

**THE LIMITS OF THE DECONCENTRATION OF POVERTY:
THE SPATIAL CONTEXT OF THE POOR**

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ABSTRACT

After decades of striking increases in poverty segregation, far fewer poor families were isolated in high-poverty neighborhoods in 2000 after what many argue was a significant deconcentration of poverty in the 1990s. Yet while the deconcentration thesis has been widely accepted, it has been subjected to relatively little empirical analysis and conflicting evidence has not been reconciled. I use US Census summary data for 1980-2000 to undertake a detailed evaluation of the deconcentration of poverty using multiple segregation measures, including indices that include more *spatial* detail, and examining the *comparative* context of trends in other forms of segregation. I find that while poverty segregation became less severe in important respects, there were also limits to the deconcentration of poverty. In fact, when the full spatial and relational context of the poor is taken into account, along some dimensions the poor became more segregated at the end of the twentieth century.

The geographic concentration of poverty is a key feature of the US stratification system, generated by economic and racial inequality and contributing to further disparities in resources linked to neighborhoods. In the 1970s and 1980s, a striking increase in the residential segregation of the poor in central cities drew intense scholarly attention and a still-growing body of work that demonstrates that rising income inequality, economic restructuring, and entrenched racial segregation conspired to isolate the most disadvantaged in those decades (Wilson 1987; Massey and Eggers 1993). Evidence for the 1990s has indicated the emergence of a very different trend, however, with a significant decline in concentrated poverty and the spread of poor populations to suburban areas (Jargowsky 2003; Madden 2003). This “deconcentration of poverty,” as it has been called, has been linked to the economic boom of the 1990s and government programs to dismantle public housing projects in favor of voucher and market provision of housing assistance, as well as revitalization and gentrification in many city centers (Goetz 2003; Berube and Frey 2002). The shift in the spatial configuration of poverty is significant for debates about the proper way to characterize the evolving metropolitan form of US urban regions, supporting those who argue that classic views like the concentric zone model hold even less than they once did (Dear 2002; Bruegmann 2006).

However, there has been relatively little empirical analysis of the deconcentration thesis and thus it seems premature to draw strong theoretical conclusions about it. In particular, a number of other trends in spatial inequality diverge in certain respects from the decline in concentrated poverty and raise questions about the actual magnitude of deconcentration. For example, while high-poverty neighborhoods are disproportionately African American, there were only small declines in racial segregation over the same period and, more directly, studies find very little change in the average segregation of the poor in the 1990s (Wilkes and Iceland 2004;

Massey and Fischer 2003). The studies that have identified the largest changes focus on the poorest neighborhoods and use measures like the concentration of poverty that focus on the extreme rather than other indices of segregation. This suggests that the change may be limited to the poorest places, which is certainly socially significant, but suggests different theoretical implications than a more general dispersal of the poor. Perhaps most importantly, there has been very little analysis of changes in the *spatial* configuration of the poor, though spatial conclusions are often drawn from the observed decline in the concentration of poverty.

In this paper I ask, how deconcentrated did the poor become in the 1990s and how has this shift affected the position of the poor relative to other groups? I use the Neighborhood Change Database, which includes US Census summary data for 1980, 1990, and 2000 structured for analysis of change over time. I examine the concentration of poverty and the distribution of poverty across neighborhoods as well as a number of segregation measures typically used only in the analysis of racial segregation, including measures of the relative density and centralization of the areas occupied by the poor, which more directly test some of the claims made about deconcentration. I find that there were limits to the deconcentration of poverty in 2000, constrained by the processes that reproduce older patterns of spatial inequality even as metropolitan areas evolve.

THE RESIDENTIAL SEGREGATION OF THE POOR

The classic theory of American metropolitan spatial form identifies poverty with the central city, while more affluent neighborhoods extend in concentric rings out from the center, a

spatial distance resulting from groups with different resources competing for space (Park, Burgess, and McKenzie 1925). Place stratification and political economic perspectives explain the structural factors that made central cities poor, and link the deprivation of poor places to the advantage of affluent places in a relational theory of spatial inequality (Logan 1976; Logan and Molotch 1987). When the intensification of the concentration of poverty in the 1970s and 1980s was uncovered, scholars drew on these theories and emphasized conflict and stratification processes, especially the peculiar institutions of racial segregation in the 20th century American metropolis (Wilson 1989; Massey and Denton 1993). The deconcentration of poverty in the 1990s thus represents a potentially important shift in the processes that generate the isolation of the poor.

The deconcentration thesis arises from a set of interconnected observations about change in US metropolitan areas. First, government policies to dismantle public housing projects and replace them with market-based systems of housing provision have dispersed the poor from some of the highest poverty, most concentrated neighborhoods (Goetz 2003). Since public housing projects with many units in large buildings clustered on a few blocks were crucial to concentrating poverty in the first place, their destruction almost by definition must result in deconcentration. Second, suburban poverty has risen, and is often interpreted as an indication of the dispersal of central city poverty into less dense neighborhoods farther from the city center (Madden 2003; Murphy 2007). Third, many central cities saw revitalization in the 1990s, including residential gentrification that lowered poverty in some neighborhoods and dispersed (or displaced) poor families at the same time (Crowder and South 2005). These changes indicate that the structural factors producing neighborhood poverty shifted somewhat in the 1990s, and in particular that new powerful interests in central city locations and declining power in some

suburban places combined to deconcentrate poverty. Indeed, national studies of Census data show that the poor did become less concentrated as central city poverty declined, suburban poverty increased, and the percentage of the poor living in high-poverty neighborhoods dropped significantly from 1990 to 2000 (Lucy and Phillips 2000; Berube and Frey 2002; Jargowsky 2003).

