Effects of Federal Grant Money on Economic Measures in the Community

2016

Andrea L. Miller
University of Central Florida

EFFECTS OF FEDERAL GRANT MONEY ON ECONOMIC MEASURES IN THE COMMUNITY

by

ANDREA MILLER

A thesis submitted in partial fulfillment of the requirements
for the Honors in the Major Program in Business Economics
in the College of Business Administration
and in the Burnett Honors College
at the University of Central Florida
Orlando, Florida

Spring Term, 2016

Thesis Chair: Melanie Guldi, Ph.D.

ABSTRACT

With the concentration of poverty increasing throughout the United States (Kneebone, 2014) there has been a recent emphasis on mixed-income housing as a means to alleviate this issue. By creating housing in one area with pricing for different income levels it is assumed that the burden imposed by concentrated poverty will be lowered. Many years and many dollars later however, the results of mixed-income housing projects on low-income residents seem to be mixed – while some projects have found success, others seem to suggest that it has little to no effect. The federal program HOPE VI is one example of efforts to increase the availability of mixed-income housing. It is the purpose of this study to decipher whether the administration of HOPE VI federal grant money has had an effect on certain economic outcomes within the selected metropolitan areas.

ACKNOWLEDGMENTS

I would like to take the time to thank everyone, professors and friends both, who have always encouraged me and told me I could, never doubting even when I did. Your belief and confidence is part of what pushed me to achieve, and to never settle for “good enough” just because I was afraid to reach.

To my thesis chair Dr. Guldi, in so many ways this could not have been done without you. I am forever grateful for the time, guidance, and knowledge you invested in me while I prepared this thesis.

To my other committee members, Dr. Caputo and Dr. Carter, thank you for your patience and insight in assisting me as I write.

Table of Contents

List of Tables

Introduction

Growing inequality in the United States has captivated the attention of numerous organizations, and is part of a growing body of research ("Inequality Organizations, Think Tanks, and Academic Centers"). According to 2014 U.S. Census Data, 14.8% of the U.S. population lives in poverty, with more than 1 out of every 5 children under the age of 18 living in poverty (DeNavas-Walt and Proctor, 2015). Given the U.S.'s population, this means that from 2010 onward, over 45 million live in poverty, with an estimated 46.7 million in 2014 (DeNavas-Walt and Proctor, 2015).

The concentration of poverty has also increased in both urban and suburban areas. The number of "distressed" neighborhoods, i.e., neighborhoods in which at least 40% of residents are below the U.S. poverty line, increased by nearly 75% since the early 2000s to house an estimated 12.2% of the poor – for those living within a city the chances of living in a distressed neighborhood rise to 23% (Kneebone, 2014). Mixed income neighborhoods, that is neighborhoods in which housing different income groups together is an explicit goal, have come into practice in an effort to decrease the concentration of poverty and help lift families out of poverty ("About Hope VI"). The purpose of this thesis is to determine whether the federal grants within the HOPE VI project, given for the purpose of creating mixed income housing, improved the average economic outcomes of individuals living in these areas.

Literature Review

Neighborhood Effects and Mixed-Income Housing

Why we should care about the poor is an ethical and moral matter to many, but the concerns on the particulars of poverty, such as who it affects and where, provides the guiding force for public policy aimed at taking control of it. The concentration of poverty is of particular concern, because of the presumed effects that it has on residents and the cycle of poverty in general. The theory of "spatial mismatch" is one explanation for the concentration of poverty in urban centers and the resulting ill effects it has. It contends that with the end of the industrial era many jobs moved to the periphery of cities, or out into the suburbs entirely, and while the wealthier individuals were able to follow, this left poorer families in the urban interior with declining work opportunities (Kain, 1992; Joseph, 2006). In his work "The Truly Disadvantaged" (1987) William J. Wilson argues that the absence of these better-off individuals erodes local institutions such as stores, churches, and schools. This dearth of public and private resources, arguably, creates a neighborhood where residents are significantly worse off, which further contributes to unemployment and other social malaise thereby pulling people into a cycle of poverty.

The latter half of this theory – that the neighborhood itself is a contributing factor to poverty, rather than simply being a place where the poor happen to be – is known as "neighborhood effects" (Sanbonmatsu et al, 2012), and whether or not these effects in fact exist is at the center of the housing reform and poverty debate. If these

neighborhoods do in fact contribute to the cycle of poverty then comprehensive measures to aid these neighborhoods might be justified. It is on this premise that the idea of mixed-income housing as a solution to neighborhood effects began. If the problem of poverty is caused, or at least exacerbated, by the social isolation of the poor, then the creation of housing where low-income individuals live alongside those who are better off might help break the cycle of intergenerational poverty (Joseph, 2006).

Multiple underlying propositions are used to support the theory of mixed-income housing's efficacy. One is that social networks operate as a form of social capital, the presence of wealthier individuals alongside the poorest leads to networking between the two classes, thereby giving less well-off individuals access to the information and opportunities richer members of society have (Joseph, 2006). However, the assumption that proximity will result in significant (and positive) interactions between people of differing socio-economic statuses is challenged by studies which detail not only an absence of interaction (Tach, 2009), but at times a fundamental underlying tension between classes in these situations (Chaskin et al., 2012). Another suggestion is that higher-income earners will have a greater effect on social control by contributing to informal rules of social order resulting in greater safety, while a third proposes that higher income individuals will help create a culture which encourages positive values such as higher goal setting or regular employment (Joseph, 2006). Whether this is a real effect or if it merely demonstrates a rather offensive perspective on the "culture of

poverty" is a hotly contested issue.[1] The final supporting theory to be noted here is political economy of place, whereby the greater demand for goods and public services by richer individuals is more likely to be met with success, as they wield both greater economic and political clout (Joseph, 2006). However, while this could positively affect the quality of certain shared public goods such as schools and street safety, it could also lead to situations in which more wealthy community members successfully compete for limited resources which favor their needs and desires (Joseph, et al., 2007).

Numerous studies have delved into the different facets of peer effects, which details how those around you affect your decisions and outcomes, and found effects in certain situations, such as in the case of classmates on academic performance (Burke and Sass, 2013; Gottfried, 2012). However, far fewer have explicitly tied peer effects to the neighborhood level with regards to things such as employment outcomes. Weinberg, Reagan, and Yankow (2004) found some evidence of neighborhood effects, with increases in certain social characteristics leading to small percentage increases in the number of hours worked. The researchers also found that these neighborhood and peer effects had the strongest influence in the "worst" neighborhoods, as well as on those who were less educated or who were Hispanic.

