

Why Do Higher-income Households Choose Low-income Neighbourhoods? Pioneering or Thrift?

Ingrid Gould Ellen, Keren Mertens Horn and Katherine M. O'Regan

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Abstract

This paper offers several hypotheses about which US higher-income households choose to move into low-income neighbourhoods and why. It first explores whether the probability that a household moves into a relatively low-income neighbourhood (an RLIN move) varies with predicted household and metropolitan area characteristics. Secondly, it estimates a residential choice model to examine the housing and neighbourhood preferences of the households making such moves. Thirdly, it explores responses to survey questions about residential choices. Evidence is found that, in the US, households who place less value on neighbourhood services and those who face greater constraints on their choices are more likely to make an RLIN move. No evidence is found that households making RLIN moves are choosing neighbourhoods that are more accessible to employment. Rather, it is found that households making RLIN moves appear to place less weight on neighbourhood amenities than other households and more weight on housing costs.

Standard economic theories of household sorting across neighbourhoods and jurisdictions predict that sorting should lead to communities that are fairly homogeneous with respect to income (Tiebout, 1956; Schelling, 1969). Whether driven by like preferences for local public services, a comparable ability to pay for housing at a given location, or a desire to live among

homogeneous neighbours, households are expected to choose neighbourhoods occupied by households of similar incomes. Yet there is considerable empirical evidence of income diversity within neighbourhoods (Krupka, 2008; Galster *et al.*, 2008).

The question we explore here is why some higher-income households choose to move into low-income neighbourhoods, to

Ingrid Gould Ellen and **Katherine M. O'Regan** are in the Wagner School, New York University, New York City, New York, US. Email: ingrid.ellen@nyu.edu and katherine.oregan@nyu.edu.

Keren Mertens Horn (corresponding author) is in the School of Economics, University of Massachusetts Boston, 100 Morrissey Blvd, Boston, Massachusetts, 02125, USA. Email: keren.horn@umb.edu.

live among neighbours who earn less than they do. Such moves may be key drivers of economic gains in low-income neighbourhoods (McKinnish *et al.*, 2010; Ellen and O'Regan, 2011); they may also contribute to the emergence of more economically diverse neighbourhoods (McKinnish and White, 2011). Yet we know little about who makes these moves and what motivates them.

Drawing from a simple residential-choice framework, we offer some hypotheses about which higher-income households might be most likely to choose lower-income neighbourhoods and why they make these decisions. For ease, we term these as moves into *relatively* low-income neighbourhoods (or RLIN moves) to emphasise that these neighbourhoods are not only low-income, but also have a mean income that is low relative to that of the mover. We then use three empirical strategies to test which of these hypotheses (if any) are borne out in practice. First, we explore whether the probability that a household makes an RLIN move varies with predicted household and metropolitan area characteristics. Secondly, we estimate a residential choice model to examine whether the revealed housing and neighbourhood preferences of the households making RLIN moves differ from those of other movers in predicted ways. Finally we explore whether responses to a collection of survey questions suggest motives for making RLIN moves that are consistent with theoretical predictions.

We rely on the American Housing Survey (AHS), which samples a nationally representative group of housing units and the households who live in them. We use the internal version of the dataset, which identifies the census tract in which each housing unit is located, allowing us to link each unit to the characteristics of its neighbourhood along with the attributes of its metropolitan area (MSA). We define RLIN moves as those in which a household moves into a

neighbourhood with a median income below both its own income and the MSA median. We examine who makes these moves and where they occur during two time-periods: a relatively weak market period, 1989–93; and a period of rapidly rising house prices, 1999–2003.

In brief, we find evidence that households who place less value on neighbourhood services (such as renters and childless households) and those who face greater constraints on their choices (such as first-time homeowners and minority households) are more likely than other households to make RLIN moves. We find no evidence that households making RLIN moves are choosing neighbourhoods that are more accessible to employment. Rather, the stated motivations and preferences of households making RLIN moves suggest that they place less weight on neighbourhood amenities than other households and more weight on minimising housing costs.

1. Literature and Theoretical Framework

The reasons *why* some households move to neighbourhoods that are relatively (and absolutely) low income have not been addressed empirically. While there is considerable work documenting that income mixing within neighbourhoods is more common than assumed (Galster *et al.*, 2008; Krupka, 2008), none of these studies examines either the characteristics of the households who move into neighbourhoods with incomes lower than their own, or why they choose to make these moves.

