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**Measuring Urban Well-Being:
Race and Gender Matter**

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Abstract

Studies attempting to measure social well-being focus attention at national levels, failing to provide insights into the actual conditions that are present at sub-national levels. With increased attention being focused on the conditions of urban areas, the need for sub-national evaluation is becoming more apparent. Also, the growing diversity of the population and increase in female headed households leave researchers without resources for evaluating the conditions of these groups in smaller regional settings, in part due to the scarcity of well-being measurements at these levels.

This study hopes to fill in the gap needed for measuring well-being at sub-national levels by estimating indices at the county level. Exactly how the level of urbanization and social well-being are related is the subject of our inquiry. Our estimations will focus on urban counties, with particular emphasis on the fifty largest counties. The aim is to evaluate the well-being of the general population in metropolitan areas, comparing it to those for female heads of households and people of color.

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Introduction

The relation between the economy and society has long been a subject of interest to economists and sociologists alike. A great number subscribe to the belief that strong economic growth, which gives rise to overall material expansion, will bring about welfare improvements to individuals, communities, and societies. With this belief comes the expectation that a booming economy will beget social progress. Stacked against this favorable economic picture is the nation's score card in the area of social development and progress in the quality of life (QOL). Several studies, each estimating social indicators, suggest declining social well-being since 1970s. Such studies, however, focus attention at the national level, and often fail to provide insights into the actual conditions that are present at sub-national levels. With increased attention being focused on the conditions of urban areas, the need for sub-national evaluation is becoming more apparent. Also, the growing diversity of the population and increase in female headed households leaves researchers without resources for evaluating the conditions of these groups in smaller regional settings, in part due to the scarcity of well-being measurements at these levels.

This study hopes to fill in the gap needed for measuring well-being at sub-national levels, by estimating indices at the county level. Exactly how the level of urbanization and social well-being are related is the subject of our inquiry. Our analysis at the urban county level, largely directed by the availability of data, reflects our interest in studying well-being in urban areas, as they represent areas of both economic strength and social decline. Our estimations will focus on urban counties, with particular emphasis on the

fifty largest counties. The aim is to evaluate the well-being of the general population in metropolitan areas, comparing it to those for people of color and female heads of households.

The first section of the paper summarizes existing literature on urban quality of life indicators constructed to date. Next, we construct well-being indices at the county level using the Human Development Index as our model. Indices are constructed for the general population, and also for both male and female headed households and for white and black populations. The next section offers descriptive statistics and regression analysis in evaluating the well-being of the various groups in the fifty largest counties in examining the relationship between population size and well-being. The last section summarizes this study and offers areas for future research.

I. Literature Review

It is our aim to study the state of economic and social progress in urban areas. We begin this study with the *a priori* hypothesis of a negative correlation between urbanization, measured by population¹, and social well-being. This is consistent with the casual observation that social conditions in large urban areas tend to be at best no better than, and oftentimes worse than those in smaller areas. We expect to find that social well-being declines as an area becomes more urbanized.

Our survey of the social well-being literature offered preliminary support for this hypothesis. For instance, one reason why one might expect urban QOL to be lower than rural QOL is due to excess mortality or higher incidences of early deaths in urban areas (Geronimus, 1999). The main causes of this are diseases related to stress, poverty, and urban lifestyle (such as cardiovascular ailments, malnutrition, and HIV/AIDS), as well as

higher crime rates and homicides. In addition, high incidences of poverty in urban areas, along with inequality of income (Levernier, Partridge, and Rickman, 1998; Mills, 1999), constrain an individual's ability to obtain decent health services (Steckel, 1995). This is further complicated by other factors that affect the provision of decent health services. On the one hand is the high demand for such services by the sheer size of the population in urban areas; on the other hand is the limited supply of such services as local governments see their abilities to mobilize necessary resources decline due to the greater mobility of the local population toward areas where fiscal incentives are more favorable (e.g., lower taxes and better social services) (Glaeser and Kahn, 1999).