[1] The "culture of poverty" was a term originally coined by Oscar Lewis, but became incredibly controversial following Patrick Moynihan's (Moynihan, 1965) study which claimed that the issues that plagued inner city black families were caused by a "tangle of pathology" stemming from black culture. Often criticized for its lack of consideration of structural inequalities it remains a contentious area of debate between sides which argue that the only reason for the disparity of achievement between whites and blacks is motivation/values and those that see additional factors at play.

The above are some of the reasons why it's been asserted that mixed-income housing projects *should* work, but as has been illustrated, whether these arguments result in real effects is in question. Furthermore, arguments have been put forth as to whether mixed-income housing is an effective use of funds considering the limited amounts of low-income housing, which impoverished individuals far outnumber. A recent study completed by the Joint Center for Housing Studies at Harvard University (2015), found that in 2013 11.2 million extremely low-income renters (earning 30% or below the median within an area) were competing for 7.3 million affordable housing units. In situations where a mixed-income community is replacing low-income housing projects concern over the reduced availability of housing for previous residents is high, as is the case in Chicago (Rhodes, 2016).

As will be discussed in the next section, studies examining mixed-income projects have yielded mixed results. That these projects may not work is important from a policy perspective considering the amount of effort and money involved, as well as the potential to better invest these funds where they will have the greatest impact. From this point on I examine the accomplishments of two crucial mobility programs which focused on moving individuals into areas of lower poverty concentration, and detail the accompanying studies that continue to evolve in their results as time passes.

The Gautreaux Case

One of the earliest studies of the effects of mixed-income housing was in fact not a project at all, but the result of a successful discrimination suit against the city of Chicago by some of its residents. Charging the Chicago Housing Authority and the U.S.

Department of Housing and Urban Development (HUD) with deliberately concentrating low income housing within poor, predominantly black neighborhoods, the Gautreaux plaintiffs successfully won their suit, and were awarded housing vouchers to move to wealthier suburbs with communities that were no more than 30% black (Gill, 2012; Rosenbaum, 1995). Though the legal battle itself began in 1966, the transition of these families to the suburbs of Chicago lasted over twenty years, from 1976 to 1997, with some 7,100 families slowly making the move (Gill, 2012). The effects on the participants of Gautreaux were impressive, with higher employment outcomes (Pokin, et al. 1993) and findings that census tract placement was predictive of future AFDC (Aid to Families with Dependent Children) receipts (Rosenbaum and DeLuca, 2000). The results for participants in Gautreaux would later provide the impetus for further projects such as the Moving to Opportunity for Fair Housing study, where thousands of disadvantaged households were provided with housing vouchers to move to new neighborhoods.

Despite its potentially promising results there are criticisms of Gautreaux. The screening process for the program, in addition to the low number of families that actually managed to move once they had passed all the preliminaries (about 20%), arguably introduces selection bias where families that managed to move could be judged to be “exceptional” rather than the typical (Popkin et al, 2000). Additionally, information on the dropouts from the program is unavailable, and while Rosenbaum (2010) argues that there could be good reasons as well as bad for this, it remains an unresolved issue.

Moving to Opportunity Study

Moving to Opportunity for Fair Housing (MTO) was an experiment performed by HUD from 1994-1998 and carried out by the housing authorities of five separate cities: Baltimore, Boston, Chicago, Los Angeles, and New York City (Sanbonmatsu et al, 2011). Three different groups, all of which elected to participate in a lottery awarding housing vouchers, comprised the study. The first was the experimental group which received mobility counseling and Section 8 housing vouchers, but could only use them to relocate to neighborhoods with a poverty level of less than 10%. The second group also received Section 8 housing vouchers, but no neighborhood restrictions were applied, and no counseling was provided. The final group acted as the control, and as such did not receive housing vouchers. However, members of this group continued to receive the assistance of programs in which they had already been enrolled.

In the initial analysis of MTO certain results were disappointing in contrast to those found in Gautreaux. No increases in educational, employment, or income outcomes were found (Sanbonmatsu et al, 2011; Sanbonmatuse et al, 2012; Katz et al, 2001), indicating a lack of improvement in economic self-sufficiency. However, there were other indicators that showed that there were indeed positive effects on participants in other areas of life. Done two years after the conclusion of MTO, one study found a decline in behavioral problems and injuries in children (Katz et al, 2001). Two other studies done on the long-term effects found increased measurements of feeling safe, and lowered rates of depression, diabetes, and obesity as compared to those in the control group (Sanbonmatsu et al, 2012; Sanbonmatsu et al, 2011). On these findings

alone it could be said that though MTO failed to increase economic self-sufficiency, it was successful in some part by virtue of its positive effects on health.

The above studies do not represent the final word on the MTO debate, as new research has provided other evidence on long term outcomes. One of the most recent studies looked at the long-term impact on children who participated in the MTO study, and found the outcome to be significant and positive, not only in health and well-being, but also in economic measures (Chetty, Hendren, and Katz, 2015). Children who moved before the age of 13 were found to have incomes that were on average 31% higher than their same-aged counterparts of the control group (Chetty, Hendren, and Katz, 2015). Additionally, they were more likely to go to college and more likely to attend a better college. It should be noted, though, that children who were over 13 when the move was made experienced negative effects, which the authors hypothesized to be a combination of less time spent in the improved neighborhood, and also of disruptive effects that occur during a move (Chetty, Hendren, and Katz, 2015).

Another study aims at tackling the issue of selection bias present in MTO. Former studies have compared the control and experimental groups, but it has been reasoned that the members of the control group, who simply failed to be selected for a housing voucher, likely possess characteristics that would contribute to success above the norm in any case. As these individuals are likely to be more motivated and active in their attempts to protect both themselves and their children from the effects of high poverty areas as compared to others, the true difference in outcomes between what could be called the “typical resident” and the experimental group from MTO could be

even larger. Following this logic, the study's initial results show that children who were forced to move to better areas following low-income housing demolition had earnings that were 16% higher than those who stayed, and were 9% more likely to be employed (Chyn, 2016). Though these are only preliminary results the findings are compelling and provide insight into the magnitude of the ill effects of "bad" neighborhoods.

