Employment Access, Neighborhood Quality, and Residential Location Choice

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In most American metropolitan areas, many minorities are segregated into central cities, and the literature of racial segregation demonstrates that the level of observed segregation cannot be explained by income differences alone (Kain, 1976, 1992; Massey and Denton, 1993; DeRango, 1999). Gabriel and Rosenthal (1989) examine residential location choice in the Washington D.C. metropolitan area and find considerable evidence that the influence of socio-economic and demographic characteristics on location choice differ dramatically by race.[1] Specifically, African-Americans are much less likely to alter their residential location based on changes in these characteristics. Similarly, Waddell (1992) finds for Dallas-Fort Worth that African-Americans are much less likely to suburbanize than whites as their income increases.[2]

On a related topic, Kain (1968) proposed that these high levels of discrimination may create a spatial mismatch between African-American residential locations and the location of employment. This spatial mismatch hypothesis has been studied extensively over the years, see Kain (1992) and Ihlanfeldt and Sjoquist (1999) for recent reviews of the literature. Many of the resulting studies create a measure of employment access based on the residential location of each household within a metropolitan area. For example, Rapheal (1998), Rogers (1997), and O'Regan and Quigley (1996) develop measures of job access at the census tract level. O'Regan and Quigley also include measures of neighborhood quality. Ihlanfeldt concludes that on balance these studies support the premise that job access affects employment. O'Regan and Quigley also find, however, that neighborhood quality has an effect on employment that is substantially larger than employment access.

Recent evidence suggests that African-American residential location decisions play an important role in residential segregation. Cutler, Glaeser, and Vigdor (1999) find that the current level of segregation in American cities are explained by a "decentralized racism" in which whites outbid African-Americans for housing in predominanty white areas. Ihlanfeldt and Scaffidi (1999) find that a substantial portion of racial segregation in certain American cities can be explained by self-segregation.[3] Deng, Ross, and Wachter (2000) include a measure of quality adjusted housing price as a proxy for neighborhood quality in a model of residential location choice and find that white households are much more likely to pay the housing price premium in order to obtain access to higher quality neighborhoods. Bayer (2000) examines choice of neighborhood and school district finding that African-Americans select locations with lower quality schools even though whites and African-American's have similar preferences for education. Bayer suggests that these differences are attributable to differences in tastes for neighborhood attributes and that certain types of neighborhoods are less available in high quality school districts.

This paper examines the residential location outcomes of white and African-American households over a variety of neighborhood attributes that potentially influence labor market outcomes. Specifically, we attempt to examine the premise suggested by Bayer that restrictions in the opportunity set of neighborhoods might influence African-American residential location decisions. For example, African-Americans may choose neighborhoods with poor employment access or poor neighborhood quality if there are very few neighborhoods available that offer both high access or quality and an integrated neighborhood. This analysis is conducted for the Philadelphia metropolitan area using the 1985 metropolitan sample of the American Housing Survey. The 1985 survey is the only publically available sample that provides detailed

information on housing market outcomes and also contains sufficient information to describing employment access at the census tract level.

Methodology

The basic methodology is a simple regression analysis in which a given neighborhood attribute is the dependent variable and the household characteristics are included on the right hand side of the equations. A proxy variable is developed in order to control for constraints in the choice set in terms of the level of integration available in given neighborhoods. Basically, this variable is constructed to represent marginal change in percent minority that might be expected in order to live in a tract with a higher value for the dependent variable (slope), e.g. higher neighborhood quality or better access to jobs.

A key question is how might we expect this "slope" variable to affect a households location decision in terms of other neighborhood attributes. Given the neighborhood options available, a households might alter its ideal choice on one attribute in order to obtain a neighborhood with a different value on a second attribute. For example, if white households unambiguously prefer neighborhoods with less minority households, white households might choose to move into neighborhoods with better access to jobs or with higher neighborhood amenities than desired (consider the fact that these attributes raise the price of housing). In the case of racial composition, we might expect the coefficient on the slope variable to be negative for white households, i.e. if choosing a neighborhood with better job access requires choosing a neighborhood with a higher percent minority then white households might be willing accept worse job access than they would if they could choose freely across the attribute space.

