

Gentrification and Fair Housing: Does Gentrification Further Integration?

Ingrid Gould Ellen
Gerard Torrats-Espinosa

August 19, 2018

On the 50th anniversary of the Fair Housing Act, there is growing discussion and concern about gentrification. In almost every American city, long-time residents feel increasingly anxious that they will be priced out of their homes and communities, as growing numbers of higher-income, college-educated households opt for downtown neighborhoods. These fears are particularly acute among black and Latino residents who worry that the neighborhoods they regard as home are being taken away from them. As a recent *Atlantic Monthly* article put it, “The way a lot of African American and Latino people experience gentrification is a form of colonization. The gentrifiers are not wanting to share – they’re wanting to take over” (Fayaad, 2017). Yet when looking through the lens of fair housing, gentrification also offers a glimmer of hope, as the moves that higher-income, white households make into predominantly minority, lower-income neighborhoods are moves that help to integrate those neighborhoods, at least in the near-term. The key question is whether this integration will last and help to deliver on the promise of the Fair Housing Act to promote and further integrated living. Inverting the famous words of community organizer Saul Alinsky, this integration may only be the time between when the first white moves in and the last family of color moves out.

While people have strong assumptions about what happens in gentrifying neighborhoods, there is in fact little research examining the long-run trajectory of neighborhoods that have gentrified. We aim to fill that gap, examining the longer-run racial change and composition of low-income, predominantly minority census tracts in U.S. cities that gentrified, or experienced large gains in income relative to their metropolitan area, during the 1980s and 1990s. Specifically, we address three questions. First, are majority black and majority Hispanic central city neighborhood more or less likely to gentrify than predominantly white neighborhoods, and how has this changed over time? Second, do predominantly minority neighborhoods that gentrify become more racially integrated during the decade of gentrification, and how has this changed over time? And finally, do the predominantly minority neighborhoods that gentrify appear to resegregate in the decades following gentrification or do they remain stably, racially integrated over time?

In brief, we find that a growing number of predominantly minority, low-income neighborhoods gentrified over our time period, becoming just as likely to gentrify as other low-income neighborhoods between 2000 and 2016. On average, these neighborhoods experienced little racial change while they gentrified, but a significant minority became racially integrated during the decade of gentrification, and over the longer term, many of these neighborhoods remained racially stable. Indeed, neighborhoods that became integrated through gentrification appeared to be more racially stable than those that integrated through households of color moving into predominantly white neighborhoods. That said, some gentrifying neighborhoods that were predominantly minority in 1980 appeared to be on the path to becoming predominantly

white. Policies, such as investments in place-based, subsidized housing, are needed in many gentrifying neighborhoods to ensure racial and economic diversity over the longer-term.

Background

Although racial segregation continues to be the norm in American cities, a significant minority of neighborhoods are now racially integrated. This integration has arisen almost exclusively through the entry of households of color into predominantly white neighborhoods. The burden of integration, in other words, has fallen on the shoulders of households of color, who have often encountered resistance and hostility as they have moved into white communities. Table 1 shows the pathway to integration for the set of neighborhoods in metropolitan areas that became newly racially integrated in 1990, 2000, and 2016. As discussed below, we define racially integrated neighborhoods simply as census tracts that are between 25 and 75 percent non-Hispanic white.¹ Using this definition, 4,990 neighborhoods became newly racially integrated during the 1980s. During the 1990s, the number of newly integrated neighborhoods grew to 6,839. This trend continued between 2000 and 2016, when 8,926 neighborhoods became integrated. The table shows that among all the neighborhoods that became newly integrated during the 1980s and 1990s, 98 percent started off as more than 75 percent white in the beginning of the decade. During the 2000s, the overwhelming majority of newly integrated neighborhoods still started off as predominantly white, but nearly 6 percent of the neighborhoods that became racially integrated between 2000 and 2016 were integrated through white households choosing to move into predominantly minority neighborhoods. While still a very small share, the change is notable.

Given the fact that, at least until recently, so few predominantly minority neighborhoods have experienced any gain in white population, it is not surprising that few researchers have examined whether gentrification advances racial integration. Moreover, the conventional view is that long-time, lower-income residents are displaced through gentrification, which would undermine any economic integration and likely racial integration too. The scholars who have attempted to measure the extent of displacement of low-income residents have generally found little evidence of heightened mobility rates in gentrifying neighborhoods (Ellen and O'Regan, 2011; Freeman, 2005; McKinnish, Walsh, and White, 2010; Vigdor, 2002). It is possible that researchers would find more evidence of heightened mobility today, as the pace of gentrification has accelerated, but to be clear, these studies do not do not show that there is no direct displacement occurring; their results simply suggest that mobility rates among the poor are no greater in gentrifying neighborhoods (Ellen, 2018). Low-income households tend to live in unstable housing conditions, regardless of the neighborhood where they live. As Matthew Desmond's book *Evicted* so powerfully shows, low-income renters experience enormous instability in the private market, even in neighborhoods seeing little investment or gentrification. This means that there is ample room for fairly quick racial and economic change, even absent elevated rates of displacement.

We are not the first researchers to examine race and gentrification. Several papers have studied how baseline neighborhood racial composition predicted gentrification during the 1980s and 1990s. They generally find that predominantly black, low-income neighborhoods were less

¹ Throughout the paper, the term white signifies non-Hispanic white.

likely to experience income gains than white neighborhoods (Ellen and O'Regan 2008; Galster et al. 2003; Hwang and Sampson 2014; McKinnish, Walsh, and White 2010; Rosenthal 2008). Results for Hispanic neighborhoods are reversed, with studies suggesting that low-income Hispanic neighborhoods were *more* likely to experience a gain in socioeconomic status than other neighborhoods (Ellen and O'Regan 2008; Rosenthal 2008), at least during the 1990s. Hwang and Sampson (2014), by contrast, find the pace of gentrification was negatively correlated with the initial share of both black and Latino residents, but they focus only on Chicago between 2007 and 2009. Using an entropy measure to capture neighborhood racial diversity (across four racial groups), Freeman (2009) finds that neighborhoods that gentrified during the 1980s and 1990s and those that remained persistently low-income had similar levels of racial diversity at the start of the decade.

Another set of studies has examined racial change in gentrifying neighborhoods. Qualitative accounts have highlighted the racial change and conflict that can accompany gentrification (Hyra 2017). But the few quantitative studies that explore racial change in gentrifying neighborhoods typically find very little of it. Bostic and Martin (2003), for example, emphasize that despite the conventional view of gentrification as the entry of white households into black neighborhoods, many gentrifiers are black. They offer evidence that black homeowners were a significant gentrifying force during the 1970s, though not as much during the 1980s. Ellen and O'Regan (2011) look more directly at racial transition and show that neighborhoods that gentrified during the 1990s gained few whites over the course of gentrifying. Freeman (2009) meanwhile finds that trends in racial diversity were the same in low-income neighborhoods that gentrified during the 1980s and 1990s as they were in other low-income neighborhoods.

