that made the most improvement in the year 2002 were the Philadelphia, Pennsylvania market (+4.0%), the San Antonio, Texas market (2.4%), the Baltimore, Maryland market (+1.9%), the El Paso, Texas market (+5.1%) and the Louisville, Kentucky market (+1.5%). (See Charts 11-15). The markets that suffered most severely in the second year after the September 11 attacks were the Houston, Texas market (-8.2%), the San Jose, California market (-22.7%), the San Francisco, California market (-19.0%), the Austin, Texas market (-13.2%) and the Boston, Massachusetts market (-10.9%), (See Charts 16-20).

Please find the summary statistics for the market that were the most resilient in Table 2, and the summary statistics of the least resilient markets in Table 3.

5. Results

Methodology

$$Y = \beta_0 + \beta_1 + \beta_2 + \beta_3 + \beta_4 + \beta_5 + \beta_6 + \beta_7 + \beta_8 + \beta_9 + \beta_{10}$$

Along with identifying which variables account for the change in RevPAR, I will compare the leisure variables and business variables to see which group of variables accounts for the resiliency of the regional markets. The leisure variables are the average temperature and average sunny days, whereas the business variables are the square footage or dummy variables for convention centers, and the number of large business headquarters.

Regression Analysis

For my empirical analysis I ran regressions with the Y variable being the percent change in revenue per available room between the years 2000 and 2001. My X variables were the percent change in the number of hotel rooms, the percent change in the average age of the population, the percent change in the median income, the percent change in the population, the percent change in the gross domestic product, the percent change in the unemployment rate, the number of sunny days, the average temperature of each market, the number of large companies that have headquarters in the market and the size of convention center space measured in square feet. The variables which I could not find time series data on were the number of large companies headquartered in each market, the average temperature, the average sunny days and the square footage or dummy variables for convention centers. I then duplicated this process but with the change from the year 2000 to the year 2002.

2000-2001 Regression

The first step in my analysis was to run a correlation test between all of my explanatory variables. This is important because if any of my explanatory variables are correlated it will throw off the results of the regression because. It will throw off my results because the explanatory variables may explain themselves, and not the dependent variable. After running the test, only the percent change in GDP and the average temperature had a correlation of over 0.6. This correlation is too high to keep both variables in the analysis, so I threw out the percent change in GDP because it was correlated with the average temperature of the market. After rerunning the correlation test, no other variables were correlated above 0.6.

The results of the regression of the years 2000 to 2001 consisted mostly of explanatory variables that did not have a statistically significant effect on the dependent variable. The only significant variable in the regression output was the number of large companies in the market. The number of large companies in the market variable had a t-value of -2.04. Because 2.04 is greater than the critical value of 1.96, the variable is significant at the 5% level.

The coefficient associated with the number of large cities in a market was -0.0082. Due to the fact that the dependent variable is measured in percent change, the coefficient can be interpreted for every large company that is added to a market, the RevPAR will drop by 0.82%. This model did not offer a great explanation for the change in RevPAR because the adjusted R-squared was only 0.486. That means that the explanatory variables only explained 48.6% of the movements in the dependent variable.

I reran the correlation test but replaced the size of convention centers variable with a convention center dummy variable. The results of the first correlation test showed

that the percent change in GDP and average temperature were correlated above 0.6 again, so I threw out the GDP variable because it was still correlated with the average temperature variable.

I then reran the same regression but replaced the size of convention centers variable with a convention center dummy variable. However, the results differed vastly from the first regression. The number of large companies variable was still significant but this time at the 10% level. Its coefficient was -.0068 which implies that for every large company that moves its headquarters to a market, the RevPAR will drop by 0.68%. The convention center's dummy variable, average temperature and average sunny days were significant at the 5% level with t-values of -2.28, 2.13 and -2.08 respectively. Their coefficients were -.0471, .0036 and -.0006 respectively. These coefficients imply that when the market is considered a good convention market, the RevPAR drops by 4.7%, for every increase of one degree Fahrenheit in a market, the RevPAR will increase by .36% and for every additional sunny day the market's RevPAR will decrease by .06%. The dummy variable regression was superior at explaining the movements in the dependent variable because the adjusted R-squared was .574. This means that 57.4% of the movements in RevPAR can be explained by the explanatory variables.

Some general conclusions from the results of the regression analysis can be drawn. When comparing the business variables (the number of large companies headquartered in each market and the convention center presence in the market), with the leisure variables (average temperature and average sunny days in each market), it becomes evident which variables drove the drop in the RevPAR. The number of large companies headquartered in each market was significant in both models and the

convention center dummy variable was significant in the second regression model, therefore business variables had a significant effect on RevPAR during the time period of the years 2000 - 2001. Conversely, the leisure variables had the opposite effect. Although they were not significant in the first model, they were significant in the second model. Even though the average sunny days has a negative coefficient, it is very small, and almost negligible. Since the average temperature has a large positive coefficient, it indicates that the leisure variables were responsible for some resilience of the markets.

2000-2002 Regression

I also ran correlation tests for my regressions that spanned the years 2000-2002. In the first regression, which included the size of convention centers variable, the percent change in average income was correlated with percent change in GDP and the percent change in the unemployment rate, so I excluded the percent change in average income variable from the regression. The same correlations were seen when I replaced the size of convention centers with the convention center dummy variable, so I also excluded the percent change in average income in the second regression.

