



# Does gentrification increase employment opportunities in low-income neighborhoods?

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## ABSTRACT

Gentrification is a term often associated with displacement and other negative byproducts of affluent in-movers altering the economic and demographic composition of a neighborhood. Empirical research on neighborhood change, however, has not produced any conclusive evidence that incumbent residents are systematically displaced under circumstances of gentrification. This raises the question, do these incumbent residents benefit from the economic and social changes that accompany gentrification? In this paper, we focus on low-income neighborhoods undergoing economic transitions (i.e. gentrification) and test whether or not the potential benefits from these changes stay within the community, in the form of employment opportunities for local residents. We find that employment effects from gentrification are quite localized. Incumbent residents experience meaningful job losses within their home census tract, even while jobs overall increase. In our preferred model, local jobs decline by as much as 63 percent. These job losses are concentrated in service and goods-producing sectors and low- and moderate-wage positions. Proximate job losses, however, are compensated for by larger gains in goods-producing and low-wage jobs slightly farther away. There is some evidence that chain establishments are associated with modest job gains in gentrifying census tracts, and that, outside of NYC, businesses that stay in place around gentrifying neighborhoods are associated with marginal job gains.

## 1. Introduction

Gentrification is a term often associated with displacement and other negative byproducts of affluent in-movers altering the economic and demographic composition of a neighborhood. Indeed, new investment in a community can bring increased pressure on rents and prices and niche services that cater more to the relatively new residents than the incumbent ones; these kinds of outcomes do not always bode well for longstanding community members. However, there is another side to gentrification, and one that can bring opportunity and quality of life to areas that were otherwise neglected. These upsides have become increasingly more relevant, as the empirical research has not produced any conclusive evidence that incumbent residents are systematically displaced under circumstances of gentrification. This raises the question, do these incumbent residents benefit from the economic and social changes that accompany gentrification? In this paper, we focus on low-income neighborhoods undergoing economic transitions (i.e. gentrification) and test whether or not the potential benefits from these changes stay within the community, in the form of employment opportunities. Access to nearby jobs for residents of lower-income neighborhoods not only fosters economic mobility, but also physical

mobility, in the form of shorter commute times and reduced traffic congestion (Kaufman et al., 2014). There is also empirical evidence to suggest that individuals living in lower-income neighborhoods rely more heavily on nearby employment opportunities, if they exist, than those living in more affluent neighborhoods (Atkinson and Kintrea, 2001). In cases where there are no local jobs, those residents from poorer (and predominantly minority) neighborhoods face longer-than-average commute times (Roberts and Taylor, 2015; Kneebone and Holmes, 2015; Razza 2015). In the New York metro area, the site for this analysis, we know that close to 60 percent of the residents in the bottom income quintile spend more than 25 min commuting, compared to 52 percent for the top quintile.

The theoretical impact on employment opportunities for local residents is ambiguous. In the case where economic change brings in new local businesses, nearby existing residents will have the benefit of more information and lower search costs. All else equal, they should see more local employment opportunities—essentially a reversal of the spatial mismatch phenomenon. On the other hand, should neighborhood economic upgrading bring in new businesses that more productively use the existing commercial space or who exploit farther-reaching hiring networks (chains, for example), local existing residents, with

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potentially lower skill sets and smaller networks, will not be as competitively positioned for these jobs.

In order to test these predictions, we build a dataset that tracks the universe of neighborhoods in the New York City metro area for nearly a decade (2002–2011) with information on business turnover and contraction/expansion over time, demographic, economic, and built environment characteristics, and employment of the local resident labor pool. We compare changes in local employment across low-income neighborhoods experiencing gentrification to those that are more economically stagnant or declining. Our results suggest that the employment effects from gentrification are quite localized and that incumbent residents experience meaningful job losses within their home census tract. These proximate losses are most pronounced in places outside NYC, where jobs are at the same time less spatially concentrated and also initially more accessible to the typical neighborhood (in terms of commute time). There is little evidence of job gains or losses in larger live-work zones. The proximate losses are felt in service, goods-producing, and low-to-moderate-wage jobs. On the other hand, local residents gain higher-wage jobs within their home census tracts and low-wage and goods-producing jobs slightly farther away. It is harder to identify how changes in local jobs relate to the nature of business turnover. There is consistent evidence that, in places outside of NYC, businesses that stay in place in gentrifying neighborhoods are associated with significant (albeit very small) job gains within 1/3-mile. Finally, we see evidence of modest job gains in census tracts with more chain establishments.

The paper proceeds in the following way. Section 2 sets up the theoretical framework for the analysis and Section 3 summarizes the relevant empirical work to date. Section 4 describes the data for the analysis and Section 5 the empirical strategy. Section 6 presents the results from the analysis. Finally, Section 7 concludes and discusses policy implications.

## 2. Theoretical motivation

While the entry of new money and investment into a community can “price out” incumbent, typically lower-income residents, this increased economic activity can also bring new opportunities for local residents. One potential upside to gentrification is more nearby employment opportunities; the extent of this benefit will depend on whether or not and to what degree these new jobs actually go to local residents. However, the impact of neighborhood economic upgrading on employment opportunities for local residents is theoretically ambiguous.

Economic upgrading not only brings in more affluent and educated residents, but it also ushers in services that did not previously pervade those markets (Meltzer and Schuetz, 2012; Meltzer and Capperis, 2014). Both of these additions to the community can facilitate access to localized employment opportunities. First, it is possible that the residential integration of relatively more affluent and educated households could impose both direct and indirect positive externalities on incumbent residents, who also tend to be lower-income and less educated. Indirect effects, akin to peer effects, would come simply out of exposure to this new population, whether or not any direct interaction took place (Ellen and Turner, 1997; Galster, 2012). More likely is the employment opportunities that come out of direct contact with new, perhaps more networked or more enterprising neighbors (Ioannides and Loury, 2004). Both would result in a positive impact on access to employment opportunities, the direct more significantly than the indirect. Whether or not employment opportunities are local remains ambiguous, unless the new neighbor is also more likely to personally hire in his or her home or local business.

A perhaps more convincing scenario is where economic change brings in new and/or more local business establishments, i.e. those entities that actually hire. First, the likelihood to hire locally will depend on the type of business. More service-oriented businesses, or those that do not require technical or more advanced skill training, will

more likely be able to hire from a local pool that may not have higher or more technical levels of educational attainment (Hellerstein et al., 2015). Second, the search costs for both the businesses and local residents are lower: information about the employment opportunities is accessible and transparent (i.e. local residents can see when a new business is opening up) and advertising for available positions can penetrate the local community immediately (Johnson, 2006). Finally, government policies may require local hiring for new businesses, especially those in brand new developments or renovations (that are also more likely to receive public subsidies or permitting). All else equal, these mechanisms predict increased local employment opportunities—essentially a reversal of the spatial mismatch phenomenon.

On the other hand, physical integration may not translate into economic integration. Should neighborhood economic upgrading bring in new businesses that more productively use the existing commercial space (i.e. hire those with more technical training) or who exploit farther-reaching hiring networks (chain establishments, for example), local existing residents, with potentially lower skill sets and smaller networks, will not be as competitively positioned for these jobs. In addition, local businesses may simply discriminate against potential local hires, based on race or class, which would lower the chances of local employment (Lang and Lehmann, 2012).

## 3. Empirical literature review

The literature on spatial mismatch and the geography of employment is rich and documents, for various races and ethnicities, the importance of not just spatial proximity to employment (for example, Kain, 1968; Holzer, 1991; Ihlanfeldt and Sjoquist, 1998; Raphael and Stoll, 2002; Johnson, 2006; Liu and Painter, 2011), but also skill matching (Immergluck, 1998) and social proximity (i.e. networks) (see Ioannides and Loury, 2004 for a comprehensive critical summary). Fewer studies, however, have examined these relationships over time and, in particular, under circumstances of dramatic economic and demographic change. We discuss here the small body of work that relates directly to the current analysis.

### 3.1. The localized effects of gentrification

Gentrification is typically characterized as the arrival of relatively more affluent and educated households into neighborhoods that have historically been occupied by lower income and often minority households. This process is also usually accompanied by investment in the housing stock and local infrastructure. These physical changes, however, are usually not apace with the increased demand for occupying the space, placing pressure on prices and making it attractive for landlords to increase rents. Incumbent residents are immediately at risk of displacement, especially those who are renting, and this threat has been the focus of most of the gentrification literature thus far. Earlier investigations, whether they relied on case studies or microdata (Vigdor et al., 2002; Freeman and Braconi, 2004; Freeman, 2005), found no evidence of displacement for poor or minority households. Later studies that were able to exploit even more comprehensive micro-level panel data corroborated these findings. McKinnish et al. (2010) find no evidence of displacement of non-white households and that a disproportionate number of black householders, with no college education, remain in upgrading low-income neighborhoods. Ellen and O'Regan (2011) account for both in- and out-flows of residents, and still find no evidence of negative displacement effects. In fact, incumbent residents, under certain circumstances, experienced gains in income and reported higher levels of satisfaction with their neighborhoods, compared to other non-gentrifying low-income neighborhoods. This is also consistent with the findings from Sullivan and Shaw's (2011) study of retail gentrification in Portland, Oregon: black residents of the studied gentrifying neighborhood appreciated the convenience of the nearby retail (even though the satisfaction with

the type of services provided was less enthusiastic). Finally, extending these empirical tests to the United Kingdom, [Freeman et al. \(2015\)](#) rely on rich survey data and, again, find no significant differences in displacement between gentrifying and non-gentrifying neighborhoods.

### 3.2. Localized economic opportunity and gentrification

Even though the empirical evidence indicates that incumbent residents tend to stay in their gentrifying neighborhoods, we know very little about how they experience the potential opportunities that accompany neighborhood change. Do existing residents benefit from local gains in services and employment opportunities? A handful of studies focus on changes in commercial services (i.e. retail), in neighborhoods undergoing economic and demographic transitions. The economically upgrading neighborhoods tend to experience higher growth rates in local retail establishments and employment ([Meltzer and Schuetz, 2012](#); [Schuetz et al., 2012](#)). In their case-study analysis of gentrifying neighborhoods in New York City, [Zukin et al. \(2009\)](#) also observe retail growth, but more so for independently owned establishments compared to chain ones. [Immergluck \(1999\)](#) finds that neighborhoods that are relatively more minority and less affluent experience declines in commercial investment, as measured by changes in permit activity. [Chapple and Jacobus \(2009\)](#) observe retail revitalization most significantly in middle-income neighborhoods that are economically upgrading. Therefore, the literature implies that gentrifying neighborhoods do tend to witness an increase in commercial activity, likely due to the changing consumer population and the (perceived) increase in demand for goods and services in areas that were not previously seen as viable investments ([Carree and Thurik, 1996](#)).

Other studies have taken a different perspective, focusing instead on the production side. [Curran \(2004\)](#) conducts a case-study analysis in the Williamsburg neighborhood of Brooklyn, a historically manufacturing and blue-collar neighborhood that has, in recent years, undergone extensive gentrification. She finds evidence of gentrification-induced industrial displacement that has degraded local blue-collar work and forced much of it into the informal sector. [Lester and Hartley \(2014\)](#) also observe industrial restructuring in gentrifying neighborhoods, such that jobs in restaurants and retail services tend to replace those in goods producing industries. Furthermore, gentrifying neighborhoods experienced both more rapid employment growth and more rapid industrial restructuring than other, non-gentrifying neighborhoods. While Lester and Hartley conclude that gentrification is itself a catalyst for localized industrial restructuring, [Kolko \(2009\)](#) raises the important point that gentrification is also induced (and perpetuated) by the influx of affluent households who are presumably following higher paying jobs. In his study, Kolko focuses on neighborhoods located in or near the central business district and estimates the impact of changes in job pay on the average neighborhood income (his proxy for gentrification). [Baum-Snow and Hartley \(2017\)](#) conduct a slightly augmented analysis, in the same vein, that comes to similar conclusions: the demand for living in certain neighborhoods due to nearby job opportunities, especially those closer to the central business district, can influence the economic trajectory of those neighborhoods. These analyses shed light on the influence of “newcomers” on local labor markets and how they too might be competing for neighborhood-based employment opportunities. No study to date tests whether or not these employment benefits are realized by incumbent residents, or how access to employment might vary by job type or broader neighborhood conditions. This link is crucial, as it more directly measures how the benefits of gentrification are retained by local community members, or if they are exported to those without any longstanding community ties.

## 4. Data

The data for this project are compiled from a number of sources. The core component is derived from the LEHD Origin-Destination Employment Statistics (LODES) dataset, which is publicly available from

the Census Bureau. The LODES data contain information on annual employment counts and live-work patterns of employees for every census block in the New York-Newark, NY-NJ-CT-PA Combined Statistical Area dating from 2002 to 2011. In addition, the job counts are broken down with respect to their wage levels and sector classifications.<sup>1</sup> Since the census block is quite small and not consistent with a neighborhood's span, we aggregate up this information into four larger geographies (“live-work zones”): census tracts and 1/3-, 1- and 2-mile-radius rings around the census tract where a worker (or potential worker) lives. A priori, it is also unclear at what geography local jobs would be most affected, and therefore we test for responses at all four radii.

We supplement the LODES data with two other datasets. First, we attach neighborhood characteristics from the Neighborhood Change Database. Geolytics' Neighborhood Change Database provides data for 1970 through 2010, normalized to consistent census tracts as defined in the 2010 census. We use indicators from the Census and the American Community Survey's three-year estimates for larger geographies. We retain variables on the neighborhood's population total, racial and ethnic composition, education levels, housing stock (including typical structure age, rents and housing values), poverty rate, unemployment rate, age distribution, commuting times, and residential mobility (specifically, the share of housing units occupied by new households between 2000 and 2008). Since the data is available at the census tract level, we need to construct the variables for the larger ring geographies. To do this, we first identify the census tracts whose centroids lie inside the respective ring and then aggregate the census tract values up to the ring-level (in certain cases, we create weighted averages).