Researchers examining neighborhoods since 2000 document an uptick in racial transition in predominantly minority neighborhoods. For example, Freeman and Cai (2015) document an increase in the number of whites moving into black neighborhoods, particularly neighborhoods close to the central business district. Even more relevant, perhaps, Owens and Candipan (2018) examined racial change in what they call “ascending” neighborhoods, or neighborhoods experiencing socioeconomic growth. (These neighborhoods include gentrifying neighborhoods but also neighborhoods that start off as higher income.) They find that while few predominantly black and Hispanic neighborhoods saw much racial/ethnic change between 1990 and 2010, those that experienced gain were more likely to transition to mixed race than those that did not gain. Specifically, 26 percent of predominantly Black and 16 percent of predominantly Hispanic “ascending” neighborhoods transitioned to mixed race during the period as compared to just 6 percent and 1 percent respectively of the “non-ascending” neighborhoods. These disparities hold up after controlling for other neighborhood characteristics. A very small share of both ‘ascending’ and ‘non-ascending’ predominantly minority neighborhoods transitioned to predominantly white; but a significant minority shifted to racially mixed. Finally, Sutton (2018) examines the racial change accompanying the gentrification of neighborhoods in New York City during the 1980s, 1990s and 2000s. She finds that during the two earlier decades, the average gentrifying neighborhood in the city saw little racial change, but during the 2000s, the average gentrifying neighborhood experienced an increase in percentage white and a reduction in percentage black and Hispanic. She concludes that Blacks and Latinos have become increasingly vulnerable to displacement through gentrification.

Our inquiry differs from these previous analyses in that we examine gentrification through the lens of racial integration. We focus on initially low-income neighborhoods,² distinguish between mixed minority and racially integrated neighborhoods that include a substantial number of whites, and examine demographic similarity between households of different races in integrated neighborhoods. Finally, and perhaps most significantly, we examine what happens to the racial composition of neighborhoods over the longer-term, in the decades following the initial gentrification or economic gain.

Data and Definitions

Like most studies of gentrification, we use census tracts to proxy for neighborhoods. We obtain tract-level data from the 2010 Neighborhood Change Database (NCDB) and the 2012-2016 American Community Survey to construct measures of gentrification and racial composition for three cohorts of central-city tracts that started as low-income in years 1980, 1990, and 2000.³ Our sample is restricted to tracts that were part of 412 core-based statistical areas (CBSAs) and were labeled as central city tracts by the Census.⁴ We further restrict the sample to tracts that had at least 100 residents in 1980, 1990, 2000, and 2016.

We define central city tracts as low-income if they fall into the bottom 40 percent of the neighborhood median household income distribution within their CBSA. Because central city tracts tend to have lower median incomes than suburban tracts, just over half of all central city tracts meet our definition of low-income in all three of our time periods. Our analytic sample includes 13,255 low-income tracts in the 1980 cohort, 13,525 in the 1990 cohort, and 13,823 in the 2000 cohort.

We label a tract as gentrifying if it experienced an increase in the ratio of its median income to the median income of the CBSA of at least 0.1 over a decade.⁵ This definition of gentrification is informed by prior work that has also used relative changes in a tract's median income (Ellen and O'Regan, 2011; Brueckner and Rosenthal, 2009). By estimating CBSA- and year-specific distributions of the tract-to-CBSA median income ratio, we ensure that the change in a tract's median income is not driven by a metropolitan area-wide rise in median household income. We examine the sensitivity of our findings to defining gentrification as an upward move in the distribution of median household income of at least 10 percentile points. Of the 1,180 tracts that gentrified in the 1980s under the income ratio change definition, 1,039 (88%) also gentrified under the percentile change distribution. Similar patterns hold in the 1990s and the

² Sutton (2018) focuses on initially low-income neighborhoods in New York City.

³ Both 2010 NCDB and 2012-2016 ACS data use 2010 Census tract boundaries.

⁴ The sample of 412 CBSAs includes 327 metropolitan areas and 85 micropolitan areas, based on the 2013 delineations by the U.S. Office of Management and Budget. This represents 90% of the 363 metropolitan areas in the 49 contiguous states and 15% of the 570 micropolitan areas in the 49 contiguous states. The metropolitan and micropolitan areas excluded from our sample are those that include tracts that were not mapped into census tracts in the 1980 Census.

⁵ For the 1980 cohort, changes in tract-to-CBSA median income ratio are measured between 1980 and 1990; for the 1990 cohort, changes in tract-to-CBSA median income ratio are measured between 1990 and 2000; for the 2000 cohort, changes in tract-to-CBSA median income ratio are measured between 2000 and 2016.

2000s. We obtain qualitatively similar results across all analyses when we use this alternative measure.⁶

One of our primary outcomes is change in neighborhood racial composition. To measure it, we classify each tract into one of the following three categories at the start and end of each decade: (1) predominantly white tracts, which includes tracts with a non-Hispanic white share larger than 75 percent; (2) racially integrated tracts, with a non-Hispanic white share between 25 and 75 percent; and (3) predominantly minority tracts, with a non-Hispanic white share below 25 percent. We further divide the predominantly minority tracts into (a) majority black tracts, in which the share of black residents is at least 50%; (b) majority Hispanic tracts, in which the share of Hispanic residents is at least 50%; and (c) mixed minority tracts, in which neither blacks nor Hispanics constitute a majority. Our definition of racially integrated is broader than that used in many earlier studies,⁷ because we anchor our definition around neighborhoods that are 50 percent non-Hispanic white. This choice means that we label neighborhoods with a non-Hispanic white share as low as 25 percent as integrated, even though non-Hispanic whites constitute a majority of the U. S. population. But non-Hispanic whites comprise a smaller share of the population today than they did in earlier decades; consider that in 2016, non-Hispanic whites comprised 61 percent of the U.S. population, down from 75.6 percent in 1990.⁸ Moreover, the non-Hispanic white population share in central cities is even lower.⁹

Results

Which Low-Income, City Neighborhoods Gentrify?

In the 1980s, very few predominantly minority, central city neighborhoods experienced gentrification. Figure 1 shows that just 8 percent of mixed minority tracts, low-income city neighborhoods experienced gentrification. Predominantly black and predominantly Hispanic neighborhoods were even less likely to experience gentrification, with just 4.6 and 3.8 percent respectively gentrifying during the decade. During the 1990s and 2000s, predominantly minority neighborhoods were far more likely to gentrify. Indeed, during the 1990s, predominantly black and predominantly Hispanic neighborhoods were actually more likely to gentrify than predominantly white neighborhoods.¹⁰ Between 2000 and 2016, predominantly white neighborhoods were again more likely to gentrify, but gaps had closed.

⁶ In addition to using income-based measures of gentrification, we also experimented with defining gentrification as experiencing an increase of at least 0.1 points in the tract-to-CBSA ratio in percentage of college-educated residents. While the relative increase in percentage of residents with college degrees is less correlated with our income-based measure of gentrification, we still obtain very similar results when defining gentrification as a large relative gain in the share college-educated.

⁷ See Ellen (2000) for example.

⁸ See U.S. Census Bureau (2001) and Vespa, Armstrong, and Medina (2018).

⁹ Frey (2011) reports that the population of the primary cities of the top 100 metropolitan areas was just 41 percent non-Hispanic white in 2010.