The results seen in the regressions concerning the time period of the years 2000 - 2002 exhibited similar results to the first regressions. The difference is that there were three variables which were statistically significant instead of one. The significant variables were the size of convention centers, significant at the 10% level, the number of large companies who are headquartered in a market, significant at the 5% level and the percent change in the unemployment rate, significant at the 5% level. The convention centers variable had a coefficient of $3.04*10^{\wedge(-8)}$. Because this is so small, it will not have a measurable effect on RevPAR. The number of large companies that are headquartered

in a market coefficient was -.0099 which implies that for every additional large company headquartered in a market, RevPAR will drop by 0.99%. Lastly, the percent change in the unemployment rate coefficient was -.1735, which means that for every percentage increase in the unemployment rate, RevPAR will drop by 17.4%. This model explained the change in the dependent variable better than the first regressions because the adjusted R-squared was 0.609. This model explained about 12% more of the movements in RevPAR than its paired regression in the 2000-2001 time period.

The results of the last regression, which includes the dummy variable for convention centers instead of the size of convention centers, yielded similar results to the other regression spanning the years 2000-2002. The only difference was that all three of the variables in the first 2000-2002 regression, instead of just two, were significant at the 5% level. If the market is considered a good convention market, then RevPAR will drop by 7.5%, for additional large companies headquartered in a market, the RevPAR will drop by 0.84% and for every percentage increase in the unemployment rate, RevPAR will drop by 18.3%. This model had the highest adjusted R-squared of .692. This means that 69.2% of the movements in RevPAR can be explained by the explanatory variables.

The conclusions that can be drawn from the second set of regressions for the 2000-2002 were similar to the results of the first set of regressions for 2000-2001. There were no significant leisure variables. Because no leisure variables were significant, we cannot say they helped the resiliency of the market as they did in the 2000-2001 regressions. The business variables played a significant role in the drop of RevPAR from the years 2000-2002 due to their significance, and the fact that the coefficients associated with them were negative.

Event Study

After finding that lesiure variables help drive the underlying resilience of regional hotel markets in the United States, I investigated to see if my results held with stock market returns. I conducted an event study with the five hotel companies that were being publically traded in the year 2001. These companies were Marriott (1), Starwood (2), Choice Hotels (3), Royal Caribbean (4) and Red Lion Hotels (5). Although I do not have enough observations to have my results be significant, it will give me a general idea if my results can hold. I looked at each company's property descriptions to make a judgment if the company was more business or leisure oriented. I deduced that Marriott, Comfort Inn and Red Lion Hotels were more business oriented, and Royal Caribbean and Starwood were more leisure oriented. My classification of these companies cannot be perfect because the publically traded hotel companies hold many kinds of properties including both business and leisure properties.

For my event study, I was going to make the event date September 11, 2001 but the market did not trade until September 17, 2001 almost one week later. Due to this fact I could not use September 11, so I had to changed my event date to September 17, so the event study could calculate the abnormal cumulative returns, (See Figure 5)**.** I collected my data from the finance.yahoo.com.

The results of my event study are not strongly in line with the results of my analysis of regional hotel markets. My initial results predict that Marriott (-2.74% abnormal return), Comfort Inn (-11.47% abnormal return) and Red Lion Hotels (.1% abnormal return) would have larger negative abnormal returns than Starwood (-1.31% abnormal return) or Royal Caribbean (-11.485 abnormal return). As is seen, the Royal

Caribbean has the largest negative abnormal return, which would not be predicted, but Starwood has the second smallest negative abnormal return, which would have been predicted. With the exception of Red Lion Hotels, the business oriented hotel companies are consistent with Marriott and Comfort Inn and have the largest negative abnormal returns, however, Red Lion Hotels actually had a positive abnormal return. It can be concluded that the results from my study of underlying factors of hotel resiliency are not a good predictor of hotel company returns after an exogenous shock.

6. Conclusion and Recommendations

The main factors that make an individual U.S. hotel market more resilient than another U.S. hotel market are the leisure variables. Conversely, the business variables have the opposite effect and cause a market to be less resilient than others. These results did not hold true to stock market returns for publically traded hotel companies. In this paper, I used the terrorist attacks on September 11, 2001 as an exogenous economic shock, and the shock had uneven effects on different markets. Although the exogenous shock caused an overall decrease in RevPAR, a strong indicator of hotel performance, the effect on RevPAR was not as severe in some markets compared to others. The markets that were effected the most severely were Houston, Texas; San Jose, California; San Francisco, California; Austin, Texas; and Boston, Massachusetts. The markets that were effected the least were Philadelphia, Pennsylvania; San Antonio, Texas; Baltimore, Maryland; El Paso, Texas; and Louisville, Kentucky.

I believe going forward, this study can be improved by adding more variables and getting more specific data on several variables, and obtaining a bigger sample size of publically traded hotel companies, or comparable companies. As I discussed in my data

section, the data on convention centers did not come from a government agency, so the credibility of that data is not as high as the credibility of one of my other variables, which sourced from a government agency, such as unemployment rate. Also, I had to throw out an important variable, the number of airports, because I could not find a time series data set. It would have also been useful to be able to find a time series data set on the number of sunny days, and temperature in each market. I recommend that this study be expanded onto by finding another exogenous shock other than September 11, and the study duplicated to see if the results can truly be generalized to all exogenous shocks or if the results are specific to September 11. Also, I believe with more research into each publically traded hotel company, I would be able to categorize the companies more accurately. Due to the fact that each company is fairly well diversified, I would have to talk to the individual managers of each property group, and receive accurate revenue figures that are associated with leisure and business customers. I would then be able to accurately determine which companies truly depended more heavily on business or leisure customers.