Second, we merge in information from a proprietary data set, the National Establishment Time Series (NETS), which allows us to follow the universe of business establishments in New York City (including their industry classification and organizational structure) over the study period. This database is constructed by Walls and Associates, using information from the Dun & Bradstreet business register. Unlike the LODES data, NETS provides full street address information for each establishment. We geocode these businesses' addresses to tax parcels so that we can accurately attach census tracts and then aggregate establishment counts to obtain census tract (and then ring) totals. Because the NETS data are longitudinal and establishment-specific, we can measure gross changes in the number of establishments (i.e. the number of businesses that enter versus exit a neighborhood).

We limit our study area to the New York-Newark, NY-NJ-CT-PA Combined Statistical Area and run analyses on census tracts (and the various sized rings they comprise) that are populated as of 2000 and with valid income values throughout the study period. Ultimately, we end up with 50,889 tract-year observations across low- and moderate/high-income census tracts, which span 10 years (2002–2011) and over 800 municipalities. We restrict the regression analysis to low-income neighborhoods; this step is described in more detail below.

## 5. Empirical strategy

### 5.1. Identification of gentrifying neighborhoods

In our analysis, we operationalize the neighborhood as a census tract. While the density of a census tract can vary, it tends to have an average of about 4000 residents in our sample and is a common (and convenient) geography at which to measure neighborhood dynamics ([Lester and Hartley, 2014](#); [Ellen and O'Regan, 2008, 2011](#); [McKinnish et al., 2010](#)). For our analysis, the census tract identifies the location of residence; work zones will be defined coterminously and more broadly (see below).

<sup>1</sup> This data is not going to pick up informal hires and employment opportunities that are not recorded by unemployment insurance. Therefore, any count of jobs is admittedly an undercount. We hope to mitigate any systematic bias by controlling for other socioeconomic characteristics at the neighborhood level that are correlated with the likelihood of these informal activities.

We prioritize the economic dimension of gentrification, and identify neighborhoods as gentrifying if they improve in their relative economic position over the course of the study period. This is consistent with previous implementations (see Ellen and O'Regan, 2008; McKinnish et al., 2010; Meltzer and Schuetz 2012). However, we do replicate our analyses using alternative indicators of gentrification that capture other dimensions, such as education, housing values and housing vintage, which have also been used in prior studies (see Hammel and Wylie 1996; Vigdor et al., 2002; Freeman 2005; Lester and Hartley 2014).<sup>2</sup> Fig. 1 displays a correspondence matrix for the tract and 1-mile ring (the matrices for the other radii look nearly identical), showing that the classification of census tracts as gentrifying is overwhelmingly consistent across the various definitions. At all of the live-works zones (described in detail below) the correspondence across at least three of the definitions is between 80 and 100 percent; the definition based on the vintage of the baseline housing stock is less consistent. Therefore, it is not surprising that the findings from these alternative specifications confirm the results from the specifications using an income-based gentrification indicator (see Appendix A for a table of these results). Nevertheless, variables capturing these alternative dimensions are included as covariates in our analyses; therefore, while they are not instrumental in identifying the gentrifying neighborhoods, they are accounted for as important correlates of neighborhood change.

To classify gentrifying neighborhoods, we (i) identify neighborhoods as “very low-income” if they have average household incomes that are in the bottom quintile of the neighborhood income distribution in 2000,<sup>3</sup> (ii) create a ratio of tract-level income to MSA-level income for 2000 and 2008 ( $AvgInc_{tract\_2000} / AvgInc_{MSA\_2000}$  and  $AvgInc_{tract\_2008} / AvgInc_{MSA\_2008}$ , respectively), and (iii) take the difference of these ratios to calculate the change in relative income over the course of the study period.<sup>4</sup> We consider two degrees of gentrification. First, those neighborhoods with any positive changes in relative income (e.g.  $[AvgInc_{tract\_2008} / AvgInc_{MSA\_2008}] - [AvgInc_{tract\_2000} / AvgInc_{MSA\_2000}] > 0$ ) are classified as *gentrifying*. Second, we array the census tracts with respect to their changes in relative income and identify those neighborhoods with changes in the top quartile of the distribution as *substantially gentrifying* (e.g.  $[AvgInc_{tract\_2008} / AvgInc_{MSA\_2008}] - [AvgInc_{tract\_2000} / AvgInc_{MSA\_2000}] > .05$ ).<sup>5</sup> We rely on relative measures of income, and how those change over time, to account for costs of living in a particular locality and the fact that macro metro area economic shifts may or may not be reflected equally at the neighborhood level (this is consistent with other studies such as Rosenthal (2008) and Ellen and O'Regan (2008)).

Out of all of the census tracts in the study area, 879 are designated as low-income; out of those low-income tracts, about 40 percent are identified as gentrifying over the study period.<sup>6</sup> We also see that this

income-based designation reflects other demographic disparities across low- and moderate/high-income neighborhoods. For example, in Table 1, we display demographics for very low-income tracts against those same variables for higher-income tracts, as of 2000. We see that relatively higher income tracts have more local jobs, which is consistent with a spatial mismatch narrative for lower-income tracts. The higher income tracts also have more educated and older populations, fewer non-white households, fewer residents in poverty, lower unemployment rates, higher homeownership rates and newer housing stock. The residential population was more stable as of 2008 (with a lower share that had moved in the previous five years) and a workforce that tends to commute slightly less than that in the poorer neighborhoods. While the relatively higher income tracts experienced more growth in population between 2000 and 2008, the lower income neighborhoods saw higher rent and housing value increases over that same time period. Relatively higher income tracts tend to have bigger retail establishments and smaller non-retail establishments (like, professional services or goods-producing enterprises); they also have more businesses that stay in place over the course of the study period. The movement of businesses into and out of the neighborhoods is comparable, however. These are all characteristics that will be controlled for in the regression analyses that follow.

## 5.2. Identification of live-work zones

The live-work zones are centered on the census-tract, and span four different radii. In order to test for geographically immediate labor effects, we define the first live-work zone as the same census tract. Second, we draw 1/3-, 1- and 2-mile rings around each low-income census tract and aggregate employment numbers accordingly. We consider the 2-mile ring a reasonable upper bound, since it is consistent with live-work buffers used in other studies (Baum-Snow and Hartley, 2017; Kolko 2009; Immergluck 1998).<sup>7</sup>

To provide a sense of how the various live-work geographies compare, we display some comparative statistics in Table 2 and Appendix B. We see that the 1/3-mile ring is comprised of, on average, two census tracts; the one-mile ring is comprised of about twenty tracts and the two-mile ring between sixty and sixty-five. The population in the 1/3-mile ring is just over 2 times that of the tract and the 1- and 2-mile rings have about six- and sixteen-times that of the 1/3-mile ring population, respectively. Whereas the number of local jobs increases even more dramatically as the live-work zone grows, the share of all jobs going to residents in the centroid tract is just about the same for the census tract and 1/3-mile ring and only slightly higher for the 1- and 2-mile rings. Therefore, the four zones provide reasonable variation in the distance between residence and work.

## 5.3. Estimation

We run regressions only on those neighborhoods designated as “low-income” and our estimation model generally takes the following form<sup>8</sup>:

$$Total\_Local\_Jobs_{i,z,m,s,t} = \beta_0 + \beta_1(Gentrify_i) + \beta_2(Business_{z,t}) + \beta_3(Nhood_z) + \beta_4(Nhood\_00\_08_z) + d_m + d_{s,t} + \varepsilon_{it}$$

Here, *Total\_Local\_Jobs* measures the extent to which jobs in live-work zone *z* go to residents who live in the centroid neighborhood *i* at time *t* and is a simple count of the number of local jobs. We also include on

<sup>2</sup> *Gentrification\_education* = 1 if  $Chg00\_08\_share\_baplus\_tract > Chg00\_08\_share\_baplus\_MSA$  and 0 otherwise; *Gentrification\_housingvalue* = 1 if  $Chg00\_08\_mdhsgvalue\_tract > Chg00\_08\_mdhsgvalue\_MSA$  and 0 otherwise; *Gentrification\_housingage* = 1 if  $housingbltpost1970\_tract < = housingbltpost1970\_MSA$  and 0 otherwise.

<sup>3</sup> We replicate all of the analyses using a more inclusive definition of “low-income” (the bottom two quintiles); the results are largely consistent with those presented (the magnitudes of the *Gentrify* coefficients are often bigger). We proceed with the more conservative definition of “low-income” to capture the very poorest, and likely more vulnerable, neighborhoods in the city.

<sup>4</sup> We note that average household incomes were going up during this time period for all MSAs in our sample.

<sup>5</sup> We opt for average-income metrics, instead of median-income ones, for two main reasons: (1) unlike median income, average income for the rings can be constructed from the census tract components in the NCDB database; since we want to compare results from models using census tracts to those using the various ring geographies, this feature is important; (2) due to the normalized boundaries in the NCDB database, median values are constructed through a series of interpolations, introducing additional noise into that metric.

<sup>6</sup> We omit from the analysis tracts with outlier changes in relative income, specifically those falling in the top 2 percent of the distribution.

<sup>7</sup> We also replicate the analysis using 5-mile rings; however the results become increasingly noisy and difficult to interpret at larger radii, since the mode of transportation and diversity of terrain become more heterogeneous.

<sup>8</sup> We also transform the dependent variable and run log-linear models that are otherwise identical to the linear models. The results are consistent with the linear OLS results, in terms of sign and magnitude (we lose significance in certain specifications). These results are available from the authors upon request.



Tract		Gent Hsg Age			Total
Income-based	No	No	Yes		
		5,283 100%	0 0%	5,283	
Gent Def	Yes	1,616 46%	1,873 54%	3,489	
	Total	6,899	1,873	8,772	

Ring1		Gent Hsg Age			Total
Income-based	No	No	Yes		
		3,068 100%	0 0%	3,068	
Gent Def	Yes	1,236 56%	970 44%	2,206	
	Total	4,305	970	5,274	

Tract		Gent Educ Att			Total
Income-based	No	No	Yes		
		5,283 100%	0 0%	5,283	
Gent Def	Yes	619 18%	2,870 82%	3,489	
	Total	5,902	2,870	8,772	

Ring1		Gent Educ Att			Total
Income-based	No	No	Yes		
		3,068 100%	0 0%	3,068	
Gent Def	Yes	291 13%	1,915 87%	2,206	
	Total	3,360	1,915	5,274	

Tract		Gent Hsg Val			Total
Income-based	No	No	Yes		
		5,283 100%	0 0%	5,283	
Gent Def	Yes	138 4%	3,351 96%	3,489	
	Total	5,421	3,351	8,772	

Ring1		Gent Hsg Val			Total
Income-based	No	No	Yes		
		3,068 100%	0 0%	3,068	
Gent Def	Yes	107 5%	2,099 95%	2,206	
	Total	3,176	2,099	5,274	

Fig. 1. Correspondence across Gentrification Definitions.

**Table 1**  
Summary statistics for Mod-High- vs. Low-Income Census Tracts.

Variable	Mod-High-Income Tracts (Top 80 Pctl)			Low-Income Tracts (Bottom 20 Pctl)		
	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.
All Jobs	2787	1610	3101	816	1021	2318
Total Local Jobs	2787	63	76	816	31	46
Total Population	2787	4277	1840	816	4275	1877
Poverty Rate	2787	0.11	0.09	816	0.31	0.12
Prop. Adults w/ a College Degree or More	2787	0.29	0.16	816	0.11	0.07
Prop. Non-Hispanic Black	2787	0.17	0.26	816	0.40	0.31
Prop. Non-Hispanic Asian	2787	0.08	0.10	816	0.05	0.11
Prop. Non-Hispanic White	2787	0.58	0.32	816	0.18	0.24
Prop. Hispanic	2787	0.16	0.18	816	0.37	0.25
Prop. Foreign-Born	2787	0.26	0.18	816	0.29	0.16
Prop. of Units Built Before 1970	2787	0.77	0.21	816	0.79	0.18
Prop. Renters	2787	0.42	0.25	816	0.74	0.16
Unemployment Rate	2787	0.07	0.05	816	0.15	0.07
Prop. Commuting > 25 min to Work	2787	0.56	0.15	816	0.60	0.17
Prop. Living in the Same Unit for 5+ Years	2787	0.61	0.09	816	0.58	0.10
Prop. Younger than 18	2787	0.24	0.06	816	0.30	0.07
Prop. Older than 65	2787	0.13	0.06	816	0.10	0.07
% Change in College Grads 2000–2008	2787	0.25	0.41	816	0.59	0.88
% Change in Median Housing Value 2000–2008	2702	3.28	124.2	701	8.11	155.1
% Change in Median Gross Rent 2000–2008	2786	0.17	0.25	816	0.22	0.20
% Change in Poverty Rate 2000–2008	2786	0.144	0.83	816	–0.010	0.46
Prop. Housing Units Built 2000–2010	2787	0.05	0.07	816	0.06	0.09
% Change in Total Population 2000–2008	2787	0.09	0.87	816	0.01	0.17
Employees per Establishment, Retail	2762	5.9	5.3	805	4.4	3.7
Employees per Establishment, Non-Retail	2750	8.6	10.3	806	13.0	53.6
Prop. Estab. Stayed over Past 5 Yrs	2682	0.62	3.20	781	0.53	0.22
Prop. Estab. Moved In during Past 5 Yrs	2787	0.73	5.90	816	0.69	0.33
Prop. Estab. Closed/ Exited during Past 5 Yrs	2787	0.20	1.37	816	0.19	0.12
Total Number of Business Estab. in 2002	2756	234.15	232.45	794	144.72	163.11

the right-hand-side a measure of total jobs, including those occupied by local and non-local residents, to control for overall employment activity. *Gentrify* is operationalized in two ways, taking on the value of 1 if neighborhood  $i$  experiences any increase in relative income between 2000 and 2008 and, alternatively, if neighborhood  $i$  experiences a substantial increase in relative income between 2000 and 2008;

in both cases, it takes on the value of 0 otherwise.<sup>9</sup> We will focus on the

<sup>9</sup> We also run specifications where we control for gentrification and income changes during the prior decade, 1990–2000, and the results for the *Gentrify* coefficient are substantively the same.