¹⁰ When we measure gentrification as a large relative increase in the share college-educated, we do not see as large a jump in the share of predominantly minority neighborhoods gentrifying during the 1990s. Using the college-based definition of gentrification, we find that, in the 1980s, 19.9 and 18.0 percent of majority Hispanic and majority black neighborhoods gentrified, respectively. In the 1990s, 23.2 and 21.0 percent of majority Hispanic and majority black neighborhoods gentrified.

Table 2 shows baseline characteristics of the low-income, central-city neighborhoods that gentrified and those that did not, by decade. Consistent with Figure 1, the neighborhoods that gentrified during the 1990s and 2000s started out as more racially diverse than those that gentrified during the 1980s. The average neighborhood that gentrified during the 1980s was 69 percent white, 18 percent black, and 10 percent Hispanic in 1980. The average neighborhood that gentrified during the 1990s started out as 42 percent white, 33 percent black, and 20 percent Hispanic. Similarly, the average neighborhood that gentrified between 2000 and 2016 started out as 44 percent white, 28 percent black, and 22 percent Hispanic. The table shows that this same general pattern was evident for non-gentrifying neighborhoods too which is not surprising given the diversification of the U.S. population during this time period. As for initial income, in all three decades, gentrifying neighborhoods started off as slightly lower income relative to tracts that didn't gentrify in their same metropolitan areas. That said, the share of residents with college degrees was generally higher at baseline in gentrifying neighborhoods than in other low-income neighborhoods. Finally, low-income neighborhoods that gentrified during the 1980s and 1990s were disproportionately located in the South, while those that gentrified after 2000 were disproportionately located in the Northeast, as compared to other low-income neighborhoods

These patterns generally hold up in a multivariate analysis in which we predict the likelihood of gentrification separately in each period (1980 to 1990, 1990 to 2000, and 2000 to 2016) for central-city neighborhoods that started as low-income at the beginning of the corresponding period.¹¹ The dependent variable is a binary indicator of gentrification that takes on a value of 1 if a tract experiences an increase in the ratio of its median income to the median income of the CBSA of at least 0.1 over the period, and 0 otherwise. We regress this indicator on tract characteristics measured at the beginning of the period: the ratio of tract median income to the median income of the CBSA, the percent of residents in the tract with college degrees, the percent non-Hispanic black, the percent Hispanic, and dummies for Census region. The coefficients on the race variables (presented in Table A1 in the Appendix) suggest a notable shift over time. During the 1980s, low-income neighborhoods with larger black and Hispanic population shares were significantly less likely to gentrify than other low-income neighborhoods. In the later time periods, by contrast, neighborhoods with larger Hispanic population shares were *more* likely to gentrify, while the likelihood of gentrification was unrelated to the initial black population share. Gentrifiers, in other words, have become more open to moving into predominantly minority neighborhoods over time.

Racial Change During Decade of Gentrification

As noted in the introduction, many believe that predominantly minority neighborhoods that gentrify experience large gains in white population and large losses in black and Hispanic populations. To examine the extent to which this is true empirically, we use two approaches to measure racial change in the decade of gentrification: net changes in the share of residents who are non-Hispanic white from one decade to the next, and transition probabilities across the five categories of racial composition defined earlier. We compute net changes in the share non-

¹¹ As before, low-income means that the tract had a median household income that was below the 40th percentile of the CBSA income distribution.

Hispanic white and transition probabilities for the three cohorts of low-income tracts, distinguishing between those that gentrified and those that did not.

Table 3 shows the distribution of short-term change in the share non-Hispanic white for low-income tracts that started off as predominantly minority (i.e., the share non-Hispanic white was below 25 percent). We find that the typical predominantly minority neighborhood that gentrified during the 1980s and 1990s saw little change in white population share during the decade when they gentrified. The typical predominantly minority neighborhood that gentrified between 2000 and 2016 saw a much larger decline on average in white population share of 7 percentage points. Meanwhile, the median tract that did not gentrify saw a slight decline in percentage white in each decade.

Table 3, however, also shows wide variation in the extent of racial change. Some neighborhoods experienced very large increases in percentage white during the decade of gentrification, especially since 2000. A quarter of the initially predominantly minority, low-income city neighborhoods experienced a gain in percentage white of at least 7 percentage points during the 1980s and at least 18 percentage points during the 2000s. Indeed, between 2000 and 2016, 10 percent of predominantly minority, low-income neighborhoods saw a gain in percentage white of at least 28 percentage points. We see many fewer tracts experiencing large white population gains during the 1990s. Not surprisingly, non-gentrifying, predominantly low-income tracts experienced more modest racial change, with the median seeing a slight decline in percentage white over the course of the decade.

A key question here is how many of these predominantly minority, low-income neighborhoods experiencing racial change transitioned to become racially integrated, and how many transitioned to become predominantly white. Table 4 shows a transition matrix for low-income, predominantly minority city neighborhoods that gentrified and those that did not, during each of our three time periods. In addition to reporting transition probabilities for all predominantly minority, low-income neighborhoods, we disaggregate these transition probabilities for majority black, majority Hispanic and mixed minority tracts. The table shows that during the 1980s and 1990s, more than four of five predominantly minority neighborhoods that gentrified remained predominantly minority during the decade of gentrification. There was a slight shift after 2000, but even then, 68 percent of the neighborhoods that started off as majority black remained predominantly minority, and 74 percent of those that started off as majority Hispanic remained predominantly minority. No neighborhoods that started off as predominantly minority transitioned to being more than 75 percent white during the 1980s and 1990s, and less than 0.5 percent made such a transition during the 2000s.

A significant minority of the predominantly minority neighborhoods that gentrified transitioned to become racially integrated at the end of the decade, with 21 percent ending up in a racially integrated category during the 1980s, 6.6 percent during the 1990s, and 30 percent during the 2000s. Note that the pace of racial change once again appears to be far more modest during the 1990s. Although not shown on the table, virtually all of these racially integrated neighborhoods fell in the 25-50 percent white range rather than the 50-75 percent range. The contrast with non-gentrifying tracts is striking. A full 98 percent of non-gentrifying,

predominantly minority neighborhoods remained predominantly minority during the 1980s and 1990s, and 96 percent remained predominantly minority between 2000 and 2016.

Racial Change Over the Longer-Run

The results that we have presented so far suggest that, in some instances, gentrification leads to racial integration in the short term. A key contribution of this paper is that we also examine what happens to these neighborhoods over time. Specifically, we can examine the 2016 racial composition of predominantly minority neighborhoods that gentrified during the 1980s – examining their composition some 36 years after gentrification started. Similarly, we can examine the 2016 racial composition of predominantly minority neighborhoods that gentrified during the 1990s, examining their composition some 26 years after gentrification started.

Table 5 shows that the typical predominantly minority neighborhood that gentrified during the 1980s and 1990s had experienced only a very modest gain in white population share by 2016. The median tract that didn't gentrify during 1980s and 1990s, meanwhile saw a slight decline in percentage white over this longer-term time period. Once again, however, we see enormous variation in the extent of racial change. A quarter of the initially predominantly minority, low-income city neighborhoods that gentrified during the 1980s experienced a gain in percent white of at least 22.6 percentage points in the 36 years between 1980 and 2016, and 10 percent saw a gain of at least 42 percentage points. We again see less dramatic racial change among the predominantly minority tracts that gentrified during the 1990s, but 10 percent saw a gain in percent white of at least 24 percentage points.