Place stratification perspectives emphasize that the entire system of spatial inequality is interconnected and changes in one form of segregation are often linked to changes in another. The changes in the distribution of the poor identified in the deconcentration thesis are significant, but there are other related trends that suggest the shift may be more complicated than conjured by the deconcentration image. Perhaps most important, measures of the average segregation of the poor (not only the poor living in the poorest neighborhoods) declined only slightly in the 1990s, raising the question of whether the change is mainly in one extreme tail of the distribution of poor neighborhoods (Massey and Fischer 2003; Fischer et al 2004). Similarly, racial segregation declined only a little as well even though the poorest neighborhoods are also disproportionately African-American. In contrast, the segregation of the affluent increased since 1980, and was particularly strongly associated with new suburban development as the buyers of increasingly large new houses were increasingly affluent, suggesting that any dispersal of the poor may have been matched by the continuing sprawl of the advantaged (Yang and Jargowsky 2006; Dwyer 2007). It is important to evaluate the deconcentration of poverty within the context of these trends given that the segregation of any group is partially contingent on the position of other groups.

Poverty deconcentration is often framed as a significant change in the specifically *spatial* relationship between advantaged and disadvantaged groups, with the dispersal, sprawl, or move

outward of the poor leading them into places previously occupied by the affluent. This suggests that on average, the poor and the nonpoor may have become closer together, and that the poor are no longer as concentrated on a smaller amount of land near city centers. Despite the importance of these kinds of claims in discussions of deconcentration, there has been almost no analysis of the spatial dimensions of poverty segregation, even though such measures have frequently been estimated for racial segregation (e.g. Massey and Denton 1993; Wilkes and Iceland 2004). Massey and Denton (1988) argue that segregation should be conceptualized as having 5 key dimensions—evenness, exposure, concentration (different from the concentration of poverty measure), centralization, and clustering— that are often relatively distinct, and so existing analyses of poverty are incomplete without a more thorough assessment of whether poverty deconcentration manifests across dimensions of segregation.¹

RESEARCH QUESTIONS

I examine two sets of research question, one focusing on the concentration of the poor in high-poverty neighborhoods and changes in the distribution of poverty rates across neighborhoods, and the other examining change in the average segregation of the poor, including on spatial dimensions.

¹ Massey and Denton's (1988) framework brought clarity to debates over the best approach to measuring segregation. Using factor analysis, they demonstrated that the twenty or so measures identified in the literature cluster into the 5 distinct dimensions. The dimensions appear to remain relatively stable over time (Massey et al 1996). Reardon and O'Sullivan (2004) propose a simpler and more abstract categorization of the measures. However, in my view, the 5 dimensions have significant heuristic value, partly because they correspond to the way scholars and residents think about cities and segregation, lost with the more abstract application.

I ask first, did the decline in concentrated poverty involve a dispersal of poor to nonpoor neighborhoods and a decline in neighborhood poverty more widely, or was it primarily a change at the extreme tail of the distribution? Similarly, how do we understand the magnitude of the change in concentrated poverty? Whose poor circumstances were most changed in the 1990s?

Second, I ask, did the average segregation of poor families change in the 1990s across all 5 dimensions of segregation? Most importantly, did the poor become less densely settled and centralized? This required understanding how the residential circumstances of the poor changed relative to the nonpoor and the affluent.

DATA AND METHODS

Data

I use the Geolytics Neighborhood Change Database, which includes *U.S. Census of Population and Housing* summary data for tracts in all metropolitan areas in 1980, 1990, and 2000 with normalized tract boundaries. Using normalized boundaries ensures that observed changes are not due to shifts in tract definition. Census tracts are small geographic units designated by the Census Bureau in cooperation with local authorities that are intended to operationalize neighborhoods, with an average of about 4,000 residents (U.S. Census 2002). As many have observed, Census tract boundaries do not necessarily correspond with what residents consider neighborhood boundaries, but they are the best unit available, and the most commonly used. Metropolitan areas are defined in the Census as urbanized concentrations of at least 50,000 people. I include all “primary metropolitan areas” in the US, totally 331 in 2000.

The Concentration of Poverty

Poor families are those in the bottom 20% of the income distribution in each year, a common measure of poverty (e.g. Fischer et al 2004). Other analysts use the poverty line (e.g. Jargowsky 1997), but because this is a Census-produced measure that takes into account income, family size and composition, a parallel measure for comparison groups like the affluent cannot be created using the summary data.² In practice, the two measures are quite similar and I completed sensitivity analyses to test whether the results are affected by which is used, and the pattern of findings is the same. Census family income data (annual for 1999) for tracts is available only as a categorical measure of the number of families at defined income levels. In each year, one of the categories falls close to the cut-point for the bottom 20%, but I use linear interpolation where they do not match exactly. I define the key comparison group of the affluent as families in the top 20% of the income distribution, using the same methods as for the poor.³ Where appropriate, I sometimes create measures for the middle 60% and for the affluent defined as the top 10% of income as well.

The concentration of poverty is the percentage of poor families that live in extremely poor neighborhoods. Following previous literature, I define extreme poverty neighborhoods as those with at least 40% poverty, while high poverty neighborhoods are at least 20% poor. I calculate the concentration of poverty for both extreme poverty and high poverty neighborhoods.

² I also prefer a definition that has a consistent distributional meaning over time (unlike the poverty line), and that treats poverty more as a function of relative standing in the income distribution rather than the more arbitrary absolute federal definition of poverty.

