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Research

Measuring County Level Quality-of-Life for the State of Mississippi Using a Spatial Equilibrium Amenity Index

Maury Granger, Ph.D. (Corresponding Author) [1]
Gregory Price, Ph.D.[2]

[1] Professor of Economics, Jackson State University
[2] Professors of Economics, Morehouse College

Abstract

County level Quality-of-Life measures are important to public policy and economic development planning. Using a spatial-equilibrium econometric approach, we measure local amenity levels which inform us about quality-of-life at the county level for the state of Mississippi. The spatial-equilibrium approach provides a novel, theoretically tenable and unbiased approach to measuring amenities and gauging quality-of-life in particular locations. To use this approach, a spatial equilibrium amenity index (gauge of quality-of-life) is computed for Mississippi's 82 counties. This approach follows from two important notions. First, a significant amount of what individuals and firms value in places where they locate is unobservable. Secondly, the values of tangible and intangible location-specific attributes (amenities) are captured by the amenity-adjusted, housing prices and incomes. We implement a ranking scheme consistent with this notion. The ranking scheme implemented in this study shows that there is considerable variation in amenities and quality-of-life within counties and between counties. The variation within counties complicates our analysis; however, the computed spatial equilibrium amenity values used to rank counties provided an additional insight into income inequality. This finding corroborates reported demographic changes and the dispersion of poverty away from urban centers. This is the first study of its kind. Conceivably, by focusing on the counties within the Magnolia state using our spatial equilibrium amenity index, we will be better able to understand geographic space and demographic shifts. This research may also be useful to elected officials and planners focused on economic development, infrastructure investments and work force development.

Introduction

Since their introduction in the early 1980s, quality-of-life rankings in the USA of the type that appear in the *Places Rated Almanac* (Boyer & Savageau, 1985) and state rankings (Morgan Quitno Corporation, 2002), have captured the attention of policymakers and planners and are incorporated into the economic development and planning processes. Even though these popular measures of rating geographical locales are not theoretically grounded and are biased, they are often used when discussing or proposing measures that can help address intra-metropolitan economic disparities (Luger, 1996). Typically, these quality-of-life rankings employ an arbitrary explicit "amenity" accounting process that generates relative rankings of locations. Implicit to this approach is the presumption that researchers can determine a priori, which location-specific attributes people value in the places where they live. Even when great care is exercised when choosing variables to include in one's model, biases emerge. While studies utilizing these measures produce empirical findings that are consistent with the idea of compensating wage and rent differentials, they require a leap of faith to believe that some itemized list of empirically significant amenities can account for the central items that individuals value in a particular place.

We propose to overcome this by capturing both observed and unobserved location-specific factors by viewing residential location decisions as representing a spatial equilibrium. Our estimation of county level quality-of-life is based on the hypothesis that a significant amount of what people value in the places where they live is unobservable, but is reflected in the difference between their amenity-adjusted housing costs and their amenity-adjusted incomes. Here, the term "amenity" refers to physical and intrinsic features specific to a geographic location that influences the attractiveness and/or value of that place. Unlike other goods, amenities are not subject to transfer or exchange across space. Their markets are totally location-specific and increments of amenities can only be gained by relocating.

Amenities, Quality-of-Life, and Spatial Equilibrium

Capturing the value of unobserved amenities is possible if we view residential location decisions as representing a spatial equilibrium. Early attempts to incorporate amenities into economic theory evolved out of intra-urban housing models and interregional labor market models. Here, researchers working with intra-urban-housing models developed rent-differentials where consumers made tradeoffs between local housing prices and amenities (Polinsky & Shavell, 1976); (Ridker & Henning, 1967). Others, working with interregional, labor market models, developed wage differentials where consumers made tradeoffs between local wages and amenities across regions (Getz & Huang, 1978); (Rosen, 1979). These two approaches were later integrated and it was established analytically that interregional amenity variations were related to interregional differences in both wages and land rents (Roback, 1982). This work postulated that there was a three-way tradeoff between housing prices, earnings, and amenities. Thus, as the value of amenities increased, ceteris paribus, either housing prices were expected to be higher and earnings lower, or some other combination of the two.

From this model in equilibrium the demand for or how individuals value location-specific amenities depends on a housing and wage premium induced by the location-specific amenities. Thus, in a spatial equilibrium, the value of amenities for an individual in a given location is a function of amenity-adjusted housing prices and amenity-adjusted wages or incomes.