Alternatively, African-Americans may prefer an integrated neighborhood. Such a preference creates the possibility that the coefficient on the slope variable may vary based on the

racial composition of the neighborhoods from which the household is choosing. Specifically, if a households is looking predominantly at a set of neighborhoods with a very small percentage of African-Americans, on the margin this household might prefer a more integrated neighborhood, and we would expect a positive coefficient on the slope variable. Similarly, if the options being considered by the household is concentrated among heavily segregated neighborhoods, the household might still prefer a more integrated neighborhood, but in this case such a preference implies a desire for a lower percentage minority neighborhood and a negative coefficient on the slope variable.

They key methodological issue is the construction of the slope variable. As stated above, the goal is to create a proxy for the marginal change in percent minority that might be expected in order to live in a tract with a higher value for the dependent variable. In order accomplish this, I estimate the empirical relationship between percent minority and each dependent variable over the distribution of neighborhoods, normalize these estimates to eliminate any correlation between the slope and the dependent variable, and use the normalized empirical relationship to create a slope for each household conditional on the attributes of their current residential neighborhoods. The process follows the following steps:

1. Create a sample of all relevant neighborhoods (census tracts).
2. Estimate the means and standard deviation of the distribution of tracts over the dependent variable.
3. Sort this sample by the dependent variable.

4. Divide the tracts into nine overlapping samples based on the value of the dependent variable for each tract. These samples are structured as follows:

a. the tract value is more than 0.84 times the standard deviation below the mean

b. the tract value is between 1.28 and 0.84 times the standard deviation below the mean

c. the tract value is between 0.84 and 0.25 times the standard deviation below the mean

d. the tract value is between 0.52 and 0.00 times the standard deviation below the mean

e. the tract value is within 0.25 times the standard deviation of the mean

f. the tract value is between 0.00 and 0.52 times the standard deviation above the mean

g. the tract value is between 0.25 and 0.84 times the standard deviation above the mean

h. the tract value is between 0.52 and 1.28 times the standard deviation above the mean

i. the tract value is more than 0.84 times the standard deviation above the mean

5. Calculate the mean of the dependent variable for each of the nine samples described above.

6. Estimate a simple regression with percent African-American as the dependent variable and the dependent variable for this problem as a regressor for each of the nine samples. Note that the estimated coefficients are intended to describe the relationship between percent African-American and the dependent variable over the distribution of the dependent variable where the location of a given estimate along the distribution is defined by the mean of the dependent variable within the sample.

7. The dependent variable means and the estimate a regression coefficients for the nine samples form a sample of nine. Using this sample of nine observations, estimate a regression with the slope a dependent variable and using the dependent variable for this problem as a regressor. The residual from this regression is the normalized relationship.

8. Based on the value of the dependent variable for each household's residential location, impute the slope variable using the two normalized slopes that are located on either side of the household's actual residential location on an axis formed by the dependent variable and the average value of the dependent variable for each of those two slopes.

Data

This study uses the 1985 metropolitan sample of the American Housing Survey for the Philadelphia metropolitan area. This sample is unique in that detailed information is provided on both the residential location of the household and the employment location of household members. Specifically, tract identifiers are provided that identify which housing units are located in the same census tract, and the actual residential and employment locations are reported down to a zone containing at least 100,000 individuals. In the case of Philadelphia, the city is divided into 13 zones and the surrounding suburban region is divided into 22 zones. The survey also collects detailed household and household member demographic information, detailed physical characteristics of the actual residence, and limited information on the employment outcomes of the individual household members.

Table 1 provides the means and standard deviations for the key household demographic variables that are included in the residential location attribute regressions. These variables include the age, educational attainment, gender and marital status of the household head, as well as the number of children, children under six, adults, and individuals of retirement age in the household. The means and standard deviations are provided separately for white and African-American headed households. The African-American sample exhibits higher rates of marriage and of college education attainment. However, the average family size is actually larger for African-American headed households.