Table 6 shows that a larger proportion of gentrifying, predominantly minority neighborhoods had transitioned to racially integrated over this longer time period. Approximately 28 percent of the majority Hispanic and majority black tracts and over half of the mixed minority tracts that gentrified during the 1980s had transitioned to racially integrated by 2016. We again see less dramatic racial change during the 1990s, but 15, 18, and 32 percent of majority black, majority Hispanic, and mixed minority neighborhoods that gentrified during the 1990s were racially integrated in 2016. Meanwhile, just a handful of the predominantly minority tracts that gentrified during the 1980s and 1990s had reseggregated to become predominantly white by 2016. In absolute numbers, of the 930 predominantly minority neighborhoods that gentrified during the 1980s and 1990s, 746 were still predominantly minority in 2016, 176 had become racially integrated in 2016, and only 8 transitioned to predominantly white in 2016.

While this long-term picture suggests that gentrification has spawned some stable, racially integrated neighborhoods, it is possible that some of these integrated neighborhoods are seeing continued gains in white population, even as they remain integrated. To explore this, we examine subsequent racial change in the predominantly minority neighborhoods that became integrated and gentrified during the 1980s. Specifically, we calculate the share of these neighborhoods that experienced white population gain or stability during the 1990s and 2000s. Figure 2 shows that 29 percent of the predominantly minority neighborhoods that integrated through gentrification during the 1980s saw no change or a loss in percentage white during both the 1990s and 2000s and 21 percent experienced a gain in white population during the 1990s but not during the 2000s. Thus, roughly half appeared to be fairly racially stable in 2016. The other

half showed signs of continued racial transition. In particular, 32 percent of these racially integrated neighborhoods experienced a gain in white population during the 2000s but not the 1990s, and 18 percent experienced a significant gain in their white population during both the 1990s and 2000s. This last set of neighborhoods are the most at risk of resegregating.¹² It's worth emphasizing, however, that only six census tracts followed this pattern, representing only about 4 percent of all the predominantly minority neighborhoods that gentrified during the 1980s.

As a benchmark, the figure also shows the proportion of the much larger number of predominantly white neighborhoods that became integrated through the in-movement of minority households during the 1980s. Over half of these neighborhoods experienced successive loss in white population share during the 1990s and 2000s, and only 12 percent saw no change or a gain in white population share in both decades. In other words, while integration is fragile in both cases, the integrated neighborhoods created through gentrification appear to be somewhat more racially stable.

Interaction in Integrated Neighborhoods

To be sure, we know very little about the extent to which different groups actually interact with one another in these neighborhoods. Census data only reveal the location of people's homes and not their social networks. The demographic distance between households of different races in these integrated neighborhoods, however, sheds some light on the likely level of interaction. For example, if the new white residents moving to predominantly minority, low-income neighborhoods are young, childless renters and the long-time residents are families with children, there may be limited interaction across racial groups in the neighborhood, and some might not even consider the community a meaningfully integrated neighborhood. In Table 7, we examine such demographic distance. The first column shows the 1990 composition of households in predominantly minority, low-income neighborhoods that gentrified and became racially integrated during the 1980s, while the second column shows the 2000 composition of households in predominantly minority, low-income neighborhoods that gentrified and became racially integrated during the 1990s. We find that in both sets of neighborhoods, black and Hispanic households were more likely to have children and less likely to be non-family households, as compared to white households. More work is needed to explore the social dynamics in these racially integrated neighborhoods, but these differences raise some question about the level of social integration.¹³

A Tale of Two Neighborhoods

¹² There were 6 tracts that were predominantly minority in 1980, gentrified and integrated during the 1980s, and experienced a significant gain in their white population during both the 1990s and 2000s. These tracts are located in the metropolitan areas of Chicago (1), Dallas (1), Milwaukee (1), of New York City (2), and Washington, DC (1).

¹³ To be clear, some of these differences are due to population-level differences – white households are less likely to have children in general. But the white households living in racially integrated neighborhoods are significantly less likely to have children and significantly more likely to be non-family households. .

Our analysis finds that while most predominantly minority neighborhoods that become racially integrated through gentrification appear to be fairly racially stable, there is significant variation. To highlight this variation, we present the story of two predominantly minority census tracts in New York City that became racially integrated through gentrification during the 1990s but followed very different trajectories after that initial decade. We choose New York because of the city's size and the extensive gentrification its neighborhoods have experienced in the past few decades.

The first tract is located in Williamsburg, Brooklyn, a neighborhood that has become almost synonymous with gentrification. Consistent with this common view, the tract has seen dramatic racial and economic change. The tract started with a poverty rate of 49 percent and a median household income that was 47 percent of the median household income in the metropolitan area in 1990 (which put it in the bottom 40 percent of census tracts in the metropolitan area). By 2000, the poverty rate had declined to 31 percent and the median household income in the tract had risen to 87 percent of the median household income in the metropolitan area. Over the next 16 years, the tract's poverty rate fell further to 24 percent and the median household income rose to 130 percent of the median household income in the metropolitan area. As for racial change, the neighborhood transitioned from 14 percent white, 7 percent black, and 74 percent Hispanic in 1990 to 38 percent white, 4 percent black, and 52 percent Hispanic in 2000. By 2016, the neighborhood had become 67 percent white, 2 percent black, and 19 percent Hispanic. Over a 26-year period, in other words, the white population share rose by 53 percentage points. To be clear, such dramatic racial change is unusual in gentrifying tracts. Across the country, only seven of the census tracts that gentrified in the 1990s (or 0.4 percent) saw a white population gain this large between 1990 and 2016.

The trajectory of this Williamsburg tract contrasts with that of a census tract in New York's West Midtown that also became racially integrated through gentrification in the 1990s but that remained racially integrated in 2016. In 1990, the tract's poverty rate was 26 percent and the median household income was 64 percent of the median household income in the metropolitan area (again putting it in the bottom 40 percent of tracts in the metropolitan area). By 2000, the poverty rate had fallen to 17 percent and the median household income had increased to 122 percent of the median household income in the metropolitan area. The poverty rate remained fairly constant between 2000 and 2016, and the median household income had increased slightly to 127 percent of the median household income in the metropolitan area. As for racial change, the tract went from 17 percent white, 38 percent black, and 41 percent Hispanic in 1990 to 38 percent white, 23 percent black, and 27 percent Hispanic in 2000. But the neighborhood saw little additional gain in percentage white between 2000 and 2016. In 2016, the neighborhood remained racially integrated, with a population composition that was 37 percent white, 11 percent black, and 34 percent Hispanic.

One key difference between the two neighborhoods is the presence of public housing. The tract in West Midtown includes a large public housing development with 14 high-rise buildings. The continued affordability of that public housing has assured some level of economic and racial diversity in the neighborhood. The degree to which public housing residents interact with higher-income residents in the neighborhood is unclear, but at the very least, residents of all

racess and incomes have access to the same schools, transportation networks and neighborhood streets.