³ Affluence is often defined as at least four times the poverty line for a family of four, but I use the 20% measure here for more consistency across years, though four times the poverty line is near the top 20% in practice.

Average Poverty Segregation and the Dimensions of Segregation

Like other analysts, I use one key measure for most of the dimensions (Massey and Denton 1988). For the two spatial dimensions particularly important for the questions of this paper, however, I use two measures, one identifying the distribution of the poor in an absolute sense (with respect to themselves alone) and another relative measure of the poor compared to the nonpoor or affluent. (Methodological appendices with additional technical detail including the formulae used are available upon request.)

Evenness. The dissimilarity index identifies the percentage of the poor that would have to move in order to be evenly spread among nonpoor across the metropolitan area. The dissimilarity index ranges from 0 to 1, where 0 is no segregation (neighborhoods have equal proportions of the groups) and 1 is complete segregation (all poor families need to move to be evenly distributed).

Exposure. The isolation index identifies the average percentage of poor families in the average tract lived in by the average poor family. The measure is commonly expressed as assessing the likelihood of contact between members of a group (contact is expected when the group members share the same residential area, in this case, a Census tract). The isolation index ranges from 0 to 1, with 1 indicating greater isolation, and measures the probability that two poor families share the same tract.

Concentration. I use two measures of concentration. First, delta measures the proportion of poor families that live in tracts with a higher than average density of poor families.⁴ Similar to the dissimilarity index, delta indicates the proportion of poor families that would have to move to achieve even density across the metropolitan area, and ranges from 0 to 1, with 1 the highest

⁴ I follow Wilkes and Iceland (2004) and use delta as the key measure for the concentration dimension rather than Massey and Denton's (1988) recommendation of the relative concentration index (RCO) in part because the latter produces values outside of its range, though I do estimate it as well (see Appendix A for details).

concentration. I also include the relative concentration index, which measures the relative amount of land occupied by the poor compared to the nonpoor. If the two groups occupy land at equal concentrations, the RCO is 0, but if the poor are less concentrated the RCO approaches -1 and if the poor are more concentrated, the RCO approaches 1.⁵

Centralization. I also estimate the absolute and relative centralization indices. The absolute centralization index identifies the distribution of the poor around the population centroid.⁶ The centralization index varies theoretically from -1 to 1, with values approaching 1 when a group is located close to the city center and -1 when far from it, while 0 indicates a uniform distribution. The measure indicates the proportion of poor families that would have to move to be uniformly distributed around the population centroid. The relative centralization index compares the location of the poor to the nonpoor or affluent, with 0 indicating the same distribution around the center, the RCE is greater than 0 if the poor are closer to the center than the nonpoor, and less than 0 if farther from the center.

Clustering. The spatial proximity index measures the degree to which the poor live in neighborhoods near other poor neighborhoods (White 1983). The index measures the average proximities among the poor compared to the nonpoor (or affluent), weighted by the proportion of each in the general population. The spatial proximity index is greater than 1 if the poor are more likely to live near other poor neighborhoods rather than nonpoor neighborhoods, less than 1 in the unlikely case that the poor live nearer the nonpoor than to other poor families, and equals 1 if there is no clustering. Following previous work, I subtract 1 from the index so that in most cases it varies between 0 and 1 like most of the other measures (Wilkes and Iceland 2004).

⁵ The RCO takes values less than -1 in some circumstances. I follow the recommended practice and set those equal to -1 (Massey and Denton 1998).

⁶ The center of the metropolitan area in the past was the Central Business District, but as metropolitan areas have become larger and multinucleated, analysts increasingly use the centroid instead (Wilkes and Iceland 2004).

RESULTS

Concentrated Poverty

I find the same substantial drop in concentrated poverty reported by others. As Figure 1 shows, the average rate that the poor are isolated in high poverty neighborhoods dropped from 9.5% to 6.8% for all metropolitan areas, with similar shifts for only large metropolitan areas. The graph also shows that rates of concentrated poverty were higher in 2000 than they were in 1980, often obscured in reports that focus only on the 1990s.⁷

To address my first question about how that decline in concentrated poverty was related to shifts in less extremely poor places, I analyzed shifts in the number of poor and nonpoor places. A decline in concentrated poverty of this size involves not just the exit of poor people from poor neighborhoods, but also a change in the distribution of poor neighborhoods (at least as defined by poverty rates) since those exits will make some places less poor and other places more poor. I divided neighborhoods into several categories: those with low poverty rates below 20%, those with extreme poverty rates of at least 40%, and 4 intermediate categories of high, but not extreme poverty neighborhoods between 20% and 40%. Then I examine change in the distribution of neighborhoods across those categories from 1980 to 2000.

I find first that the percentage of neighborhoods that were nonpoor (less than 20% poor) declined from 1980 (84%) to 1990 (81%), but also from 1990 to 2000 (79%). Thus the

⁷ Note that my results are somewhat different from Jargowsky's 2004 report because of differences in methods used: I analyze only metropolitan tracts instead of including rural tracts, use a slightly different definition of poverty, and the data is based on normed tract boundaries.

deconcentration of poverty did not involve the shift of the poor to nonpoor neighborhoods, at least in the aggregate.