**Table 2**  
Characteristics of different Live-Work Geographies.

Full Sample	NYC								Non-NYC			
	Tract	0.3 m Ring	1 m Ring	2 m Ring	Tract	0.3 m Ring	1 m Ring	2 m Ring	Tract	0.3 m Ring	1 m Ring	2 m Ring
<b>Number of Tracts</b>	1	2.53	21.27	65.91	1	3.52	29.37	90.91	1	1.21	9.22	27.96
<b>Total Population</b>	4121	9091	56,176	148,222	4281	12,090	69,637	176,240	3843	4398	28,530	80,203
<b>Total Local Jobs</b>	30	91	2170	12,602	20	120	2833	15,985	50	61	1391	8085
<b>Total Jobs</b>	1319	2256	21,135	72,298	942	2778	25,513	89,337	1670	1811	12,750	38,515
<b>Local Job Shares</b>	0.052	0.060	0.130	0.219	0.062	0.073	0.153	0.247	0.050	0.052	0.126	0.223

results for the indicator capturing substantial gentrification, as it is a more conservative classification of gentrification.<sup>10</sup> **Business<sub>z,t</sub>** controls for changes in local business activity sourced from the NETS data, including the number of establishments that, over the prior 5-year period, have stayed in the live-work zone (*Stay*), have moved into the zone (*Inmove*), and have exited the zone either due to permanent shutdown or relocation (*Outmove*). We also control for the number of total establishments at the start of the study period, to distinguish among neighborhoods and zones that are more or less likely to host commercial activity. The vector, **Nhood<sub>z</sub>**, includes a number of variables from the U.S. Census and ACS to control for the demographic and economic conditions at the start of the study period, 2000. Specifically, we include baseline population, poverty rate, share of the population with a college degree or higher, share non-Hispanic black, white and Asian, share Hispanic, unemployment rate, age and share foreign born to capture other resident characteristics that could be correlated with income and employment-readiness. We also include indicators of housing investment and tenures, such as age of the housing stock and share of the units occupied by renters, and mobility of the local population, such as the share of the working population whose travel time to work is more than 25 min and the share of residents that have not moved in the past five years. Likewise, **Nhood\_00\_08<sub>z</sub>** controls for changes between 2000 and 2008 for a subset of zone characteristics (relative to changes in those same variables at the MSA level), such as education, median housing values and rents, poverty rate, population and housing units.<sup>11</sup> Again, we include these to control for other local demographic changes that could be correlated with economic upgrading and changes in localized employment opportunities. Finally, we also include MSA and state-year dummy variables to control for unobserved heterogeneity across metro areas and any macro changes over time that could be correlated with neighborhood and zone economic shifts and employment activity.<sup>12</sup> All standard errors are robust.

Thus far, we have considered gentrification as exogenous to any change in local jobs. However, if it is the case that gentrification is simultaneously induced by shifts in the local population and employment opportunities, then it needs to be treated as endogenous in order mitigate against any bias in estimating the direct effect of gentrification on local job access. To improve upon the above “naïve” model, we instrument for gentrification

using a Bartik type variable (1991) and by adapting an approach employed by Guerrieri et al. (2013), in which the authors implement an exogenous shock on local income.<sup>13</sup> Specifically, we compute the predicted change in income for the neighborhood between  $t = 2000$  and  $t = 2010$  by interacting state-level<sup>14</sup> changes in earnings over that time period with the neighborhood's industrial composition at time  $t = 2000$ . Furthermore, we construct the instrument using earnings from only a subset of industries that represent professional employment; these are positions more likely held by those with higher levels of education and by those who represent the in-movers into gentrifying areas. Specifically, we include information on NAICS codes 51 (Information), 52 (Finance & Insurance), 53 (Real Estate), 54 (Professional, Scientific & Technical Services), and 55 (Management of Companies).<sup>15</sup> Earnings data were obtained from Minnesota Population Center's IPUMS-USA data (Ruggles et al., 2015), and are combined with tract-level industrial compositions from the LODS data. The Bartik instrument takes on the following form:

$$\widehat{\text{Bartik}}_{j,t} = \frac{\sum_k \left[ E_{j,k,t-10} \left( \frac{E_{k,t}}{E_{k,t-10}} - 1 \right) \right]}{\sum_k E_{j,k,t-10}}$$

where,  $E$  represents earnings,  $k$  denotes the industry (limited to the subset of five NAICS codes) and  $j$  indexes the neighborhood. Furthermore, a neighborhood's own growth is not included as part of the state's broader growth between 2000 and 2010. This instrument should capture exogenous and observable shocks in income at the geographically-broader state level that are predicted by neighborhood-specific industry mixes, but also absent of endogenous neighborhood-based income growth measures. We note that there is a good deal of variation in income growth (and contraction) across industries, ranging in magnitude from less than 10 percent to over 100 percent, and in industry mix across the neighborhoods (see Appendix C). In addition, no industry is concentrated in any particular census tract, preventing unwanted correlation between state-level growth rates and neighborhood-level income shocks (see Appendix D). This Bartik instrument assumes an income-driven mechanism behind gentrification (versus an amenity-driven one). Such an assumption is not only consistent with how the endogenous gentrification metric is formulated, but also with the expectation that, at a neighborhood level, amenities will tend to follow demand.<sup>16</sup>

<sup>10</sup> In order to maximize our estimating power, we retain annual observations for jobs even though the gentrification indicator is based off of a single decadal change. In addition, it is consistent with operationalizing gentrification as a discrete shock, compared to the changing responsiveness of the job market over consecutive years. In addition, we replicate similar models using only long-differences (between 2000 and 2010) for the jobs variables, and while the precision in our estimates goes down, the results are substantively the same (the magnitudes of the *Gentrify* coefficient are generally smaller). These results are available from the authors upon request.

<sup>11</sup> We also run similar models that are more parsimoniously specified. The results are substantively the same; the estimates from the models with a more comprehensive set of controls tend to be smaller.

<sup>12</sup> We also run models without MSA dummies and with county dummies, instead of MSA dummies, and the results are substantively the same. Ideally, we would like to include finer controls at the neighborhood level, but since the Census-based variables do not vary across the inter-census years, we would lose those covariates in the presence of neighborhood-level fixed effects.

<sup>13</sup> A long list of studies have used the Bartik instrument as a measure of local labor demand shocks; for example see Blanchard et al., 1992; Bound and Holzer, 2000; Notowidigdo, 2011; Maestas et al., 2013; Edlund et al., 2015; Couture and Handbury 2015).

<sup>14</sup> We also implement instruments using other larger geographies, such as the nation and the CSA. The results are substantively the same regardless of what instrument is used. The state-based Bartik performed slightly better in the first-stage models and therefore we present results using this version.

<sup>15</sup> We employ a similar strategy to that used in Baum-Snow et al. (2017).

<sup>16</sup> We run models that control for the level of neighborhood amenities (i.e. total retail services); the results are substantively the same. We also run models controlling for other mechanisms through which the neighborhood could improve (construction permits and the volume of *lis pendens*); the coefficient on *Gentrify* is unchanged when controlling for these variables.

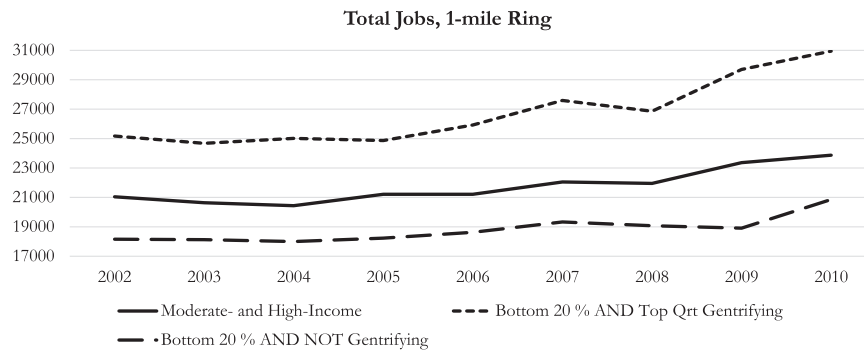


Fig. 2. Total Jobs, by economic status and change of neighborhood.

## 6. Results

### 6.1. Are there more jobs around gentrifying neighborhoods?

Before testing whether or not local residents are accessing nearby jobs, we first confirm that indeed gentrifying neighborhoods were experiencing larger increases in commercial activity (relative to non-gentrifying neighborhoods) over the course of the study period. These increases were more pronounced (i.e. statistically significant) in smaller zones around the gentrifying tract. Fig. 2 shows that over the same period, gentrifying neighborhoods exhibit the most movement, rising above the job numbers of even the moderate/high income neighborhoods in the city. The non-gentrifying neighborhoods, on the other hand, have persistently fewer jobs overall, with a slight increase over time.<sup>17</sup> The question is, how many of these jobs were going to local residents?

### 6.2. Are local residents getting those jobs?

For all of the regression models, except where noted, we display results for the four different live-work zones. We discuss the results from the baseline specification (shown in Tables 3 and 4), and we use the less restrictive measure of gentrification, classifying any neighborhood with a positive change in relative income as gentrifying. We see that at close proximity (i.e. within the same census tract or within 1/3 mile) residents in gentrifying neighborhoods experience significantly more job losses compared to those in non-gentrifying areas. At larger live-work radii, local residents see significant job gains in gentrifying neighborhoods. In the second set of results we use the more conservative measure of gentrification, classifying neighborhoods in the top quartile of changes in relative income as substantially gentrifying. The patterns are largely the same as those from the models using the more inclusive definition of gentrification. Again, local residents in gentrifying neighborhoods experience job losses within smaller live-work radii, averaging close to 9 jobs per year (or just under ten percent of the total number of local jobs in a typical neighborhood). As the live-work zone grows, local residents see gains of between 89 and 192 jobs per year (or between four and 1.5 percent, respectively).

As discussed earlier, we are concerned that the process of gentrification will simultaneously change job access for incumbent residents and bring in newcomers searching for (or moving towards) local jobs. In order to mitigate against this simultaneity, we augment the analysis in two ways. First, we isolate whether or not the recipients of these jobs are incumbent residents, versus new in-movers, by classifying neighborhoods based on the share of occupied housing units for which the inhabitant recently moved in (i.e. since 2000, as of 2008).<sup>18</sup> We then

stratify the regression models, separating the neighborhoods with a high share (at the 25th percentile or higher) of recent in-movers from those with larger shares of incumbent residents, and these results are displayed in Table 5.<sup>19</sup> We are most interested in the coefficients on *Gentrify* for the subset of neighborhoods with a lower share of in-movers (i.e. “below 25th percentile”). The patterns are consistent with those observed in the pooled models, such that local job losses for residents in gentrifying neighborhoods are sustained in smaller live-work zones. As before, residents in gentrifying neighborhoods experience job gains, compared to those in non-gentrifying neighborhoods, at larger radii of 1- and 2-miles.

As a second strategy to deal with the threat of endogeneity, we instrument for *Gentrify* using the Bartik variable to predict local income shifts. The results from the 2SLS models are displayed in Table 6. The results are different in two important ways. For small live-work zones, the effect on local jobs is still negative in gentrifying neighborhoods, but the coefficient on *Gentrify* is now larger in magnitude (and significant for the smallest live-work zone). This suggests that, as hypothesized, OLS estimates were biased up by in-movers securing nearby jobs. In addition, the coefficients on *Gentrify* for the largest live-work zone is now negative as well, albeit insignificant. Specifically, at proximate distances, residents in gentrifying neighborhoods lose, on average, 16 jobs within the same census tract, which is a meaningful 53 percent loss based on the number of local jobs in the typical tract. As with the OLS models, the magnitude of the effect grows as the live-work zone expands, although it remains insignificant. Table 7 displays the first-stage results, which indicate that the instrument performs well, especially for the smaller live-work zones. For these smaller zones the first stage F-statistic ranges from 22 to 65; the statistic is considerably smaller, between 3 and 5, for the larger live-work zones. In all cases, the coefficient on the Bartik instrument is highly significant. We also note that the F-statistics improve (for all live-work zones) as the sample and dependent variable are disaggregated (see the discussion of the results that follows).

As displayed in Table 2, there are meaningful differences in job concentrations across the various live-work zones for localities inside and outside of New York City (NYC). Although less dramatic, there are also differences in other neighborhood socioeconomic characteristics that could drive different employment outcomes across NYC and non-NYC gentrifying neighborhoods (see Table 8). For example, gentrifying neighborhoods in NYC exhibit less residential turnover and faster growth in college-educated residents. We run similar 2SLS analyses, stratified across NYC and non-NYC tracts and note two important findings (displayed in Appendix F). First, the gentrification-induced job losses within smaller live-work zones appear to be driven by neighbor-

<sup>17</sup> These patterns are similar to those in the more inclusive low-income sample, which includes the tracts in the bottom 40 percent of relative household incomes. The patterns in Fig. 2 are corroborated by 2SLS regressions, which also confirm significant total job gains in live-work zones surrounding gentrifying neighborhoods.

<sup>18</sup> This variable is obtained from the American Community Survey 2008 3-year summary file.

<sup>19</sup> We re-run these stratified models using different thresholds for the strata, and the results are substantively consistent. We also note that when we isolate the tracts with the highest share of incumbents (i.e. as the threshold gets closer to the bottom of the distribution), the magnitude of the coefficient increases for the strata with more incumbents. These results are displayed in Appendix E.