Summary and Discussion

We aim in this article to consider how fair housing advocates should view the growth of gentrification in American cities. Walter Mondale, a co-sponsor of the Fair Housing Act, said that a key aim of the Act was to replace ghettos with “truly integrated and balanced living patterns.”¹⁴ Yet 50 years after the passage of the Act, such integrated spaces are rarely found in U.S. cities and suburbs.

Is gentrification helping to deliver the integrated neighborhoods that the authors of the Fair Housing Act had in mind? Our answer is that gentrification offers a potential opportunity to further integration, but policies may be needed to solidify that integration. First, while most predominantly minority, low-income neighborhoods have remained low-income, a growing number have gentrified in recent decades. And gentrification, at least in the short-term, has brought with it racial integration for a significant number of these neighborhoods. In the context of a country where the burden of integration has almost exclusively fallen on minority households, there is some good news here. Between 2000 and 2016, we saw an uptick in the number of higher-income white households choosing to move into racially and economically diverse, central city neighborhoods rather than only considering the higher-income, white enclaves that they have traditionally selected.

Second, the neighborhoods that have integrated through gentrification have remained racially integrated for longer periods of time than the conventional wisdom suggests. Many are seeing little change in their white population share in the decades following gentrification. Indeed, neighborhoods that became integrated through gentrification appeared to be more racially stable than those that integrated through households of color moving into predominantly white neighborhoods. Further work should explore these newly integrated neighborhoods more deeply, and most importantly, study how these neighborhoods shape the racial attitudes, cultural competence, and life chances of the children growing up in them.

We say all this with a large caveat, as some predominantly minority neighborhoods that gentrified during the 1980s were potentially on a path to becoming predominantly white and experiencing the resegregation that many fear. More importantly, the predominantly minority neighborhoods that have gentrified since the year 2000 have experienced a more significant rise in white population in the short-run, and thus they may not see the same racial stability in the longer-run. So while gentrification may offer an opportunity to diversify communities, the racial integration it creates is still fragile.

Thus, fair housing advocates should not discourage the entry of higher-income, white households into lower-income, predominantly minority neighborhoods. But advocates should call for policy interventions to secure and stabilize the integration these moves create, at least in

¹⁴ 114 Cong. Rec. 3422 (1968).

the neighborhoods where gentrification pressures are particularly strong. Governments should be sure to have policies in place to protect existing tenants from harassment and evictions. Such protections include just cause eviction laws, which circumscribe the acceptable causes for eviction, longer leases, and legal and organizing services for tenants (Herrine, Yager, and Mian, 2016).

Such tenant protections are necessary but not sufficient for maintaining integration over time, since the key to racial stability is a diversity of neighborhood in-movers (Ellen 2000). Preserving the subsidized housing that already exists in gentrifying areas can help to lock in diversity over the longer term and help to affirmatively further fair housing. While New York City may be an outlier, a full 12 percent of housing units in gentrifying areas of the city are public housing units and another 25 percent are privately-owned subsidized housing (Ellen, 2017). If preserved over time, these units can assure some level of economic mixing, and potentially racial mixing too. Local governments can also try to incentivize owners of low-rent but unsubsidized rental housing to keep their rents affordable through offering property tax incentives or lower-interest renovation loans. Such incentives may be costly in strong markets where market rents are high and rising quickly.

In addition to preserving existing, affordable units, governments can add to the existing stock of place-based, subsidized housing in gentrifying areas through acquisition and new construction. Policies to harness the market through either mandating or incentivizing owners to include low-rent units in their buildings can also be effective in hot markets.

Building the “truly integrated” communities that Walter Mondale had in mind may require more than just housing investments, however. Additional efforts to knit a community together and ensure that all residents are able to enjoy a neighborhood’s amenities and resources may also be needed (Chaskin and Joseph, 2015; Dastrup and Ellen, 2016). As Chaskin and Joseph (2015) find in their study of Chicago’s Plan for Transformation, lower income residents can sometimes feel disadvantaged or excluded in mixed-income communities. They argue for intentional efforts to build the social fabric, including developing more inclusive forms of governance and welcoming public spaces. Local community organizations are perhaps best equipped to help break down the barriers that often separate different groups of residents within a neighborhood and ensure that all residents feel part of the community and are able to take full advantage of any emerging opportunities.

References

114 Cong. Rec. 3422 (1968).

Baum-Snow, N., & Hartley, D. (2015). Gentrification and changes in the spatial structure of labor demand. *Working paper*.

Bostic, R. W., & Martin, R. W. (2003). Black home-owners as a gentrifying force? Neighbourhood dynamics in the context of minority home-ownership. *Urban Studies*, 40(12), 2427-2449.

Chetty, R., Hendren, N., & Katz, L. F. (2016). The effects of exposure to better neighborhoods on children: New evidence from the Moving to Opportunity experiment. *American Economic Review*, 106(4), 855-902.

Chaskin, R., and Joseph, M. (2015). *Integrating the Inner City: The Promise and Perils of Mixed-Income Housing Transformation*. Chicago, IL: University of Chicago Press.

Couture, V., & Handbury, J. (2017). *Urban revival in America, 2000 to 2010* (No. w24084). National Bureau of Economic Research.

Dastrup, S., & Ellen, I. G. (2016). Linking residents to opportunity: Gentrification and public housing. *Cityscape*, 18(3), 87-108.

Desmond, M. (2016). *Evicted: Poverty and profit in the American city*. Broadway Books.

Ding, L., Hwang, J., & Divringi, E. (2016). Gentrification and residential mobility in Philadelphia. *Regional science and urban economics*, 61, 38-51.

Edlund, L., Machado, C., & Sviatschi, M. M. (2015). *Bright minds, big rent: gentrification and the rising returns to skill* (No. w21729). National Bureau of Economic Research.

Ellen, I. G. (2000). *Sharing America's Neighborhoods: The Prospects for Stable, Racial Integration*. Cambridge, MA: Harvard University Press.

Ellen, I. G. (2018). Can Gentrification Be Inclusive? In Chris Herbert, Jon Spader, Jennifer Molinsky and Sharon Rieger (Eds.), *A Shared Future: Fostering Communities of Inclusion in an Era of Inequality* (pp. 336-341). Cambridge, MA: Harvard Joint Center for Housing Studies.

Ellen, I. G., & O'Regan, K. (2008). Reversal of Fortunes? Lower-income Urban Neighbourhoods in the US in the 1990s. *Urban Studies*, 45(4), 845-869.

Ellen, I. G., & O'Regan, K. M. (2011). How low income neighborhoods change: Entry, exit, and enhancement. *Regional Science and Urban Economics*, 41(2), 89-97.