There is some work that examines the characteristics of households entering low-income neighbourhoods that are undergoing neighbourhood economic change or gentrification. Researchers typically find that in-movers to low-income

neighbourhoods experiencing income gains are more likely to be college-educated, childless and White than households who choose to move into other low-income neighbourhoods (Ellen and O'Regan, 2011; McKinnish *et al.*, 2010; Freeman and Braconi, 2004).

This body of literature, however, is focused on a related but different question than we ask. These papers study how households entering low-income neighbourhoods that gentrify differ from those entering low-income neighbourhoods that do not gentrify. We are interested instead in understanding the characteristics and motivations of the full set of moderate- and higher-income movers who opt for absolutely and relatively low-income neighbourhoods (regardless of whether those neighbourhoods subsequently improve) and how they compare to other movers with similar incomes. We think this question is critical given that the majority of households who make RLIN moves choose neighbourhoods that do not subsequently experience a gain in income. Moreover, the in-movement of higher-income households into low-income areas that do not gentrify may lead to more sustained economic diversity.

We present a simple economic model to motivate our empirical analysis. Building on Quigley (1985), we assume that a consumer chooses a unit j from a set of units K .¹ This choice includes housing characteristics (H_j), neighbourhood characteristics (N_j) which include both a bundle of public services and social/economic characteristics of neighbours, a level of accessibility to work, shopping, and cultural activities (A_j), and a price (R_j) which indicates annual cost of renting or owning. We can then specify the utility of household i of income Y as follows:

$$U_{ij}(H_j, N_j, A_j, Y_i - R_j) = V(ij) + \varepsilon_{ij} \quad (1)$$

where, V consists of the systematic component of the household's utility and ε is the stochastic component.

If households have full information when they choose to move into lower-income neighbourhoods, presumably they are gaining utility from some attributes of this bundled choice. Past researchers of neighbourhood change (gentrification) have emphasised expectations of future neighbourhood improvement as a motivation and/or preferences for historically unique or large homes that are often located in older, lower-income neighbourhoods (Brueckner and Rosenthal, 2009; Schill and Nathan, 1983). It may also be true that households making RLIN moves are simply trying to save money for non-housing purchases.

Whatever the particular trade-offs, we would expect them to be most attractive to those who place relatively less weight on the quality of neighbourhood services and conditions and relatively more weight on housing itself, accessibility or savings. Simplifying H_j , N_j and A_j into a single vector of housing characteristics X_j (which includes structural characteristics of the housing unit plus location-specific features such as access and neighbourhood characteristics), and following Vigdor (2010), we can then express the utility that household i receives when living in housing unit j as follows

$$U_{ij} = \alpha(Y_i - R_j) + \beta_i X_j + \varepsilon_{ij} \quad (2)$$

The likelihood of household i selecting unit j can then be expressed as

$$\begin{aligned} P(U_{ij}) &= \max(U_{i1} \dots U_{ij} \dots U_{ik}) \\ &= \frac{e^{\alpha(Y_i - R_j) + \beta_i X_j}}{\sum_{n=1}^k e^{\alpha(Y_i - R_n) + \beta_i X_n}} \end{aligned} \quad (3)$$

Simply put, households are maximising their utility over a set of housing options that provide a range of utilities (U_{i1}, \dots, U_{ik}). Note that the utilities associated with these housing options

should vary across households—specifically, with the household characteristics that are relevant for residential choices. In other words, β is presumed to vary across household types. In addition, the set of available housing options, and the magnitude of trade-offs they represent, will vary across housing markets and may also vary across households, assuming a segmented market in which different types of households face different options. Of course, another possibility is that households making RLIN moves may not in fact be making optimal choices at all, perhaps because of search costs or imperfect information.

Drawing on this simple framework, as well as the existing literature, we generate a series of empirical predictions about RLIN moves.

1.1 Predictions from Pioneering/ Gentrification Theories

In making RLIN moves, households may be revealing a preference for one set of neighbourhood or housing attributes (perhaps accessibility or historical character) over another. Literature on neighbourhood change has emphasised three motivations that might draw higher-income households to low-income neighbourhoods: prospecting, or expectations of future appreciation; taste for access to employment or amenities; and preference for unique housing stocks. Next, we review these and other possible motivations.