Instead, it appears that the poor dispersed from the most extremely poor neighborhoods to other high poverty neighborhoods. Figure 2 shows the number of neighborhoods in the remaining 5 categories of poor neighborhoods. As ever, it shows that there was a big increase in the percent of neighborhoods that were extremely poor with at least 40% poverty from 1980 to 1990, and then a (smaller) decline from 1990 to 2000. However, the decline at the tail came along with a larger share in every other category of high poverty neighborhoods from 20% to 39% poverty. The increase was largest in the 20-29% range, but those in the 30-39% range also increased. (The same pattern holds for analyses of the percent of neighborhoods, the total population, and the total poor population in categories of poor neighborhoods.) This combined with the decline in the share of nonpoor neighborhoods results in a shortening of the tail of the distribution of poor neighborhoods, and a widening of the distribution among high but not extremely poor tracts. Importantly, the national concentration of poverty in neighborhoods with at least a 20% poverty rate was almost identical in 1990 (44%) and 2000 (43%). In this view, the deconcentration of poverty involved a very real decline in the numbers of extremely poor places, but an increase in high poverty places, and a movement of population from the first to the second.

The Multiple Dimensions of Poverty Segregation

Now I turn to the analysis of segregation indices that capture the average circumstances of poor families instead of focusing on the location of the poor in the highest poverty places. Here I find even more evidence of the limits of the deconcentration of poverty.

First, a number of the measures show surprisingly little change in the average circumstances of the poor from 1980 to 2000, despite the decline of concentrated poverty over that period. As shown in Figure 3, the evenness, exposure and clustering dimensions (measured by the dissimilarity, isolation, and spatial proximity indices respectively) show very little change over the years, increasing a bit from 1980 to 1990 and declining a bit in 2000. The concentration and centralization indices (measured by the delta and absolute centralization indices) also show little change, though there was a slight decline in the average density and centrality of the average neighborhood lived in by the average poor person. This suggests a slight spatial reordering as predicted by the deconcentration thesis, but at the same time does not indicate a broad dispersal of the poor.

Even more surprising are the results for the two relative measures of concentration and centralization reported in Figure 4. This shows that the poor actually became relatively *more* concentrated and centralized compared to the nonpoor from 1980 to 1990 and 1990 to 2000. The change is particularly striking and large for the relative concentration index, which compares the land area occupied by the poor and nonpoor.

The divergent results in Figures 3 and 4 beg the question of how the poor became relatively more concentrated and centralized when they showed very little change in absolute measures of concentration and centralization. The answer of course is that the spatial distribution of the nonpoor changed more than the poor, demonstrating the importance of understanding poverty segregation in the context of other shifts in spatial inequality.

Comparative analysis of various groups among the nonpoor reveals that the affluent top 20% of households showed particularly important change relative to the nonaffluent and the poor. As Figure 5 demonstrates, the concentration of affluence (defined here identically to

poverty, as the percent of affluent living in high affluence neighborhoods with at least 40% affluent) was much higher than the concentration of poverty in every period, and increased slightly from 1980 to 2000, especially in the largest metropolitan areas. Average measures of affluent segregation (in Figure 6) show less change, similar to the poor, but the affluent showed less absolute concentration and centralization in every year, indicating a lower density and more dispersed pattern of residence. Even more striking, the affluent became less relatively concentrated and centralized than the nonaffluent (and the poor as well, in separate analyses) in every year, in the opposite pattern to the poor. As important as gentrification was to central cities in this period, the dominant trend was the all too familiar pattern of affluent sprawl.⁸

DISCUSSION

The results show that while there was significant decline in the segregation of poor families, this change was concentrated in the most extremely poor neighborhoods and represented a redistribution of population between high-poverty places more than a dispersal of the poor into nonpoor neighborhoods. Further, this dispersal did little to change the spatial location of the poor, especially relative to other groups. In fact, the nonpoor and the affluent moved further out faster than the poor, increasing the relative distance between the groups even as the concentration of the poor into the most extremely poor neighborhoods declined.

These findings suggest that while some of the conditions that concentrated poverty most in the past, including especially public housing projects, have declined in importance, the

⁸ Interestingly, when the analysis is restricted to the most affluent families in the top 5 to 10%, the affluent are more concentrated and centralized, indicating that gentrification has been the province of the wealthiest, not surprisingly.

political economy of housing continues to segregate the poor in high-poverty neighborhoods relatively more dense and centralized than other groups. Particularly important is the continued favoring of new suburban locations by the affluent, and the continuing importance of patterns of sprawl to residential segregation. While the classic models of metropolitan development may be simplistic, they also continue to describe key aspects of the development of US metropolitan areas.

A key question is whether the deconcentration of poverty in the 1990s is a signal of more similar changes to come or a temporary improvement. If the poor continue to disperse, they may begin to enter more nonpoor neighborhoods and integrate leading to a more substantial change in metropolitan form. As metropolitan areas become more built out, they may start becoming denser again as well, and this may produce a new era of spatial proximity among socially distant groups. Or poverty could retrench again, and there are disturbing signs that 2000 data may have produced an excessively positive picture, coming as it did at the end of the 1990s economic boom, with worsening neighborhood poverty since then (Berube and Kneebone 2005).

The deconcentration of poverty has been used as evidence that the metropolitan form in the US has shifted and can no longer be captured by the old concentric zone model. To the extent that the deconcentration reduces poverty in the central city and increases poverty across the municipal boundaries in suburban jurisdictions, the processes that shape the causes and consequences of neighborhood poverty surely will change substantially, including in ways that require revision to theories of metropolitan spatial form (Murphy 2007). However, if other groups move out faster than the poor, then the opportunities for social interaction across class boundaries may be little changed, and the essential zonal structure of something like a concentric ring structure may remain intact.