- Fayaad, A. (2017). The Criminalization of Gentrifying Neighborhoods. *The Atlantic Monthly*, December 20, 2017. <https://www.theatlantic.com/politics/archive/2017/12/the-criminalization-of-gentrifying-neighborhoods/548837/>
- Freeman, L. (2005). Displacement or succession? Residential mobility in gentrifying neighborhoods. *Urban Affairs Review*, 40(4), 463-491.
- Freeman, L. (2009). Neighbourhood diversity, metropolitan segregation and gentrification: What are the links in the US?. *Urban Studies*, 46(10), 2079-2101.
- Freeman, L., & Cai, T. (2015). White entry into black neighborhoods: advent of a new era?. *The Annals of the American Academy of Political and Social Science*, 660(1), 302-318.
- Frey, W. (2011). *Melting Pot Cities and Suburbs: Racial and Ethnic Change in Metro America in the 2000s*. Washington, DC: The Brookings Institution Metropolitan Policy Program.
- Galster, G. C., Quercia, R. G., Cortes, A., & Malega, R. (2003). The fortunes of poor neighborhoods. *Urban Affairs Review*, 39(2), 205-227.
- Hartley, D. (2013). Gentrification and Financial Health. Federal Reserve Bank of Cleveland. <https://www.clevelandfed.org/newsroom-and-events/publications/economic-trends/2013-economic-trends/et-20131106-gentrification-and-financial-health.aspx> (accessed June 25, 2018)
- Herrine, L., Yager, J., & Mian, N. (2016). *Gentrification Response: A Survey of Strategies to Maintain Neighborhood Economic Diversity*. New York: NYU Furman Center, October 2016.
- Hwang, J., & Lin, J. (2016). What Have We Learned About the Causes of Recent Gentrification?. *Cityscape*, 18(3), 9-26.
- Hwang, J., & Sampson, R. J. (2014). Divergent pathways of gentrification: Racial inequality and the social order of renewal in Chicago neighborhoods. *American Sociological Review*, 79(4), 726-751.
- Hyra, D. S. (2017). *Race, Class, and Politics in the Cappuccino City*. Chicago: The Univ. of Chicago Press
- McKinnish, T., Walsh, R., & White, T. K. (2010). Who gentrifies low-income neighborhoods? *Journal of Urban Economics*, 67(2), 180-193.
- Owens, A., & Candipan, J. (2018). Racial/Ethnic Transition and Hierarchy Among Ascending Neighborhoods. *Urban Affairs Review*, published online April 19, 2018.
- Rosenthal, S. S. (2008). Old homes, externalities, and poor neighborhoods. A model of urban

decline and renewal. *Journal of urban Economics*, 63(3), 816-840.

Sutton, S. (2018). Gentrification and the Increasing Significance of Racial Transition in New York City 1970-2010. *Urban Affairs Review*, published online May 9, 2018.

U.S. Census Bureau. (2001). *Population by Race and Hispanic or Latino Origin, 1990 and 2000*. Report PHC-T-1.

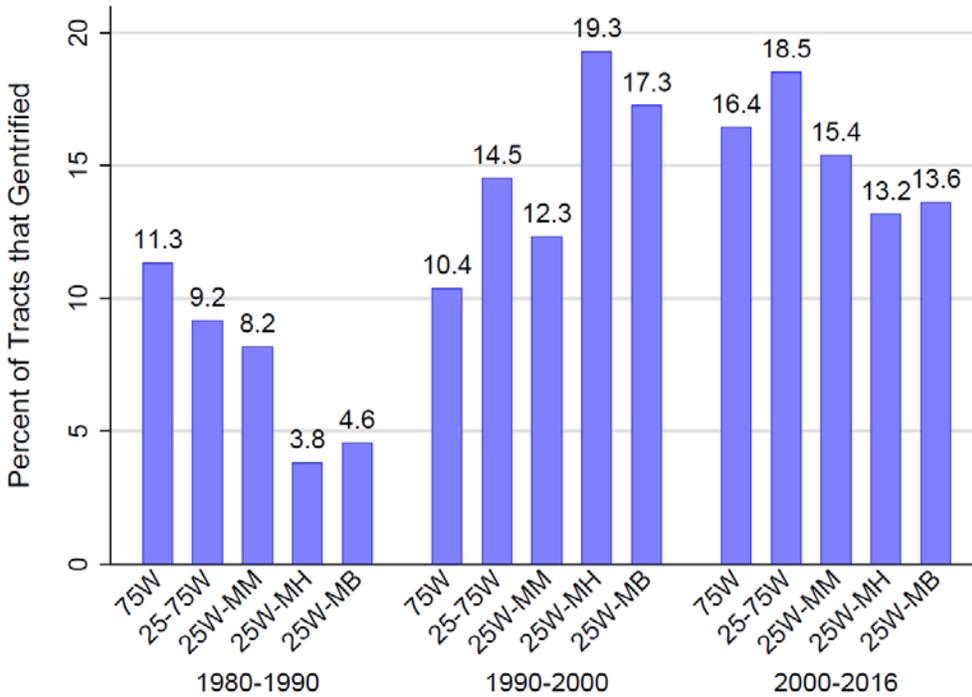
Vespa, J., Armstrong, D. M., & Medina, L. (2018). Demographic turning points for the United States: Population projections for 2020 to 2060. *Washington, DC: US Census Bureau*.

Vigdor, J. L. (2002). Does Gentrification Harm the Poor? *Brookings-Wharton Papers on Urban Affairs*: 133-82.