Prospecting. If households are motivated by an interest in future appreciation, we would expect homeowners making RLIN moves to opt for neighbourhoods that are expected to improve, perhaps because they have demonstrated a recent trajectory of improvement. Similarly, we would expect to see more homeowners opting for

relatively low-income neighbourhoods when those neighbourhoods have older housing stocks and thus are prime for redevelopment (Berry, 1985; Brueckner and Rosenthal, 2009).

Taste for downtown living. The choice to make an RLIN move may also be driven by the location of the neighbourhood itself, which could offer shorter commutes and proximity to cultural amenities. There is considerable evidence that neighbourhoods with locational advantages are more likely to experience gentrification (London and Palen, 1984; Brueckner *et al.*, 1999). To the extent that accessibility is a motive, we expect households to prefer low-income neighbourhoods that are closer to jobs and amenities.

Prioritising housing above neighbourhoods. Households making RLIN moves may place relatively less weight on neighbourhood quality and more on housing than do other households. If true, then we would expect to see households who consume fewer neighbourhood-based services, such as households without children (Bayer *et al.*, 2007), disproportionately making RLIN moves.

We also expect renters to be more likely than homeowners to make RLIN moves. Renters face lower risks and transaction costs in ‘trying out’ a neighbourhood; when homeowners make residential choices, they are investing in an asset whose expected future value depends on perceived neighbourhood quality (Ellen, 2000). Some empirical evidence bears this out; higher levels of neighbourhood externality risks (such as crime, litter and noise) have been shown to decrease the likelihood of an owner (vs a renter) moving into a unit (Hilber, 2005). Annual fluctuations in market rent pose a greater risk to renters

(Sinai and Souleles, 2005), which might push them to neighbourhoods with lower rents and lower expected appreciation.

Finally, to the extent that RLIN moves are motivated by an interest in trading off neighbourhood quality for more housing, we should observe that households who make RLIN moves consume more housing relative to otherwise similar households who do not make RLIN moves.

1.2 Additional Hypotheses

In addition to these hypotheses emerging from the literature on gentrification and neighbourhood change, we suggest two more hypotheses about what drives these moves: thrift, or a desire to save for non-housing consumption; and constraints.

Thrift. The literature on gentrification has focused on trade-offs within the neighbourhood/housing bundle. Yet, as highlighted in the model, some households may also choose to spend less on the entire neighbourhood/housing bundle in order to spend more on non-housing consumption. To the extent that this occurs, we would expect to see households making RLIN moves spending less on housing altogether.

Constraints on choice sets. Housing decisions are not only shaped by preferences but also by the opportunity set available. Some households face (or perceive) greater constraints, which shape their feasible alternatives. First-time homeowners, for example, could face greater financial constraints than existing homeowners, who are typically able to fund the downpayment on their new home from the sale of their previous home. As a result, first-time homeowners may be pushed to lower-cost neighbourhoods, which are likely to be lower-income as well.

Cost constraints for first-time homebuyers should be especially significant in rapidly appreciating MSAs. Until the recent housing market crash in the US, housing prices had risen steadily over a 10-year period in much of the country, especially in coastal areas. Such steady appreciation, at least if it outstrips income gains, can constrain the set of homes affordable to potential homebuyers to those located in lower-income neighbourhoods.² This suggests that RLIN moves should be more likely in 'hot housing markets', or those experiencing the greatest price pressure. Such pressure would affect new homeowners and renters in particular, as continuing homeowners (at least those moving within the same housing market) are likely to have gained equity from the appreciation of their previous home (Sinai and Souleles, 2005).

Minority households may also face constrained choices. Minority households' more limited wealth and greater reliance on informal networks in their housing search (Newburger, 1995) may limit the neighbourhoods they consider and lead them to make more RLIN moves. These racial differences may be particularly pronounced in highly segregated metropolitan areas, as segregation may constrain the movement of higher-income Black households into higher-income neighbourhoods (Bostic and Martin, 2003; Wilson, 1987). Moreover, racial discrimination is likely to be higher in more segregated areas.

2. Data

We rely on two primary sources of data for this work: housing unit/household level data from the national American Housing Survey (AHS) and census tract data from the decennial census. We link these two datasets using the census tract identifiers included in the

confidential internal version of the AHS. (The publicly available AHS only identifies the metropolitan area in which a housing unit is located.)