Table 1 also includes the census tract averages for six residential location attributes: percent of sample households that are headed by an African-American, average sample household income, average years of education among sample adults, a quality adjust price of housing, a measure of employment or job access, and the average wage residual based on the employment location of tract households. All of these variables are constructed using information from the actual sample of households in the American Housing Survey. In order to assure that sufficient information exists to describe a given tract, the sample was restricted to households residing in tracts that contained at least five sample households. This restriction results in a final sample of 3,070 non-Hispanic white households and 789 African-American households. Aside from percent African-American, the other five tract characteristics are used as dependent variables in separate tract attribute regressions.

The first three attributes are based on averages for all sample households residing in a tract. Percent African-American is simply the fraction of households headed by an African-American. Average household income and average years of education among adults are calculated as an average after truncating the households with the maximum and minimum values on these variables. Specifically, if a tract contains between 5 and 9 households (or adults in the case of average education), the highest value and lowest value households are deleted. If a tract contains between 10 and 19 households, the highest two and lowest two values are deleted, and for 20 or larger the highest and lowest four are deleted. This truncation process is used to insulate the averages against outliers.

The quality adjusted housing price is simply the tract level fixed effect from an hedonic price regression using owner-occupied properties. A log-price specification is used and the control variables include: number of bedrooms, number of baths, square feet, living room,

kitchen, dining room, number of other rooms, cellar, garage, porch, air conditioning, new roof, public sewer, fireplace, age of structure, and type of structure. Some tracts contained no owner-occupied housing units. In that case, a rental price hedonic was estimated. A regression was estimated to predict owner-occupied housing price fixed effects from rental price fixed effects for tracts that contained both types of properties, and the estimated model was used to impute price variables for those tracts with no owner-occupied housing.

The measure of job access was created by estimating a gravity model. The gravity model traditionally is estimated as simple regression where the logarithm of commuting flows (F) is the dependent variable and the logarithms of size of the residential location (P - number of households in tract), the size of the employment location (E - number of employees in a zone), and travel time or distance between the locations (t - average self-reported commute time) are the regressors. The sample is all destination and origination locations in which commuting flows are

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observed.

The measure of job access for a given residential location is the sum over all employment locations of the ratio of employment to commuting time where these variables are scaled by the

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estimated coefficients.

However, the data on commuting flows is fairly thin due to the limited size of the AHS sample and the number of census tracts and employment zones. In order to obtain job access measures

that reflect employment opportunities across the entire metropolitan area, we include flows of zero in the estimation and the eventual creation of the employment access measure. The average commute time between the zone of residence, which is substantially larger than a tract, and the zone of employment is used as the commute time for this tract. The dependent variable is modified to be the logarithm of commute flow plus one in order to avoid taking the logarithm of zero.[4]

Lastly, a second labor market variable is created based on observed labor earnings within the sample. Specifically, a logarithm of labor earnings regression is estimated controlling for a set of individual characteristics for each adult: education attainment, age minus years of education minus six (years in labor market), marital status, gender, and other demographic controls which include interactions between marital status, gender, and the structure of the household ; as well as the employment location of the adult. This estimation yields a employment location fixed effect. The average wage residual is simply the mean of this employment location fixed effect over all employed households in a tract. The intuition behind this measure is that the location fixed effect may capture the unobserved quality of the workforce in a given location and that the members of a household that resides in a tract with a large average wage residual may experience positive peer group effects from their neighbors.

Table 2 presents the correlation between these six measures. As expected from the previous literature, average family income, average adult education, housing price level (as a proxied for neighborhood amenities), and job access and positively correlated with each other, and negatively correlated with percent African-American. The highest negative correlation with percent African-American is with the price level variable. Clearly, the price level variable is picking up neighborhood amenities that are highly valued and that African-Americans are

exclude from potentially by discrimination or by high market prices. Surprisingly, the average wage residual is positively correlated with percent African-American and exhibits only a very low correlation with the other tract variables.