Even less clear are the implications of the shift from extreme poverty to high poverty at the neighborhood level. While there is evidence of threshold effects at 40% so that for example violent crime is much higher in neighborhoods with poverty rates above than below 40% (Krivo and Peterson 1996), there are also substantial negative consequences for residents of neighborhoods with poverty rates between 20 and 40% (Sampson et al 2002; Wen, Browning, and Cagney 2003). In fact, Galster (2002) argues that shifts of poor populations between high poverty neighborhoods are unlikely to have significant effects, but rather bigger declines in poverty are required to improve life chances for the poor.

CONCLUSION

This paper demonstrates the complexity of the evolving spatial organization of US metropolitan areas, and that changes like the deconcentration of poverty are best understood by triangulating with multiple measures of segregation. It is particularly important to *test spatial claims with spatial measures* and to examine the position of the poor in the *comparative* context of the position of more affluent groups. As the analysis of relative concentration and centralization demonstrates, the particular pattern of spatial reordering is not always evident from change in one measure. While the poor became less isolated in some respects in the 1990s, on some dimensions distance appears to have increased between the poor and nonpoor, especially the affluent.

Further research is still needed to develop our understanding of the causes and consequences of the deconcentration of poverty. The racial implications of this change are very

important, since the decline in extreme poverty was particularly influential for African-American and Hispanic families (Jargowsky 2004). A similar analysis that has been done here could be undertaken to examine how much the racial composition of poor neighborhoods has shifted. It is also important to develop theoretical models of the change in the concentration of poverty and test them in a multivariate context. There has been very little direct assessment of alternative explanations of the shift in poverty, crucial to understand its likely future trajectory and for developing policy responses to the new configuration of poor neighborhoods.

The limits of the deconcentration of poverty identified here also raises questions about the best direction for urban policy. Frequently studies of poverty argue for intervention in neighborhood conditions, and the dismantling of public housing is an example at least in part of one policy response that does just that. Yet one consequence of these kinds of policies is to introduce another source of instability into the lives of poor families. Poor neighborhoods are less stable in the first place because of the characteristics of the population, but then poverty policy shakes up neighborhoods as well. This is not to suggest that public housing projects deserved to be saved, but the lack of planning for what the poor would do after those projects were destroyed illustrates that poverty might be better addressed by efforts to improve poor neighborhoods, rather than simply move the poor around, especially if only to other somewhat less poor places. In other words, truly improving the lives of the poor requires not just deconcentration, but the reconstitution of and reinvestment in the places the least advantaged reside.