Tables Charts and Figures

Figure 1: Regression and Correlations for the Years, 2000-2001

Source	SS	df	MS
Model	.083765535	9	.009307282
Residual	.044807358	19	.002358282
Total	.128572893	28	.004591889

Number of obs	29
F(9, 19)	3.95
Prob > F	0.0057
R-squared	0.6515
Adj R-squared	0.4864
Root MSE	.04856

cngrevpar	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
cnghotels	-.2610277	.5371389	-0.49	0.633	-1.385272	.8632169
cngaveage	2.38726	9.40284	0.25	0.802	-17.29311	22.06763
cngaveincome	.4799312	.4753171	1.01	0.325	-.5149189	1.474781
cngpop	7.60e-08	3.03e-07	0.25	0.805	-5.59e-07	7.11e-07
cngunemplo~t	-.1238894	.1022838	-1.21	0.241	-.337972	.0901932
sunnydyas	-.0004136	.0003057	-1.35	0.192	-.0010534	.0002262
avetemp	.0031051	.0019829	1.57	0.134	-.0010451	.0072553
largecompa~s	-.0082424	.0040393	-2.04	0.055	-.0166967	.000212
convention~e	-.0000159	.0000156	-1.02	0.323	-.0000486	.0000168
_cons	-.1758464	.131883	-1.33	0.198	-.4518808	.1001879

Figure 1 shows the results from the regression spanning the year 2000-2001. The regression uses the number of square feet of convention center space not the dummy variable for convention centers.

Initial correlation test, 2000-2001.

	cnghot~s	cngav~ge	cngav~me	cnggdp	cngpop	cngune~t	sunnyd~s	avetemp	largec~s	conven~e
cnghotels	1.0000									
cngaveage	-0.2256	1.0000								
cngaveincome	-0.1225	-0.2548	1.0000							
cnggdp	-0.1828	-0.3929	0.3810	1.0000						
cngpop	-0.0496	-0.1527	-0.0185	0.3126	1.0000					
cngunemplo~t	0.2998	-0.0269	-0.5950	-0.4523	-0.1415	1.0000				
sunnydyas	-0.4063	0.1878	-0.3423	-0.0760	0.0891	0.1381	1.0000			
avetemp	-0.2246	-0.0583	-0.0978	0.6161	0.3185	-0.1841	0.5245	1.0000		
largecompa~s	0.0559	0.1543	-0.3027	-0.2513	0.3774	-0.0631	0.0958	-0.1212	1.0000	
convention~e	-0.1127	-0.0282	-0.1111	0.0372	0.5650	-0.0438	0.0110	0.0002	0.2115	1.0000

Correlation test without GDP, 2000-2001.

	cnghot~s	cngav~ge	cngav~me	cngpop	cngune~t	sunnyd~s	avetemp	largec~s	conven~e
cnghotels	1.0000								
cngaveage	-0.2256	1.0000							
cngaveincome	-0.1225	-0.2548	1.0000						
cngpop	-0.0496	-0.1527	-0.0185	1.0000					
cngunemplo~t	0.2998	-0.0269	-0.5950	-0.1415	1.0000				
sunnydyas	-0.4063	0.1878	-0.3423	0.0891	0.1381	1.0000			
avetemp	-0.2246	-0.0583	-0.0978	0.3185	-0.1841	0.5245	1.0000		
largecompa~s	0.0559	0.1543	-0.3027	0.3774	-0.0631	0.0958	-0.1212	1.0000	
convention~e	-0.1127	-0.0282	-0.1111	0.5650	-0.0438	0.0110	0.0002	0.2115	1.0000

Figure 2: Regression for Years. 2000-2001 including Dummy Variable

Source	SS	df	MS
Model	.091464262	9	.010162696
Residual	.037108631	19	.001953086
Total	.128572893	28	.004591889

Number of obs	29
F(9, 19)	5.20
Prob > F	0.0012
R-squared	0.7114
Adj R-squared	0.5747
Root MSE	.04419

cngrevpar	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
cnghotels	-.6620656	.5273301	-1.26	0.225	-1.76578	.4416489
cngaveage	1.639218	8.565191	0.19	0.850	-16.28793	19.56637
cngaveincome	.413266	.427201	0.97	0.346	-.4808761	1.307408
cngpop	8.70e-08	2.37e-07	0.37	0.718	-4.09e-07	5.83e-07
cngunemplo~t	-.1190017	.0922944	-1.29	0.213	-.312176	.0741727
sunnydyas	-.0006021	.0002895	-2.08	0.051	-.0012081	3.86e-06
avetemp	.003679	.001725	2.13	0.046	.0000685	.0072895
largecompa~s	-.0068884	.0036249	-1.90	0.073	-.0144755	.0006986
convention~y	-.0470874	.0206749	-2.28	0.035	-.0903604	-.0038143
_cons	-.1590689	.1156347	-1.38	0.185	-.4010951	.0829572

Figure 2 shows the results from the regression spanning the year 2000-2001. The regression uses the dummy variables of whether or not the market is a good convention market instead of using the number of square feet of convention center located in the market.

Initial correlation test, 2000-2001 Dummy Variable.

	cnghot~s	cngav~ge	cngav~me	cnggdp	cngpop	cngune~t	sunnyd~s	avetemp	largec~s	conven~y
cnghotels	1.0000									
cngaveage	-0.2256	1.0000								
cngaveincome	-0.1225	-0.2548	1.0000							
cnggdp	-0.1828	-0.3929	0.3810	1.0000						
cngpop	-0.0496	-0.1527	-0.0185	0.3126	1.0000					
cngunemplo~t	0.2998	-0.0269	-0.5950	-0.4523	-0.1415	1.0000				
sunnydyas	-0.4063	0.1878	-0.3423	-0.0760	0.0891	0.1381	1.0000			
avetemp	-0.2246	-0.0583	-0.0978	0.6161	0.3185	-0.1841	0.5245	1.0000		
largecompa~s	0.0559	0.1543	-0.3027	-0.2513	0.3774	-0.0631	0.0958	-0.1212	1.0000	
convention~y	-0.2815	0.0019	-0.0609	0.1378	0.4271	-0.1443	-0.0615	0.0623	0.2414	1.0000