Research Design and Methods

Central to this research is the realization that amenities are capitalized into housing prices (Glaeser, Kolko, & Saiz, 2001), rents (Shultz & King, 2001), wages/incomes (Ezzet-Lofstrom, 2004), and they influence

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business location (Granger & Blomquist, 1999). Building upon this work and a recent study analyzing differences in quality-of-life using rents and home values (Winters, 2013), we estimated spatial equilibrium amenity values for the 50 states in the USA using its 3,144 counties (Granger & Price, 2015). We use this approach to compute quality-of-life estimates for Mississippi's 82 counties using the state's 2164 census blocks.

Empirically**,** Glaeser, Kolko, and Saiz (2001) considered a spatial equilibrium approach for measuring amenities. They did not rank locations by quality-of-life; however, they did find a positive correlation to exist between population growth and the residual of an Ordinary Least Squares (OLS) regression of median housing prices on median incomes. To the extent that this residual measures local amenities, their finding supports the contention that amenities influence the location choices of houses and firms. Winter (2010) also found results consistent with the notion that location decisions were being influenced by local amenities. Building on this work, we estimate an OLS residual that comprises our approximated spatial equilibrium amenity index.

The noted OLS residual provides a way to capture amenities, construct our index and extrapolate about quality-of-life. The general framework for estimating equilibrium amenity values follows from an OLS regression of housing prices on income that framework is specified as follows:

$$\text{housing price}^* = \hat{\beta}_0 + \hat{\beta}_1(\text{income}^*) + \mu \qquad (1)$$

In equation (1) the asterisk denotes the variable is adjusted for amenities in a given location and μ is a random error term. Let the true model be defined as follows:

$$\text{housing price}^* = \beta_0 + \beta_1(\text{income}^*) + \beta_2(\text{amenties}) + \epsilon \qquad (2)$$

In equation (2) ϵ is a random error term. Given the true model, the residual error term from the OLS regression of equation (1) is by definition:

$$\mu = \beta_2(\text{amenties}) + \epsilon \qquad (3)$$

If we assume that the expected value of ϵ is zero ($E(\epsilon) = 0$), then the residual error from OLS estimation of equation (1) generates an unbiased estimate of the unobservable location-specific amenities—in this study a measure of a location's economic-condition or QOL.

We estimate the value of amenities with census data taken from the 2010-2014 American Community Survey 5-year estimates. Housing and income data are obtained from 2164 census blocks, comprising the 82 counties in Mississippi. The data used are, estimated median household income [B19013] in the past 12 months (in 2014 inflation-adjusted dollars) and the estimated median value of owner-occupied housing units [B25077] (U.S. Census Bureau).

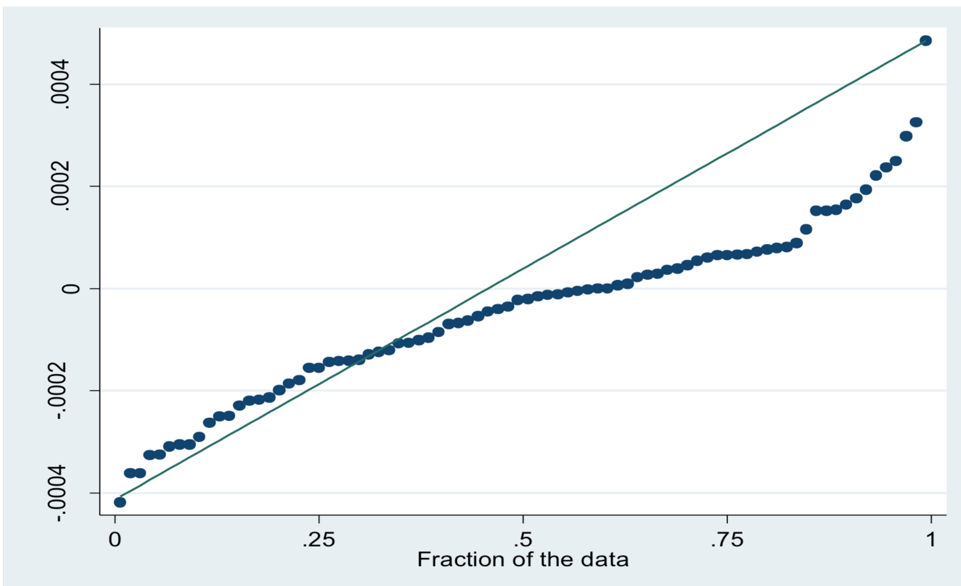
Ranking Quality-of-Life From a Spatial Equilibrium Perspective