Table 3 describes the distribution of households across these six tract variables by race. The table splits the distribution based on the mean and standard deviation of each tract variable so that each bin would contain 20 percent of all households if the population were distributed normally over the tract variable. Average income, average years of education, job access, and the average wage residual are distributed approximately normally. Percent black is heavily skewed to the left due to the fact that a large number of white households live in tracts which did not contain a sample household headed by an African-American. The price level is skewed to the right with a large number of households residing in tract that have above average price levels. The racial breakdown of these distributions closely follows the correlations presented in the previous table with African-American households being concentrated at the lower end of the distribution for all of the tract variables except for the average wage residual.

Results

Table 4 contains the results for tract income. The results for the demographic variables are reasonable. For whites, education, marital status, and number of children causes households to lean towards higher income neighborhoods. The results are similar, but weaker, for African-Americans. For the slope only specification, the results are directly consistent with the hypothesis suggested earlier. A larger (or less negative) slope lowers the likelihood that whites move into higher income neighborhoods because the less negative slope implies less benefit for white households in terms of less integration from moving to high income neighborhoods. On the other hand, the coefficient for African-American households is positive implying that a less

negative slope limits the decrease in percent African-American required to move into a higher income neighborhood. For the interaction specification in columns five and six, the results are mixed. For whites, the interaction is statistically significant and positive. This result is unexpected and might imply that white households are sorting based on unobserved tastes. The coefficient estimate implies that as whites find themselves into higher percent minority neighborhoods they do not care as much about obtaining a lower percent minority location, while I expected that white households may become even more concerned about percent minority as they are faced with more integrated neighborhoods. The result for African-Americans is robust over all three specifications.

Tables 5 and 6 contain the results for average education and housing price level. The results from the slope only specifications are the opposite of the tract income results with the white coefficient being positive implying that white households would prefer a more integrated neighborhood and the minority coefficient being negative. The interactive specification, however, appears to address this puzzle. White households reside primarily in low percent minority tracts, and African-American households reside primarily in high percent minority tracts. Therefore, the coefficients on the slope variables may be heavily influenced by percent minority in tract. In fact, for white and African-American households and for both education and price level, the interaction term is negative implying that as the percent minority increases both white and African-American households become increasing concerned about racial composition and would appear to prefer a more integrated neighborhood. In fact, a striking result from the housing price level estimations is that the slope and the interaction term coefficient estimates are nearly identical for whites and African-Americans implying no racial differences in the pattern of marginal decisions making about neighborhood amenities.

Table 7 and 8 contain the results for job access and the average wage residual. In the slope only model, the slope coefficients for white households are statistically insignificant for both dependent variables. The results for African-American households are statistically significant. The estimated slope coefficient is negative for both dependent variables just as was seen for education and price level. For job access, the interaction specification again explains this anomaly with the African American slope coefficient being positive, but the interaction coefficient being negative implying that African-Americans would prefer an integrated neighborhood as compared to either a segregated white or African-American neighborhood. For the average wage residual, the results for the interaction specification are also counter-intuitive with the preference for an increase in percent minority increasing as percent minority increases. As discussed earlier, this result may arise because households are sorting based on unobserved household preferences for integration.

Conclusion

While these results are quite preliminary, the overall results indicate that on the margin the racial composition of available neighborhoods influence household outcomes on other neighborhood attributes. These results may be driven in part by household preferences, but racial discrimination and steering may also play a role. Either way, the results illustrate the powerful influence that racial segregation may play in shaping African-American access to the labor market through either spatial access to employment or neighborhood affects on employment outcomes.

However, the results at present are still somewhat mixed with different dependent variable yielding different results. One possibility is that the percent minority variable is also influenced by the other tract attributes so that the interaction specifications suffer from

endogeneity bias. In the future, it may be worthwhile attempting to instrument for percent African-American in these estimations.

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Footnotes

1. There also exist a large literature that examines residential location choice in order to assess the importance of commuting time and costs. For some examples see Anas and Chu (1984), Anas(1981), Lerman (1977), and Quigley (1976).

2. Gabriel and Rosenthal (1989) and Waddell (1992) both estimate multinomial logit models. See Boehm and Ihlanfeldt (1991) for a multivariate probit model of residential location choice.