Criticisms on the structure of MTO as a reason for the lack of improvement in adult economic self-sufficiency – especially when compared to Gautreaux – also exist. Clampet-Lundquist and Massey (2008) argued that it was an ineffective measure due to its design and implementation, which failed to control for things such as length of time in the new neighborhoods, and the type of neighborhood moved to beyond that it was low-poverty. Though many of the neighborhoods that MTO participants moved to were initially below 10% poverty, by 2000 the number of impoverished households had risen, on average, by 5.8% to 13.6% (compared to 8.6% for integrated neighborhoods), a likely indicator that these neighborhoods were not as stable or advantageous as had been previously believed (Clampet-Lundquist and Massey, 2008). Participants were not required to stay in their new neighborhood for longer than a year, and many of them cycled back to their old neighborhoods, meaning that the length of exposure to the treatment was short. By comparing these facts with the results of Gautreaux, Clampet-Lundquist and Massey (2008) posit that one of the major reasons MTO failed to increase economic self-sufficiency was its emphasis on placing individuals based on poverty measures rather than the neighborhoods' levels of racial integration (recall that Gautreaux specifically moved families to low-minority neighborhoods). As it has been

noted by Aliprantis and Kolliner (2015) and Clampet-Lundquist and Massey (2008) the participants of MTO by and large moved to predominantly black neighborhoods this is an important distinction – it's quite possible that the new neighborhoods which these participants moved to lacked in a variety of important public goods that impacted success including, but not limited to, schooling (Aliprantis and Kolliner, 2015).

Aliprantis and Kolliner (2015) also analyzed whether the control group's move to a lower poverty neighborhood coincided with an improvement in neighborhood quality. While the neighborhoods that participants moved to had lower levels of poverty many were found to be racially segregated (majority black neighborhoods in this context) and had lower levels of employment, income, and education than integrated neighborhoods (Clampet-Lundquist and Massey, 2008). Specifically in the case of educational attainment it was found that in many cases black low-poverty neighborhoods were comparable to white high-poverty neighborhoods (Aliprantis and Kolliner, 2015). With these measurements of lower attainment documented they argued that throughout the MTO study low rates of neighborhood poverty had been incorrectly assumed to be substitutable for quality.

HOPE VI

Though Gautreaux and MTO represent comprehensive studies of mixed-income housing and the presence of neighborhood effects, they are not the only mixed-income housing projects that have been implemented. For example, the ultimate goal of the HOPE VI HUD program, launched in 1992, is to transform public housing using a variety of different tactics, including replacing severely distressed low-income housing projects

with mixed-income housing. HUD began granting awards to different housing authorities, with over $6 billion in grants awarded to hundreds of different projects throughout the country (“About HOPE VI”). While there are different segments within the HOPE VI funding, we focus on the “Revitalization Grants” which can be used to rehabilitate and fix older housing, demolish and create new mixed-income housing in its place, acquire sites for future construction, or provide supportive services for residents (“About HOPE VI”). However, as with the MTO study, there is ongoing debate as to whether these projects have reduced the poverty rate (Darcy, 2010; Fraser, Chaskin, and Bazuin, 2013). As one group of researchers note, part of the issue at hand is an overall lack of clarity regarding specifics. That is, the vast scope of the HOPE VI projects necessitate allowing the individual housing authorities an enormous amount of decision making and implementation power, resulting at times in sub-par attempts and outcomes (Popkin, et al, 2004). With a lack of clear guidelines and definitions as to what mixed-income housing should entail (Levy, McDade, and Dumlao, 2010), the results are inconsistent spanning a variety of different philosophies and approaches.

Others fault not just the administration of the HOPE VI program, and other projects similar to it, but the approach itself. Fraser and Kick (2007) propose that these programs are flawed from the start due to their emphasis on place-based results, rather than people-based benefits, and that by focusing only on the housing, numerous obstacles that contribute to circumstances of poverty are being overlooked. They also mention the competing goals of different members and organizations that participate in these efforts, which can result in an inability to function together, and poor

communication. Joseph (2006) also touches on this topic, as he posits that perhaps the reason that many of these neighborhoods have failed to help individuals living in poverty is that they neglected to provide crucial supportive services, instead expecting simple proximity to higher income demographics and the goods and services they would generate, to be enough.

In sum, the challenges to success for mixed-income projects are many, but as the Gautreaux and Moving to Opportunity studies show, it has not been without gains. Nonetheless, these issues are important to keep in mind in the future construction of poverty alleviating measures.

Research Question

While health benefits from initiatives involving reducing poverty concentration appear to be significant, the ambiguity of outcomes on adult economic self-sufficiency raises questions as to whether these initiatives are an effective method to reduce poverty. With significant government funding being allocated to the creation of mixed-income communities it is imperative to ask whether the goals of poverty alleviation are being fulfilled. This research study asks the following: Do HOPE VI grants alter the economic outcomes of the communities that receive them, and do the effects vary the greater the poverty rate in 2005, the year in which this study begins?

Data

Because the research question focuses on mixed-income communities, a selection of these neighborhoods is necessary. Sample areas were drawn from HUD's list of communities that have received money for such projects from the time period 2005-2013 ("HOPE VI Revitalization Grants"). Table 1 provides a list of the municipalities included in my study.

Table 1: HOPE VI Grants

Development	State, City	Year Awarded	Housing Authority	Amount Awarded	Metarea Code
South Lincoln	**Colorado, Denver**	**2010**	**HA of the City and County of Denver**	**22,000,000**	**2,083**
Michigan Court and Flossie Riley	**Florida, Fort Myers**	**2005**	**HA of the City of Fort Myers**	**20,000,000**	**2,700**
Bluegrass/Aspendale	**Kentucky, Lexington**	**2005**	**Lexington-Fayette Urban County HA**	**20,000,000**	**4,280**
Sheppard Square	**Kentucky, Louisville**	**2005**	**Housing Authority of Louisville**	**22,000,000**	**4,520**
Arthur A. Blumeyer	**Missouri, St. Louis**	**2010**	**St. Louis Housing Authority**	**7,829,750**	**7,040**
Boulevard Homes	**North Carolina, Charlotte**	**2009**	**HA of the City of Charlotte**	**20,900,000**	**1,521**
Delona Gardens and Campbell Terrace	**North Carolina, Fayetville**	**2007**	**Fayetteville Metropolitan HA**	**20,000,000**	**2,560**