The gap in the current literature exists when we consider race and gender. In effect, urban QOL should take into account the disparity in social well-being between white and black urban population, on the one hand, and between male and female heads of households on the other. Several of the works cited above alluded to the effect of race on urban QOL. For instance, Geronimus finds higher incidences of excess mortality among blacks than among whites. Also, Levitt (1999) made the observation that homicides occur more among blacks than among whites and among poor than among the rich. On income inequality, Mills noted that the presence of minority population in urban areas is one reason for why population and businesses might have moved to the suburbs. Linking gender to urban QOL has been largely absent. If any, the link could be made by pointing to the fact that there is a higher incidence of poverty among households headed by female, in general, and in urban areas, in particular.

This study attempts to take explicit account of the link between race and gender and urban QOL. This is partly in response to existing gaps in the literature on social

well-being/QOL in this regard or the inadequate treatment of these issues. We view this study as a starting point and as an attempt to establish the benchmark for measuring well-being related to different racial groups and women within large urban areas. It is our intention to produce meaningful measurements that may serve helpful to public policymakers.

II. Construction of Well-being Indices

The QOL literature has no shortage of alternative QOL measures (see Appendix Table 1). Some are more comprehensive than others, including a large number of factors. Others are more efficient or simpler as they aim for the least number of data required in the calculation while recognizing the multidimensional nature of well-being. Economists measure urban well-being, or quality of life, through use of variables like home prices, wages, and bundles of amenities (Blomquist, Berger, and Hoehn, 1988; Gyourko (1991), for example, but ignore poverty, crime, education and other key variables in their determinations. Few social scientists try to correct for this (Liu, Mulvey, and Hsieh, 1986; Zinam, 1989), offering more comprehensive indicators.

Similarly, there is no lack of studies that criticize existing QOL measures and then introduce new ones to an already long list of alternatives. This has given rise to a preoccupation with finding the "perfect" QOL measure. This preoccupation is, however, without consequences. In fact, it has led to the myriad of QOL measures noted above, a lack of consensus on which one is best to use, and an oversight of the original purpose for which QOL measures are constructed. Not surprisingly, estimating QOL began as a research field in 1960s (Scheussler and Fisher, 1985) and continues to be just that—a research field—providing many technical jobs while failing to make meaningful and

useful contributions to public policy.

Aside from Leitmann (1999), the QOL literature has not been helpful in answering which and how many variable(s) should be included when constructing an index. Furthermore, the literature provides either no clear direction (see Schuessler and Fisher (1985)), information that is already known (see Slottje (1991) who found that "the optimal number of indicators is greater than one", i.e., income is an inadequate measure of social well-being), or something contradictory to the previous one (see Ogwang (1997) who suggested using just one variable, i.e., literacy in PQLI, effectively replacing life expectancy and infant mortality rate).

We again rely on Leitmann (1999) to provide us with guidelines of what constitutes (1) "fairly universally accepted QOL indicators": human health, literacy, employment, crime, and income per capita; and (2) "realistic QOL indicators": those that are measurable, based on existing data, affordable, regularly collected, quickly observable, sensitive to change, wide accepted, easy to understand, and balanced or politically neutral.

Methodology

We avoided the temptation of engaging in a seemingly endless search for the "perfect" QOL index by realizing that QOL measures are inherently subjective and relative (Leitmann, 1999) and focusing on the use for which QOL indices are estimated in the first place, i.e., as a tool of public policy. We take a pragmatic approach to measuring QOL by using a simple² QOL index: the Human Development Index (HDI). The HDI was first introduced by United Nations Development Programme (UNDP) in 1990 and was subsequently modified to take account of other aspects of social well-being.³ The

HDI takes a simple average of three aspects of people's lives: health and physical well-being, literacy and education, and economic. Its application has been mainly in facilitating international comparisons (see *Human Development Reports* published annually by UNDP), although it was later applied at sub-national levels in developing countries (e.g., the Philippines and a number of other countries which now publish national versions of the *Human Development Report*) (de Dios, Mapalad, and Durano, 1997).

As far as we know, however, the HDI has not been calculated at sub-national levels in the US. There is one known case where a version of the HDI index is calculated for Black children in the 37 U. S. cities (Corrie, 1994). Besides this study, we have not come across any attempt to use HDI in the US to measure disparities in social well-being as it relates to urbanization, gender, or race.