**Table 3**  
OLS regression results, inclusive gentrification definition.

Total Local Jobs				
	Tract	0.3 m Ring	1 m Ring	2 m Ring
Gentrify 2000–2008	–2.498 <sup>***</sup> (0.877)	–7.223 <sup>***</sup> (2.047)	91.49 <sup>***</sup> (25.89)	188.0 <sup>***</sup> (68.27)
All Jobs	0.00241 <sup>***</sup> (0.000546)	0.00393 <sup>***</sup> (0.00132)	0.0145 <sup>***</sup> (0.00128)	0.0343 <sup>***</sup> (0.00208)
Total Population	0.00625 <sup>***</sup> (0.000450)	0.0148 <sup>***</sup> (0.000980)	0.0151 <sup>***</sup> (0.00255)	0.00302 (0.00325)
Poverty Rate	–5.246 (5.731)	162.8 <sup>***</sup> (22.32)	2,175 <sup>***</sup> (410.5)	9,407 <sup>***</sup> (1679)
Prop. Adults w/ a College Degree or More	0.207 (9.028)	–28.72 <sup>*</sup> (16.78)	929.7 <sup>***</sup> (251.3)	5660 <sup>***</sup> (1112)
Prop. Non-Hispanic Black	–21.22 (47.51)	–0.00844 <sup>***</sup> (0.000726)	–0.00659 <sup>***</sup> (0.00196)	0.0308 <sup>***</sup> (0.00330)
Prop. Non-Hispanic Asian	–17.02 (47.96)	–117.1 <sup>***</sup> (24.44)	3.089 (252.6)	1015 (1474)
Prop. Non-Hispanic White	6.825 (46.90)	8.041 (8.239)	509.2 <sup>***</sup> (105.1)	5205 <sup>***</sup> (496.7)
Prop. Hispanic	–18.27 (47.70)	–117.9 <sup>***</sup> (9.059)	–817.0 <sup>***</sup> (118.4)	3626 <sup>***</sup> (523.7)
Prop. Foreign-Born	–4.321 (3.160)	64.44 <sup>***</sup> (9.024)	1143 <sup>***</sup> (130.8)	3514 <sup>***</sup> (867.7)
Prop. of Units Built Before 1970	–0.00428 <sup>***</sup> (0.00118)	–0.0205 <sup>***</sup> (0.00263)	0.0159 <sup>**</sup> (0.00783)	0.0407 <sup>***</sup> (0.0106)
Prop. Renters	–3.621 (3.642)	38.25 <sup>***</sup> (9.976)	479.5 <sup>***</sup> (168.4)	1332 <sup>*</sup> (742.9)
Unemployment Rate	–5.962 (4.205)	–225.6 <sup>***</sup> (28.03)	1257 <sup>*</sup> (689.8)	10,088 <sup>***</sup> (2090)
Prop. Commuting > 25 min to Work	–12.33 <sup>*</sup> (6.561)	–167.8 <sup>***</sup> (10.62)	–4153 <sup>***</sup> (251.5)	–3826 <sup>***</sup> (905.6)
Prop. Living in the Same Unit for 5+ Years	6.236 (5.008)	143.8 <sup>***</sup> (14.45)	891.5 <sup>***</sup> (235.0)	–5265 <sup>***</sup> (1633)
Prop. Younger than 18	28.73 <sup>***</sup> (9.829)	138.1 <sup>***</sup> (32.58)	2610 <sup>***</sup> (598.0)	15319 <sup>***</sup> (3572)
Prop. Older than 65	–30.34 <sup>***</sup> (8.085)	–1.380 (15.94)	298.6 (281.5)	5903 <sup>***</sup> (1609)
Change in College Grads 2000–2008	0.514 <sup>*</sup> (0.304)	4.030 <sup>***</sup> (1.437)	–29.05 (40.02)	–496.4 <sup>**</sup> (212.7)
Change in Median Housing Value 2000–2008	–0.000706 (0.000480)	–0.00304 (0.00506)	–27.74 <sup>*</sup> (15.61)	959.5 <sup>***</sup> (124.0)
Change in Median Gross Rent 2000–2008	5.685 <sup>***</sup>	4.119	–182.3	277.5

**Table 3 (continued)**

Total Local Jobs				
	Tract	0.3 m Ring	1 m Ring	2 m Ring
	(1.797)	(5.314)	(115.1)	(579.4)
Change in Poverty Rate 2000–2008	2.024 <sup>**</sup> (0.875)	6.233 <sup>***</sup> (1.199)	206.9 <sup>***</sup> (46.43)	1262 <sup>***</sup> (204.7)
Prop. Housing Units Built 2000–2010	0.0277 <sup>***</sup> (0.00347)	4.49e-05 (0.00609)	0.224 <sup>***</sup> (0.0280)	–0.130 <sup>***</sup> (0.0397)
Change in Total Population 2000– 2008	–8.889 <sup>***</sup> (2.287)	–18.87 <sup>***</sup> (5.888)	–361.5 <sup>***</sup> (99.34)	–2895 <sup>***</sup> (870.6)
Estab. Stayed over Past 5 Yrs	0.202 <sup>***</sup> (0.0327)	0.329 <sup>***</sup> (0.0392)	0.627 <sup>***</sup> (0.107)	1.820 <sup>***</sup> (0.199)
Estab. Moved In over Past 5 Yrs	–0.0737 <sup>***</sup> (0.0209)	0.114 <sup>***</sup> (0.0393)	0.193 <sup>**</sup> (0.0831)	–0.314 <sup>*</sup> (0.180)
Estab. Closed/Exited during Past 5 Yrs	–0.0479 (0.0382)	–0.220 <sup>***</sup> (0.0639)	–0.793 <sup>***</sup> (0.181)	0.0975 (0.289)
Total Establishments in 2002	0.0595 <sup>**</sup> (0.0238)	–0.0710 <sup>***</sup> (0.0137)	–0.0541 (0.0936)	–1.111 <sup>***</sup> (0.323)
Constant	2.556 (44.66)	–59.56 <sup>***</sup> (17.96)	–690.4 <sup>**</sup> (283.4)	–7661 <sup>***</sup> (1208)
Robust S.E.'s?	Y	Y	Y	Y
MSA and State-Yr Dummies?	Y	Y	Y	Y
Observations	5558	6571	6949	6950
R-squared	0.710	0.708	0.840	0.954

Robust standard errors in parentheses.

\*\*\* p < 0.01.

\*\* p < 0.05.

\* p < 0.1

hoods located outside of NYC (where losses are also observed for 1-mile live-work zones, which was not the case in the pooled sample). While the coefficients on *Gentrify* in the NYC strata are still negative for proximate live-work zones, they are no longer significant. Second, any significant gentrification-induced losses in the NYC sub-sample are observed in the largest 2-mile live-work zone (for which non-NYC gentrifying neighborhoods gain local jobs).

We also test to see if the gentrification effect differs based on the neighborhood's initial access to employment. We run these tests to shed light on how gentrification might be addressing any spatial mismatch in jobs. To do this we stratify the models by (i) the initial share of workers who commute more than 25 min, and (ii) the initial unemployment rate. These results are displayed in [Tables 9 and 10](#). They again show that local job losses are concentrated in small live-work zones and concentrated among neighborhoods with initially shorter commute times. Furthermore, for larger, 1-mile live-work zones, gentrifying neighborhoods with initially longer commute times sustain significant job losses. When the sample is stratified based on initial unemployment rates, job losses within proximate live-work zones are more pronounced for neighborhoods with lower rates of unemployment as of 2000. The 1-mile ring results show significant job gains for neighborhoods with initially lower unemployment rates; there



**Table 4**  
OLS regression results, substantial gentrification definition.

Total Local Jobs				
	Tract	0.3 m Ring	1 m Ring	2 m Ring
Gentrify 2000–2008 (Top Q)	0.458 (0.959)	–8.795*** (2.143)	89.39*** (28.98)	191.8** (75.62)
All Jobs	0.00244*** (0.000547)	0.00359*** (0.00132)	0.0147*** (0.00128)	0.0352*** (0.00211)
Total Population	0.00655*** (0.000467)	0.0149*** (0.00101)	0.0148*** (0.00261)	0.00912*** (0.00346)
Poverty Rate	–10.62** (5.235)	85.03*** (17.95)	2656*** (375.1)	15,414*** (1288)
Prop. Adults w/ a College Degree or More	–2.051 (8.692)	–5.439 (17.14)	743.4*** (243.6)	6049*** (1238)
Prop. Non-Hispanic Black	–25.70 (48.57)	–0.00857*** (0.000733)	–0.00688*** (0.00197)	0.0335*** (0.00348)
Prop. Non-Hispanic Asian	–19.75 (48.93)	–98.78*** (23.97)	–136.0 (250.9)	–840.8 (1565)
Prop. Non-Hispanic White	2.889 (47.84)	26.42*** (9.091)	395.3*** (101.2)	4712*** (499.4)
Prop. Hispanic	–22.86 (48.75)	–114.1*** (8.835)	–870.0*** (117.8)	3593*** (527.7)
Prop. Foreign-Born	–4.734 (3.210)	72.28*** (9.131)	1132*** (133.1)	3336*** (856.5)
Prop. of Units Built Before 1970	–0.00481*** (0.00121)	–0.0207*** (0.00273)	0.0171** (0.00807)	0.0237** (0.0118)
Prop. Renters	–1.763 (3.683)	39.85*** (9.788)	439.6*** (167.8)	61.49 (815.1)
Unemployment Rate	–4.787 (4.408)	–179.3*** (11.07)	–4067*** (238.7)	–3698*** (916.7)
Prop. Commuting > 25 min to Work	9.497*** (3.007)	51.09*** (8.701)	–303.7** (150.0)	4846*** (1030)
Prop. Living in the Same Unit for 5+ Years	10.29** (5.194)	184.9*** (16.42)	670.1** (265.3)	–1585 (1363)
Prop. Younger than 18	30.03*** (9.885)	169.6*** (33.06)	2487*** (686.0)	6205** (2946)
Prop. Older than 65	–27.54*** (8.260)	–1.805 (16.45)	306.7 (297.1)	4038*** (1432)
Change in College Grads 2000–2008	0.129 (0.284)	4.492*** (1.547)	–29.67 (40.11)	–578.6*** (203.8)
Change in Median Housing Value 2000–2008	–0.000306 (0.000474)	–0.000786 (0.00497)	–29.70* (15.55)	935.9*** (122.2)
Change in Median	4.022** (1.511)	–5.692 (1.511)	–124.1 (1.511)	207.5 (1.511)

**Table 4 (continued)**

Total Local Jobs				
	Tract	0.3 m Ring	1 m Ring	2 m Ring
Gross Rent 2000–2008	(1.779)	(5.337)	(118.4)	(555.2)
Change in Poverty Rate 2000–2008	2.194** (0.900)	2.868** (1.165)	253.8*** (51.15)	752.2*** (221.0)
Prop. Housing Units Built 2000–2010	0.0257*** (0.00345)	–0.00435 (0.00623)	0.232*** (0.0292)	–0.198*** (0.0408)
Change in Total Population 2000–2008	–8.930*** (2.269)	–13.71** (5.829)	–391.9*** (100.2)	–2081*** (803.1)
Estab. Stayed over Past 5 Yrs	0.199*** (0.0325)	0.330*** (0.0393)	0.632*** (0.107)	1.866*** (0.200)
Estab. Moved In over Past 5 Yrs	–0.0731*** (0.0208)	0.120*** (0.0394)	0.182** (0.0814)	–0.366** (0.178)
Estab. Closed/Exited during Past 5 Yrs	–0.0478 (0.0379)	–0.225*** (0.0639)	–0.793*** (0.180)	0.103 (0.286)
Total Establishments in 2002	0.0604** (0.0237)	–0.0656*** (0.0137)	–0.0464 (0.0941)	–1.093*** (0.322)
Constant	–4.439 (45.38)	–142.4*** (19.71)	–240.2 (351.4)	–9003*** (1545)
Robust S.E.'s?	Y	Y	Y	Y
MSA and State-Yr Dummies?	Y	Y	Y	Y
Observations	5558	6571	6949	6950
R-squared	0.710	0.706	0.840	0.954

Robust standard errors in parentheses.

\*\*\* p < 0.01.

\*\* p < 0.05.

\* p < 0.1.

are no changes, however, for neighborhoods with initially higher unemployment rates. Together, this evidence suggests that gentrification does not help to reduce spatial mismatch with respect to jobs (and could potentially be widening it).