Correlation test without GDP, 2000-2001 Dummy Variable.

	cnghot~s	cngav~ge	cngav~me	cngpop	cngune~t	sunnyd~s	avetemp	largec~s	conven~y
cnghotels	1.0000								
cngaveage	-0.2256	1.0000							
cngaveincome	-0.1225	-0.2548	1.0000						
cngpop	-0.0496	-0.1527	-0.0185	1.0000					
cngunemplo~t	0.2998	-0.0269	-0.5950	-0.1415	1.0000				
sunnydyas	-0.4063	0.1878	-0.3423	0.0891	0.1381	1.0000			
avetemp	-0.2246	-0.0583	-0.0978	0.3185	-0.1841	0.5245	1.0000		
largecompa~s	0.0559	0.1543	-0.3027	0.3774	-0.0631	0.0958	-0.1212	1.0000	
convention~y	-0.2815	0.0019	-0.0609	0.4271	-0.1443	-0.0615	0.0623	0.2414	1.0000

Figure 3: Regression for Years, 2000-2002.

Source	SS	df	MS		
Model	.247533163	9	.027503685	Number of obs =	29
Residual	.08925936	19	.004697861	F(9, 19) =	5.85
				Prob > F =	0.0006
Total	.336792523	28	.012028304	R-squared =	0.7350
				Adj R-squared =	0.6094
				Root MSE =	.06854

cngrevpar	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
cnghotels	-.3593866	.5261139	-0.68	0.503	-1.460556	.7417825
cngaveage	-1.50074	6.925929	-0.22	0.831	-15.99688	12.9954
cnggdp	.4779883	.5284542	0.90	0.377	-.6280791	1.584056
cngpopulat~n	.4618814	1.277501	0.36	0.722	-2.211959	3.135722
cngunemplo~t	-.1735099	.071022	-2.44	0.025	-.3221607	-.0248591
sunnydays	-.0001669	.0005878	-0.28	0.780	-.0013971	.0010633
avetemp	-.0000537	.0037609	-0.01	0.989	-.0079254	.0078179
largecompa~s	-.0099271	.0047233	-2.10	0.049	-.0198131	-.000041
convention~s	-3.04e-08	1.80e-08	-1.69	0.107	-6.80e-08	7.20e-09
_cons	.0249761	.1846162	0.14	0.894	-.3614301	.4113823

Figure 3 shows the results from the regression spanning the year 2000-2002. The regression uses the number of square feet of convention center space not the dummy variable for convention centers.

Initial correlation test, 2000-2002.

	cnghot~s	cngav~ge	cngav~me	cnggdp	cngpop~n	cngune~t	sunnyd~s	avetemp	largec~s	conven~s
cnghotels	1.0000									
cngaveage	-0.2493	1.0000								
cngaveincome	-0.2516	-0.2060	1.0000							
cnggdp	-0.0909	-0.3796	0.6395	1.0000						
cngpopulat~n	0.1985	-0.3818	-0.0681	0.4875	1.0000					
cngunemplo~t	0.2465	0.1063	-0.7458	-0.5815	0.0439	1.0000				
sunnydays	-0.3793	0.1878	-0.3240	-0.3150	-0.0522	0.3139	1.0000			
avetemp	-0.1256	-0.0585	-0.1254	0.2890	0.5476	-0.1449	0.5245	1.0000		
largecompa~s	0.0560	0.1544	-0.3377	-0.3927	-0.2684	0.0817	0.0958	-0.1212	1.0000	
convention~s	-0.0492	-0.0283	-0.1644	-0.0618	0.1222	0.0339	0.0110	0.0002	0.2115	1.0000

Correlation test without average income, 2000-2002.

	cnghot~s	cngav~ge	cnggdp	cngpop~n	cngune~t	sunnyd~s	avetemp	largec~s	conven~s
cnghotels	1.0000								
cngaveage	-0.2493	1.0000							
cnggdp	-0.0909	-0.3796	1.0000						
cngpopulat~n	0.1985	-0.3818	0.4875	1.0000					
cngunemplo~t	0.2465	0.1063	-0.5815	0.0439	1.0000				
sunnydays	-0.3793	0.1878	-0.3150	-0.0522	0.3139	1.0000			
avetemp	-0.1256	-0.0585	0.2890	0.5476	-0.1449	0.5245	1.0000		
largecompa~s	0.0560	0.1544	-0.3927	-0.2684	0.0817	0.0958	-0.1212	1.0000	
convention~s	-0.0492	-0.0283	-0.0618	0.1222	0.0339	0.0110	0.0002	0.2115	1.0000

Figure 4: Regression for Years. 2000-2001 including Dummy Variable

Source	SS	df	MS
Model	.266446954	9	.029605217
Residual	.070345569	19	.003702398
Total	.336792523	28	.012028304

Number of obs	29
F(9, 19)	8.00
Prob > F	0.0001
R-squared	0.7911
Adj R-squared	0.6922
Root MSE	.06085

cngrevpar	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
cnghotels	-.5498311	.4744518	-1.16	0.261	-1.54287	.443208
cngaveage	-1.53206	6.147975	-0.25	0.806	-14.39992	11.3358
cnggdp	.2956855	.4758896	0.62	0.542	-.7003629	1.291734
cngpopulat~n	.7194001	1.132111	0.64	0.533	-1.650136	3.088936
cngunemplo~t	-.183137	.0631888	-2.90	0.009	-.3153927	-.0508813
sunnydays	-.0003955	.0005263	-0.75	0.462	-.0014971	.000706
avetemp	.0008593	.0033215	0.26	0.799	-.0060927	.0078113
largecompa~s	-.0084134	.0042362	-1.99	0.062	-.0172799	.0004532
convention~y	-.0751887	.0254294	-2.96	0.008	-.1284131	-.0219644
_cons	.0404965	.162562	0.25	0.806	-.2997496	.3807426

Figure 4 shows the results from the regression spanning the year 2000-2002. The regression uses the dummy variables of whether or not the market is a good convention market instead of using the number of square feet of convention center located in the market.