Edgewood Homes	**Ohio, Akron**	**2005**	**Akron Metropolitan Housing Authority**	**19,250,000**	**80**
Riverview	**Tennessee, Kingsport**	**2006**	**Kingsport Housing and Redevelopment Authority**	**11,900,000**	**3,662**
Magnolia Gardens	**Texas, Beaumont**	**2006**	**HA of the City of Beaumont**	**20,000,000**	**841**
Westpark	**Washington, Bremerton**	**2008**	**HA of the City of Bremerton**	**20,000,000**	**1,150**
Sheridan Terrace	**Washington D.C.**	**2007**	**District of Columbia HA**	**20,000,000**	**8,840**

For the 2005 to 2013 time period, I limit my study to areas where a HOPE VI grant was awarded and the area in the Current Population Survey (CPS) was identified (King, et al., 2010). Communities receiving a HOPE VI grant ("Development" column in Table 1) were linked to a municipality observable in the CPS ("Metarea" column in Table 1) resulting in 12 municipalities that were included in the analysis. The CPS contains key socio-demographic that permit an in-depth look at the composition of different metropolitan areas. Specifically, unemployment, household income, public assistance, Medicaid use, poverty levels, migration, and high school dropout rates were used to determine the relationship between mixed income communities and the economic self-sufficiency of the impoverished. Data was limited to household heads, and the information contained in this paper reflects their characteristics.

In order to create the variables describing the characteristics of the individual municipalities for Y_{mt} (see Table 2) the CPS data obtained using the IPUMS database

(King, et al., 2010) was transformed into the variables used in this study. Certain observations within the sample were dropped due to incompatibility with the research question's needs, such as secondary members within the household (household heads only were used). The original variables empstat (employment status), hhincome (household income), incwelfr (welfare income), himcaid (Medicaid use), offpov (poverty line), migrate1 (migration, whether someone changed residences in the past year), and educ99 (educational attainment) were changed to create binary variables as listed in Table 2 and described below.

Table 2: CPS Variables

Variable from IPUMS		Variable Created
Name	Description	Name
EMPSTAT	Part of labor force and employed	employed
HHINCOME	Total household income	hhincome *kept as same*
INCWELFR	Pretax welfare income	publicassist
HIMCAID	Whether person was covered by Medicaid in previous year	medicaid
OFFPOV	Labels as those below poverty line, above, and those "not in universe".	povertyline
MIGRATE1	Whether person has changed residences within past year.	migrate
EDUC99	Indicates the highest level of educational attainment.	dropout

For each new binary variable the original variables were taken and simplified to a yes or no question, with a value of 0 for no, and 1 for yes. For example the original

variable of empstat (for employment status) listed multiple answers beyond a simple “yes” or “no” for employment with answers such as “unemployed, experienced worker” and “unemployed, new worker”. The single exception to the creation of these dummy variables is household income (hhincome) which remains a quantitative value, giving income rather than being an indicator variable. When individuals had missing information the observation was dropped from the sample. Each observation was then sorted by metropolitan area and year and then collapsed to an individual entry within the data set. This resulted in a new data set containing the means of each of these variables within their year and metropolitan area. For the binary variables, each variable in the collapsed data set represents the percentage of household heads in a metro area in each year with a value of 1. For household income, it is the average household income in each metro area in each year.

Next, since the year of the award date is needed, a separate data set was created from Table 1, which lists the municipalities, their metropolitan area code, and the award date. The CPS data set and the grant data set were then merged by met area.

The last step before performing the analysis was the creation of the HOPE and intxn variables. The HOPE variable is equal to zero for every year before and one for every year after the HOPE VI grant is awarded. The HOPE variable has a value of 0 for the year when the award is given. While this results in a timing mismatch of some months from when the project grant was received and when the HOPE variable registers in the affirmative as a value of 1 it is hypothesized that the grant money takes

time to take effect, and as a result in this study is compensated for with the time lag. The intxn variable which was created for use in Model 3, is an interaction effect between high poverty areas and the HOPE variable to determine whether differing levels of initial poverty change the effects of the HOPE grant.

Summary statistics of the variables' averages over the metropolitan areas are contained in Table 3. From this table we can see that the communities that receive HOPE VI grants are varied, with some having relatively high poverty rates (31.25%) and low employment rates (34.29%) others quite the opposite.

Table 3: Summary Statistics

	Mean	St. Dev.	Min.	Max.
HHIncome	67364.42	13545.33	42863.44	107377.3
Employed	.6376963	.0805404	.3428572	.7773678
Public Assist	.012573	.0216828	0	.1764706
Medicaid	.0841437	.0511592	0	.3529412
Povertyline	.1312597	.0471204	.0217391	.3125
Migrate	.130694	.0462026	.0333333	.2542373
Dropout	.120422	.0558129	.0208333	.3714286
HOPE	.6759259	.4702098	0	1
intxn	.2037037	.4046288	0	1
year	2009	2.594026	2005	2013
N	108			

Models

Model 1

The effect of HOPE VI grants on municipal outcomes is examined using three models. The baseline model is represented by equation (1), and is given by:

$$Y_{mt} = \gamma_0 + \gamma_1 HOPE_{mt} + \varepsilon_{mt} \quad (1)$$

As the focus of this project is on economic self-sufficiency, the dependent variables, Y_{mt}, are municipal averages of the household head's current employment status, average household income, rate of public assistance use, rate of Medicaid use, percentage below the poverty line, average migration rate[2], and high school dropout rates in municipality *m* in year *t*. $HOPE_{mt}$ is an indicator equal to one if municipality *m* received a HOPE VI grant in the year before year *t*, and remains equal to one in for all years past that point. That is, the HOPE variable has a value of 1 when the current year is after the year awarded date. With this regression, the coefficient estimate,of γ_1 provides a test of the relationship between the grant and these other outcomes without controlling for any other factors.

[2] The migration rate of individuals of who moved within the state, but to a different county, is used to gauge whether being awarded a HOPE VI grant leads to an increase in migration out of the municipality due to any potential effects of reduced housing availability.

Model 2

In order to control for other factors in a straightforward way, I add municipality and time fixed effects as shown in equation (2).

$$Y_{mt} = \gamma_0 + \gamma_1 HOPE_{mt} + M_m + T_t + \varepsilon_{mt} \qquad (2)$$

M_m and T_t are for municipal and time fixed effects which will control for natural variation between cities and years which could lead to observed differences in the effects of the HOPE grant when it is not the true cause. The coefficient of interest is γ_1, which measures whether the outcome variables (Y_{mt}) changed after the grants were introduced. ε_{mt} is an error term.