### 6.3. What kinds of jobs are local residents getting or losing?

We are able to decompose the total number of local jobs into specific types, with respect to sector (specifically goods producing or service-based) and to wages (low are those earning \$1250 per month or less; moderate are those earning \$1251 to \$3333 per month; high are those earning more than \$3333 per month). We use these metrics to better understand the quality of jobs that local residents either lose or gain. For example, goods-producing jobs are often considered to be better-paying and more stable than low-skill service jobs. Tables 11 and 12 display the results for stratified 2SLS regressions for all of the tract- and ring-based zones. Residents in gentrifying neighborhoods are losing goods-producing and service jobs in the most proximate live-work zones. The loss is most pronounced for service-sector jobs—about 14 jobs on average. There is some evidence that residents see gains in

**Table 5**  
OLS regression results, stratified by distribution of incumbent residents.

Total Local Jobs	Proportion Moved in After 2000							
	Census Tract		0.3 m Ring		1 m Ring		2 m Ring	
	Below 25 Pctl	Above 25 Pctl	Below 25 Pctl	Above 25 Pctl	Below 25 Pctl	Above 25 Pctl	Below 25 Pctl	Above 25 Pctl
Gentrify 2000–2008 (Top Q)	–2.849 (1.951)	1.017 (0.867)	–49.42*** (8.969)	–4.822** (2.276)	402.7*** (72.80)	8.611 (16.28)	320.3 (224.6)	98.78** (48.17)
Constant	66.83 (68.12)	–30.92 (33.49)	46.31 (61.77)	–37.50* (20.17)	865.0 (858.4)	–2832*** (287.4)	–21,348*** (2540)	–7300*** (770.9)
Tract/Ring Covariates?	Y	Y	Y	Y	Y	Y	Y	Y
Robust S.E.s?	Y	Y	Y	Y	Y	Y	Y	Y
MSA and State-Yr Dummies?	Y	Y	Y	Y	Y	Y	Y	Y
Observations	1081	4477	1193	5378	1559	5390	1610	5340
R-squared	0.834	0.722	0.758	0.726	0.900	0.852	0.969	0.925

Notes: The 25th percentile is set at 52 percent of residents moved into the neighborhood between 2000 and 2008.

goods-producing jobs within 1/3- and 1-mile radii; there is no meaningful change in service-sector jobs at these distances.<sup>20</sup>

Next, we stratify the sample by wage levels and run separate regressions. Job losses within the same census tract and up to 1/3 mile are concentrated in low- and moderate-wage positions, which is consistent with the losses observed in both service and goods-producing sectors. In addition, there is evidence of gains in higher wage positions, which is one of the most optimistic findings with respect to proximate job opportunities. At farther distances there are job gains, but only in low-wage positions. Together, these findings suggest that the job losses suffered by residents in gentrifying neighborhoods are localized, span service and goods-producing sectors and are concentrated in low- and moderate-wage positions. There are significant job gains for residents, some in higher-wage positions within the same census tract, and more in the lowest-wage positions within 1-to-2 miles.<sup>21</sup>

#### 6.4. Who is hiring local residents?

In order to better understand who is (or is not) hiring local residents, we augment the baseline models in two ways. First, we turn our attention for a moment to the coefficients on the business activity variables (displayed in Table 6), and observe that the coefficient on *Stay* is positive, while the coefficients on *Inmove* change sign depending on the live-work zone and the coefficients on *Outmove* are generally negative. These findings suggest that the number of local jobs increases in cases where more businesses stay and, in some cases, where new businesses move in. This is compared to a consistent loss in local jobs under conditions of business exit, and, in some cases, business entry. This evidence is consistent with the expectation that incumbent businesses will either already have hired local residents or be more likely to have ties to the community and therefore hire locally. Businesses that close obviously also take with them jobs, and new businesses are either hiring fewer people or looking elsewhere to fill positions. To test this even further, we interact the business activity

variables with the gentrification dummy to see if their presence in gentrifying neighborhoods generates differential hiring outcomes. These results are displayed in Table 13. Nearly all of the coefficients on the business-gentrification interactions are insignificant, with the exception of that for exiting businesses in the 1/3-mile live-work zone (which are associated with marginal job gains in gentrifying neighborhoods). We again disaggregate these models into NYC and non-NYC strata, motivated by the fact that gentrifying neighborhoods in NYC have lower rates of business retention and higher rates of business entry. The stratified results are displayed in Appendix G and differences across strata are evident. First, for the smallest live-work zones, businesses that stay in place in gentrifying neighborhoods are associated with significant (albeit very small) job gains in non-NYC places (this effect reverses for 2-mile live-work zones). Second, for gentrifying neighborhoods in 1/3-mile live-work zones, job losses are associated with business exits (but, again, are quite small). Finally, the findings for larger live-work zones are mixed, showing marginal gains for gentrifying neighborhoods with more new and exiting businesses and marginal losses for those with more businesses that stay in place.

We also use information on how many of the local establishments are chains to see if they are more likely to hire locally. Again, we interact a count of chains within each live-work area with the *Gentrify* variable to test this mechanism. These results are displayed in Table 14. The presence of chains in gentrifying has a very localized effect on jobs: within the smallest live-work zones more chains are associated with more local jobs in gentrifying neighborhoods. An additional chain in the census tract means 2.6 more jobs for local residents. The effect of chains is insignificant within larger live-work zones.<sup>22</sup> This challenges the assumption that chain establishments might have broader networks from which to draw their workers and therefore overlook local residents. Instead, what might be happening is that the chain establishments located in these neighborhoods to benefit from lower-skilled (perhaps cheaper) labor and/or have agreements with local communities to hire locally.<sup>23</sup>

<sup>20</sup> These patterns do vary across NYC and non-NYC neighborhoods. Specifically, losses in goods-producing jobs are driven by non-NYC neighborhoods and NYC neighborhoods actually experience significant gains (within smaller live-work zones). The proximate service job losses, however, are driven by the NYC neighborhoods.

<sup>21</sup> Again, there are differences between NYC and non-NYC neighborhoods. Any response in wages is driven by non-NYC neighborhoods for smaller live-work zones; at bigger radii NYC neighborhoods drive gains in low-wage jobs (and also losses in high wage jobs). There are, however, gains in high-wage jobs within 2 miles from non-NYC neighborhoods.

<sup>22</sup> Regressions stratified by NYC and non-NYC samples indicate that job gains associated with chains in gentrifying neighborhoods are driven by NYC places. They also show that there are job losses in gentrifying neighborhoods with more chains in non-NYC places.

<sup>23</sup> For example, Community Benefits Agreements often have local hiring stipulations, and are often a prerequisite to welcoming new businesses and developments into the community (Gross 2005).

**Table 6**  
2SLS regression results.

Total Local Jobs				
	Tract	0.3 m Ring	1 m Ring	2 m Ring
Gentrify 2000–2008 (Top Q)	–19.03 <sup>***</sup> (8.926)	–23.96 (40.49)	3205 (2073)	–508.4 (2354)
All Jobs	0.00229 <sup>***</sup> (0.000552)	0.00347 <sup>**</sup> (0.00137)	0.0149 <sup>***</sup> (0.00178)	0.0345 <sup>***</sup> (0.00313)
Total Population	0.00513 <sup>***</sup> (0.000784)	0.0146 <sup>***</sup> (0.00135)	0.0240 <sup>***</sup> (0.00728)	0.00903 <sup>***</sup> (0.00345)
Poverty Rate	–0.748 (7.016)	91.23 <sup>***</sup> (24.74)	– 1693 (2980)	16,196 <sup>***</sup> (2878)
Prop. Adults w/ a College Degree or More	18.56 (11.96)	8.871 (41.57)	– 2231 (2006)	6680 <sup>**</sup> (2630)
Prop. Non-Hispanic Black	–26.37 (47.01)	–0.00854 <sup>***</sup> (0.000747)	–0.00648 <sup>**</sup> (0.00283)	0.0319 <sup>***</sup> (0.00630)
Prop. Non-Hispanic Asian	–26.06 (47.24)	–103.2 <sup>***</sup> (26.22)	1678 (1267)	– 1757 (3740)
Prop. Non-Hispanic White	6.930 (46.66)	29.59 <sup>**</sup> (12.21)	–89.94 (383.5)	4595 <sup>***</sup> (598.3)
Prop. Hispanic	–21.14 (47.30)	–112.0 <sup>***</sup> (10.99)	–982.9 <sup>***</sup> (219.3)	3374 <sup>***</sup> (862.5)
Prop. Foreign-Born	–6.412 <sup>*</sup> (3.356)	68.98 <sup>***</sup> (12.66)	956.5 <sup>***</sup> (281.9)	3339 <sup>***</sup> (854.4)
Prop. of Units Built Before 1970	–0.00261 (0.00167)	–0.0201 <sup>***</sup> (0.00326)	0.00311 (0.0149)	0.0225 <sup>*</sup> (0.0127)
Prop. Renters	–11.72 <sup>*</sup> (6.345)	28.24 (32.69)	3756 <sup>*</sup> (2247)	–316.8 (1551)
Unemployment Rate	–8.731 <sup>*</sup> (4.985)	46.29 <sup>***</sup> (16.13)	–102.2 (370.1)	4434 <sup>***</sup> (1558)
Prop. Commuting > 25 min to Work	0.764 (5.444)	–186.0 <sup>***</sup> (20.34)	– 2453 <sup>**</sup> (1137)	– 3940 <sup>***</sup> (1170)
Prop. Living in the Same Unit for 5+ Years	14.39 <sup>**</sup> (5.652)	187.9 <sup>***</sup> (17.25)	– 1011 (1234)	– 1471 (1355)
Prop. Younger than 18	7.225 (16.10)	145.3 <sup>**</sup> (74.03)	9374 <sup>**</sup> (4727)	4222 (7124)
Prop. Older than 65	–54.82 <sup>***</sup> (15.77)	–29.37 (74.47)	7210 (4646)	2122 (6458)
Change in College Grads 2000–2008	1.357 <sup>**</sup> (0.667)	5.968 (4.290)	–665.4 (430.3)	–483.8 (382.0)
Change in Median Housing Value 2000–2008	–0.00214 <sup>**</sup> (0.000878)	–0.00184 (0.00582)	64.27 (66.62)	938.6 <sup>***</sup> (124.5)
Change in Median Gross Rent 2000–2008	7.400 <sup>***</sup> (2.388)	–4.307 (6.604)	651.4 (554.8)	–94.34 (1120)

**Table 6 (continued)**

Total Local Jobs				
	Tract	0.3 m Ring	1 m Ring	2 m Ring
Change in Poverty Rate 2000–2008	0.687 (0.946)	2.428 (1.581)	324.8 <sup>**</sup> (135.6)	864.1 <sup>**</sup> (408.5)
Prop. Housing Units Built 2000–2010	0.0318 <sup>***</sup> (0.00435)	–0.00167 (0.00893)	0.143 <sup>**</sup> (0.0697)	–0.176 <sup>**</sup> (0.0820)
Change in Total Population 2000–2008	–10.10 <sup>***</sup> (2.428)	–14.56 <sup>**</sup> (6.357)	2.981 (358.1)	– 2112 <sup>**</sup> (824.9)
Estab. Stayed over Past 5 Yrs	0.203 <sup>***</sup> (0.0334)	0.330 <sup>***</sup> (0.0391)	0.549 <sup>***</sup> (0.135)	1.846 <sup>***</sup> (0.210)
Estab. Moved In over Past 5 Yrs	–0.0681 <sup>***</sup> (0.0215)	0.122 <sup>***</sup> (0.0396)	0.223 <sup>**</sup> (0.101)	–0.340 <sup>*</sup> (0.204)
Estab. Closed/Exited during Past 5 Yrs	–0.0456 (0.0385)	–0.221 <sup>***</sup> (0.0657)	–0.659 <sup>***</sup> (0.213)	0.104 (0.286)
Total Establishments in 2002	0.0603 <sup>**</sup> (0.0239)	–0.0618 <sup>***</sup> (0.0172)	–0.818 (0.531)	–0.941 <sup>*</sup> (0.568)
Constant	13.65 (44.34)	–122.8 <sup>**</sup> (57.25)	– 4063 (2631)	– 7671 <sup>*</sup> (4577)
Robust S.E.'s?	Y	Y	Y	Y
MSA and State-Yr Dummies?	Y	Y	Y	Y
Observations	5558	6571	6949	6950
First State F-Ratio	65.46 <sup>***</sup>	22.05 <sup>***</sup>	3.2 <sup>*</sup>	5.12 <sup>**</sup>

Robust standard errors in parentheses.

\*\*\* p &lt; 0.01.

\*\* p &lt; 0.05.

\* p &lt; 0.1.

## 7. Conclusion

Since the dark days of the 1970s and 1980s, many urban cores have experienced dramatic comebacks. This turn-around has brought economic prosperity to places that had not witnessed it in some time. It also has presented challenges to those who could not afford to sustain the rising rents and costs of living that tend to accompany gentrification. The empirical research on gentrification, however, has not supported the displacement hypothesis and in fact shows that a number of residents stay and benefit from the improved quality of life. With gentrification comes increased investment and economic activity more generally, and in this paper we test whether or not local residents, in low-income neighborhoods undergoing economic upgrading, benefit from nearby employment opportunities.