Initial correlation test, 2000-2002 Dummy Variable.

	cnghot~s	cngav~ge	cngav~me	cnggdp	cngpop~n	cngune~t	sunnyd~s	avetemp	largec~s	conven~y
cnghotels	1.0000									
cngaveage	-0.2493	1.0000								
cngaveincome	-0.2516	-0.2060	1.0000							
cnggdp	-0.0909	-0.3796	0.6395	1.0000						
cngpopulat~n	0.1985	-0.3818	-0.0681	0.4875	1.0000					
cngunemplo~t	0.2465	0.1063	-0.7458	-0.5815	0.0439	1.0000				
sunnydays	-0.3793	0.1878	-0.3240	-0.3150	-0.0522	0.3139	1.0000			
avetemp	-0.1256	-0.0585	-0.1254	0.2890	0.5476	-0.1449	0.5245	1.0000		
largecompa~s	0.0560	0.1544	-0.3377	-0.3927	-0.2684	0.0817	0.0958	-0.1212	1.0000	
convention~y	-0.0840	0.0022	-0.1495	-0.0366	0.1442	-0.0720	-0.0615	0.0623	0.2414	1.0000

Correlation test without average income, 2000-2002 Dummy Variable.

	cnghot~s	cngav~ge	cnggdp	cngpop~n	cngune~t	sunnyd~s	avetemp	largec~s	conven~y
cnghotels	1.0000								
cngaveage	-0.2493	1.0000							
cnggdp	-0.0909	-0.3796	1.0000						
cngpopulat~n	0.1985	-0.3818	0.4875	1.0000					
cngunemplo~t	0.2465	0.1063	-0.5815	0.0439	1.0000				
sunnydays	-0.3793	0.1878	-0.3150	-0.0522	0.3139	1.0000			
avetemp	-0.1256	-0.0585	0.2890	0.5476	-0.1449	0.5245	1.0000		
largecompa~s	0.0560	0.1544	-0.3927	-0.2684	0.0817	0.0958	-0.1212	1.0000	
convention~y	-0.0840	0.0022	-0.0366	0.1442	-0.0720	-0.0615	0.0623	0.2414	1.0000

Figure 5: Event Study. 1 (Marriott), 2 (Starwood), 3 (Choice Inn), 4 (Royal Caribbean), 5 (Red Lion Hotels).

	group_id	cumulat~n	ar_test~t
41.	1	-.0274278	-2.264542
90.	2	-.0131568	-.9769804
139.	3	-.114748	-4.345771
188.	4	-.114852	-4.997962
237.	5	.0011595	.1573956

Table 1:

	MEAN	STDEV	VAR	MAX	MIN
RevPAR	58.08	23.68	560.84	175.12	33.26
# Hotels	341.05	183.53	33682.49	1002.92	74.33
Average Age	34.82	1.33	1.76	38.50	32.83
Average Income	36213.11	6152.31	37850945.73	54910.00	18833.00
GDP by Area	186782.34	189164.68	35783274361.69	1055344.00	16774.00
Population	3883317.50	3807186.38	14494668142083.10	18798114.00	680942.00
Unemployoment	5.20	1.24	1.53	8.80	2.40
Sunny Days	115.31	43.72	1911.68	257.00	58.00
Average Temp	58.96	7.12	50.69	72.90	47.50
Large Companies	1.55	3.13	9.83	16.00	0.00
Convention Centers	807624.14	768336.98	590341708378.34	3847279.00	40003.00

Table 2:

	MEAN	STDEV	VAR	MAX	MIN
RevPAR	49.9507124	11.0840754	122.8567275	72.86819967	35.74189944
# Hotels	258.8958333	132.2237458	17483.11894	594	74.33333333
Average Age	34.78473838	1.998883204	3.995534063	38.50112745	32.8300573
Average Income	32448.41667	5468.958576	29909507.91	42079	18833
GDP by Area	132314.5947	106367.4261	11314029345	315710	16774.00122
Population	2972889.833	2012263.81	4.04921E+12	5850621	680942
Unemployoment	5.433333333	1.17261906	1.375035461	8.8	3.6
Sunny Days	113.5	33.32624038	1110.638298	193	90
Average Temp	62.825	5.825932489	33.94148936	68.8	54.6
Large Companies	0.5	1.010582305	1.021276596	3	0
Convention Center Space	630457	550627.0697	3.0319E+11	1710080	80000

Table 3:

	MEAN	STDEV	VAR	MAX	MIN
RevPAR	75.77093826	36.54129608	1335.266319	175.1197453	39.2990919
# Hotels	387.0833333	115.8244923	13415.31301	594	191.6666667
Average Age	34.09506752	1.257417507	1.581098786	36.36167784	32.8300573
Average Income	41251.38095	6965.849343	48523057.07	54910	31101
GDP by Area	303327.8573	276577.0513	76494865322	1055344	50848.29256
Population	5836248.357	5484597.358	3.00808E+13	18798114	1265715
Unemployoment	5.288095238	1.273597245	1.622049942	8.4	2.6
Sunny Days	135.8571429	55.19657617	3046.662021	257	90
Average Temp	61.06428571	6.506359794	42.33271777	68.8	51.6
Large Companies	4.428571429	5.099702799	26.00696864	16	0
Convention Center Space	1063458.429	567159.2405	3.2167E+11	1824707	223000