Figure 1

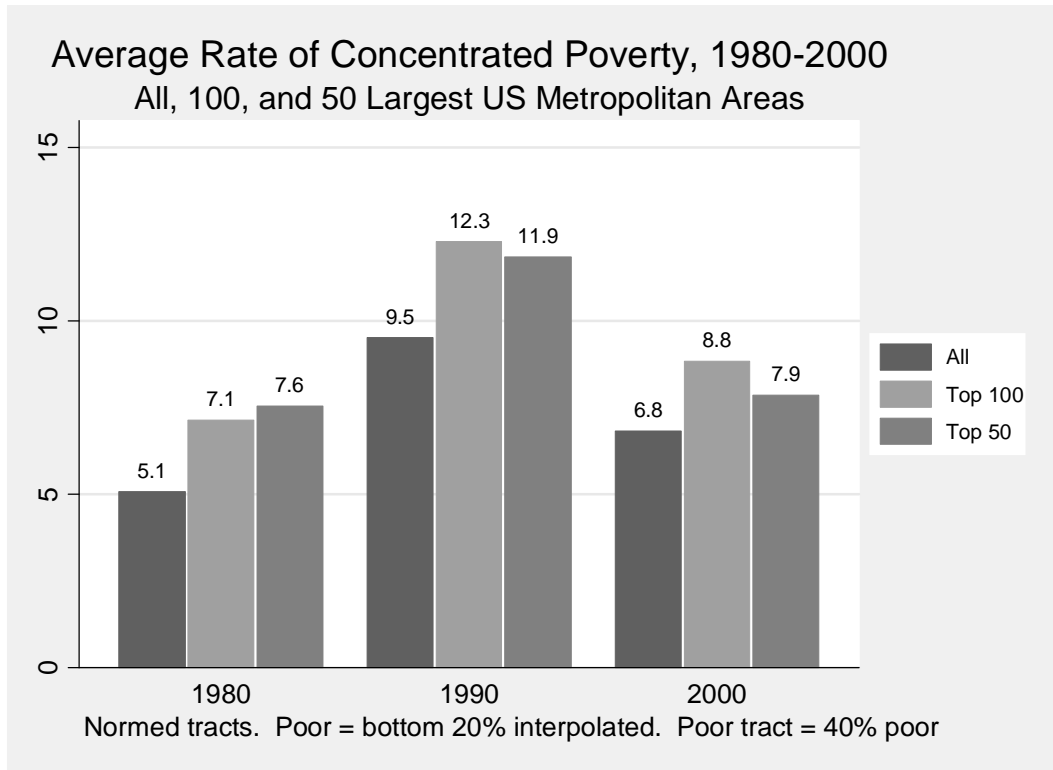


Figure 2
Number of Tracts in Categories of Poor Neighborhoods, 1980-2000

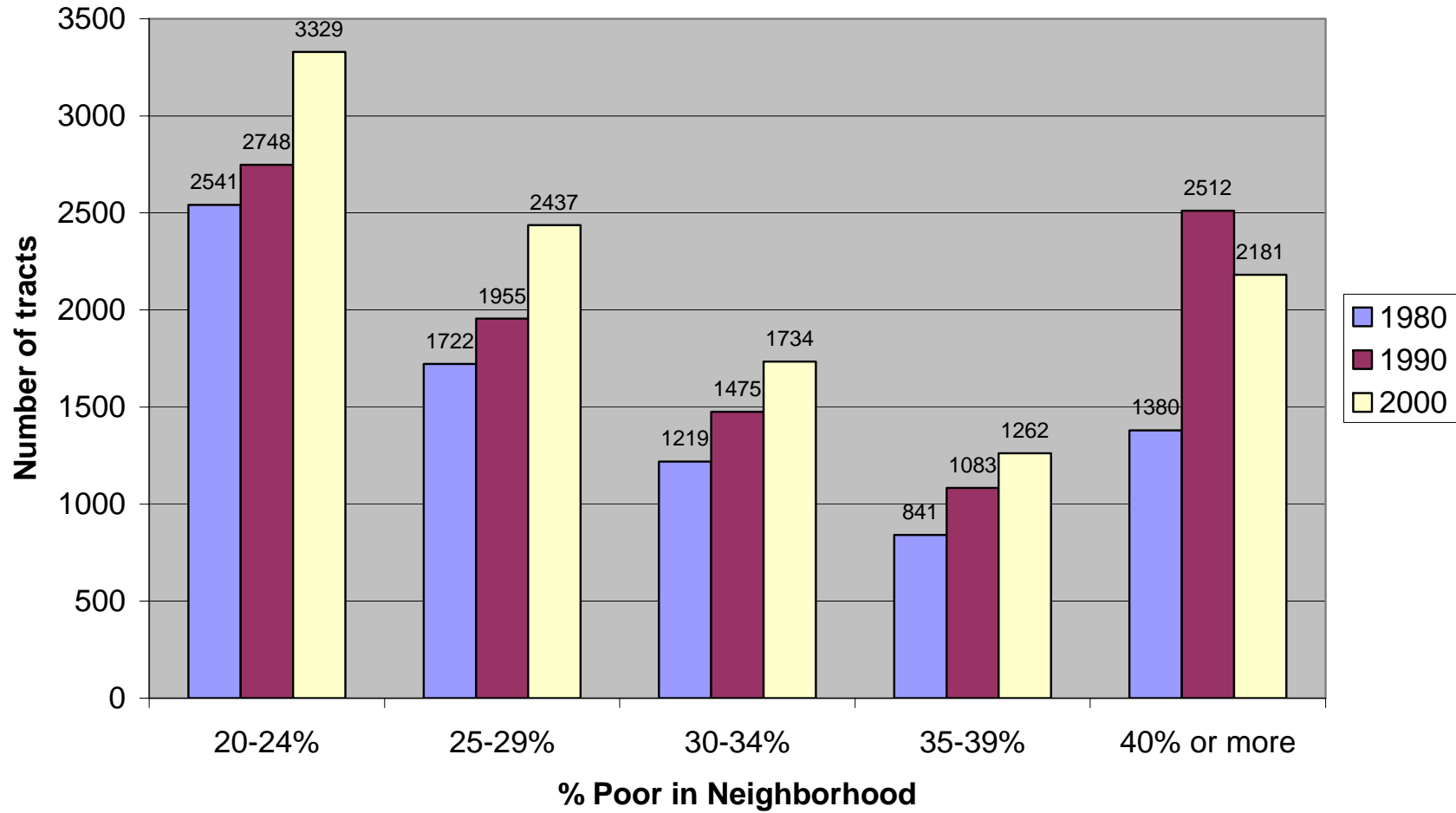