Model 3

Next, I examined whether HOPE VI grants alter the average characteristics of municipalities differentially depending on the poverty rate in the municipality before the grant is administered. This model is presented in equation (3).

$$Y_{mt} = \beta_0 + \beta_1 HOPE_{mt} + \beta_2 Poverty_m * HOPE_{mt} + M_m + T_t + \varepsilon_{mt} \qquad (3)$$

The $HOPE_{mt}$ indicator and Y_{mt} are measured as in equation (1). The variable $Poverty_m$ is a measure of the percentage of individuals below the poverty line in 2005, a period of time before the HOPE VI grant is made. The coefficient of interest is β_2, which measures whether the outcome variables (Y_{mt}) changed differentially by poverty status after the grants were introduced. As in equation (2) M_m and T_t are municipal and time fixed effects and ε_{mt} is the error term.

For this model the creation of an interaction effect between the $Poverty_m$ and $HOPE_{mt}$ was necessary, predicated by producing the $Poverty_m$ variable itself. In order to do this I define high poverty as metropolitan areas that were below the 25th percentile of the povertyline measure in the year 2005. Using the $Poverty_m$ and the $HOPE_{mt}$ variables, the interaction variable, labeled intxn, was created.

Results

The results of the different regressions are summarized in the tables below. For Model 1 (results seen in Table 4), which regressed each of the seven dependent variables (Table 2) against the HOPE variable, the HOPE variable is statistically significant for employment, Medicaid use, and the poverty rate. The signs for these variables shows that after the application of a HOPE grant there are lower levels of employment, higher levels of Medicaid use, and residents are more likely to be above the poverty line. The results of lower levels of employment, but reduced poverty rate are contradictory and the most likely explanation for this discrepancy is the simplicity of Model 1, which compares the average outcomes of the metropolitan areas before and after the grant was given. Failing to control for time and area fixed effects means that the individual characteristics of the areas are not taken into account, and natural changes over time in these variables are not accounted for.

Table 4: Model 1 Regression

	HHIncome	**Employed**	**PublicAssist**	**Medicaid**	**PovertyLine**	**Migrate**	**Dropout**
HOPE	-1571.00	-0.06***	0.00	0.02*	0.04***	0.00	-0.00
	(2793.819)	(0.016)	(0.004)	(0.010)	(0.009)	(0.010)	(0.012)
Constant	68426.31***	0.68***	0.01**	0.07***	0.11***	0.13***	0.12***
	(2296.930)	(0.013)	(0.004)	(0.009)	(0.007)	(0.008)	(0.009)
Observations	108	108	108	108	108	108	108
Adjusted R^2	-0.01	0.10	-0.00	0.03	0.13	-0.01	-0.01

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

For Models 2 and 3, time and area fixed effects are used in the regressions to control for changes within a year that are common across all metro areas, and the individual characteristics of metropolitan areas that are fixed over the sample period. The omitted group is the area of Akron, Ohio and the year 2005.[3] In Model 2 (results in Table 5), the coefficient estimates for the HOPE variable are no longer statistically significant, though the magnitude of the estimates for employed, Medicaid, and poverty line are similarly signed as in Model 1. That the statistical significance disappears once one controls for fixed effects suggests that the HOPE VI grants are unlikely to be underlying the observed changes in these average outcomes.

Table 5: Model 2 Regression

	HHIncome	Employed	PublicAssist	Medicaid	PovertyLine	Migrate	Dropout
HOPE	283.71	-0.01	-0.00	0.02	0.01	-0.01	0.00
	(2535.257)	(0.017)	(0.007)	(0.013)	(0.013)	(0.014)	(0.014)
Year 2005	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(.)	(.)	(.)	(.)	(.)	(.)	(.)
Year 2006	6323.81*	0.02	0.00	-0.01	-0.01	0.01	-0.00
	(2994.461)	(0.020)	(0.009)	(0.016)	(0.016)	(0.017)	(0.017)
Year 2007	7041.19*	0.00	0.00	-0.01	-0.01	0.01	-0.00
	(3139.986)	(0.021)	(0.009)	(0.016)	(0.017)	(0.018)	(0.018)
Year 2008	5785.63	-0.01	0.00	-0.01	0.02	0.02	-0.02
	(3333.063)	(0.023)	(0.010)	(0.017)	(0.018)	(0.019)	(0.019)
Year 2009	6515.41	-0.02	0.00	0.01	0.01	-0.00	-0.02
	(3445.013)	(0.023)	(0.010)	(0.018)	(0.018)	(0.020)	(0.019)
Year 2010	9885.15**	-0.01	0.00	-0.01	-0.00	-0.00	-0.01
	(3565.977)	(0.024)	(0.010)	(0.019)	(0.019)	(0.020)	(0.020)
Year 2011	8412.47*	-0.03	0.01	-0.01	0.02	0.00	-0.02

[3] This is why coefficient estimates and standard errors for Akron, OH and the year 2005 are reported as zeros in Tables 5 and 6.