Tables and Figures

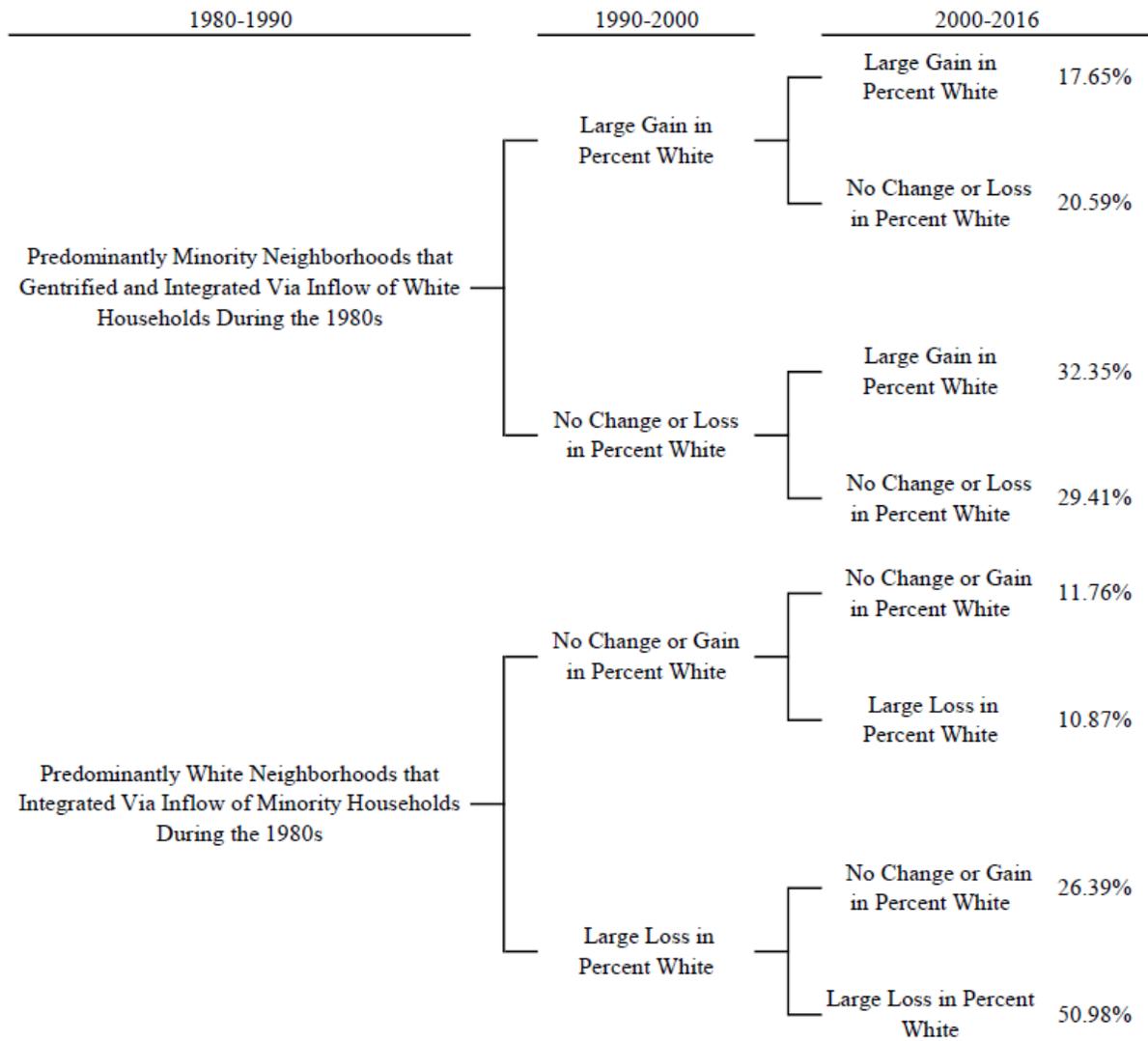
Tables 1 to 7 and table A1: See Attached Excel file.

Figure 1: Percent of Tracts that Gentrified, By Initial Racial Composition



Notes: 75W are tracts that were more than 75% white at the start of the decade, 25-75W are tracts that were 25-75% white at the start of the decade, 25W-MM are tracts that were less than 25% white and more than 50% Asian or mixed minority at the start of the decade, 25W-MH are tracts that were less than 25% white and more than 50% Hispanic at the start of the decade, and 25W-MB are tracts that were less than 25% white and more than 50% black at the start of the decade.

Figure 2: Subsequent Racial Change in Census Tracts that Became Integrated During the 1980s



tables

Table 1: Prior Racial Composition of Tract that Became Racially Integrated in Each

	All Tracts in CBSAs		
	(1)	(2)	(3)
	1990 (N= 4,990)	2000 (N= 6,839)	2016 (N= 8,926)
<i>Distribution by Percentage</i>			
<i>White in Decade Prior</i>			
0-25%	0.025	0.017	0.056
75-100%	0.975	0.983	0.944

Notes: Each column shows the distribution of percent non-Hispanic white in the decade prior of tracts that became racially integrated (i.e., 25-75% white) in the decade expressed at the top of the column. For example, Column 1 shows the distribution of percent non-Hispanic white in 1980 of all tracts in CBSAs that became 25-75% white in 1990. For tracts observed on 2016, the decade prior is 2000.

Table 2: Baseline Characteristics of Central-City Low Income Tracts

	Low-Income & Gentrified			Low-Income & Didn't Gentrify		
	1980-1990 (N=1,180)	1990-2000 (N=1,907)	2000-2016 (N=2,225)	1980-1990 (N=12,075)	1990-2000 (N=11,618)	2000-2016 (N=11,598)
<i>Income and Education</i>						
Mean Tract to Metro Income Ratio	0.58	0.58	0.61	0.70	0.65	0.64
Mean Income Percentile	15.75	14.11	17.65	18.03	18.14	17.79
Mean % College	18.24	13.16	22.21	10.95	13.41	14.14
Mean % Poverty	19.08	30.53	25.15	21.31	23.69	24.24
<i>Racial Composition</i>						
Mean % White	68.89	42.16	43.81	56.18	50.64	40.26
Mean % Black	18.31	33.36	27.72	27.36	28.48	31.93
Mean % Hispanic	10.06	20.36	21.74	13.62	16.42	22.26
<i>Distribution by Percentage White</i>						
75-100% White	0.57	0.25	0.22	0.43	0.35	0.21
25-75% White	0.29	0.35	0.44	0.28	0.33	0.37
0-25% White, Majority Black	0.10	0.26	0.19	0.21	0.20	0.23
0-25% White, Majority Hispanic	0.02	0.13	0.12	0.06	0.09	0.15
0-25% White, Mixed Minority	0.01	0.02	0.04	0.01	0.03	0.04
<i>Distribution by Census Region</i>						
Northeast	0.21	0.15	0.27	0.22	0.23	0.20
Midwest	0.18	0.26	0.16	0.25	0.24	0.26
South	0.39	0.36	0.32	0.30	0.31	0.32
West	0.22	0.23	0.25	0.23	0.23	0.22

Notes: Each column reports baseline characteristics at the start of the period expressed at the top of the column. For example, Column 1 shows baseline characteristics in 1980 of tracts that were low-income in 1980 and gentrified between 1980 and 1990. Low-income tracts are defined as those that were at or below the 40th percentile of the CBSA income distribution. Gentrifying tracts are those that experience a gain in the ratio of their income to the CBSA income of at least 0.1 over a decade. White refers to non-Hispanic white population. Black refers to non-Hispanic black population. Our sample of CBSAs includes 327 metropolitan areas and 85 micropolitan areas, based on the 2013 delineations by the U.S. Office of Management and Budget. The metropolitan and micropolitan areas excluded from the analyses are those that include tracts that were not sampled in the 1980 Census.

Table 3: Short-Term Change in % White for Low-Income, Predominantly Minority Tracts, By Gentrification Status

	Gentrified			Didn't Gentrify		
	1980s	1990s	2000s	1980s	1990s	2000s
25th percentile	-2.8	-2.2	0.3	-4.3	-4.1	-3.6
50th percentile	0.3	-0.1	7.2	-1.4	-1.0	-0.4
75th percentile	7.2	1.5	18.3	0.0	0.4	1.9
90th percentile	17.7	6.5	28.7	1.7	1.8	6.0

Notes: In each decade, the sample is restricted to central-city tracts that started as low-income (i.e., tracts below the 40th percentile of the CBSA income distribution) and were less than 25 percent Non-Hispanic White

tables

Table 4: Short-Term Transition Probabilities of Racial Distribution for Central-City Low-Income, Predominantly Minority Tracts