The approach we have taken in this study reflects our conscious decision to overlook methodological issues around QOL measurement in an effort to avoid further delay from looking at and addressing real issues. We feel an urgency toward what we expect to find in our study, that is, differences in QOL along gender and racial lines are stark that even a simple QOL measure will capture them.

Adjusted Human Development Index (HDI)

We first generate an index for each component of HDI (i.e., health (H), educational attainment (E), and adjusted income per capita (Y)).

a. Index for H: $I_1 = (H - H^{\min}) / (H^{\max} - H^{\min})$

b. Index for E: $I_2 = (E - E^{\min}) / (E^{\max} - E^{\min})$

c. Index for Y: $I_3 = (Y - Y^{\min}) / (Y^{\max} - Y^{\min})$

Adjustment of income

To adjust for income inequality, we made use of Atkinson's formula (where y^* is threshold income, which is the 1990 poverty threshold for a family of four). The formula is:

$$Y = \begin{cases} y^* & \text{for } 0 < y < y^* \\ y^* + 2y^{*1/2} + \dots + c(y - (c-1)y^*)^{1/c} & \text{for } (c-1)y^* \leq y \leq cy^* \end{cases}$$

(II.1)

This formula shows diminishing additional welfare as income levels increase.

In calculating the index, $(E - E^{\min})$ shows how much progress a particular county has made, given the lowest performer ("a pat on one's back"). Additionally, $(E^{\max} - E^{\min})$ shows what the goal is if a particular county would strive to be the best performer. Hence, HDI measures a county's actual achievement relative to the maximum achievement possible. Once all three indices are calculated, simply take a simple average of them to get the HDI:

$$HDI = 1/3 (I_1 + I_2 + I_3).^4 \quad (II.2)$$

Adjusted HDIs are calculated for the general population of 745 metropolitan counties that were identified as being part of a Metropolitan Statistical Area (MSA) in the 1990 Census of Population and Housing. Average infant mortality rates for 1992-94 are used for the health variable; the percent of population ages 25 and older who were at least high school graduates in 1990 is used to measure educational attainment; and 1989 per capita income, adjusted using Atkinson's formula, is used for the income component. Calculations are also made using the adjusted per family income for male and female heads of households, generating two separate indices. Additionally, by using the percent

of high school graduates and adjusted per capita income for whites and blacks, we generate separate indices based on race. All variables, except for the infant death rates, are from the 1990 Census of Population and Housing. Infant death rates per 1000 population, averaged between 1992 and 1994, are from the U. S. National Center for Health Statistics, reported in Gaquin and Littman (1998).

III. Results

Figure 1 shows the relationship between population size and social well-being, measured by the adjusted HDI for the largest 100 urban counties. There is evidence of an inverted U-shape to the trend line, supporting our claim that residing in the largest urban area may not necessarily insure the highest quality of life. This is the case for only a small number, however, as evidenced by the quick downturn. For this reason, the rest of the analysis in this study focuses on the largest 50 counties, comparing them with all urban counties. Our focus on the largest 50 counties is also justified by the fact that they represent a significant share (i.e., approximately 40%) of the total population in 745 metro counties.

<<Insert Figure 1 here>>

Table 1 presents the five index calculations for the largest 50 counties, ranked by population size. In addition, the minimum, maximum and average index for all 745 counties are offered for comparison purposes. Note that the largest counties are not the ones with the highest index values. None of these counties contains the largest adjusted HDI of 0.96, belonging to Los Alamos County in New Mexico. However, the lowest index, 0.53 in Bronx County, New York, is much higher than the 0.15 minimum index calculated for Sioux County, North Dakota.

<<Insert Table 1 here>>

Additionally, the indices for male heads of households with no spouse present (MHH) are mostly higher than those for the general population. The index figures for female heads of households with no spouse present (FHH) are generally lower than the MHH counterparts. Only one county, Santa Clara in California, reports a higher FHH index, beating out the MHH index by a slight 0.01. The largest gap between the MHH index and the FHH index is found in Milwaukee County, Wisconsin, showing a difference of 0.21.