Chart 1: Houston, TX

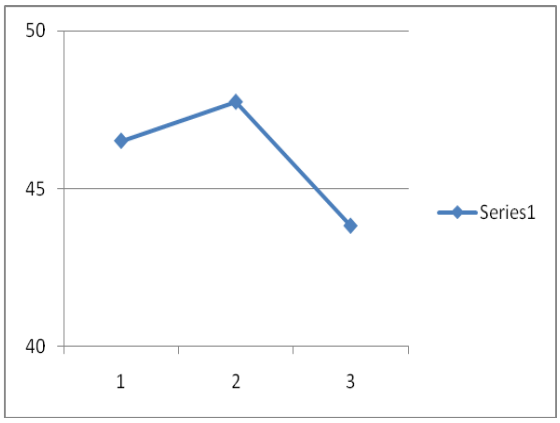


Chart 2. San Antonio, TX

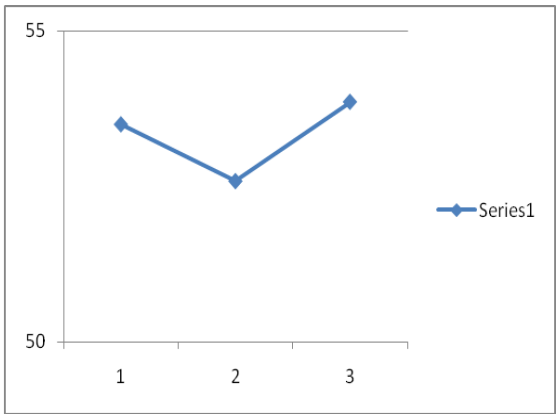


Chart 3. Jacksonville, FL

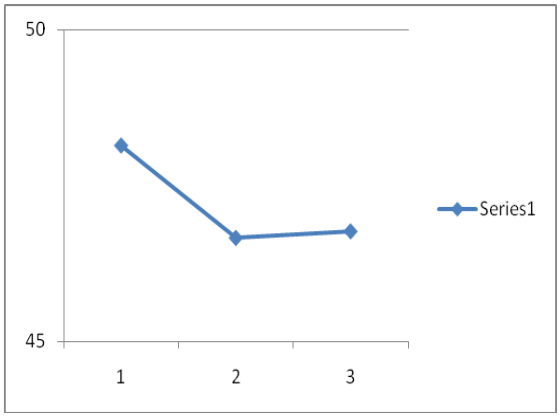


Chart 4. Fort Worth, TX

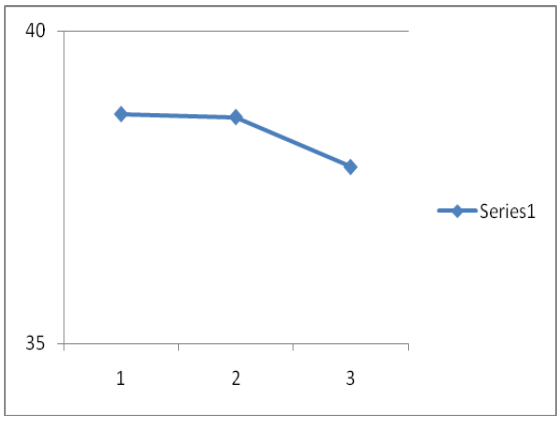


Chart 5. El Paso, TX

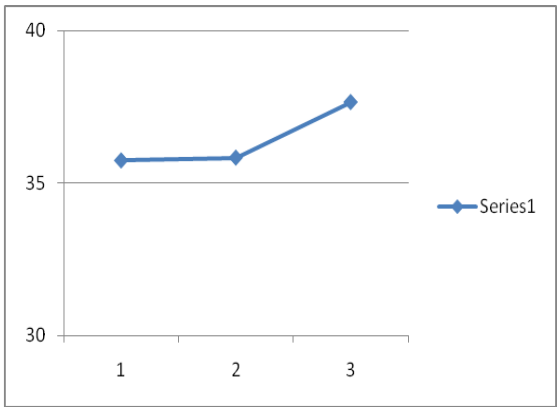


Chart 6. New York, NY

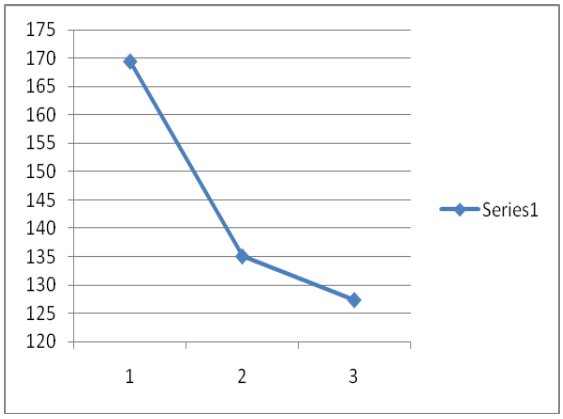


Chart 7. Dallas, TX

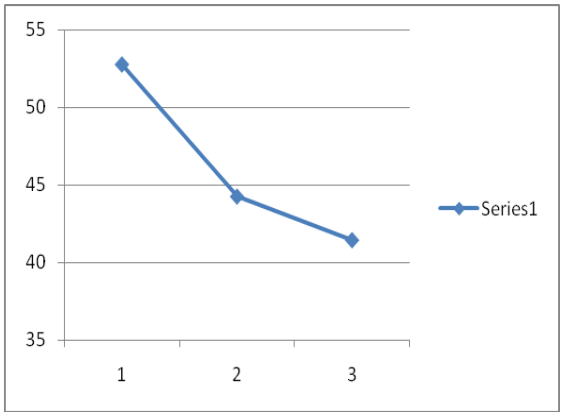


Chart 8. San Jose, CA

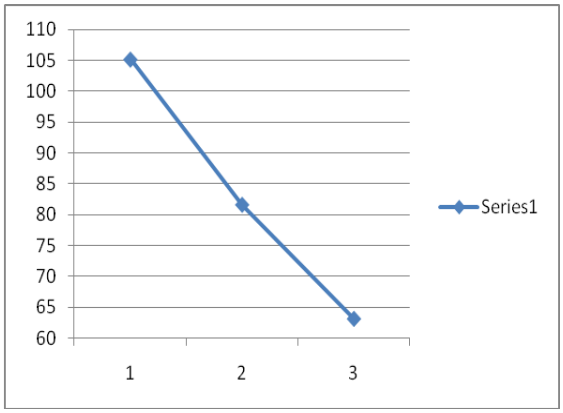


Chart 9. San Francisco, CA

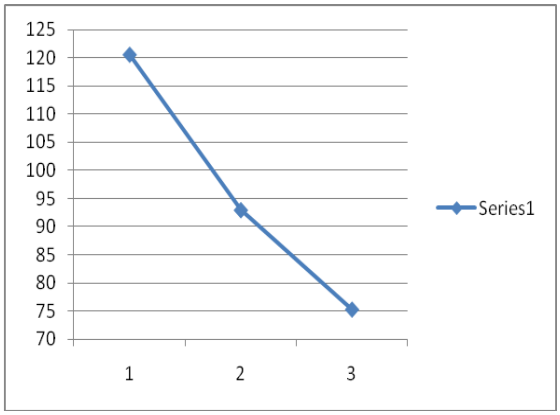


Chart 10. Boston, MA