The OLS regression residuals from equation (1) are obtained by running the regressions across census blocks within a county. These residuals can also be aggregated by census blocks, within a census track. County by census block level analysis provides a rich picture of quality-of-life between counties. Analyzing census block results aggregated by census tracks within a county provides an even richer picture of the amenity variations across communities within a county. The spatial equilibrium amenity index or quality-of-life measure is constructed by capturing the mean and median values of the residuals within a given county obtained by analyzing all census blocks within a given county. The summary statistics for the mean of each county's residuals, when equation (1) is regressed across a county's census blocks, is shown in Table 1.

Table 1
Summary Statistics
Mean Values for Census Block OLS Residuals
County-by-County

	Percentiles	Smallest		
1%	-.0004185	-.0004185		
5%	-.0003255	-.0003624		
10%	-.000291	-.0003617	Observations	82
25%	-.0001554	-.0003268		
50%	-.0000215		Mean	-.000043
		Largest	Std. Dev.	.0001739
75%	.0000655	.0002493		
90%	.0001642	.0002984	Variance	3.02e-08
95%	.0002365	.0003255	Skewness	.1853579
99%	.000485	.000485	Kurtosis	3.099655

Figure 1
Quantile-Plot
Mean Value for Census Block OLS Residuals
County by County



These results are obtained from 82 separate regressions—one for each county. These regressions are used to generate residuals for each of the county's census blocks which are averaged to find the amenity index value for that county. The quantile-plot in Figure 1 graphs the distance of the i^{th} observation above the median against the distance of the j^{th} observation below the median. From the quantile-plot order statistics are more apparent, such as the median (.5 quantile), and the IQR (area between .25 and .75 quantiles). From the plot it is clear that the data is skewed to the right. To further aid in understanding the location of the data Figure 2 shows a histogram of the residuals. Both figures 1 & 2 are provided to give the reader a feel for the probability distribution of the residuals, our amenity index values.

Figure 2
Histogram
Mean Values for Census Block OLS Residuals
County-by-County

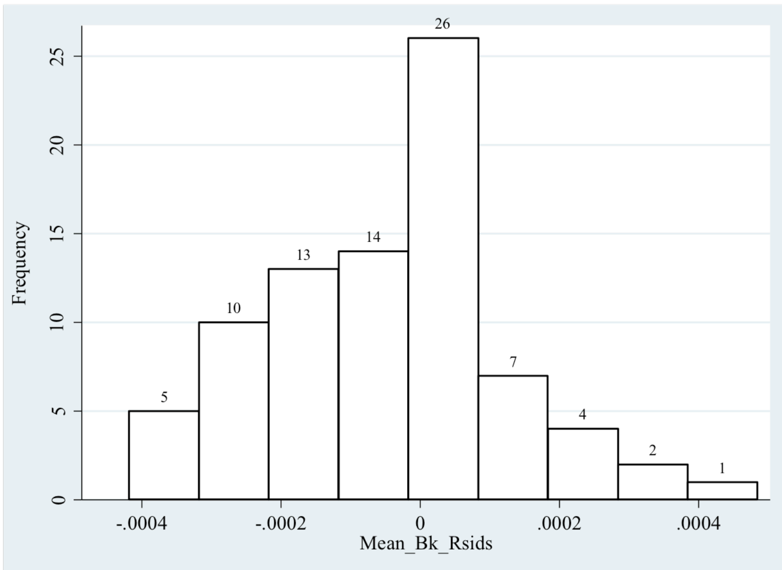


Table 2 shows the ranking of Mississippi Counties based on county census block level analysis of mean values of associated census block residuals. It should be noted that considerable variations between census block residuals grouped by census tracks, offset most county's overall ranking. In fact, in many counties, there where large swings between the residuals averages. This supports the notion that poverty has spread away from the urban core since the last two major recessions (Kneebone & Holmes, 2016).

The ranking of the counties changed significantly when we used the median value of the census block residuals. This measure of central tendency mitigated the offsetting effects of averaging very low and very high residual. The summary statistics for the median of each county's residuals, when equation (1) is regressed across a county's census blocks, is shown in Table 3. The distribution of the data is dramatically different from the mean residuals summarized in Table 1. Figure 3 shows this by contrasting box plots.