3. Ihlanfeldt and Scafidi actually control for self-reported preferences for a given type of neighborhood and attribute the observed self-segregation to a preference among African-Americans for predominantly African-American neighborhoods, but their results also could arise because African-Americans expect to pay a lower price for housing in those predominantly African-American neighborhoods. While African-Americans may prefer integration in principle, they may not be willing to pay the high price that they associate with access to such neighborhoods.

4. I also estimated an ordered probit for commute flows controlling for either the logarithm or the level of size of residential location, size of employment location, and time between locations. These estimations yielded very similar results.

Table 1:Variable Means and Standard Errors by Race			
Variable	Description	White	Black
Age	Age of household head	30.500 (19.213)	29.191 (17.584)
High school	One if household head a high school graduate, zero otherwise	0.509 (0.499)	0.546 (0.498)
College	One if household head a college graduate, zero otherwise	0.268 (0.443)	0.101 (0.302)
Number retired	Number of household members of retirement age	0.321 (0.614)	0.209 (0.514)
Number children	Number of children in household	0.625 (1.025)	0.870 (1.250)
Number kids	Number of children less than six year old in household	0.197 (0.520)	0.282 (0.637)
Number adults	Number of adults in household	0.932 (0.901)	0.812 (0.912)
Married	One if head of household married, zero otherwise	0.552 (0.497)	0.305 (0.460)
Gender	One if head of household female, zero otherwise	0.686 (0.463)	0.457 (0.498)
Percent Black	Percentage black head of households in tract	0.064 (0.138)	0.713 (0.310)
Average income	Average family income in tract	27.345 (12.873)	15.847 (8.378)
Average Education	Average years of education among adults in tract	12.540 (1.337)	11.642 (1.253)
Housing Price	Quality adjusted price of housing based on hedonic model	9.319 (0.371)	8.698 (0.553)
Job Access	Measure of job access based on gravity model	22.982 (8.833)	19.215 (7.293)
Location Wage	Average for adults in tract of work location residual from log-wage estimation	8.918 (0.211)	9.011 (0.181)
Sample Size		3070	789

Table 2:Correlation Matrix for Tract Variables

Variables	Percent Black	Average Income	Average Education	Housing Price	Job Access
Average income	-0.43				
Average Education	-0.31	0.52			
Housing Price	-0.60	0.48	0.53		
Job Access	-0.21	0.38	0.31	0.23	
Location Wage	0.22	-0.07	0.07	-0.01	0.01

Table 3:Distribution of Tract Attributes by Race					
Categories[1]	0.84 sd below mean	0.84-0.25 sd below mean	within 0.25 sd of mean	0.25-0.84 sd above mean	0.84 sd above mean
Percent Minority[2]					
White	0.705	0.091	0.133	0.044	0.027
Black	0.000	0.036	0.113	0.117	0.735
Average Income					
White	0.121	0.216	0.276	0.192	0.194
Black	0.489	0.276	0.138	0.084	0.013
Average Education					
White	0.136	0.195	0.228	0.215	0.227
Black	0.399	0.233	0.186	0.105	0.076
Housing Price					
White	0.068	0.109	0.226	0.418	0.179
Black	0.536	0.189	0.141	0.114	0.030
Job Access					
White	0.149	0.233	0.217	0.178	0.224
Black	0.303	0.317	0.188	0.101	0.091
Location Wage					
White	0.237	0.165	0.197	0.218	0.184
Black	0.112	0.097	0.198	0.266	0.328

1. The categories are chosen based on the mean and standard deviation so that each cell would contain 20 percent of the population if households were distributed normally across the specific tract attribute.

2. A substantial number of tracts contain no sample households with an African-American head. The first cell contains the number of households residing in tracts with no African-American households.