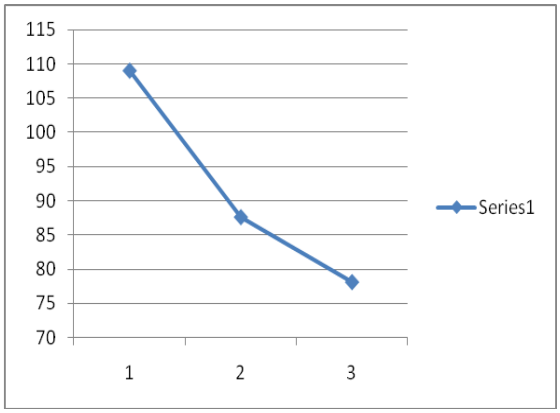


Chart 11. Philadelphia, PA

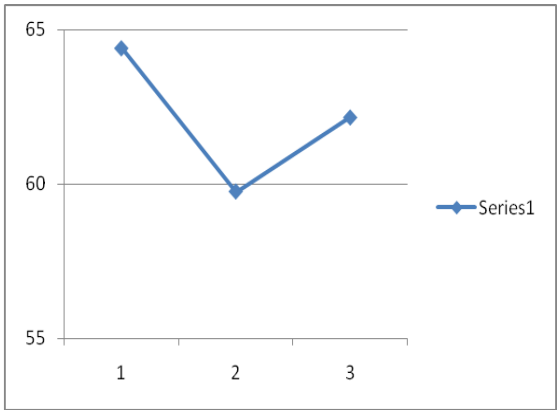


Chart 12. San Antonio, TX

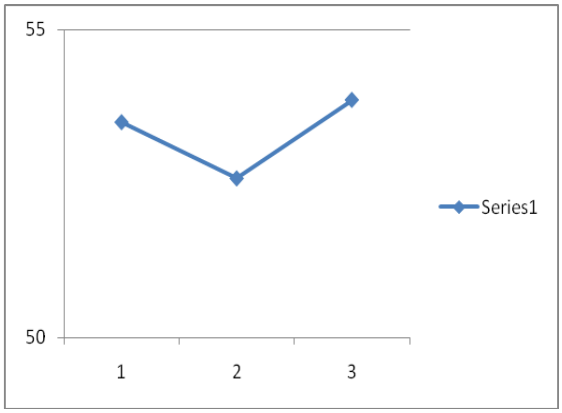


Chart 13. Baltimore, MD

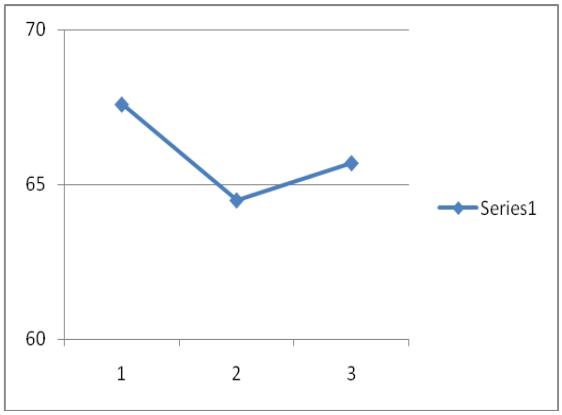


Chart 14. El Paso, TX

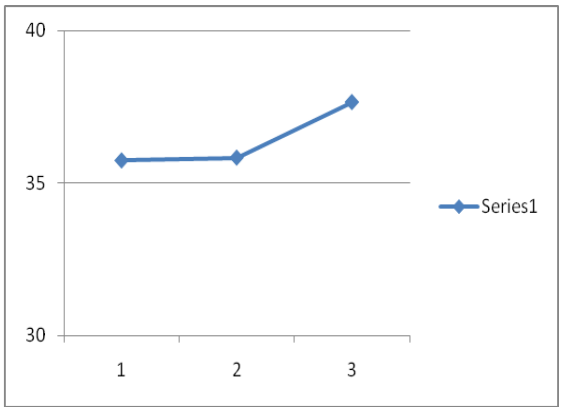


Chart 15. Louisville, KY

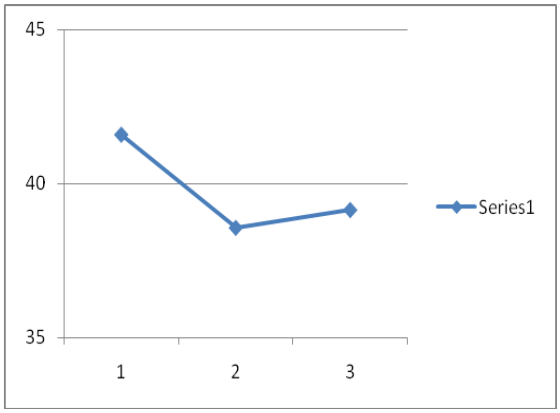


Chart 16. Houston, TX

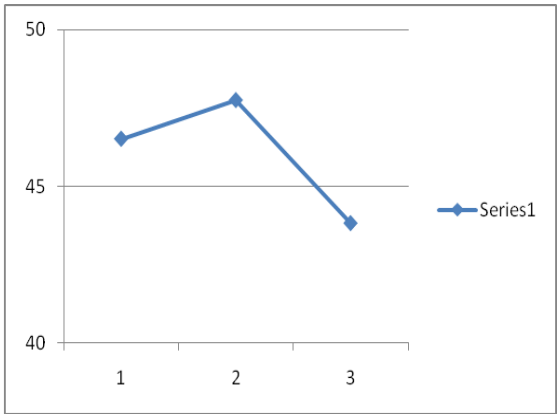


Chart 17. San Jose, CA

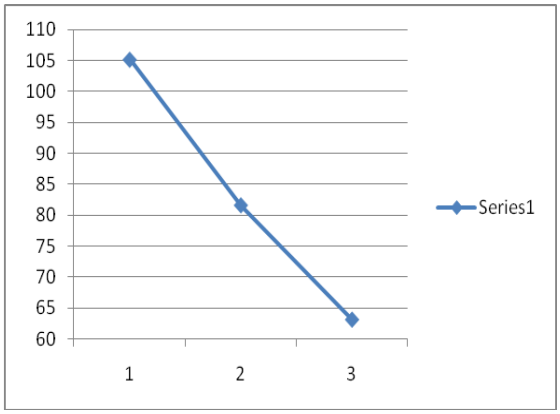


Chart 18. San Francisco, CA

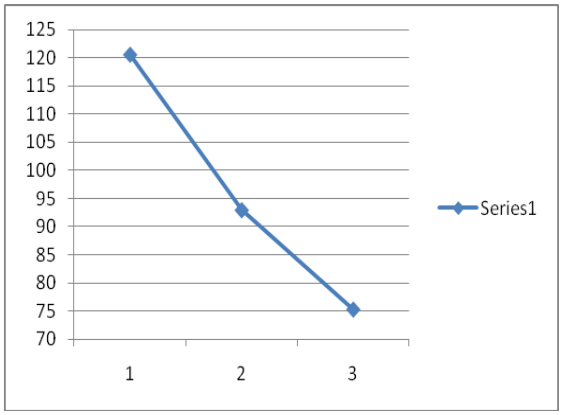


Chart 19. Austin, TX