Table 2
Rankings of Mississippi Counties
Based on the Mean Values of Census Block Residuals within a County

1	Jefferson Co., MS	29	Lowndes Co., MS	57	Warren Co., MS
2	Stone Co., MS	30	Clarke Co., MS	58	Calhoun Co., MS
3	Quitman Co., MS	31	Pike Co., MS	59	Walthall Co., MS
4	Adams Co., MS	32	Pontotoc Co., MS	60	Tallahatchie Co., MS
5	Franklin Co., MS	33	Issaquena Co., MS	61	Harrison Co., MS
6	Forrest Co., MS	34	Humphreys Co., MS	62	Yazoo Co., MS
7	Attala Co., MS	35	Covington Co., MS	63	Kemper Co., MS
8	Leake Co., MS	36	Jefferson Davis Co., MS	64	Jackson Co., MS
9	Leflore Co., MS	37	Smith Co., MS	65	Tishomingo Co., MS
10	Marshall Co., MS	38	Lincoln Co., MS	66	Lafayette Co., MS
11	Sharkey Co., MS	39	DeSoto Co., MS	67	Bolivar Co., MS
12	Yalobusha Co., MS	40	Lauderdale Co., MS	68	Union Co., MS
13	Sunflower Co., MS	41	Monroe Co., MS	69	Itawamba Co., MS
14	Lawrence Co., MS	42	Alcorn Co., MS	70	Clay Co., MS
15	Claiborne Co., MS	43	Holmes Co., MS	71	Lamar Co., MS
16	Simpson Co., MS	44	Copiah Co., MS	72	Noxubee Co., MS
17	Choctaw Co., MS	45	Webster Co., MS	73	George Co., MS
18	Prentiss Co., MS	46	Greene Co., MS	74	Benton Co., MS
19	Marion Co., MS	47	Jasper Co., MS	75	Wilkinson Co., MS
20	Wayne Co., MS	48	Newton Co., MS	76	Coahoma Co., MS
21	Lee Co., MS	49	Panola Co., MS	77	Madison Co., MS
22	Chickasaw Co., MS	50	Scott Co., MS	78	Tunica Co., MS
23	Hinds Co., MS	51	Winston Co., MS	79	Pearl River Co., MS
24	Carroll Co., MS	52	Washington Co., MS	80	Oktibbeha Co., MS
25	Tate Co., MS	53	Hancock Co., MS	81	Tippah Co., MS
26	Montgomery Co., MS	54	Rankin Co., MS	82	Amite Co., MS
27	Grenada Co., MS	55	Jones Co., MS		
28	Neshoba Co., MS	56	Perry Co., MS		

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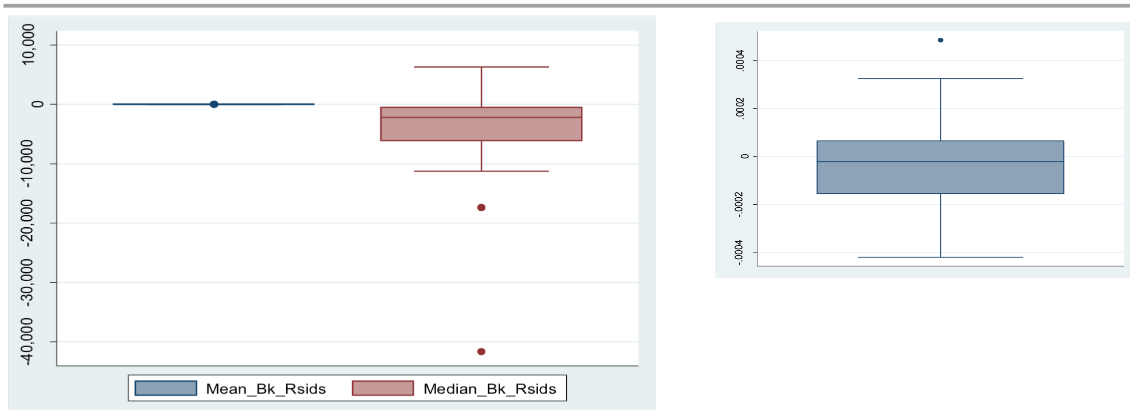
Table 3
Summary Statistics
Median Values for Census Block OLS Residuals
County-by-County