	(3831.470)	(0.026)	(0.011)	(0.020)	(0.020)	(0.022)	(0.022)
Year 2012	11248.81**	-0.03	0.00	0.00	0.05*	0.04	-0.03
	(3831.470)	(0.026)	(0.011)	(0.020)	(0.020)	(0.022)	(0.022)
Year 2013	11398.45**	-0.03	-0.00	-0.01	0.03	0.01	-0.02
	(3831.470)	(0.026)	(0.011)	(0.020)	(0.020)	(0.022)	(0.022)
Akron, Ohio	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(.)	(.)	(.)	(.)	(.)	(.)	(.)
Beaumont, Texas	-6593.92	-0.07**	-0.02	0.00	0.03	0.07***	0.08***
	(3329.093)	(0.023)	(0.010)	(0.017)	(0.018)	(0.019)	(0.019)
Bremerton, Washington	16954.50***	-0.01	-0.02*	-0.05**	-0.05**	0.02	-0.03
	(3423.109)	(0.023)	(0.010)	(0.018)	(0.018)	(0.019)	(0.019)
Charlotte, North Carolina	7266.65*	0.05*	-0.02*	-0.01	-0.01	0.06**	0.06**
	(3503.304)	(0.024)	(0.010)	(0.018)	(0.018)	(0.020)	(0.020)
Denver, Colorado	19208.76***	0.08**	-0.02	-0.02	-0.02	0.05*	0.02
	(3603.791)	(0.024)	(0.010)	(0.019)	(0.019)	(0.021)	(0.020)
Fayetville, North Carolina	-695.10	0.00	-0.02*	-0.01	0.00	0.07***	0.02
	(3364.657)	(0.023)	(0.010)	(0.018)	(0.018)	(0.019)	(0.019)
Fort Myers, Florida	-6259.69	-0.03	-0.02	-0.03	-0.01	0.04*	0.06**
	(3317.153)	(0.022)	(0.010)	(0.017)	(0.017)	(0.019)	(0.019)
Kingsport, Tennessee	-9928.68**	-0.16***	0.02	0.10***	0.05**	0.05**	0.14***
	(3329.093)	(0.023)	(0.010)	(0.017)	(0.018)	(0.019)	(0.019)
Lexington, Kentucky	-565.02	0.06*	-0.02	-0.03*	-0.01	0.09***	0.03
	(3317.153)	(0.022)	(0.010)	(0.017)	(0.017)	(0.019)	(0.019)
Louisville, Kentucky	-2161.92	-0.01	-0.01	-0.01	0.01	0.04*	0.05*
	(3317.153)	(0.022)	(0.010)	(0.017)	(0.017)	(0.019)	(0.019)
St. Louis, Missouri	6523.80	0.02	-0.02	-0.01	-0.02	0.02	0.02
	(3603.791)	(0.024)	(0.010)	(0.019)	(0.019)	(0.021)	(0.020)

Washington D.C.	29556.57***	0.06*	-0.01	0.01	-0.02	0.01	0.03
	(3364.657)	(0.023)	(0.010)	(0.018)	(0.018)	(0.019)	(0.019)
Constant	55329.28***	0.66***	0.02**	0.08***	0.12***	0.08***	0.09***
	(3075.890)	(0.021)	(0.009)	(0.016)	(0.016)	(0.017)	(0.017)
Observations	108	108	108	108	108	108	108
Adjusted R^2	0.73	0.65	0.12	0.48	0.38	0.25	0.50

Standard errors in parentheses
* p < 0.05, ** p < 0.01, *** p < 0.001

Model 3 expands on the framework of Model 2 by incorporating an interaction effect which tests whether the HOPE VI grant has a different effect when the initial levels of poverty in an area are greater. The results can be seen in Table 6, and as with Model 2, the main effect of HOPE is not found to be statistically significant for any of the dependent variables. While not statistically significant, the main effect estimates for Medicaid and Poverty Line are almost identical to those for Model 2. In contrast, the interaction effect is statistically significant for employment and the poverty line. These estimates suggest that higher poverty areas experience declines in employment and in the poverty rate after the administration of the HOPE grant relative to less poverty dense areas prior to the grant. These two estimates appear at odds, a finding which I discuss further in the next section.

Table 6: Model 3 Regression

	HHIncome	**Employed**	**PublicAssist**	**Medicaid**	**PovertyLine**	**Migrate**	**Dropout**
HOPE	46.71	0.00	-0.00	0.02	0.02	-0.01	-0.00
	(2633.258)	(0.017)	(0.008)	(0.014)	(0.013)	(0.015)	(0.015)
intxn	1482.54	-0.07**	-0.02	-0.03	-0.05*	0.04	0.01

	(4156.061)	(0.027)	(0.012)	(0.021)	(0.021)	(0.023)	(0.023)
Year 2005	0.00 (.)	0.00 (.)	0.00 (.)	0.00 (.)	0.00 (.)	0.00 (.)	0.00 (.)
Year 2006	6155.72* (3046.262)	0.03 (0.020)	0.01 (0.009)	-0.01 (0.016)	-0.00 (0.015)	0.01 (0.017)	-0.00 (0.017)
Year 2007	6912.59* (3176.378)	0.01 (0.021)	0.00 (0.009)	-0.01 (0.016)	-0.01 (0.016)	0.01 (0.018)	-0.00 (0.018)
Year 2008	5572.99 (3402.531)	0.00 (0.022)	0.00 (0.010)	-0.01 (0.018)	0.03 (0.017)	0.01 (0.019)	-0.02 (0.019)
Year 2009	6322.52 (3504.394)	-0.01 (0.023)	0.01 (0.010)	0.01 (0.018)	0.02 (0.018)	-0.01 (0.020)	-0.02 (0.020)
Year 2010	9712.01** (3616.716)	-0.00 (0.024)	0.00 (0.010)	-0.01 (0.019)	0.00 (0.018)	-0.01 (0.020)	-0.01 (0.020)
Year 2011	8278.83* (3869.015)	-0.02 (0.025)	0.02 (0.011)	-0.01 (0.020)	0.02 (0.020)	0.00 (0.022)	-0.02 (0.022)
Year 2012	11115.17** (3869.015)	-0.03 (0.025)	0.00 (0.011)	0.01 (0.020)	0.05* (0.020)	0.04 (0.022)	-0.03 (0.022)
Year 2013	11264.81** (3869.015)	-0.02 (0.025)	-0.00 (0.011)	-0.00 (0.020)	0.03 (0.020)	0.01 (0.022)	-0.02 (0.022)
Akron, Ohio	0.00 (.)	0.00 (.)	0.00 (.)	0.00 (.)	0.00 (.)	0.00 (.)	0.00 (.)
Beaumont, Texas	-5302.44 (4929.795)	-0.13*** (0.032)	-0.03* (0.014)	-0.02 (0.025)	-0.02 (0.025)	0.11*** (0.028)	0.09** (0.028)
Bremerton, Washington	18193.32*** (4888.444)	-0.07* (0.032)	-0.04** (0.014)	-0.07** (0.025)	-0.10*** (0.025)	0.06* (0.027)	-0.02 (0.027)
Charlotte, North Carolina	8479.13 (4893.947)	-0.01 (0.032)	-0.04* (0.014)	-0.03 (0.025)	-0.05* (0.025)	0.09*** (0.027)	0.07* (0.027)
Denver, Colorado	20394.91*** (4916.884)	0.02 (0.032)	-0.03* (0.014)	-0.05 (0.025)	-0.06* (0.025)	0.09** (0.027)	0.04 (0.028)
Fayetville, North	-418.31	-0.01	-0.02*	-0.02	-0.01	0.07***	0.02

