The Effect of Economic Downturns on Mortality Rates

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INTRODUCTION

Research shows that during the Great Depression, Americans were living longer. Through this study, I attempt to find if Americans began living longer after the Recession of 2008-2009, and what factors contribute to this. I chose to collect data from 21 states at random across the country for the years 2000 and 2010, then conduct my analysis.

OBJECTIVES

My objective was to gain a broader insight into the factors affecting mortality rates, in order to fully understand the varying mortality rates not only amongst states, but regionally as well. This project allowed me the opportunity to contribute to the field of econometric analysis.

BACKGROUND

This research began in Economics 404, U.S. Economic History. Through research conducted in this class, I discovered that a trend has persisted overtime of decreasing mortality rates during periods of macroeconomic hardship. I became interested in this idea and chose to conduct my own study to see if the same was true of the most recent recession.

METHODOLOGY

I collected mortality rates from the years 2000 and 2010 from the U.S. Census Bureau, real per capita income numbers from the Federal Reserve Economic Data (FRED), and the percentage of each state's nonwhite and 65+ population from the Census Bureau as well. I then ran my data through SAS, and a least squares equation was fit to the data. In the first part of my analysis, I had a total of 42 data points. Twelve states were identified as outliers using LMS, so 30 data points were used to get the results presented.

RESULTS

The three factors I focused on, real per capita income, age, and race, along with the dummy variable for 2010, explain 96% of the variation in mortality rates. Looking at the raw data on mortality rates, it is apparent that mortality rates have decreased after the 2008 Recession. In this study, RPCI, age, and race were all found to be statistically significant factors that contribute to mortality rates in the United States.

The REG Procedure
Model: MODEL1
Dependent Variable: mortality Mortality Rate

Number of Observations Read 30

Number of Observations Used 30

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	590581	147645	168.80	<.0001
Error	25	21867	874.67376		
Corrected Total	29	612448			

Root MSE	29.57488	R-Square	0.9643
Dependent Mean	852.54333	Adj R-Sq	0.9586
Coeff Var	3.46902		

Parameter Estimates

Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|	Variance Inflation
Intercept	Intercept	1	141.97615	48.49605	2.93	0.0072	0
RPCI	Real Per Capita Income	1	-0.00987	0.00115	-8.58	<.0001	2.06729
age	% of Population over 65	1	7686.16632	311.80027	24.65	<.0001	1.18066
race	% of Population Nonwhite	1	445.75554	68.65982	6.49	<.0001	1.23064
DV	Dummy for 2010	1	-40.19216	14.58213	-2.76	0.0108	1.82330

DISCUSSION

For this course (Economics 403), I will incorporate my results into our term paper, analyzing the trends I found and drawing conclusions. In general, my research can be useful in addressing problems regarding mortality rates in the U.S. From the regression that was ran, it is evident that per capita income and race have a direct correlation with mortality rates. I found that the higher the mortality rate, the lower the per capita income in the state, and the higher the mortality rate, the higher the percentage of nonwhite population. Attention needs to be brought to these two issues.

875.1	33251	0.120	0.265	0
682.5	33403	0.107	0.405	0
1072.2	29355	0.176	0.220	0
735.4	28151	0.099	0.290	0
865.5	36044	0.128	0.321	0
1091.5	30479	0.156	0.146	0
959.4	28684	0.134	0.150	0
804.1	28783	0.096	0.349	0
928.5	27453	0.120	0.279	0
876.7	30310	0.123	0.198	0
911.7	39298	0.132	0.274	0
1027.0	24372	0.130	0.289	0
756.2	32858	0.112	0.182	0
659.7	34027	0.087	0.172	0
571.2	24531	0.085	0.108	0
902.0	33862	0.129	0.254	0
829.5	31881	0.057	0.307	0
703.0	29544	0.132	0.757	0
1095.0	22824	0.139	0.200	0
991.2	24918	0.125	0.099	0
981.6	27450	0.143	0.031	0
778.8	42088	0.117	0.285	1
628.2	43609	0.114	0.424	1
924.4	38511	0.174	0.250	1

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