	Percentiles	Smallest		
1%	-41716.34	-41716.34		
5%	-9619.235	-17371.18		
10%	-7976.776	-11249.54	Observations	82
25%	-6154.05	-10110.12		
50%	-2198.394		Mean	-3455.286
		Largest	**Std. Dev.**	5890.393
75%	-486.0859	3132.348		
90%	1793.08	3990.451	Variance	3.47e+07
95%	2851.1	4651.88	Skewness	-3.440283
99%	6295.14	6295.14	Kurtosis	23.06032

Figure 3
Contrasting Box Plots
Mean and Median Census Block OLS Residuals



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As is readily obvious, the scale of the variables obscures the variability of the mean census block residuals. Figure 1 & 2 are reproduced below in Figure 4 & 5 to illustrate the movement of the probability distribution of census block residuals when median values are used.

Figure 4
Quantile-Plot
Median Value for Census Block OLS Residuals
County by County

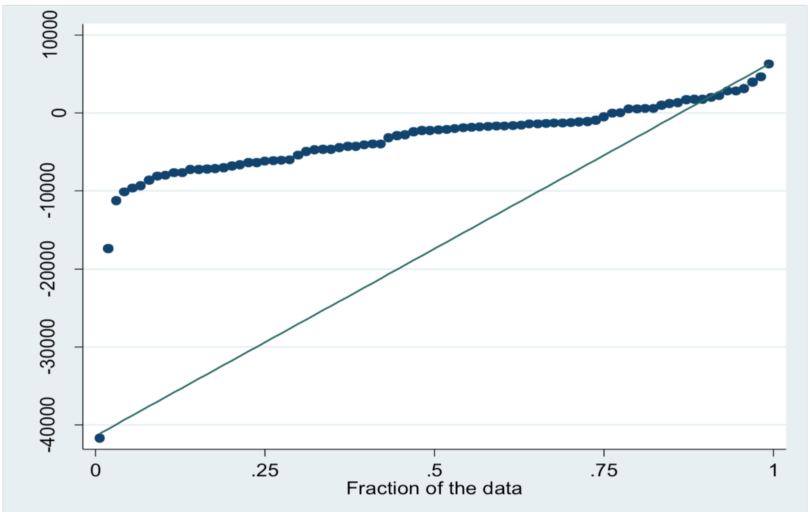

Figure 5
Median Values for Census Block OLS Residuals
County-by-County

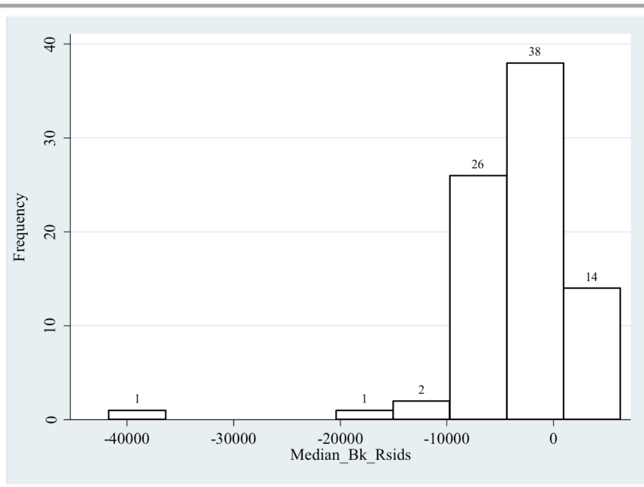

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Table 4 shows the ranking of Mississippi Counties based on changes within county census block level analysis of median values of census block residuals.

Table 4
Rankings of Mississippi Counties
Based on the Median Values of Census Block Residuals within a County