Carolina	(3469.539)	(0.023)	(0.010)	(0.018)	(0.018)	(0.019)	(0.019)
Fort Myers, Florida	-4941.88	-0.10**	-0.03*	-0.06*	-0.06*	0.08**	0.07*
	(4976.212)	(0.032)	(0.014)	(0.026)	(0.025)	(0.028)	(0.028)
Kingsport, Tennessee	-8637.20	-0.23***	0.00	0.08**	0.01	0.09**	0.15***
	(4929.795)	(0.032)	(0.014)	(0.025)	(0.025)	(0.028)	(0.028)
Lexington, Kentucky	752.79	-0.01	-0.03*	-0.06*	-0.06*	0.13***	0.04
	(4976.212)	(0.032)	(0.014)	(0.026)	(0.025)	(0.028)	(0.028)
Louisville, Kentucky	-2161.92	-0.01	-0.01	-0.01	0.01	0.04*	0.05*
	(3333.918)	(0.022)	(0.010)	(0.017)	(0.017)	(0.019)	(0.019)
St. Louis, Missouri	7709.95	-0.04	-0.03*	-0.03	-0.06*	0.05	0.03
	(4916.884)	(0.032)	(0.014)	(0.025)	(0.025)	(0.027)	(0.028)
Washington D.C.	30821.72***	-0.00	-0.02	-0.01	-0.06*	0.05	0.04
	(4900.436)	(0.032)	(0.014)	(0.025)	(0.025)	(0.027)	(0.028)
Constant	54363.94***	0.71***	0.04**	0.10***	0.15***	0.05*	0.08***
	(4108.577)	(0.027)	(0.012)	(0.021)	(0.021)	(0.023)	(0.023)
Observations	108	108	108	108	108	108	108
Adjusted R^2	0.73	0.67	0.13	0.49	0.42	0.27	0.49

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Discussion

The regression results suggest that overall the HOPE VI grant money does not appear to have much of a relationship to the economic outcomes selected for this study. Though Model 1 found statistically significant effects, these results did not hold true when the area and time fixed effects were accounted for in Model 2. Therefore, in the context of this study, the fixed factors that are particular to a certain area or year appear to be more important in influencing economic outcomes than the HOPE VI grant money. In Model 3 the results of the interaction effects seemingly contradict each other, indicating that in areas of higher poverty the HOPE grant causes declines in employment and in the poverty line. .

Limitations

The ambiguous conclusions drawn from this study are likely due to substantial limitations, primarily stemming from a lack of data at precise geographical areas. Ideally the dependent variables would have been isolated to smaller areas, perhaps within census tracts, in order to more accurately identify the exact communities that received grants. However, the smallest area available in the public use CPS data is a metropolitan area. This means that the effects of the grant money, which was given to far smaller communities within these areas, is assumed to have a strong enough effect on the metropolitan area as to influence its average economic outcomes. In reality, considering the size of these areas and the amount of grant money, this seems highly improbable.

The sample size itself is an additional issue. Constraints on what data was available where and when in the CPS resulted in a selection of only 12 municipalities. In the future by examining some of the other 200 communities which have received this grant the results would have improved accuracy.

Time is an additional factor to be considered when attempting to observe the effects of the HOPE VI grant money. While a small time lag amounting to less than a year was instituted in the calculation of the HOPE variable (HOPE had a value of 1 if it was the year *after* the grant award date) it is possible that further time would be necessary for the effects of the grant money to manifest, whether from actually putting the funding to use in the form of development and construction, or for the surrounding environment to have an effect on the inhabitants. Even for the earliest periods used in this study short-term outcomes are the only observable results. Additionally, as was seen in numerous MTO studies the strongest effects on economic indicators were for the children who participated in the study – if this holds true in future cases change is more likely to be seen in the long-run, and an examination of short-term effects may lead one to falsely conclude that there is no effect. Taken together, these limitations suggest that given a smaller observed area and a more flexible measure of the HOPE grant to allow for lagged effects we may have had different results.

Conclusion

Ultimately, this study found ambiguous economic effects of the HOPE grant money on the selected dependent economic outcomes. It is worthwhile at this point in time to consider what this ultimately means for mixed-income communities. Though this study is far from conclusive it suggests that we may be able to learn more from a more appropriate analysis, using data at a more narrowly defined geographic area. At the same time it does not refute the findings of analysis of other housing related experiments such as Moving to Opportunity, which have shown that the health outcomes, both physical and mental, were improved when participants were moved to lower poverty areas. Consequently, even if the current analysis failed to find strong evidence that mixed-income communities improves average economic measures of a municipality, it could provide a basic framework for future analysis.

In future studies, taking into account the limitations of using public use CPS data, accessing restricted use data through one of the Federal Statistical Research Data Centers (RDCs) would prove valuable in improving accuracy and validity of the model. Before decisions can be made regarding the future of these programs additional research needs to be completed.

References

About HOPE VI. (n.d.). Retrieved October 12, 2015, from http://portal.hud.gov/hudportal/HUD?src=/program_offices/public_indian_housing/programs/ph/hope6/about.

Aliprantis, D., & Kolliner, D. (2015, April 16). Neighborhood Poverty and Quality in the Moving to Opportunity Experiment. Retrieved October 3, 2015.

Burke, M. A., & Sass, T. R. (2013). Classroom Peer Effects and Student Achievement. Journal of Labor Economics, (1). 51. doi: 10.1086/666653.

Chaskin, R., Khare, A., & Joseph, M. (2012). Participation, Deliberation, and Decision Making: The Dynamics of Inclusion and Exclusion in Mixed Income Developments. Urban Affairs Review, 48(6), 863-906. Retrieved March 30, 2016.

Chetty, R., Hendren, N., & Katz, L. F. (2015). The Effects of Exposure to Better Neighborhoods on Children. [electronic resource]: New Evidence from the Moving to Opportunity Experiment. Cambridge, Mass. : National Bureau of Economic Research, 2015.

Chyn, E. (2016). Moved to Opportunity: The Long-Run Effect of Public Housing Demolition on Labor Market Outcomes of Children. Mimeo. . Retrieved March 28, 2016.

Clampet-Lundquist, S., & Massey, D. S. (2008). Neighborhood effects on economic self-sufficiency: a reconsideration of the moving to opportunity experiment. The American Journal Of Sociology, (1), 107.