Figure 3

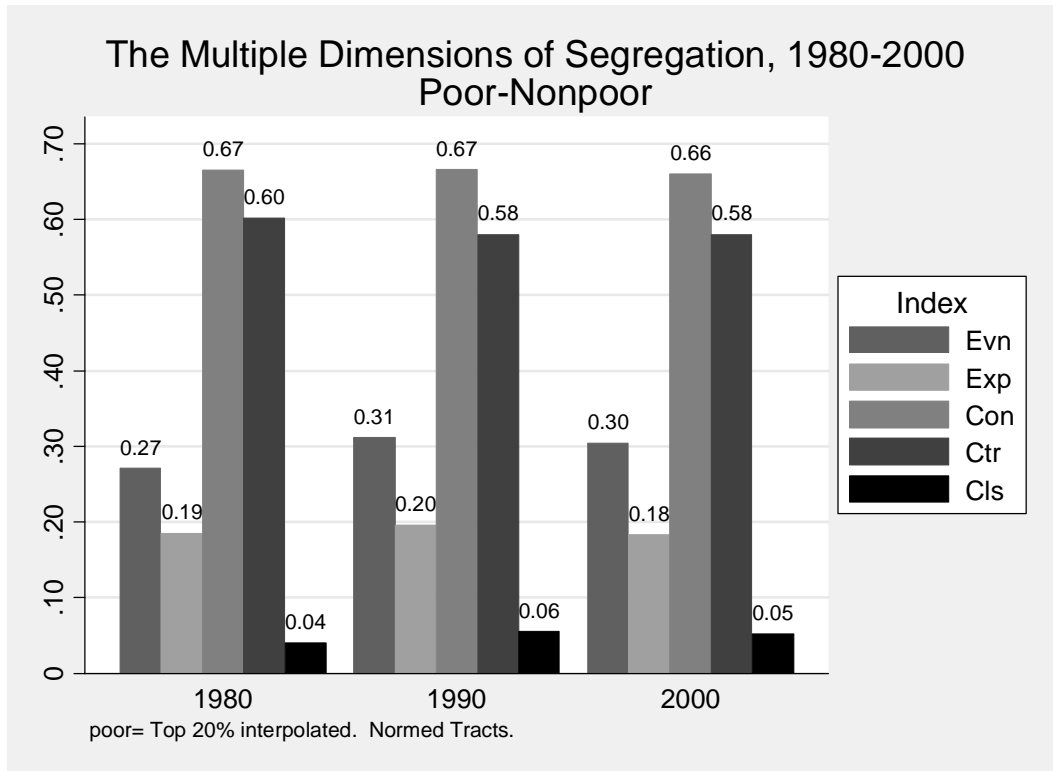


Figure 4

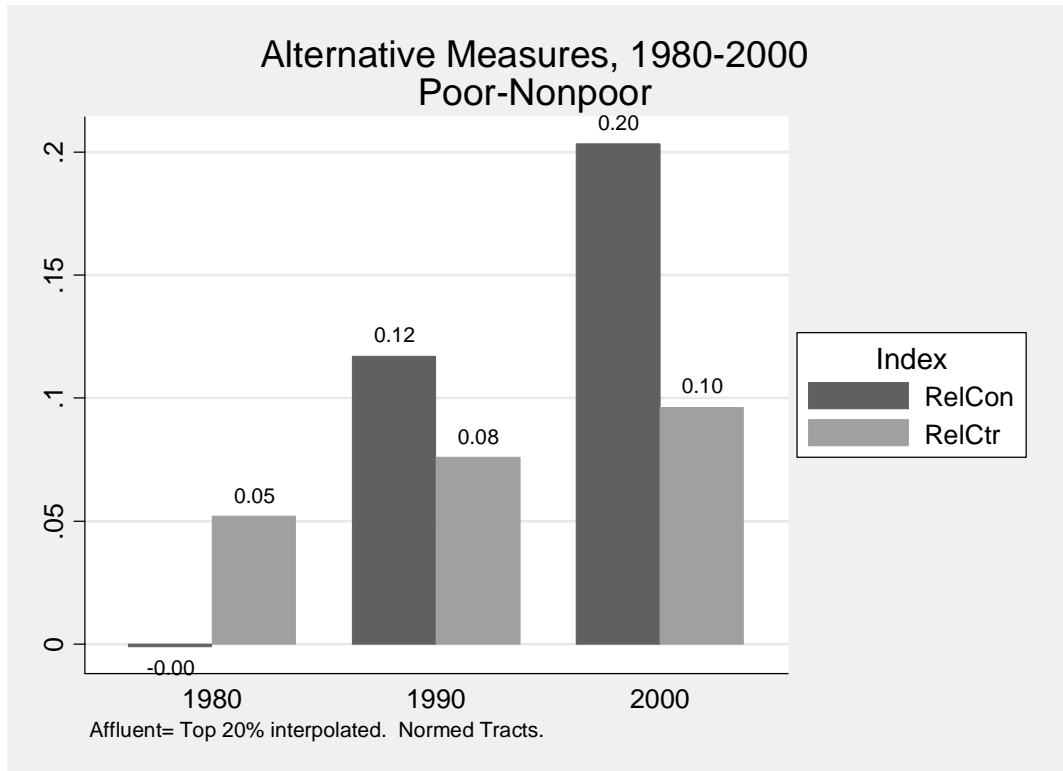


Figure 5

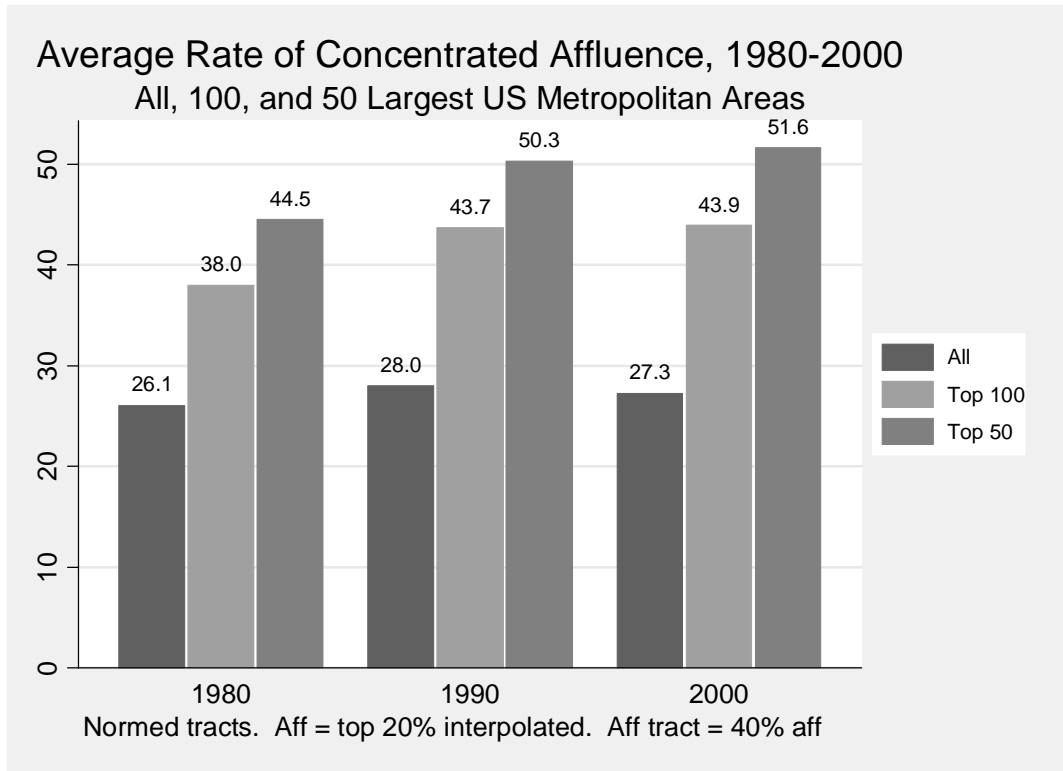