1	Perry Co., MS	29	Noxubee Co., MS	57	Monroe Co., MS
2	Clay Co., MS	30	Webster Co., MS	58	Hinds Co., MS
3	Yalobusha Co., MS	31	Wilkinson Co., MS	59	Carroll Co., MS
4	Walthall Co., MS	32	Winston Co., MS	60	Amite Co., MS
5	Lawrence Co., MS	33	Washington Co., MS	61	Tate Co., MS
6	Chickasaw Co., MS	34	Covington Co., MS	62	Warren Co., MS
7	Calhoun Co., MS	35	Simpson Co., MS	63	Union Co., MS
8	Claiborne Co., MS	36	Lowndes Co., MS	64	Sunflower Co., MS
9	Holmes Co., MS	37	George Co., MS	65	Leflore Co., MS
10	Jones Co., MS	38	Pearl River Co., MS	66	Coahoma Co., MS
11	Jasper Co., MS	39	Rankin Co., MS	67	Hancock Co., MS
12	Sharkey Co., MS	40	Attala Co., MS	68	Newton Co., MS
13	Grenada Co., MS	41	Scott Co., MS	69	Harrison Co., MS
14	Quitman Co., MS	42	Copiah Co., MS	70	Stone Co., MS
15	Pontotoc Co., MS	43	Benton Co., MS	71	Alcorn Co., MS
16	Jefferson Davis Co., MS	44	Montgomery Co., MS	72	Leake Co., MS
17	Pike Co., MS	45	DeSoto Co., MS	73	Lauderdale Co., MS
18	Yazoo Co., MS	46	Greene Co., MS	74	Wayne Co., MS
19	Issaquena Co., MS	47	Franklin Co., MS	75	Madison Co., MS
20	Choctaw Co., MS	48	Lincoln Co., MS	76	Jackson Co., MS
21	Marion Co., MS	49	Oktibbeha Co., MS	77	Tippah Co., MS
22	Lamar Co., MS	50	Clarke Co., MS	78	Tunica Co., MS
23	Humphreys Co., MS	51	Tallahatchie Co., MS	79	Lee Co., MS
24	Itawamba Co., MS	52	Neshoba Co., MS	80	Adams Co., MS
25	Panola Co., MS	53	Marshall Co., MS	81	Jefferson Co., MS
26	Kemper Co., MS	54	Forrest Co., MS	82	Lafayette Co., MS
27	Smith Co., MS	55	Tishomingo Co., MS		
28	Bolivar Co., MS	56	Prentiss Co., MS		

Comparing the ranking from Table 2 & 4, a significant reordering of counties is apparent. Table 5 shows the change in rank when moving from mean to median values. Presumably, counties with the largest changes in rank are those with the most variation between distressed and prosperous communities within the county. Table 5 shows absolute change in position.

Table 5
Change in Rankings Mean vs. Median Census Block Residuals
Difference between Table 2 and Table 4 Rankings

Greene Co., MS	0	Issaquena Co., MS	14	Tate Co., MS	36
Tunica Co., MS	0	Pike Co., MS	14	Kemper Co., MS	37
Covington Co., MS	1	Rankin Co., MS	15	Prentiss Co., MS	38
Sharkey Co., MS	1	Webster Co., MS	15	Bolivar Co., MS	39
Copiah Co., MS	2	Chickasaw Co., MS	16	Pearl River Co., MS	41
Madison Co., MS	2	Lafayette Co., MS	16	Franklin Co., MS	42
Marion Co., MS	2	Monroe Co., MS	16	Marshall Co., MS	43
Choctaw Co., MS	3	Pontotoc Co., MS	17	Noxubee Co., MS	43
Tippah Co., MS	4	Montgomery Co., MS	18	Wilkinson Co., MS	44
Union Co., MS	5	Simpson Co., MS	19	Yazoo Co., MS	44
Warren Co., MS	5	Washington Co., MS	19	Itawamba Co., MS	45
DeSoto Co., MS	6	Winston Co., MS	19	Jones Co., MS	45
Claiborne Co., MS	7	Clarke Co., MS	20	Forrest Co., MS	48
Lowndes Co., MS	7	Jefferson Davis Co., MS	20	Lamar Co., MS	49
Harrison Co., MS	8	Newton Co., MS	20	Calhoun Co., MS	51
Lawrence Co., MS	9	Amite Co., MS	22	Sunflower Co., MS	51
Scott Co., MS	9	Neshoba Co., MS	24	Wayne Co., MS	54
Tallahatchie Co., MS	9	Panola Co., MS	24	Perry Co., MS	55
Yalobusha Co., MS	9	Alcorn Co., MS	29	Walthall Co., MS	55
Coahoma Co., MS	10	Benton Co., MS	31	Leflore Co., MS	56
Lincoln Co., MS	10	Oktibbeha Co., MS	31	Lee Co., MS	58
Smith Co., MS	10	Attala Co., MS	33	Leake Co., MS	64
Tishomingo Co., MS	10	Lauderdale Co., MS	33	Clay Co., MS	68
Humphreys Co., MS	11	Holmes Co., MS	34	Stone Co., MS	68
Quitman Co., MS	11	Carroll Co., MS	35	Adams Co., MS	76
Jackson Co., MS	12	Hinds Co., MS	35	Jefferson Co., MS	80
Grenada Co., MS	14	George Co., MS	36		
Hancock Co., MS	14	Jasper Co., MS	36		

From Table 5 we see that only Greene and Tunica Counties maintained their position near the middle and bottom of the rankings, respectively. The same can be said for Covington and Sharkey Counties. Alternatively, counties like Leake, Clay, Adams, and Jefferson showed the most dramatic change in position. They either flipped from top to bottom of the rankings or vise versa. Perhaps there is something unique about counties that maintain their position and those that experienced great changes in relative position. It is strongly suspected that counties showing the most change in Table 5 experience the most income inequality, vicia versa.