We find that employment effects from gentrification are quite localized. Incumbent residents experience meaningful job losses within their home census tract, even while jobs overall increase. These results are robust to models stratifying the sample based on the concentration of incumbents and using Bartik income shocks to instrument for actual income growth. Specifically, local jobs decline by as much as 63 percent (about 19 off of a base of 30 in the typical census tract). These job losses are concentrated in service and goods-producing sectors and low- and moderate-wage positions; but local residents do see gains in

**Table 7**  
2SLS first-stage results.

Gentrify 2000–2008 (Top Qrt)				
	Tract	0.3 m Ring	1 m Ring	2 m Ring
State-Based Bartik, 2000–2010	–1.515 <sup>***</sup> (0.1873)	–0.844 <sup>***</sup> (0.1797)	–0.322 <sup>*</sup> (0.1799)	–0.4 <sup>**</sup> (0.1767)
All Jobs	–0.000008 <sup>***</sup> (0.0000)	–0.000008 <sup>***</sup> (0.0000)	–0.000000533 (0.0000)	–0.00000104 <sup>***</sup> (0.0000)
Total Population	–0.0000735 <sup>***</sup> (0.0000)	–0.0000181 <sup>***</sup> (0.0000)	–0.00000285 <sup>***</sup> (0.0000)	–0.000000148 (0.0000)
Poverty Rate	0.542 <sup>***</sup> (0.0851)	0.394 <sup>***</sup> (0.1011)	1.38 <sup>***</sup> (0.1877)	1.112 <sup>***</sup> (0.2829)
Prop. Adults w/ a College Degree or More	1.008 <sup>***</sup> (0.1252)	0.893 <sup>***</sup> (0.1248)	0.929 <sup>***</sup> (0.1178)	0.868 <sup>***</sup> (0.1379)
Prop. Non-Hispanic Black	0.121 (0.4216)	0.000 (0.0000)	0.000 (0.0000)	0.000 <sup>***</sup> (0.0000)
Prop. Non-Hispanic Asian	–0.184 (0.4228)	–0.281 <sup>***</sup> (0.0644)	–0.581 <sup>***</sup> (0.0970)	–1.309 <sup>***</sup> (0.1398)
Prop. Non-Hispanic White	0.344 (0.4278)	0.209 <sup>**</sup> (0.0385)	0.15 <sup>***</sup> (0.0544)	–0.17 <sup>**</sup> (0.0745)
Prop. Hispanic	0.256 (0.4216)	0.149 <sup>***</sup> (0.0363)	0.037 (0.0563)	–0.306 <sup>***</sup> (0.0837)
Prop. Foreign-Born	–0.091 <sup>*</sup> (0.0512)	–0.23 <sup>***</sup> (0.0478)	0.053 (0.0707)	0.001 (0.1012)
Prop. of Units Built Before 1970	0.000 <sup>***</sup> (0.0000)	0.000 <sup>***</sup> (0.0000)	0.000 (0.0000)	0.000 (0.0000)
Prop. Renters	–0.553 <sup>***</sup> (0.0573)	–0.79 <sup>***</sup> (0.0587)	–1.07 <sup>***</sup> (0.0993)	–0.556 <sup>***</sup> (0.1480)
Unemployment Rate	–0.247 <sup>***</sup> (0.0661)	–0.316 <sup>***</sup> (0.0549)	–0.065 (0.1003)	–0.6 <sup>***</sup> (0.1447)
Prop. Commuting > 25 min to Work	–0.433 <sup>***</sup> (0.0576)	–0.474 <sup>***</sup> (0.0708)	–0.532 <sup>***</sup> (0.0974)	–0.355 <sup>***</sup> (0.1196)
Prop. Living in the Same Unit for 5+ Years	0.195 <sup>**</sup> (0.0845)	0.179 <sup>*</sup> (0.0922)	0.533 <sup>***</sup> (0.1381)	0.141 (0.2201)
Prop. Younger than 18	–1.275 <sup>***</sup> (0.1777)	–1.67 <sup>***</sup> (0.1909)	–2.24 <sup>***</sup> (0.3018)	–2.861 <sup>***</sup> (0.4460)
Prop. Older than 65	–1.436 <sup>***</sup> (0.1152)	–1.884 <sup>***</sup> (0.1078)	–2.237 <sup>***</sup> (0.1377)	–2.789 <sup>***</sup> (0.2226)
Change in College Grads 2000–2008	0.063 <sup>***</sup> (0.0085)	0.097 <sup>***</sup> (0.0117)	0.204 <sup>***</sup> (0.0227)	0.135 <sup>***</sup> (0.0373)
Change in Median Housing Value 2000–2008	0.000 <sup>***</sup> (0.0000)	0.000 <sup>***</sup> (0.0000)	–0.031 <sup>***</sup> (0.0050)	0.000 (0.0169)
Change in Median Gross Rent 2000–2008	0.166 <sup>***</sup> (0.0324)	0.082 <sup>**</sup> (0.0335)	–0.255 <sup>***</sup> (0.0517)	–0.446 <sup>***</sup> (0.0794)
Change in Poverty Rate 2000–2008	–0.081 <sup>***</sup> (0.0153)	–0.03 <sup>**</sup> (0.0145)	–0.022 (0.0320)	0.165 <sup>***</sup> (0.0344)
Prop. Housing Units Built 2000–2010	0.000 <sup>***</sup> (0.0001)	0.000 <sup>***</sup> (0.0000)	0.000 <sup>***</sup> (0.0000)	0.000 <sup>***</sup> (0.0000)
Change in Total Population 2000–2008	–0.047 (0.0424)	–0.054 (0.0452)	–0.125 (0.0955)	–0.049 (0.1187)

(continued on next page)



Table 7 (continued)

Gentrify 2000–2008 (Top Qrt)				
	Tract	0.3 m Ring	1 m Ring	2 m Ring
Estab. Stayed over Past 5 Yrs	0.000 (0.0003)	0.000 (0.0001)	0.000 (0.0000)	0** (0.0000)
Estab. Moved In over Past 5 Yrs	0.000 <sup>*</sup> (0.0002)	0.000 (0.0001)	0.000 (0.0000)	0*** (0.0000)
Estab. Closed/Exited during Past 5 Yrs	0.000 (0.0003)	0.000 (0.0002)	0.000 (0.0000)	0.000 (0.0000)
Total Establishments in 2002	0.000 (0.0002)	0*** (0.0000)	0*** (0.0000)	0*** (0.0000)
Constant	1.167*** (0.4488)	1.603*** (0.1372)	1.352*** (0.1736)	2.074*** (0.2278)
Robust S.E.s?	Y	Y	Y	Y
MSA and State-Yr Dummies?	Y	Y	Y	Y
Observations	5558	6571	6949	6950
F-Ratio for excluded instrument	65.46***	22.05***	3.20*	5.12**

Robust standard errors in parentheses.

\*\*\* p &lt; 0.01.

\*\* p &lt; 0.05.

\* p &lt; 0.1.

Table 8

Summary statistics, NYC vs. Non-NYC, Gentrifying Census Tracts.

Variable	NYC			Non-NYC		
	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.
All Jobs	83	647	984	100	2035	3197
Total Local Jobs	83	20	36	100	65	72
Total Population	83	3698	1822	100	3977	1527
Poverty Rate	83	0.36	0.09	100	0.22	0.13
Prop. Adults w/ a College Degree or More	83	0.13	0.08	100	0.14	0.10
Prop. Non-Hispanic Black	83	0.39	0.33	100	0.36	0.32
Prop. Non-Hispanic Asian	83	0.06	0.13	100	0.03	0.04
Prop. Non-Hispanic White	83	0.16	0.24	100	0.33	0.28
Prop. Hispanic	83	0.38	0.27	100	0.27	0.21
Prop. Foreign-Born	83	0.33	0.14	100	0.23	0.14
Prop. of Units Built Before 1970	83	0.79	0.13	100	0.74	0.15
Prop. Renters	83	0.77	0.12	100	0.62	0.17
Unemployment Rate	83	0.16	0.07	100	0.12	0.07
Prop. Commuting Longer than 25 min to Work	83	0.70	0.09	100	0.42	0.11
Prop. Living in the Same Unit for 5+ Years	83	0.62	0.08	100	0.53	0.10
Prop. Younger than 18	83	0.29	0.07	100	0.27	0.06
Prop. Older than 65	83	0.10	0.05	100	0.11	0.05
% Change in College Grads 2000–2008	82	1.04	0.92	99	0.47	0.69
% Change in Median Housing Value 2000–2008	69	1.37	1.0	95	1.03	0.8
% Change in Median Gross Rent 2000–2008	83	0.31	0.20	100	0.20	0.21
% Change in Poverty Rate 2000–2008	83	–0.257	0.24	100	0.116	0.93
Prop. Housing Units Built 2000–2010	83	0.08	0.08	100	0.09	0.12
% Change in Total Population 2000–2008	83	0.03	0.17	100	0.02	0.22
Employees per Establishment, Retail	82	4.0	2.0	100	6.1	5.6
Employees per Establishment, Non-Retail	81	8.8	7.1	100	13.0	9.9
Prop. Estab. Stayed over Past 5 Yrs	78	0.49	0.08	100	0.60	0.08
Prop. Estab. Moved In during Past 5 Yrs	83	0.60	0.09	100	0.49	0.10
Prop. Estab. Closed/ Exited during Past 5 Yrs	83	0.16	0.05	100	0.18	0.09
Total Number of Business Estab. in 2002	83	133.6	176.5	97	259.5	278.1
Change in Relative Income 2000–2008	83	0.082	0.04	83	0.082	0.04

higher-wage jobs in very proximate live-work zones and lower-wage jobs slightly farther away. There is some evidence that chain establishments are associated with modest job gains in gentrifying census tracts (about 2.5 jobs on average), and that, outside of NYC, businesses that stay in place around gentrifying neighborhoods are associated with

marginal job gains (i.e. less than 1 job on average).

One of the most significant take-aways from the analysis is the importance of defining the geographic span of the live-work market: any negative impact is on immediately proximate jobs (i.e. in the same tract), and job effects are more inconsistent (and often null) in larger

**Table 9**

2SLS Regression results, stratified by commute time.

Total Local Jobs	Proportion Commuting Longer than 25 min to Work							
	Census Tract		0.3 m Ring		1 m Ring		2 m Ring	
	Below 50 Pctl	Above 50 Pctl	Below 50 Pctl	Above 50 Pctl	Below 50 Pctl	Above 50 Pctl	Below 50 Pctl	Above 50 Pctl
Gentrify 2000–2008 (Top Q)	–50.43* (26.24)	–6.265 (5.189)	–218.5*** (64.60)	50.61 (44.01)	–120.1 (341.6)	–2680** (1327)	1186 (1017)	21.55 (1735)
Constant	–97.44 (91.60)	0.433 (22.70)	–44.63 (42.38)	–318.6*** (63.05)	–2329*** (318.1)	959.3 (1653)	–9655*** (2147)	9936*** (2634)
Tract/Ring Covariates?	Y	Y	Y	Y	Y	Y	Y	Y
Robust S.E.s?	Y	Y	Y	Y	Y	Y	Y	Y
MSA and State-Yr Dummies?	Y	Y	Y	Y	Y	Y	Y	Y
Observations	2868	2690	3199	3372	3302	3647	3258	3692
First Stage F-Ratio	17.79***	31.74***	20.76***	11.98***	14.83***	6.18**	22.35***	6.65***

Notes: The 50th percentile is set at 64 percent of residents commuting longer than 25 min to work.

\* p &lt; .10; \*\* p &lt; .05; \*\*\* p &lt; .01.

**Table 10**

2SLS regression results, stratified by unemployment rate.

Total Local Jobs	Unemployment Rate							
	Census Tract		0.3 m Ring		1 m Ring		2 m Ring	
	Below 50 Pctl	Above 50 Pctl	Below 50 Pctl	Above 50 Pctl	Below 50 Pctl	Above 50 Pctl	Below 50 Pctl	Above 50 Pctl
Gentrify 2000–2008 (Top Q)	–37.29*** (8.712)	–56.72 (131.3)	–56.49*** (20.42)	– 2106 (15,176)	708.8*** (209.8)	9893 (10,855)	263.5 (627.1)	3.500 (1274)
Constant	–5.714 (65.39)	–40.12 (275.3)	–88.56*** (33.34)	2461 (18,028)	–116.2 (324.4)	6983* (4146)	–13,131*** (2216)	23,533*** (4379)
Tract/Ring Covariates?	Y	Y	Y	Y	Y	Y	Y	Y
Robust S.E.s?	Y	Y	Y	Y	Y	Y	Y	Y
MSA and State-Yr Dummies?	Y	Y	Y	Y	Y	Y	Y	Y
Observations	3012	2546	3340	3231	3413	3536	3341	3609
First Stage F-Ratio	83.43***	0.44	125.88***	0.02	45.27***	0.87	98.45***	7.55***

Notes: The 50th percentile is set at 14 percent unemployment.

\* p &lt; .10; \*\* p &lt; .05; \*\*\* p &lt; .01.

**Table 11**

2SLS regression results, by job type.

Total Local Jobs	Job Types by Industry							
	Census Tract		0.3 m Ring		1 m Ring		2 m Ring	
	Goods	Services	Goods	Services	Goods	Services	Goods	Services
Gentrify 2000–2008 (Top Q)	–4.255* (2.302)	–14.21* (8.214)	19.14*** (5.816)	–36.83 (23.46)	287.9*** (98.99)	462.1 (362.3)	128.1 (293.5)	–188.6 (938.8)
Constant	–24.34*** (8.907)	46.95 (42.74)	–14.19** (6.325)	–124.6*** (27.38)	–4.535 (91.62)	1746*** (404.1)	–1553*** (445.5)	–351.9 (1707)
Tract/Ring Covariates?	Y	Y	Y	Y	Y	Y	Y	Y
Robust S.E.s?	Y	Y	Y	Y	Y	Y	Y	Y
MSA and State-Yr Dummies?	Y	Y	Y	Y	Y	Y	Y	Y
Observations	5558	5558	6571	6571	6949	6949	6950	6950
First Stage F-Ratio	65.46***	65.46***	60.21***	60.21***	22.12***	22.12***	26.07***	26.07***

\* p &lt; .10; \*\* p &lt; .05; \*\*\* p &lt; .01.

**Table 12**  
2SLS regression results, by job wages.

Total Local Jobs	Job Types by Wages											
	Census Tract			0.3 m Ring			1 m Ring			2 m Ring		
	Low-Wage	Mod-Wage	High-Wage	Low-Wage	Mod-Wage	High-Wage	Low-Wage	Mod-Wage	High-Wage	Low-Wage	Mod-Wage	High-Wage
Gentrify 2000–2008 (Top Q)	–10.91*** (3.349)	–16.78*** (4.326)	8.660** (4.022)	3.698 (14.79)	–16.16* (9.151)	7.521 (9.840)	1243*** (329.8)	9.642 (143.2)	–142.4 (148.2)	2058*** (547.4)	–472.1 (444.1)	–1609** (745.8)
Constant	103.8*** (40.07)	–51.47*** (13.65)	–38.64*** (9.907)	–133.9*** (20.82)	–7.504 (9.879)	–29.88*** (10.37)	–1922*** (351.1)	1174*** (155.9)	1678*** (168.0)	–5113*** (821.8)	2511*** (673.7)	–3271** (1663)
Tract/Ring Covariates?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Robust S.E.s?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MSA and State-Yr Dummies?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations	5558	5558	5558	6571	6571	6571	6949	6949	6949	6950	6950	6950
First Stage F-Ratio	65.46***	65.46***	65.46***	60.21***	60.21***	60.21***	22.12***	22.12***	22.12***	26.07***	26.07***	26.07***

\* p &lt; .10; \*\* p &lt; .05; \*\*\* p &lt; .01.