Not surprisingly, we find that the white HDI is higher than the overall average adjusted HDI for most every county. Also not surprising is that the black HDI is lower than the white HDI for most counties.

A closer examination of the indices for female heads of households and minorities is offered in Table 2. It offers a list of the top 50 ranked urban counties for percentages of female heads of households and minorities, with corresponding well-being indices. Also presented are the minimum, maximum, and average index values for these counties. The adjusted HDI indexes are considerably lower in this table, compared with those in Table 1. The minimum values for the female headed households indexes contain the minimum for the entire 745 county sample also. The maximum value for these counties is also lower than the maximum for all counties. The same comparisons are made when comparing the indices for the counties containing the largest percentages of minorities. What appears evident is that higher concentrations of female heads of households and minorities correspond to lower well-being.

Regression Analysis

In further investigating the relationship between social well-being and population, race, and gender, we turn to bivariate regression analysis. Table 3 presents correlation coefficients and t-Statistics for bivariate regressions between the adjusted HDI and population, the percent of female heads of households and percent minorities for all 745 counties as well as the largest 50. We find that population size and HDI have a positive relationship for all counties, but not for the 50 largest counties. This is consistent with our initial hypothesis. The robustness of this finding may at first appear suspect, due to the low adjusted R^2 figures, but this is to be expected as the bivariate model used here is most likely underspecified. Most obvious is that well-being and the percentages of female heads of households and minorities have a negative and significant relationship. Also, based on the adjusted R^2 values, the results appear to be considerably more robust than those found for population, especially for the largest 50 counties.

<<Table 3 here>>

We also looked at the extent to which the presence of female heads of households and minorities in larger urban areas is significant. Results from bivariate regressions presented in Table 4 show statistically significant positive relations between population and both female heads of households and minorities. That the adjusted R^2 values are low is largely due, again, to the underspecification of the model.

<<Table 4 here>>

IV. Summary

We calculated well-being indices for 745 urban counties, and presented detailed results for the largest 50 counties. These showed that for female heads of households in the largest 50 urban counties, there is a definite gap when compared to the male heads of

households. Additionally, blacks generally are less well off than whites in the largest 50 urban counties. When examining the well-being indices for the largest concentrations of female heads of households and minorities, we find that these are considerably lower than for the entire sample.

The construction and presentation of these indices offers valuable research results. While it is not the intention of this work to offer policy implications, the results offer much for social scientists to think about. With female heads of households and minorities making up an increasing share of the urban population, their lower measures of well-being (relative to those for male heads of households and white populations, respectively) reflect themselves in the relatively low adjusted HDI in large urban areas (i.e., the largest 50 urban counties). This suggests that any analysis of urban well-being cannot be devoid of discussion of well-being of women and minorities. In the same vein, policies designed to uplift well-being in urban areas must aim to improve the quality of lives of women and minorities.

Development of social well-being indices which consider race and gender is the first step in offering analysis of the economic and social conditions of these groups at sub-national levels. A comparison of these indices with those for non-metropolitan counties is also worthy of close study, as is to contrast these indices with per capita income, offered as signs of economic progress. Also, a closer look at the 50 counties in the three areas of analysis included in this study, focusing on areas of income inequality, poverty, crime, and housing, may also shed more light on economic and social conditions of these particular groups in urban areas.

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Notes

¹ Population density may also be used. However, this study chose not to focus on issues related to overcrowding. Instead, it used population as a measure of urbanization to focus on conditions associated with large populations, such as health, education, and earnings.