Table 4:Residential Location in terms of Tract Income						
Model[1]	Slope Only		Control for Percent Black		Include Interaction term	
	White	Black	White	Black	White	Black
Intercept	0.736 (5.997)	2.563 (9.125)	0.914 (7.583)	2.924 (2.304)	0.648 (5.174)	2.758 (2.735)
Age	2.730 (5.953)	0.141 (0.231)	2.596 (5.808)	0.580 (1.004)	2.425 (5.462)	0.554 (0.958)
Age squared	-2.856 (4.030)	-0.446 (0.456)	-2.761 (3.998)	-0.874 (0.947)	-2.504 (3.649)	-0.831 (0.900)
High school	0.472 (7.997)	0.101 (1.761)	0.459 (7.987)	0.115 (2.128)	0.446 (7.813)	0.115 (2.129)
College	1.031 (4.798)	0.753 (8.165)	1.003 (4.773)	0.602 (6.838)	0.979 (4.514)	0.602 (6.828)
Number retired	-0.252 (4.615)	-0.076 (0.990)	-0.239 (4.482)	-0.050 (0.694)	-0.237 (4.489)	-0.051 (0.708)
Number children	0.101 (3.851)	-0.003 (0.150)	0.099 (3.846)	0.009 (0.427)	0.100 (3.916)	0.011 (0.491)
Number kids	-0.070 (1.393)	-0.035 (0.756)	-0.062 (1.267)	-0.031 (0.704)	-0.063 (1.297)	-0.033 (0.748)
Number adults	0.115 (4.071)	0.046 (1.569)	0.117 (4.237)	0.046 (1.677)	0.119 (4.358)	0.046 (1.669)
Married	0.508 (8.001)	0.308 (4.491)	0.460 (7.427)	0.272 (4.213)	0.440 (7.144)	0.272 (4.216)
Gender	0.028 (0.477)	0.031 (0.541)	0.013 (0.240)	0.010 (0.192)	0.025 (0.449)	0.009 (0.169)
Slope of Pct Black	-1.571 (7.880)	2.687 (5.885)	-1.608 (8.272)	2.443 (5.168)	-2.322 (0.678)	2.037 (4.509)
Pct Black			-1.867 (2.748)	-0.757 (0.082)	1.575 (3.112)	-0.533 (2.181)
Pct Blk* Slope					8.146 (7.101)	0.525 (0.959)
R-Square	0.2103	0.4092	0.2502	0.4776	0.2624	0.4783
1. T-statistics are listed in parentheses.						

Table 5:Residential Location in terms of Average Education						
Model[1]	Slope Only		Control for Percent Black		Include Interaction term	
	White	Black	White	Black	White	Black
Intercept	11.972 (104.056)	10.692 (53.254)	12.055 (103.958)	11.343 (55.177)	12.120 (100.013)	11.909 (35.597)
Age	-1.193 (2.539)	-1.840 (1.794)	-1.243 (2.653)	-1.196 (1.218)	-1.252 (2.674)	-1.360 (1.384)
Age squared	1.878 (2.585)	2.459 (1.499)	1.912 (2.641)	1.841 (1.175)	1.932 (2.669)	2.109 (1.345)
High school	0.895 (14.790)	0.409 (4.238)	0.890 (14.764)	0.416 (4.522)	0.885 (14.669)	0.405 (4.402)
College	1.813 (25.419)	1.547 (10.104)	1.802 (25.344)	1.297 (8.712)	1.799 (25.290)	1.275 (8.562)
Number retired	-0.113 (2.029)	-0.265 (2.054)	-0.108 (1.943)	-0.226 (1.837)	-0.111 (2.003)	-0.244 (1.984)
Number children	-0.068 (2.520)	-0.104 (2.553)	-0.069 (2.567)	-0.083 (2.135)	-0.071 (2.636)	-0.085 (2.181)
Number kids	-0.024 (0.474)	0.030 (0.382)	-0.021 (0.417)	0.040 (0.542)	-0.020 (0.395)	0.047 (0.632)
Number adults	0.060 (2.066)	-0.041 (0.846)	0.060 (2.096)	-0.045 (0.965)	0.059 (2.060)	-0.045 (0.966)
Married	-0.041 (0.632)	0.272 (2.385)	-0.059 (0.918)	0.211 (1.931)	-0.058 (0.905)	0.214 (1.966)
Gender	-0.036 (0.604)	0.176 (1.817)	-0.042 (0.701)	0.133 (1.439)	-0.040 (0.673)	0.133 (1.434)
Slope of Pct Black	0.718 (2.591)	-3.438 (7.639)	0.750 (2.714)	-3.653 (8.490)	0.987 (3.237)	-1.435 (1.281)
Pct Black			-0.729 (4.756)	-1.102 (8.756)	-1.566 (3.253)	-1.844 (5.007)
Pct Blk* Slope					-3.406 (1.833)	-3.034 (2.142)
R-Square	0.2327	0.2650	0.2384	0.3311	0.2392	0.3350