Figure 6

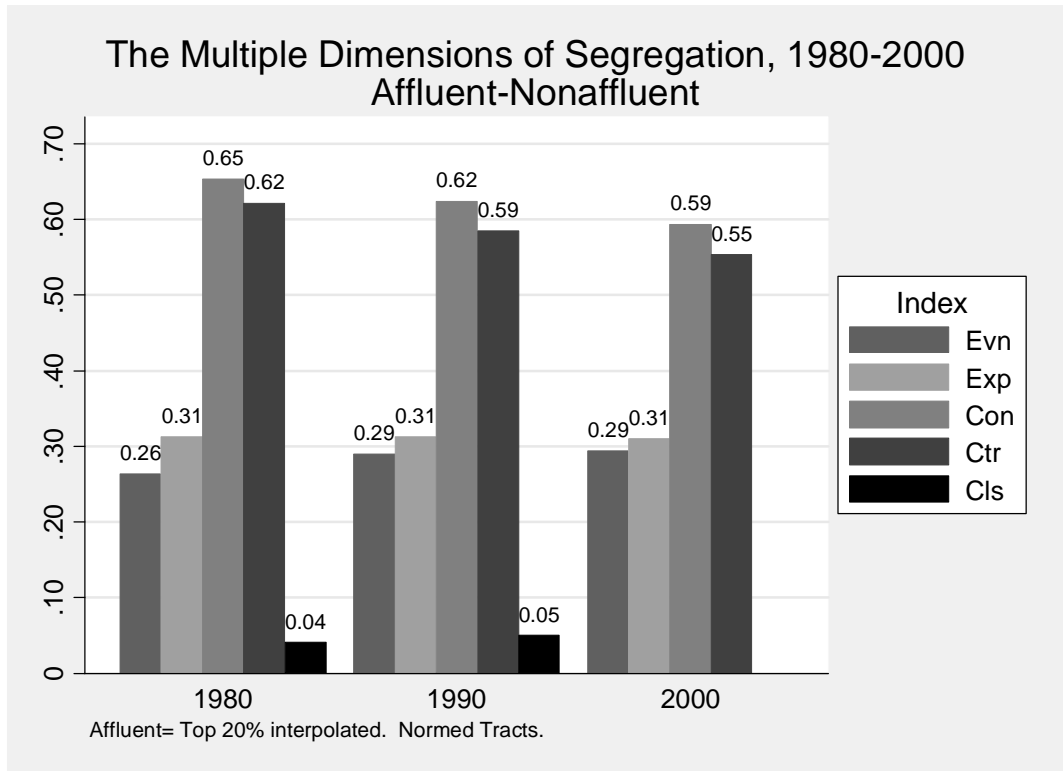
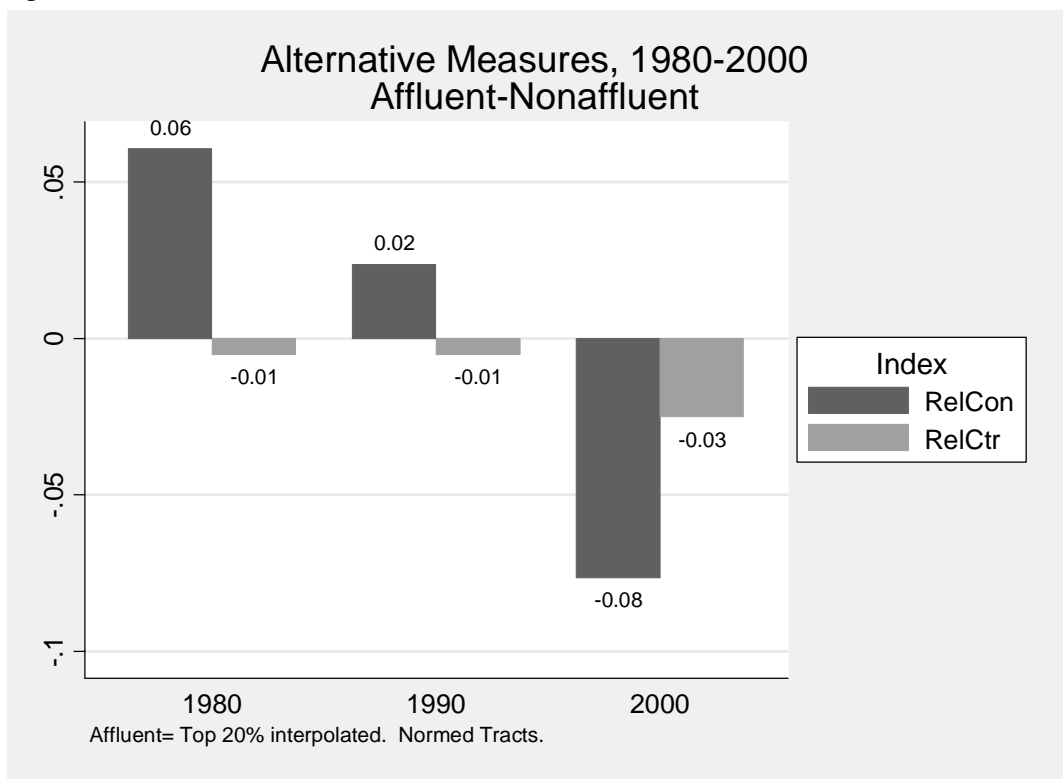


Figure 7



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