After a regression of income (I) on housing values (H_v) Equation (1) above, simplifying variables we have: $\widehat{H}_v = \hat{\beta}_0 + \hat{\beta}_1(I) + \epsilon$. If the actual housing value (H_v) is less-than the predicted value ($\widehat{H}_v$) the negative residual implies that income (I) leads to an under prediction of housing values ($H_v < \widehat{H}_v \ \rightarrow \epsilon < 0$). In other words the differential suggests that residents are consuming an undesirable amenity (a disamenity). In this case individuals with low incomes could be choosing housing with values adjusted downward due to local disamenities. Alternatively, the negative residual could reflect an income level that offsets the cost of the local disamenity give workers skill level in that census block (census track, etc.).

When the actual housing value is equal-to the predicted value, a residual of zero implies that income explains housing values ($H_v = \widehat{H}_v \ \rightarrow \epsilon = 0$). In this case there would be no amenity or they would be irrelevant. We find that the data is indeed clustered about zero. Table 1, Figure 2 and Figure 3 show this relationship. When a given county's average census block residual deviates from zero, it is likely due to sampling problems and/or the variance of the residuals.

If the actual housing value (H_v) is greater-than the predicted value then the positive residual implies that income (I) leads to an over prediction of housing values ($H_v > \widehat{H}_v \ \rightarrow \epsilon > 0$). This suggest that individuals have incomes sufficiently high enough to pay a premium for the benefits associated with the location's amenities, and/or that housing values are marked up due to local amenities.

Since we observe all three of these conditions ($0 \geq \epsilon \geq 0$) as the model is fitted about a county's mean income value the average OLS census block residuals would by definition pivot about zero ($E[\epsilon] = 0$). Thus, the ranking in Table 2 is heavily influenced by the mechanics of the econometric process, the number of census blocks in a county, and also by the variance of the census block residuals. Nevertheless, a ranking of counties is possible using mean values reported in Table 2; however, it may say more about income inequality of pockets of poverty than overall quality-of-life. These facts combined with the potential impact of outliers amongst the residuals, leads us to prefer the median census block residuals for determining the amenity value for a given county. The ranking reported in Table 4 does not overcome the variance and sampling problems. Nevertheless, it is preferred and is slightly more correlated with county level poverty rates. For the data used to produce Table 2 Spearman's rho = 0.1269 and 0.1336 for Table 4. However, the properties of a median overcome the problems related to averaging extreme values.

Conclusion and Policy Implications

This paper estimated a Spatial Equilibrium Amenity Index that bears directly upon quality of life and/or a community's economic condition. Economic development is predicated upon the health or fitness of a place and its people. In the Magnolia State, since Reconstruction (1865-1877), the allocation of resources to schools, hospitals, roads, and critical infrastructure (communication, water, electricity, and gas) have discriminately contributed to the pattern of disparity we observe across Mississippi (Rable, 2007). When analyzing the economic base within a county, conceivably, pockets of concentrated poverty (distressed communities) within a county may account for the changes in ranking reported in Table 5. In Mississippi, we have record high numbers of people living below the federal poverty line. Perhaps our results support the realization that a growing percentage of those who are poverty stricken live in suburbs, and poverty has become more clustered and concentrated in distressed and high-poverty neighborhoods (Kneebone, 2014). The spatial equilibrium amenity index may also aid in understand and addressing compliance issues related to environmental regulations and environmental quality, disparities related to school funding, school performance, and economic condition.