Darcy, M. (2010). De-concentration of Disadvantage and Mixed Income Housing: A Critical Discourse Approach. Housing, Theory, and Society,27(1), 1-22. doi: 10.1080/14036090902767516

DeNavas-Walt, C., & Proctor, B. (2015, September 1). Income and Poverty in the United States: 2014. Retrieved October 9, 2015.

Fraser, J., Chaskin, R., & Bazuin, J. (2013). Making Mixed-Income Neighborhoods Work for Low-Income Households. Cityscape: A Journal of Policy Development and Research, 15(2), 83-100.

Fraser, J. C., & Kick, E. L. (2007). The Role of Public, Private, Non-profit and Community Sectors in Shaping Mixed-income Housing Outcomes in the US. Urban Studies (Routledge), 44(12), 2357-2377. doi: 10.1080/00420980701540952

Gill, A. (2012). Moving to Integration? The Origins of Chicago's Gautreaux Program and the Limits of Voucher-Based Housing Mobility. Journal of Urban History, 38(4), 662-686. doi: 10.1177/0096144211428771

Gottfried, M. (2012). Peer Effects in Urban Schools: Assessing the Impact of Classroom Composition on Student Achievement. Educational Policy,28 (5), 607-647. doi: 10.1177/0895904812467082

HOPE VI Revitalization Grants. (2011, June 1). Retrieved October 31, 2015, from http://portal.hud.gov/hudportal/documents/huddoc?id=DOC_10014.pdf

Inequality Organizations, Think Tanks, and Academic Centers (n.d.). Retrieved October 12, 2015, from http://inequality.org/organizations/.

Joseph, M. (2006). Is mixed-income development an antidote to urban poverty? Housing Policy Debate, 17(2), 209-234. doi:10.1080/10511482.2006.9521567

Joseph, M., Chaskin, R., & Webber, H. (2007). The Theoretical Basis for Addressing Poverty Through Mixed-Income Development. Urban Affairs Review,42 (3), 369-409. Retrieved March 30, 2016.

Kain, J. F. (1992). The Spatial Mismatch Hypothesis: Three Decades Later. Housing Policy Debate, 3(2), 371-460.

Katz, L. F., Kling, J. R., & Liebman, J. B. (2001). Moving to Opportunity in Boston: Early Results of a Randomized Mobility Experiment. The Quarterly Journal of Economics, (2). 607

Kneebone, E. (2014, July 31). The Growth and Spread of Concentrated Poverty, 2000 to 2008-2012. Retrieved October 10, 2015.

Levy, D., McDade, Z., & Dumlao, K. (2010, November 1). Effects from Living in Mixed-Income Communities for Low-Income Families. Retrieved October 12, 2015.

King, Miriam , Steven Ruggles, J. Trent Alexander, Sarah Flood, Katie Genadek, Matthew B. Schroeder, Brandon Trampe, and Rebecca Vick. Integrated Public Use Microdata Series, Current Population Survey: Version 3.0. [Machine-readable database]. Minneapolis: University of Minnesota, 2010

Moynihan, Daniel Patrick. 1965. *The Negro Family: The Case for National Action*. Washington, DC: Office of Policy Planning and Research, U.S. Department of Labor.

Popkin, S., Buron, L., Levy, D., & Cunningham, M. (2010). The Gautreaux Legacy: What Might Mixed-Income and Dispersal Strategies Mean for the Poorest Public Housing Tenants? Housing Policy Debate, 11(4), 911-942. doi:10.1080/10511482.2000.9521392

Popkin, S., Katz, B., Cunningham, M., Brown, K., Gustafson, J., & Turner, M. (2004, May 1). A Decade of HOPE VI: Research Findings and Policy Challenges. Retrieved October 12, 2015.

Popkin, S.J., J.E. Rosenbaum, P.M. Meaden. (1993). Labor market experiences of low-income Black women in middle-class suburbs: evidence from a survey of Gautreaux program participants. Journal of Policy Analysis and Management, 12 (3), pp. 556–573

Rhodes, D. (2016, March 21). Group protests number of low-income units in planned Lathrop redevelopment. Chicago Tribune. Retrieved March 30, 2016, from http://www.chicagotribune.com/news/local/breaking/ct-lathrop-homes-palm-sunday-met-20160320-story.html

Rivers, W. (2015). Going, Going, Gone: DC's Vanishing Affordable Housing. DC Fiscal Policy Institute. Retrieved March 20, 2016.

Rosenbaum, James E. (1995) Changing the geography of opportunity by expanding residential choice: Lessons from the Gautreaux program, Housing Policy Debate, 6:1, 231-269, DOI: 10.1080/10511482.1995.9521186

Rosenbaum James E., S. DeLuca. (2000).Is Housing Mobility the Key to Welfare Reform? Lessons from Chicago's Gautreaux Program Brookings Institution Center on Urban and Metropolitan Policy Survey Series, Washington, DC. Retrieved October 11, 2015.

Rosenbaum, James E., & Zuberi, A. (2010). Comparing residential mobility programs: design elements, neighborhood placements, and outcomes in MTO and Gautreaux. Housing Policy Debate, 20(1), 27-41.

Sanbonmatsu, L., Ludwig, J., Katz, L., Gennetian, L., Duncan, G., Kessler, R., . . . Lindau, S. (2011, November 1). Moving to Opportunity for Fair Housing Demonstration Program Final Impacts Evaluation. Retrieved October 11, 2015.

Sanbonmatsu, L., Potter, N., Adam, E., Duncan, G., Katz, L., Kessler, R., . . . McDade, T. (2012). The Long-Term Effects of Moving to Opportunity on Adult Health and

Economic Self-Sufficiency. Cityscape: A Journal of Policy Development and Research, 14(2), 109-136.

Tach, L. (2009). More than Bricks and Mortar: Neighborhood Frames, Social Processes, and the Mixed-Income Redevelopment of a Public Housing Project. City and Community, 8(3), 269-299. Retrieved March 30, 2016.

The State of the Nation's Housing 2015 (Rep.). (2015). Retrieved March 30, 2016, from Joint Center for Housing Studies of Harvard University website: http://www.jchs.harvard.edu/sites/jchs.harvard.edu/files/jchs-sonhr-2015-full.pdf

Weinberg, B., Reagan, P., & Yankow, J. (2004). Do Neighborhoods Affect Hours Worked? Evidence from Longitudinal Data. Journal of Labor Economics, 22(4), 891-924.

Wilson, W. (1987). The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy. The University of Chicago Press.