² The HDI includes fairly universally accepted QOL indicators:

- a. human health--required: life expectancy
- b. literacy--required: basic adult literacy and enrollment rates
- c. income per capita

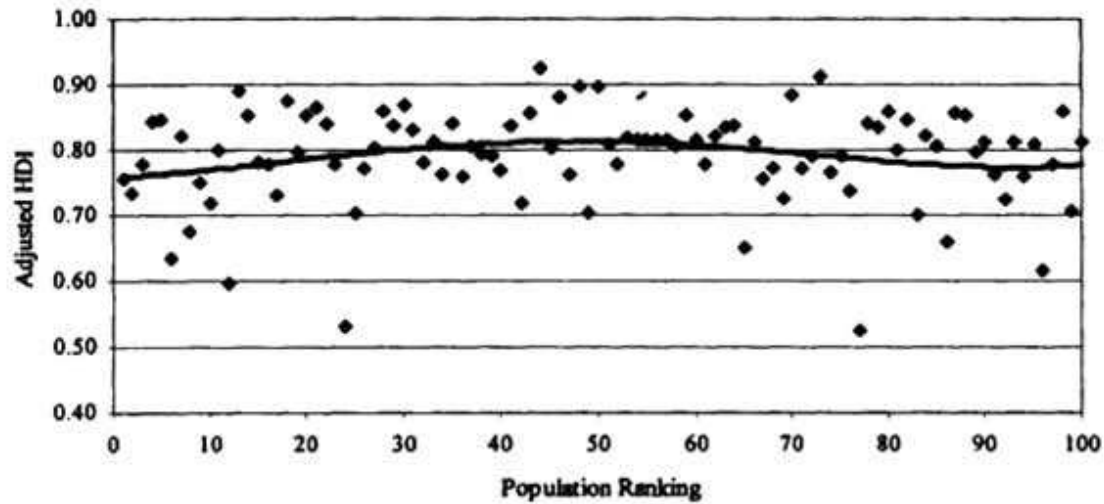
It is also realistic: measurable, based on existing data (we made some substitutions), affordable, regularly collected (we used census data for 1990), widely accepted, easy to understand.

³ The UNDP has gender-related variations of HDI, i.e., Gender-related Development Index (GDI) and Gender Empowerment Measure (GEM).

⁴ For more details, consult the Technical Appendix to *Human Development Report*, published annually by the United Nations Development Programme.

Figure 1

Population Ranking - Adjusted HDI, Top 100 Counties



**Table 1. Well-being Indices
Largest 50 Metro Counties**

Population Rank	Black County Adjusted HDI	Adjusted HDI	Male HH Adjusted HDI	Female HH Adjusted HDI	White Adjusted HDI
1	CA, Los Angeles County 0.80	0.76	0.76	0.70	0.80
2	IL, Cook County 0.66	0.73	0.73	0.59	0.77
3	TX, Harris County 0.70	0.78	0.78	0.68	0.82
4	CA, San Diego County 0.80	0.85	0.85	0.78	0.87
5	CA, Orange County 0.90	0.85	0.85	0.85	0.87
6	NY, Kings County 0.68	0.63	0.67	0.53	0.70
7	AZ, Maricopa County 0.74	0.82	0.82	0.72	0.84
8	MI, Wayne County 0.63	0.68	0.69	0.51	0.72
9	NY, Queens County 0.80	0.75	0.75	0.75	0.75
10	FL, Dade County 0.64	0.72	0.72	0.60	0.73
11	TX, Dallas County 0.71	0.80	0.80	0.72	0.84
12	PA, Philadelphia County 0.62	0.60	0.65	0.49	0.67