The intent of this research was to compute a spatial equilibrium amenity index for Mississippi using a spatial equilibrium. The resulting index informs us about quality-of-life across the state, and provides us with a model useful for policy evaluation and planning. Future research should investigate why our ranking scheme was so sensitive to the choice of mean vs. median values of the census block residuals. This will require a more detailed investigation of changes in quality-of-life by identifying distressed communities and analyzing changes between census tracks within a county. This work will require a systematic investigation of the causal link between our index and various measures that capture economic condition or level of development. This will provide a helpful benchmark necessary to evaluate the strength of our index. Additionally, running one regression for the state as a whole, then extracting census block results by counties, may solve the problems related to our results pivoting around zero. A log-linear model may also add power to our results.

This research provides an additional tool useful for analyzing a community's economic condition. It also contribute to the literature by increasing our understanding of economic development and changing demographics. Our approach could increase the precision in planning efforts aimed at attracting highly mobile physical and human capital, especially when both are sensitive to location-specific amenities. Moreover, it could improve the precision of economic impact modeling. Pursuant to the work of Price and Mozee (2005), it may also help us better understand how regional inequality slows economic growth. Finally, the spatial equilibrium amenity index possibly will aid in studying changes in quality-of-life over time, and conducting cost-benefit analysis related to evaluation of past and/or future planning strategies. We anticipate that this approach will help fine tone economic development planning models and promote sound public policy formulation that is aimed at promoting economic growth.

Works Cited

Boyer, R., & Savageau, D. (1985). Your guide to finding the best places to live in America. *Rand McNally & Company*.

Ezzet-Lofstrom, R. (2004). Valuation of Metropolitan Quality of Life in Wages and Rents. *Cityscape: A Journal of Policy Development and Research, 7*(1), 23-39.

Getz, M., & Huang, Y.-c. (1978). Consumer Revealed Preference for Environmental Goods. *Review of Economics and Statistics, 60*(3), 449-458.

Glaeser, E. L., Kolko, J., & Saiz, A. (2001). Consumer city. *Journal of Economic Geography, 1*(1), 27-50.

Granger, M. D., & Blomquist, G. C. (1999). Evaluating the Influence of Amenities on the Location of Manufacturing Establishments in Urban Areas. *Urban Stud October 1999 vol. 36 no. 11 1859-1873, 36*(11), 1859-1873.

Granger, M., & Price, G. N. (2015). Are States with Larger than Average Black Populations Really the Worst Places to live in the USA? A Spatial Equilibrium Approach to Ranking Quality of Life. *Journal of Public Management and Social Policy, 20*(2), 137-153.

Kneebone, E. (2014). *The Growth and Spread of Concentrated Poverty, 2000 to 2008-2012.* Washington, DC: The Brookings Institution.

Kneebone, E., & Holmes, N. (2016). *U.S. Concentrated Poverty in the Wake of the Great Recession.* Washington, DC: The Brookings Institution.

Luger, M. I. (1996). Quality-of-life differences and urban and regional outcomes: A review. *Housing Policy Debate, 7*(4), 749-771.

Morgan Quitno Corporation. (2002). *State Rankings 2002.* (K. O. Morgan, & S. Morgan, Eds.) Lawrence, KS: Morgan Quitno Corporation.

Polinsky, A. M., & Shavell, S. (1976). Amenities and property values in a model of an urban area. *Journal of Public Economics, 5*(1-2), 119-129.

Price, G. N., & Mozee Jr, S. (2005). Blueprint Mississippi: A blueprint for Income Inequality and lower Economic Growth in Urban and Delta Region Counties? Jackson MS: Mississippi Urban Research Center.

Rable, G. C. (2007). But there was no peace: The role of violence in the politics of Reconstruction. University of Georgia Press.

Ridker, R. G., & Henning, J. A. (1967). The Determinants of Residential Property Values with Special Reference to Air Pollution. *Review of Economics and Statistics, 49*(2), 246-257.

Roback, J. (1982). Wages, Rents, and the Quality of Life. *Journal of Political Economy, 90*(6), 1257-1278.

Rosen, S. (1979). Wage-based indexes of urban quality of life. In P. M. Mieszkowski, & M. R. Straszheim, *Current Issues in Urban Economics.* Baltimore: Johns Hopkins University Press.

Shultz, S. D., & King, D. A. (2001). The Use of Census Data for Hedonic Price Estimates of Open-Space Amenities and Land Use. *The Journal of Real Estate Finance and Economics, 22*(2), 239-252.

U.S. Census Bureau. (n.d.). *2010-2014 American Community Survey 5-Year Estimates.* American FactFinder.

Winters, J. V. (2013). Differences in quality of life estimates using rents and home values. *The Annals of Regional Science, 51*(2), 377-409.

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