**Table 13**  
2SLS regression results, interactions with business activity.

Total Local Jobs	Gentrification and Business Activity			
	Census Tract	0.3 m Ring	1 m Ring	2 m Ring
Gentrify 2000–2008 (Top Q)	–57.37* (30.64)	1.450 (71.15)	2680 (2205)	–506.4 (2039)
Stay	0.111*** (0.0411)	0.326*** (0.0774)	0.891** (0.439)	1.594*** (0.209)
InMove	–0.111*** (0.0421)	0.167*** (0.0542)	0.299** (0.135)	–0.276 (0.200)
OutMove	–0.0424 (0.0445)	–0.362*** (0.0849)	–1.133*** (0.329)	0.0493 (0.314)
Gent * Stay	0.0148 (0.0597)	0.0614 (0.0543)	0.0411 (0.300)	–0.187 (0.237)
Gent * InMove	0.341 (0.233)	–0.165 (0.176)	–1.156 (1.189)	0.321 (0.371)
Gent * Exit	–0.307 (0.187)	0.358* (0.189)	1.676 (1.174)	–0.233 (0.630)
Constant	98.01 (68.61)	–168.4*** (47.12)	447.0 (927.0)	–5652*** (2123)
Tract/Ring Covariates?	Y	Y	Y	Y
Robust S.E.'s?	Y	Y	Y	Y
MSA and State-Yr Dummies?	Y	Y	Y	Y
Observations	5558	6571	6949	6950
First Stage F-Ratio	14.89***	12.18***	3.10*	13.34***

\* p &lt; .10; \*\* p &lt; .05; \*\*\* p &lt; .01.

live-work zones. Most stark, are the very localized job losses, across all types of jobs. However, these less optimistic findings are balanced by signs of benefit-enhancing changes, such as more goods-producing and

**Table 14**  
2SLS regression results, interactions with chain business activity.

Total Local Jobs	Gentrification & Retail Chain Businesses			
	Census Tract	0.3 m Ring	1 m Ring	2 m Ring
Gentrify 2000–2008 (Top Q)	–72.47*** (22.45)	–31.78 (38.89)	2995 (2428)	3146* (1608)
ChainRetail	–1.250*** (0.381)	–1.696*** (0.485)	14.24 (11.41)	26.17*** (2.795)
Gent * ChainRetail	2.606*** (0.705)	1.640 (1.247)	–20.27 (20.00)	–7.026 (4.738)
Constant	121.2 (78.18)	–133.4*** (44.75)	–850.8 (1823)	–12,554*** (2085)
Tract/Ring Covariates?	Y	Y	Y	Y
Robust S.E.'s?	Y	Y	Y	Y
MSA and State-Yr Dummies?	Y	Y	Y	Y
Observations	3650	6571	6949	6950
First Stage F-Ratio	23.47***	29.48***	2.58	20.22***

\* p &lt; .10; \*\* p &lt; .05; \*\*\* p &lt; .01.

higher-wage jobs within 1 mile or less of gentrifying neighborhoods. Moreover, gains in goods-producing and low-wage jobs at 1-to-2 mile distances more than compensate for the volume of localized losses. And jobs within 1-to-2 mile commuting distances, in a locality with a well-developed transit system, are arguably still very “local.”

We also shed some light on the mechanisms behind the observed job changes: incumbent businesses and chain establishments may facilitate local hires and job retention. Moreover, there is meaningful variation in local job effects depending on the setting. Denser, tighter markets, like NYC, may respond differently and may therefore require different strategies in the face of gentrification.

## Appendix A

See Appendix [Table A1](#).

**Table A1**

Regression results, alternative gentrification definitions.

<b>Total Local Jobs Census Tract</b>	<b>Housing Vintage</b>	<b>Share of College Educated</b>	<b>Housing Value</b>
Gentrify 2000–2008	–1.821** (0.776)	2.932*** (0.916)	–0.927 (0.712)
Constant	–2.684 (44.76)	–16.43 (41.09)	–3.883 (36.96)
Local Covariates?	Y	Y	Y
Robust S.E.s?	Y	Y	Y
MSA and State-Yr Dummies?	Y	Y	Y
Observations	5526	5558	5558
R-squared	0.710	0.710	0.710
<b>Total Local Jobs 0.3 Mile Ring</b>	<b>Housing Vintage</b>	<b>Share of College Educated</b>	<b>Housing Value</b>
Gentrify 2000–2008	12.03*** (2.990)	–12.18*** (2.315)	–5.808*** (1.948)
Constant	–161.5*** (18.91)	–139.1*** (21.15)	–145.7*** (21.28)
Local Covariates?	Y	Y	Y
Robust S.E.s?	Y	Y	Y
MSA and State-Yr Dummies?	Y	Y	Y
Observations	6571	6571	6571
R-squared	0.706	0.707	0.706
<b>Total Local Jobs 1 Mile Ring</b>	<b>Housing Vintage</b>	<b>Share of College Educated</b>	<b>Housing Value</b>
Gentrify 2000–2008	–11.35 (31.91)	74.63** (32.53)	92.69*** (26.22)
Constant	–124.6 (392.6)	–253.8 (412.5)	–291.8 (323.8)
Local Covariates?	Y	Y	Y
Robust S.E.s?	Y	Y	Y
MSA and State-Yr Dummies?	Y	Y	Y
Observations	6949	6949	6949
R-squared	0.840	0.840	0.840
<b>Total Local Jobs 2 Mile Ring</b>	<b>Housing Vintage</b>	<b>Share of College Educated</b>	<b>Housing Value</b>
Gentrify 2000–2008	–74.61 (95.04)	214.7*** (72.06)	153.9** (67.18)
Constant	–8620*** (1596)	–9138*** (1596)	–8972*** (1555)
Local Covariates?	Y	Y	Y
Robust S.E.s?	Y	Y	Y
MSA and State-Yr Dummies?	Y	Y	Y
Observations	6950	6950	6950
R-squared	0.954	0.954	0.954

\* p < .10; \*\* p < .05; \*\*\* p < .01.

## Appendix B

See Appendix [Fig. B1](#).





Fig. B1. Sample Census Tracts and Rings (Left: Putnam County - Right: Kings County). (Ring radii are, from small to large, 0.3 mile, 1 mile and 2 miles.).

Appendix C

See Appendix Fig. C1.

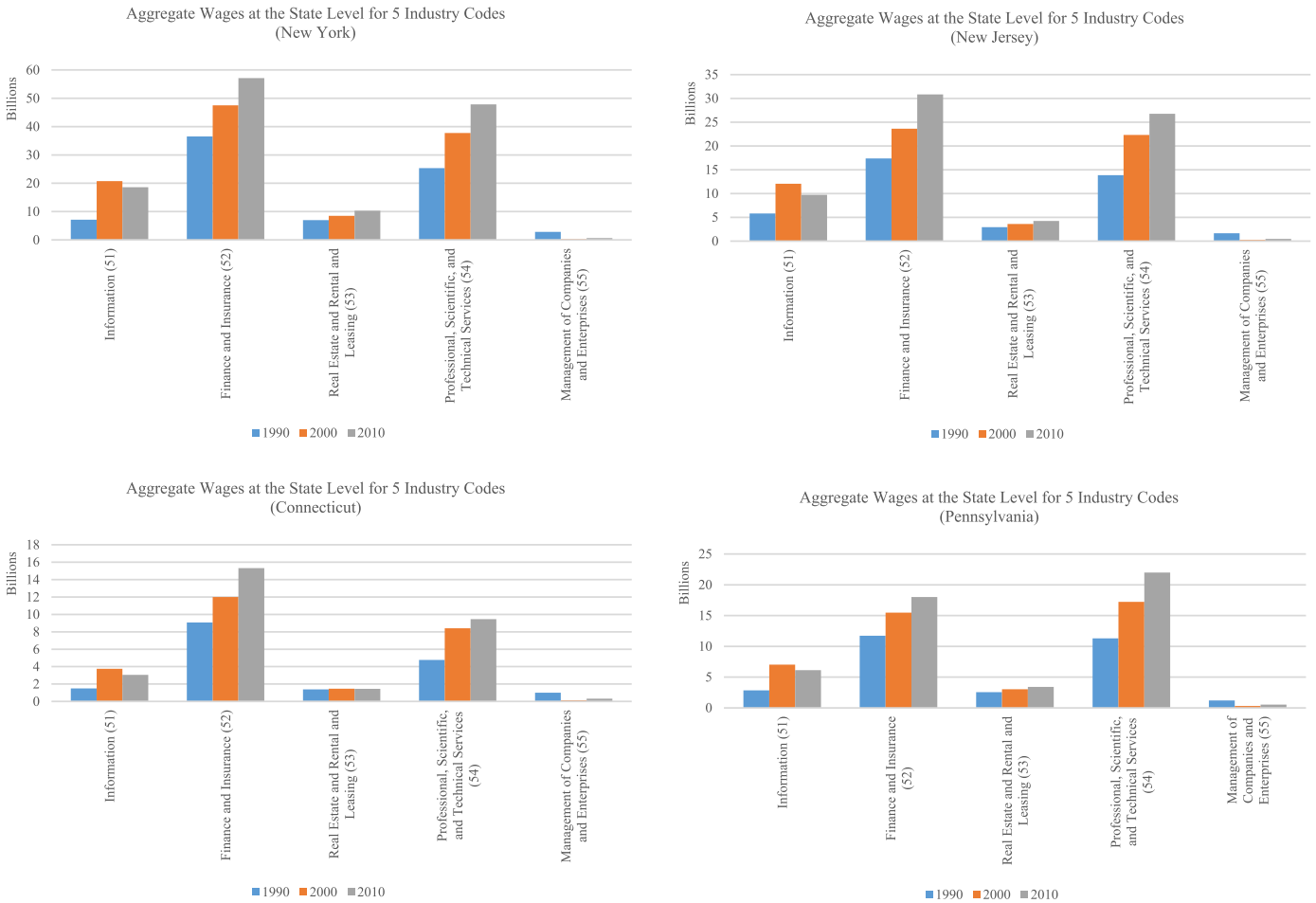


Fig. C1. Changes in Wages across “Professional” Industries for the 1990s and 2000s.

Appendix D

See Appendix Table D1.

**Table D1**  
Concentration of Industries in Census Tracts.

NAICS	Description	Low Income		Low Income & Gentrifying	
		Over 30% concentration	Over 60% concentration	Over 30% concentration	Over 60% concentration
51	Information	2	2	2	2
52	Finance and Insurance	4	2	4	2
53	Real Estate and Rental and Leasing	2	1	2	1
54	Professional, Scientific, and Technical Services	5	2	5	2
55	Management of Companies and Enterprises	1	0	1	0

## Appendix E. OLS regression results, stratified by distribution of incumbent residents

See Appendix [Tables E1–E3](#).

**Table E1**  
OLS regression results, stratified by distribution of incumbent residents.

Total Local Jobs	Proportion Moved in After 2000							
	Census Tract		0.3 m Ring		1 m Ring		2 m Ring	
	Below 75 Pctl	Above 75 Pctl	Below 75 Pctl	Above 75 Pctl	Below 75 Pctl	Above 75 Pctl	Below 75 Pctl	Above 75 Pctl
Gentrify 2000–2008 (Top Q)	–2.271** (0.968)	5.220** (2.586)	–12.00*** (3.039)	3.201 (2.470)	145.4*** (42.96)	–88.99*** (21.19)	268.6*** (102.4)	–90.00* (46.04)
Constant	94.70 (65.71)	–367.2*** (63.48)	–26.98 (25.44)	21.00 (20.14)	–1035*** (334.6)	340.0 (479.5)	–11,432*** (1576)	1242 (1842)
Tract/Ring Covariates?	Y	Y	Y	Y	Y	Y	Y	Y
Robust S.E.s?	Y	Y	Y	Y	Y	Y	Y	Y
MSA and State-Yr Dummies?	Y	Y	Y	Y	Y	Y	Y	Y
Observations	3993	1565	4801	1770	5165	1784	5257	1693
R-squared	0.729	0.763	0.714	0.740	0.843	0.851	0.956	0.960

\* p < .10; \*\* p < .05; \*\*\* p < .01.

**Table E2**  
OLS regression results, stratified by distribution of incumbent residents.

Total Local Jobs	Proportion Moved in After 2000							
	Census Tract		0.3 m Ring		1 m Ring		2 m Ring	
	Below 50 Pctl	Above 50 Pctl	Below 50 Pctl	Above 50 Pctl	Below 50 Pctl	Above 50 Pctl	Below 50 Pctl	Above 50 Pctl
Gentrify 2000–2008 (Top Q)	–0.252 (1.123)	2.132 (1.509)	–22.17*** (3.990)	–0.0540 (1.899)	250.0*** (61.47)	–13.34 (17.48)	474.7*** (137.5)	–172.3*** (41.60)
Constant	298.4*** (88.51)	–195.6*** (32.33)	34.96 (28.69)	–21.65 (27.86)	–753.2 (540.5)	–1327*** (426.3)	–11,331*** (1475)	–7844*** (1090)
Tract/Ring Covariates?	Y	Y	Y	Y	Y	Y	Y	Y
Robust S.E.s?	Y	Y	Y	Y	Y	Y	Y	Y
MSA and State-Yr Dummies?	Y	Y	Y	Y	Y	Y	Y	Y
Observations	2456	3102	2942	3629	3354	3595	3429	3521
R-squared	0.760	0.728	0.748	0.695	0.857	0.845	0.959	0.942

\* p < .10; \*\* p < .05; \*\*\* p < .01.

**Table E3**

OLS Regression results, stratified by distribution of incumbent residents.