Table 6:Residential Location in terms of Housing Price Level						
Model[1]	Slope Only		Control for Percent Black		Include Interaction term	
	White	Black	White	Black	White	Black
Intercept	10.108 (137.480)	6.818 (45.273)	10.118 (143.232)	7.685 (53.649)	10.373 (134.370)	10.435 (30.605)
Age	-0.140 (1.002)	-0.878 (2.006)	-0.194 (1.447)	-0.344 (0.895)	-0.184 (1.386)	-0.303 (0.826)
Age squared	0.378 (1.750)	1.209 (1.725)	0.422 (2.031)	0.610 (0.994)	0.399 (1.941)	0.604 (1.030)
High school	0.126 (7.037)	0.090 (2.186)	0.122 (7.097)	0.096 (2.683)	0.121 (7.053)	0.061 (1.787)
College	0.256 (12.065)	0.403 (6.143)	0.247 (12.105)	0.246 (4.216)	0.247 (12.205)	0.224 (4.025)
Number retired	-0.027 (1.638)	-0.057 (1.030)	-0.022 (1.411)	-0.030 (0.626)	-0.019 (1.240)	-0.028 (0.616)
Number children	-0.019 (2.366)	-0.039 (2.237)	-0.020 (2.594)	-0.024 (1.611)	-0.019 (2.554)	-0.019 (1.291)
Number kids	-0.032 (2.109)	0.011 (0.337)	-0.029 (1.991)	0.011 (0.376)	-0.029 (1.985)	0.010 (0.374)
Number adults	0.008 (0.986)	-0.023 (1.093)	0.009 (1.110)	-0.022 (1.189)	0.008 (1.086)	-0.018 (1.036)
Married	0.027 (1.435)	0.095 (1.949)	0.010 (0.562)	0.058 (1.368)	0.009 (0.499)	0.058 (1.435)
Gender	-0.004 (0.227)	0.034 (0.824)	-0.009 (0.576)	0.005 (0.163)	-0.007 (0.438)	-0.003 (0.096)
Slope of Pct Black	0.318 (13.700)	-0.676 (14.589)	0.296 (13.273)	-0.543 (13.081)	0.385 (15.492)	0.400 (3.507)
Pct Black			-0.706 (16.001)	-0.780 (15.447)	-3.597 (9.657)	-4.431 (10.613)
Pct Blk* Slope					-0.989 (7.815)	-1.272 (8.804)
R-Square	0.1194	0.3068	0.1874	0.4698	0.2033	0.5180