13	WA, King County 0.81	0.89	0.89	0.89	0.90
14	CA, Santa Clara County 0.89	0.85	0.85	0.86	0.87
15	NY, New York County 0.69	0.78	0.78	0.66	0.86
16	CA, San Bernardino County 0.77	0.78	0.78	0.65	0.80
17	OH, Cuyahoga County 0.64	0.73	0.73	0.57	0.75
18	MA, Middlesex County 0.87	0.88	0.88	0.87	0.88
19	PA, Allegheny County 0.68	0.80	0.80	0.64	0.80
20	NY, Suffolk County 0.81	0.85	0.85	0.85	0.85
21	NY, Nassau County 0.85	0.87	0.87	0.87	0.87
22	CA, Alameda County 0.81	0.84	0.84	0.83	0.87
23	FL, Broward County 0.63	0.78	0.78	0.72	0.80
24	NY, Bronx County 0.68	0.53	0.65	0.45	0.67
25	TX, Bexar County 0.74	0.70	0.75	0.58	0.78
26	CA, Riverside County 0.78	0.77	0.77	0.66	0.80
27	TX, Tarrant County 0.69	0.80	0.80	0.74	0.83
28	MI, Oakland County 0.86	0.86	0.86	0.86	0.86
29	CA, Sacramento County 0.78	0.84	0.84	0.75	0.85
30	MN, Hennepin County 0.71	0.87	0.87	0.79	0.87
31	MO, St. Louis County 0.78	0.83	0.83	0.83	0.83
32	NY, Erie County 0.66	0.78	0.78	0.60	0.79
33	OH, Franklin County 0.71	0.81	0.81	0.69	0.82
34	WI, Milwaukee County 0.60	0.76	0.77	0.56	0.79
35	NY, Westchester County 0.82	0.84	0.84	0.84	0.85
36	OH, Hamilton County 0.65	0.76	0.76	0.59	0.78
37	FL, Palm Beach County 0.60	0.81	0.80	0.75	0.83
38	CT, Hartford County 0.75	0.80	0.80	0.73	0.81
39	FL, Pinellas County 0.61	0.79	0.79	0.69	0.80
40	FL, Hillsborough County 0.64	0.77	0.77	0.63	0.78
41	CT, Fairfield County	0.84	0.84	0.83	0.85

42.	0.80 TN, Shelby County	0.72	0.72	0.54	0.79
43	0.58 NJ, Bergen County	0.85	0.86	0.86	0.85
44	0.86 VA, Fairfax County	0.92	0.93	0.93	0.94
45	0.89 CT, New Haven County	0.80	0.80	0.73	0.81
46	0.75 CA, Contra Costa County	0.88	0.88	0.88	0.89
47	0.83 IN, Marion County	0.76	0.76	0.63	0.78
48	0.67 IL, DuPage County	0.90	0.90	0.90	0.90
49	0.89 NJ, Essex County	0.70	0.70	0.60	0.73
50	0.69 MD, Montgomery County	0.90	0.90	0.90	0.91
	0.88				
Minimum:	All 745 Metro Counties	0.15	0.27	0.17	0.23
		0.20			
Maximum:	All 745 Metro Counties	0.96	0.97	0.96	0.96
		0.94			
Average:	All 745 Metro Counties	0.74	0.77	0.65	0.76
	0.63				

Table 2. Well-being Indices
Top 50 Counties - Percent Female Heads of Households and Minority

Female Heads of Households County	Adjusted Black HDI Adjusted HDI	Female HH Adjusted HDI	Minority County	Adjusted HDI	
NY, Bronx County	0.53	0.45	TX, Webb County	0.28	0.44
TX, Webb County	0.35	0.35	TX, Hidalgo County	0.28	0.73
TX, Cameron County	0.39	0.36	MS, Claiborne County	0.23	0.42
TX, Hidalgo County	0.34	0.34	NY, Bronx County	0.45	0.62
TX, El Paso County	0.52	0.48	TX, Cameron County	0.32	0.62
NY, Kings County	0.63	0.53	TX, El Paso County	0.45	0.71
ND, Sioux County	0.15	0.18	DC, District of Columbia	0.71	0.71
LA, Orleans Parish	0.62	0.44	VA, Charles City County	0.64	0.74
MS, Claiborne County	0.34	0.32	AL, Sumter County	0.14	0.27
GA, Dougherty County	0.58	0.42	FL, Dade County	0.67	0.60
CO, Pueblo County	0.65	0.54	LA, Orleans Parish	0.53	0.50
TX, Bexar County	0.70	0.58	AL, Perry County	0.21	0.36
FL, Gadsden County	0.42	0.37	NY, Kings County	0.55	0.60
NM, Dona Ana County	0.62	0.55	FL, Gadsden County	0.30	0.37
AL, Sumter County	0.29	0.20	AL, Hale County	0.23	0.34
TX, Nueces County	0.68	0.53	CA, Los Angeles County	0.71	0.76
MI, Wayne County	0.68	0.51	NM, Dona Ana County	0.57	0.72
CA, Tulare County	0.57	0.49	MD, Prince George's Count	0.69	0.71