Total Local Jobs	Proportion Moved in After 2000							
	Census Tract		0.3 m Ring		1 m Ring		2 m Ring	
	Below 95 Pctl	Above 95 Pctl	Below 95 Pctl	Above 95 Pctl	Below 95 Pctl	Above 95 Pctl	Below 95 Pctl	Above 95 Pctl
Gentrify 2000–2008 (Top Q)	0.135 (0.900)	–36.89*** (14.10)	–8.429*** (2.192)	–7.854 (9.138)	94.72*** (31.52)	20.45 (18.07)	132.5* (76.16)	236.3*** (87.38)
Constant	11.00 (49.66)	1546*** (363.4)	–56.51*** (19.04)	196.5*** (50.89)	–620.6** (316.5)	–2579 (1691)	–7502*** (1201)	–7574** (2996)
Tract/Ring Covariates?	Y	Y	Y	Y	Y	Y	Y	Y
Robust S.E.s?	Y	Y	Y	Y	Y	Y	Y	Y
MSA and State-Yr Dummies?	Y	Y	Y	Y	Y	Y	Y	Y
Observations	5247	311	6231	340	6651	298	6636	314
R-squared	0.710	0.947	0.709	0.882	0.839	0.974	0.953	0.980

\* p &lt; .10; \*\* p &lt; .05; \*\*\* p &lt; .01.

**Appendix F**See Appendix [Table F1](#).**Table F1**

2SLS regression results, NYC vs. Non-NYC.

Total Local Jobs	NYC				Non-NYC			
	Tract	0.3 m Ring	1 m Ring	2 m Ring	Tract	0.3 m Ring	1 m Ring	2 m Ring
Gentrify 2000–2008 (Top Q)	–3.661 (4.784)	–31.84 (35.45)	51.20 (524.2)	–4269** (2114)	–62.10** (30.45)	–87.42** (37.13)	–792.3** (356.0)	1264* (712.6)
All Jobs	0.0009*** (0.000315)	0.00292** (0.00144)	0.0150*** (0.00149)	0.0313*** (0.00418)	0.0068*** (0.00090)	0.009*** (0.001)	0.030*** (0.00272)	0.0838*** (0.00332)
Total Population	0.00556*** (0.000730)	0.0134*** (0.00156)	–0.00536 (0.00577)	–0.00608 (0.00719)	0.00478** (0.00193)	0.0051** (0.00206)	0.026*** (0.00443)	0.0686*** (0.00922)
Poverty Rate	–10.43* (5.539)	97.72*** (30.22)	5445*** (844.6)	21,934*** (3615)	–8.909 (14.10)	–4.983 (17.19)	–697.6 (719.6)	–8033*** (1771)
Prop. Adults w/ a College Degree or More	–11.87* (7.019)	–99.94*** (36.63)	–1046** (510.6)	14741*** (4510)	48.34* (25.11)	41.35* (25.00)	–550.1 (377.4)	–2188** (901.3)
Prop. Non-Hispanic Black	–204.1*** (58.31)	–0.0117*** (0.000911)	–0.0146*** (0.00241)	0.0294*** (0.00725)	380.3*** (86.73)	–0.0037** (0.00179)	0.00129 (0.00311)	0.0108** (0.00435)
Prop. Non-Hispanic Asian	–189.1*** (58.48)	–205.5*** (29.58)	–1349*** (376.1)	–8453** (3746)	518.3*** (92.07)	137.3** (59.29)	1575** (677.6)	8129*** (2195)
Prop. Non-Hispanic White	–195.7*** (56.65)	–51.75*** (16.38)	486.1** (238.6)	7171*** (931.0)	449.8*** (83.54)	68.55*** (12.93)	108.9 (115.1)	–445.6 (488.0)
Prop. Hispanic	–205.5*** (58.57)	–212.5*** (15.37)	–2817*** (194.8)	–3354* (1863)	408.8*** (83.44)	18.58* (9.659)	–229.0 (159.4)	1134* (662.8)
Prop. Foreign-Born	2.004 (2.366)	122.4*** (15.63)	2388*** (206.1)	2959 (2035)	–27.59* (15.06)	–24.14 (18.46)	–471.6*** (176.1)	–2172** (965.3)
Prop. of Units Built Before 1970	–0.00572*** (0.00155)	–0.0156*** (0.00378)	0.0842*** (0.0160)	0.0446 (0.0278)	0.0103* (0.00594)	0.023*** (0.00774)	0.00209 (0.0119)	–0.116*** (0.0289)
Prop. Renters	–0.0133 (4.873)	75.48*** (26.17)	–1821*** (576.9)	–4386* (2650)	–21.34*** (7.610)	–29.05*** (10.00)	866.3*** (204.6)	2846*** (958.2)
Unemployment Rate	–35.31***	–495.7***	–12,874***	–23,433***	–37.86**	–67.47***	–2033***	–5560***

(continued on next page)

Table F1 (continued)

Total Local Jobs	NYC				Non-NYC			
	Tract	0.3 m Ring	1 m Ring	2 m Ring	Tract	0.3 m Ring	1 m Ring	2 m Ring
	(3.994)	(34.51)	(788.7)	(3619)	(18.61)	(22.24)	(387.3)	(757.8)
Prop. Commuting > 25 min to Work	−0.905 (2.472)	102.2 <sup>***</sup> (17.53)	−2497 <sup>***</sup> (536.4)	12,350 <sup>***</sup> (3269)	−30.31 (24.08)	−38.83 <sup>*</sup> (22.58)	165.7 (178.5)	5416 <sup>***</sup> (623.3)
Prop. Living in the Same Unit for 5+ Yrs	23.91 <sup>***</sup> (5.092)	316.6 <sup>***</sup> (27.55)	−646.3 (578.1)	−15,646 <sup>***</sup> (3569)	34.36 (22.02)	35.52 (22.73)	−381.7 (716.2)	−6460 <sup>***</sup> (1959)
Prop. Younger than 18	6.971 (10.53)	111.1 <sup>*</sup> (66.19)	2786 <sup>**</sup> (1327)	27,927 <sup>***</sup> (8833)	33.17 (30.70)	32.22 (39.94)	−1532 (1417)	13,586 <sup>***</sup> (3045)
Prop. Older than 65	21.84 <sup>*</sup> (11.35)	−79.82 (64.43)	−13,020 <sup>***</sup> (1287)	−9631 (9964)	−120.6 <sup>***</sup> (37.36)	−140.1 <sup>***</sup> (44.72)	−232.9 (689.2)	10,083 <sup>***</sup> (1362)
Change in College Grads 2000–08	0.358 (0.245)	−2.889 (3.064)	−281.0 <sup>**</sup> (126.2)	363.0 (588.0)	4.541 (2.813)	10.24 <sup>**</sup> (4.348)	−104.1 <sup>**</sup> (53.01)	−1476 <sup>***</sup> (200.6)
Change in Med. Housing Value 2000–08	0.000564 (0.000579)	0.00941 (0.00675)	−35.10 (23.14)	593.1 <sup>***</sup> (199.7)	4.783 <sup>***</sup> (1.394)	5.786 <sup>***</sup> (2.241)	273.8 <sup>***</sup> (91.15)	1614 <sup>***</sup> (236.8)
Change in Median Gross Rent 2000–08	5.254 <sup>***</sup> (1.771)	4.307 (10.67)	−128.8 (286.2)	1784 (2712)	20.26 <sup>***</sup> (5.505)	20.07 <sup>***</sup> (7.087)	−48.08 (79.31)	−1540 <sup>***</sup> (317.8)
Change in Poverty Rate 2000–2008	1.789 (1.787)	4.045 (12.54)	1432 <sup>***</sup> (181.2)	1979 <sup>*</sup> (1192)	−0.935 (1.336)	−1.382 (1.231)	−97.41 <sup>**</sup> (39.38)	−400.0 <sup>***</sup> (117.6)
Prop. Housing Units Built 2000–2010	0.0220 <sup>***</sup> (0.00414)	−0.0121 (0.00951)	0.315 <sup>***</sup> (0.0523)	0.110 (0.0843)	0.0449 <sup>***</sup> (0.0105)	0.037 <sup>***</sup> (0.0118)	−0.00533 (0.0254)	−0.281 <sup>***</sup> (0.0389)
Change in Total Population 2000–08	−4.281 <sup>*</sup> (2.319)	−31.27 <sup>**</sup> (13.43)	−780.3 <sup>*</sup> (471.7)	−15,645 <sup>***</sup> (2169)	−19.81 <sup>***</sup> (6.322)	−11.51 (8.871)	23.03 (82.36)	−2,561 <sup>***</sup> (909.2)
Estab. Stayed over Past 5 Yrs	0.247 <sup>***</sup> (0.0391)	0.285 <sup>***</sup> (0.0506)	0.113 (0.101)	1.141 <sup>***</sup> (0.246)	0.198 <sup>***</sup> (0.0504)	0.245 <sup>***</sup> (0.0347)	0.861 <sup>***</sup> (0.116)	1.338 <sup>***</sup> (0.147)
Estab. Moved In over Past 5 Yrs	−0.0444 <sup>*</sup> (0.0228)	0.159 <sup>***</sup> (0.0483)	0.352 <sup>***</sup> (0.0771)	0.126 (0.212)	−0.125 <sup>***</sup> (0.0340)	−0.168 <sup>***</sup> (0.0323)	−0.638 <sup>***</sup> (0.100)	−0.843 <sup>***</sup> (0.120)
Estab. Closed/Exited during Past 5 Yrs	−0.0492 (0.0545)	−0.221 <sup>***</sup> (0.0841)	−0.746 <sup>***</sup> (0.159)	0.405 (0.323)	−0.0912 <sup>*</sup> (0.0538)	−0.0364 (0.0508)	−0.0750 (0.176)	−0.227 (0.190)
Total Establishments in 2002	−0.00670 (0.0264)	−0.0876 <sup>***</sup> (0.0274)	0.358 <sup>*</sup> (0.204)	−0.764 (0.751)	0.0732 <sup>*</sup> (0.0375)	0.0360 <sup>*</sup> (0.0204)	0.428 <sup>***</sup> (0.150)	−0.287 (0.246)
Constant	201.6 <sup>***</sup> (55.00)	69.50 (59.53)	12,407 <sup>***</sup> (1401)	11,883 <sup>*</sup> (6808)	−403.1 <sup>***</sup> (91.68)	−22.74 (23.97)	734.3 <sup>*</sup> (381.6)	−1702 <sup>*</sup> (868.7)
Robust S.E.'s?	Y	Y	Y	Y	Y	Y	Y	Y
MSA and State-Yr Dummies?	Y	Y	Y	Y	Y	Y	Y	Y
Observations	3034	3779	4080	4081	2524	2792	2869	2869
First Stage F-Ratio	53.35 <sup>***</sup>	45.05 <sup>***</sup>	13.31 <sup>***</sup>	13.73 <sup>***</sup>	13.51 <sup>***</sup>	13.44 <sup>***</sup>	10.91 <sup>***</sup>	12.04 <sup>***</sup>

Robust standard errors in parentheses.

\*\*\* p &lt; 0.01.

\*\* p &lt; 0.05.

\* p &lt; 0.1.



## Appendix G

See Appendix Table G1.

Table G1

2SLS Regression Results, Interactions between Gentrification and Business Activity, NYC vs. Non-NYC.

Total Local Jobs	Gentrification & Business Activity; NYC				Gentrification & Business Activity; Non-NYC			
	Census Tract	0.3 m Ring	1 m Ring	2 m Ring	Census Tract	0.3 m Ring	1 m Ring	2 m Ring
Gentrify 2000–2008	–7.076 (123.1)	–76.16 (127.7)	–3136 (4533)	–19,143 (14,868)	–192.7 (127.3)	–244.6* (135.2)	–1283** (625.0)	1389* (715.7)
Stay	0.274*** (0.0647)	0.281*** (0.0689)	0.103 (0.211)	2.208*** (0.792)	0.0591 (0.0853)	0.0692 (0.101)	0.738*** (0.172)	1.382*** (0.144)
InMove	–0.0625 (0.0841)	0.152 (0.0972)	0.0639 (0.551)	–1.986 (1.553)	–0.441* (0.236)	–0.502** (0.207)	–0.897*** (0.123)	–0.675*** (0.0826)
OutMove	–0.0373 (0.0804)	–0.411*** (0.124)	–0.616* (0.364)	2.056 (1.486)	0.0454 (0.128)	0.0951 (0.101)	–0.310* (0.167)	–0.389** (0.166)
Gent * Stay	–0.127 (0.135)	–0.108 (0.331)	–1.710 (2.532)	–3.845 (2.887)	0.329** (0.143)	0.314** (0.137)	0.630 (0.411)	–0.607** (0.258)
Gent * InMove	0.127 (1.032)	0.127 (0.554)	2.737 (3.846)	6.231 (4.710)	0.659 (0.518)	0.822 (0.510)	0.444** (0.213)	0.0530 (0.102)
Gent * Exit	–0.0548 (0.193)	0.269 (0.318)	–1.084 (1.893)	–4.588 (3.589)	–0.762 (0.523)	–0.865* (0.504)	–0.213 (0.354)	0.257* (0.153)
Constant	201.5 (196.0)	105.5 (135.2)	13,656*** (2954)	25,654 (18,172)	–70.56 (299.0)	87.22 (86.86)	942.8** (396.5)	– 1791** (842.2)
Tract/Ring Covariates?	Y	Y	Y	Y	Y	Y	Y	Y
Robust S.E.'s?	Y	Y	Y	Y	Y	Y	Y	Y
MSA and State-Yr Dummies?	Y	Y	Y	Y	Y	Y	Y	Y
Observations	3034	3779	4080	4081	2524	2792	2869	2869
First Stage F-Ratio	0.2	7.12***	0.8	1.93	3.73*	4.41**	12.57***	44.73***

\* p &lt; .10; \*\* p &lt; .05; \*\*\* p &lt; .01.

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