	Gentrified						Didn't Gentrify					
	1990 White						1990 White					
	+75%	25-75%	<25%MB	<25%Mh	<25%MM	Total	+75%	25-75%	<25%MB	<25%Mh	<25%MM	Total
1980 White	0.00	18.49	80.67	0.84	0.00	100.00	0.00	1.68	93.31	2.72	2.28	100.00
<25%-MB	0.00	27.59	6.90	62.07	3.45	100.00	0.00	2.05	0.27	95.77	1.91	100.00
<25%-MH	0.00	28.57	21.43	0.00	50.00	100.00	0.00	0.64	8.92	45.22	45.22	100.00
<25%-MM	0.00	20.99	62.35	11.73	4.94	100.00	0.00	1.71	69.28	24.82	4.19	100.00
<25%, Pooled												
	Gentrified						Didn't Gentrify					
	2000 White						2000 White					
	+75%	25-75%	<25%MB	<25%Mh	<25%MM	Total	+75%	25-75%	<25%MB	<25%Mh	<25%MM	Total
1990 White	0.00	4.08	89.39	3.47	3.06	100.00	0.00	0.89	93.57	3.02	2.51	100.00
<25%-MB	0.00	8.20	0.41	90.98	0.41	100.00	0.00	1.47	0.20	97.06	1.27	100.00
<25%-MH	0.00	25.00	6.82	27.27	40.91	100.00	0.00	1.60	6.07	38.34	53.99	100.00
<25%-MM	0.00	6.56	56.81	32.26	4.37	100.00	0.00	1.11	60.26	32.08	6.55	100.00
<25%, Pooled												
	Gentrified						Didn't Gentrify					
	2016 White						2016 White					
	+75%	25-75%	<25%MB	<25%Mh	<25%MM	Total	+75%	25-75%	<25%MB	<25%Mh	<25%MM	Total
2000 White	0.24	32.00	60.47	2.35	4.94	100.00	0.00	4.04	88.61	2.74	4.60	100.00
<25%-MB	0.39	25.68	0.00	68.48	5.45	100.00	0.06	3.25	0.35	93.38	2.95	100.00
<25%-MH	0.00	34.12	1.18	15.29	49.41	100.00	0.00	4.50	3.64	31.05	60.81	100.00
<25%-MM	0.26	30.12	33.64	25.95	10.04	100.00	0.02	3.81	49.67	37.07	9.43	100.00
<25%, Pooled												

Notes: In each decade, the sample is restricted to central-city tracts that started as low-income (i.e., tracts below the 40th percentile of the CBSA income distribution) and were less than 25 percent Non-Hispanic White. Gentrifying tracts are those that experience a gain in the ratio of their income to the CBSA income of at least 0.1 over a decade. White refers to non-Hispanic white population. +75% are tracts that were more than 75% white. 25-75% are tracts that were 25-75% white. <25%MB tracts are tracts that were less than 25% white and majority black. <25%Mh tracts are tracts that were less than 25% white and majority Hispanic. <25%MM tracts are tracts that were less than 25% white and mixed majority.

Table 5: Long-Term Change in % White for Tracts that Started <25% White in 1980, By Gentrification Status

	Gentrified		Didn't Gentrify	
	1980s	1990s	1980s	1990s
25th percentile	-3.8	-2.0	-4.8	-4.5
50th percentile	1.8	0.7	-0.5	-0.3
75th percentile	22.6	7.8	3.5	2.9
90th percentile	42.1	24.2	14.5	11.2

Notes: Long-term changes are measured from 1980 to 2016 and from 1990 to 2016. Low-income tracts below the 40th percentile of the CBSA income distribution). White refers to non-Hispanic white population. Black refers to non-Hispanic black population.

tables

Table 6: Long-Term Transition Probabilities of Racial Distribution for Central-City Low-Income, Predominantly Minority Tracts

	Gentrified						Didn't Gentrify					
	2016 White						2016 White					
	+75%	25-75%	<25%MB	<25%Mh	<25%MM	Total	+75%	25-75%	<25%MB	<25%Mh	<25%MM	Total
1980 White												
<25%-MB	3.36	28.57	57.98	5.88	4.20	100.00	0.12	9.17	75.48	10.14	5.09	100.00
<25%-MH	6.90	27.59	6.90	58.62	0.00	100.00	0.27	10.38	1.23	85.38	2.73	100.00
<25%-MM	0.00	57.14	0.00	14.29	28.57	100.00	0.00	8.92	4.46	56.69	29.94	100.00
<25%, Pooled	3.70	30.86	43.83	16.05	5.56	100.00	0.15	9.42	56.13	28.57	5.73	100.00
1990 White												
<25%-MB	0.41	15.10	74.29	6.12	4.08	100.00	0.04	6.90	81.09	6.73	5.24	100.00
<25%-MH	0.00	17.62	0.41	79.51	2.46	100.00	0.20	5.29	0.88	91.18	2.45	100.00
<25%-MM	0.00	31.82	4.55	38.64	25.00	100.00	0.00	7.99	4.15	40.89	46.96	100.00
<25%, Pooled	0.26	16.84	47.17	30.98	4.76	100.00	0.08	6.55	52.32	33.03	8.01	100.00

Notes: Low-income tracts are defined as those that were at or below the 40th percentile of the CBSA income distribution. Gentrifying tracts are those that experience a gain in the ratio of their income to the CBSA income of at least 0.1 over a decade. White refers to non-Hispanic white population. +75% are tracts that were more than 75% white. 25-75% are tracts that were 25-75% white. <25%MB tracts are tracts that were less than 25% white and majority black. <25%Mh tracts are tracts that were less than 25% white and majority Hispanic. <25%MM tracts are tracts that were less than 25% white and mixed majority.

Table 7: Family Structure of Predominantly Minority, Low-Income Tracts that Gentrified and Racially Integrated

	1990	2000
<i>Black households</i>		
With children	34.47	32.89
Without children	25.27	22.85
Nonfamily	40.26	44.25
<i>Hispanic households</i>		
With children	38.82	42.71
Without children	27.51	24.61
Nonfamily	33.67	32.68
<i>White households</i>		
With children	20.80	18.14
Without children	27.79	26.25
Nonfamily	51.41	55.61

tables

Table A1: Short-Term Regressions of Likelihood of Gentrification

	1(Δ Income Ratio>.1)		
	(1) 1980s	(2) 1990s	(3) 2000s
<i>Baseline Means</i>			
Income Ratio	-0.4841*** (0.0205)	-0.3870*** (0.0248)	-0.3646*** (0.0280)
% College	0.0052*** (0.0003)	0.0017*** (0.0003)	0.0083*** (0.0003)
% Black	-0.0014*** (0.0001)	-0.0001 (0.0001)	-0.0002 (0.0001)
% Hispanic	-0.0013*** (0.0001)	0.0007*** (0.0002)	0.0003** (0.0002)
<i>Census Region</i>			
Mid-West	-0.0109 (0.0066)	0.0773*** (0.0084)	-0.0628*** (0.0092)
South	0.0462*** (0.0072)	0.0836*** (0.0080)	-0.0090 (0.0092)
West	-0.0054 (0.0074)	0.0552*** (0.0086)	-0.0197* (0.0102)
Observations	13,255	13,525	13,823
Adj. R 2	0.12	0.03	0.08

Notes: In each decade, the sample is restricted central-city tracts that started as low-income (i.e., tracts below the 40th percentile of the CBSA income distribution). White refers to non-Hispanic white population. Black refers to non-Hispanic black population.