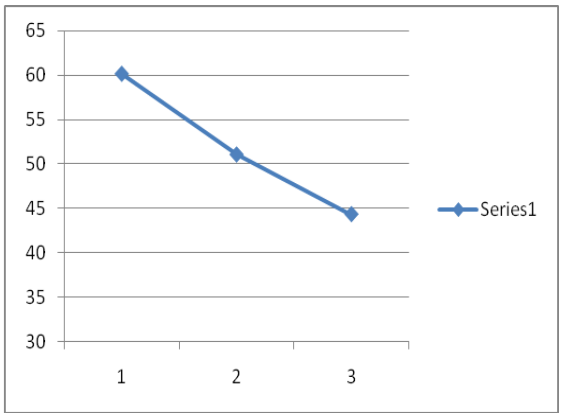
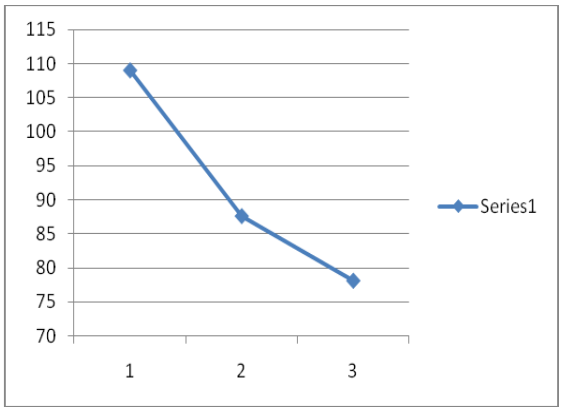


Chart 20. Boston, MA



Metropolitan Areas Used in Regression Analysis

New York, NY	Columbus, OH
Los Angeles, CA	Forth Worth, TX
Chicago, IL	Charlotte, NC
Houston, TX	Memphis, TN
Phoenix, AZ	Boston, MA
Philadelphia, PA	Baltimore, MD
San Antonio, TX	El Paso, TX
San Diego, SD	Seattle, WA
Dallas, TX	Denver, CO
San Jose, CA	Nashville, TN
Detroit, MI	Milwaukee, WI
San Francisco, CA	Washington, D.C.
Jacksonville, FL	Louisville, KY
Indianapolis, IN	Portland, OR
Austin, TX	

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