Table 7:Residential Location in terms of Job Access						
Model[1]	Slope Only		Control for Percent Black		Include Interaction term	
	White	Black	White	Black	White	Black
Intercept	0.202 (29.129)	0.204 (17.231)	0.206 (29.416)	0.239 (19.016)	0.206 (29.404)	0.234 (19.231)
Age	-0.005 (0.156)	-0.181 (2.627)	-0.008 (0.244)	-0.131 (1.953)	-0.008 (0.237)	-0.153 (2.345)
Age squared	0.009 (0.180)	0.298 (2.668)	0.011 (0.222)	0.242 (2.228)	0.011 (0.218)	0.269 (2.553)
High school	0.020 (4.618)	0.013 (2.154)	0.020 (4.560)	0.014 (2.342)	0.020 (4.556)	0.014 (2.385)
College	0.033 (6.325)	0.027 (2.805)	0.032 (6.211)	0.015 (1.602)	0.032 (6.212)	0.018 (1.950)
Number retired	-0.012 (2.973)	-0.021 (2.553)	-0.011 (2.906)	-0.019 (2.303)	-0.011 (2.911)	-0.019 (2.440)
Number children	0.005 (2.678)	-0.003 (1.228)	0.005 (2.652)	-0.002 (0.877)	0.005 (2.654)	-0.001 (0.677)
Number kids	-0.013 (3.458)	-0.003 (0.556)	-0.012 (3.422)	-0.002 (0.488)	-0.012 (3.423)	-0.002 (0.557)
Number adults	0.005 (2.620)	-0.001 (0.399)	0.005 (2.643)	-0.001 (0.464)	0.005 (2.647)	-0.000 (0.289)
Married	0.009 (1.956)	0.023 (3.056)	0.008 (1.734)	0.019 (2.700)	0.008 (1.731)	0.017 (2.389)
Gender	0.001 (0.300)	-0.002 (0.344)	0.001 (0.229)	-0.004 (0.654)	0.001 (0.229)	-0.003 (0.569)
Slope of Pct Black	0.002 (1.502)	-0.022 (5.541)	0.003 (1.665)	-0.027 (6.836)	0.002 (1.440)	0.028 (3.162)
Pct Black			-0.042 (3.777)	-0.058 (6.857)	-0.043 (3.758)	-0.051 (6.197)
Pct Blk* Slope					0.005 (0.308)	-0.077 (6.897)
R-Square	0.048	0.094	0.053	0.148	0.053	0.199

Table 8:Residential Location in terms of Average Wage Residual						
Model[1]	Slope Only		Control for Percent Black		Include Interaction term	
	White	Black	White	Black	White	Black
Intercept	8.880 (241.201)	8.861 (137.325)	8.865 (241.116)	8.785 (136.529)	8.896 (223.185)	8.603 (62.278)
Age	-0.321 (3.863)	0.248 (1.394)	-0.311 (3.754)	0.152 (0.872)	-0.312 (3.768)	0.149 (0.855)
Age squared	0.510 (3.959)	-0.489 (1.694)	0.502 (3.918)	-0.385 (1.361)	0.510 (3.979)	-0.382 (1.353)
High school	0.024 (2.296)	-0.006 (0.423)	0.025 (2.399)	-0.008 (0.552)	0.025 (2.426)	-0.008 (0.510)
College	0.067 (5.345)	-0.009 (0.369)	0.069 (5.537)	0.017 (0.695)	0.069 (5.546)	0.016 (0.648)
Number retired	0.004 (0.424)	0.060 (2.725)	0.003 (0.323)	0.055 (2.539)	0.001 (0.196)	0.056 (2.569)
Number children	-0.014 (3.010)	0.003 (0.496)	-0.014 (2.980)	0.001 (0.193)	-0.014 (2.964)	0.001 (0.196)
Number kids	-0.004 (0.476)	-0.016 (1.188)	-0.004 (0.544)	-0.017 (1.253)	-0.005 (0.585)	-0.016 (1.228)
Number adults	0.017 (3.358)	-0.007 (0.838)	0.017 (3.348)	-0.006 (0.791)	0.016 (3.303)	-0.006 (0.836)
Married	-0.029 (2.547)	-0.016 (0.868)	-0.025 (2.232)	-0.010 (0.540)	-0.024 (2.167)	-0.010 (0.565)
Gender	-0.007 (0.661)	0.010 (0.613)	-0.005 (0.558)	0.014 (0.880)	-0.006 (0.570)	0.014 (0.882)
Slope of Pct Black	-0.011 (1.599)	-0.027 (2.304)	-0.011 (1.625)	-0.027 (2.312)	-0.004 (0.589)	-0.065 (2.321)
Pct Black			0.146 (5.380)	0.129 (5.972)	-0.321 (1.384)	0.394 (2.202)
Pct Blk* Slope					-0.098 (2.027)	0.055 (1.488)
R-square	0.033	0.024	0.042	0.069	0.043	0.071