CA, Fresno County	0.65	0.53	VA, Sussex County	0.49	0.57
AL, Perry County	0.32	0.26	VA, Brunswick County	0.41	0.52
MA, Hampden County	0.76	0.58	TX, Bexar County	0.65	0.69
NJ, Essex County	0.70	0.60	TX, Nueces County	0.63	0.62
GA, Peach County	0.58	0.43	NC, Edgecombe County	0.32	0.41
NJ, Hudson County	0.70	0.57	NJ, Essex County	0.62	0.61
NC, Edgecombe County	0.44	0.37	NY, New York County	0.72	0.63
AR, Crittenden County	0.45	0.36	NJ, Hudson County	0.64	0.65
MI, Genesee County	0.76	0.58	CA, San Francisco County	0.77	0.75
AL, Hale County	0.36	0.26	NC, Halifax County	0.25	0.33
MA, Suffolk County	0.77	0.64	GA, Fulton County	0.69	0.59
MS, Hinds County	0.70	0.56	NY, Queens County	0.69	0.75
MI, Saginaw County	0.70	0.52	NM, Santa Fe County	0.81	0.69
CA, Merced County	0.60	0.48	TX, San Patricio County	0.46	0.60
GA, Richmond County	0.65	0.51	MS, Hinds County	0.63	0.52
WA, Franklin County	0.62	0.48	GA, Dougherty County	0.48	0.45
GA, Fulton County	0.77	0.62	GA, Peach County	0.48	0.44
TX, San Patricio County	0.53	0.42	CA, Fresno County	0.58	0.59
TN, Shelby County	0.72	0.54	MS, Panola County	0.19	0.30
GA, Bibb County	0.62	0.43	TX, Waller County	0.53	0.55
FL, Dade County	0.72	0.60	PA, Philadelphia County	0.50	0.53
KS, Wyandotte County	0.59	0.53	GA, DeKalb County	0.73	0.67
PA, Philadelphia County	0.60	0.49	CA, Monterey County	0.74	0.81
NM, Santa Fe County	0.85	0.80	CA, Alameda County	0.80	0.76
CA, Kern County	0.66	0.50	AZ, Yuma County	0.58	0.72
NC, Halifax County	0.38	0.29	TX, Fort Bend County	0.79	0.78
GA, McDuffie County	0.51	0.38	VA, Southampton County	0.59	0.58
LA, Caddo Parish	0.67	0.50	CA, Merced County	0.54	0.68
WI, Milwaukee County	0.76	0.56	GA, Richmond County	0.56	0.53
GA, Muscogee County	0.66	0.49	NC, Washington County	0.42	0.47
MO, Pemiscot County	0.27	0.17	TX, Harris County	0.73	0.64
LA, Ouachita Parish	0.61	0.47	TN, Shelby County	0.63	0.48
Minimum	0.15	0.17		0.14	0.27
Maximum	0.85	0.80		0.81	0.81
Average	0.57	0.46		0.53	0.58

Table 3. Bivariate Regression Results

Dependent Variable: Adjusted HDI

All 745 Metro Counties

Independent Variable	Coefficient	t-Statistic
C	.73	154.11
Population	3.7E-08	4.37
Adjusted R ²	.02	
C	.88	80.94

Largest 50 Metro Counties

Independent Variable	Coefficient	t-
C	.81	48.06C
Population	-1.1E-08	-1.3
Adjusted R ²	.01	
C	.93	66.74

FHH	-.02	-13.55
Adjusted R ²	.20	
C	.79	138.54
Minority	-.003	-11.84
Adjusted R ²	.16	

FHH	-.017	-10.82
Adjusted R ²	.70	
C	.89	53.78
Minority	-.003	-6.92
Adjusted R ²	.49	

Table 4. Bivariate Regression Results

Dependent Variable: Population

<u>Independent Variable</u>	<u>Coefficient</u>	<u>t-Statistic</u>
C	92418.8	3.66
Minority	9567	8.87
Adjusted R ²	.09	

<u>Independent Variable</u>	<u>Coefficient</u>	<u>t-</u>
C	-44030.7	-.087
FHH	46733.52	6.333
Adjusted R ²	.05	