The AHS is a longitudinal, biennial survey that tracks a nationally representative sample of approximately 55 000 housing units. The AHS provides detailed data on the housing unit, its occupants and their stated reasons for choosing their home and neighbourhood. Our unit of analysis is a household who moved into a sampled unit at some point during the two years between the previous survey year and the current survey year. As we rely on neighbourhood data from the decennial census, we limit our analysis to moves into housing units between 1989–91, 1991–93, 1999–2001 and 2001–03. We link moves in the first two periods to census tract data from the 1990 decennial census and we link the later moves to census tract data from the 2000 decennial census.³ We draw our decennial census data from the Neighborhood Change Database. Constructed by Geolytics, in partnership with the Urban Institute, the Neighborhood Change Database provides both 1990 and 2000 census tract data for census tracts as they were defined in the 2000 census. This dataset allows us to link 1990 and 2000 neighbourhood characteristics to all housing units in the AHS through the 2000 census tract identifier.

3. Who Moves into Relatively Low-income Neighbourhoods?

We identify RLIN moves as those in which households buy or rent homes in neighbourhoods with median incomes that are below both their own income and the median of the metropolitan area. Specifically, we identify a household as an RLIN mover if its income is at least 10 per cent higher than both the median income of the

neighbourhood and the income of the previous occupant of the specific unit into which they move, adjusting for inflation.⁴ (We include the income of the previous resident as a proxy for the income of the micro neighborhood around the housing unit.)⁵ In addition, the neighbourhood must have a median income below that of the MSA, in order to exclude moves by very-high-income households into high-income neighbourhoods. We have chosen to base our definition on differences in income and not human capital, as we are specifically interested in households who have the financial means to live in higher-income neighbourhoods at the time that they make their residential choice.⁶

We remove from our sample households with very low incomes (below 60 per cent of area median income) as we want to identify households who would have had the resources to move into a higher-income neighbourhood instead. Finally, since our interest is in identifying new entrants who have significantly higher incomes than existing residents, we also aim to exclude residential moves into newly urbanising, exurban communities. Specifically, we exclude from our definition households entering suburban neighbourhoods with both densities below 200 people per square kilometre and in which the majority of homes have been built in the past decade. (This last restriction removed less than 1 per cent of our sample, and results held without restriction too.)⁷

Table 1 provides a description of the households that we define as making RLIN moves, in comparison with the other recent movers in our sample with incomes above 60 per cent of area median income that do not make such choices.⁸ In contrast to these other recent movers, whose incomes are roughly equal to that of the surrounding tract, the average RLIN mover has an income nearly twice that of

Table 1. Sample characteristics

| | <i>RLIN movers</i> (<i>N</i> = 6563) | <i>Other movers^a</i> (<i>N</i> = 16 272) | <i>Differences significant</i> |
|---|--|---|--------------------------------|
| Median household income (\$) ^b | 58 058 | 47 940 | *** |
| Median person/tract income ratio | 1.94 | 1.04 | *** |
| <i>Race</i> | | | |
| Percentage non-Hispanic White | 67.9 | 76.8 | *** |
| Percentage non-Hispanic Black | 13.2 | 8.0 | *** |
| Percentage Hispanic | 13.5 | 9.8 | *** |
| Percentage other | 5.5 | 5.4 | NS |
| <i>Education</i> | | | |
| Percentage no high school diploma | 8.8 | 6.0 | *** |
| Percentage entered 12th grade | 26.8 | 23.1 | *** |
| Percentage 1–3 years college | 27.9 | 28.6 | NS |
| Percentage 4 years college or more | 36.4 | 42.3 | *** |
| <i>Age distribution</i> | | | |
| Under 40 | 60.4 | 62.0 | ** |
| Percentage 40–60 | 29.8 | 29.4 | NS |
| Percentage over 60 | 9.8 | 8.6 | *** |
| <i>Household composition</i> | | | |
| Have children | 34.6 | 37.4 | *** |
| Children in private school | 14.3 | 14.8 | NS |
| Children in public school | 85.7 | 85.2 | NS |
| Married | 50.1 | 51.4 | NS |
| <i>Tenure</i> | | | |
| Own | 40.0 | 46.9 | *** |
| First-time homeowners | 54.2 | 49.3 | *** |
| Repeat homeowners | 45.8 | 50.7 | *** |
| Rent | 60.0 | 53.1 | *** |
| <i>Destination of Move</i> | | | |
| Suburbs | 44.7 | 58.3 | *** |
| Central city | 55.3 | 41.7 | *** |

^aAll movers whose income is above 60 per cent of AMI but did not make RLIN moves.

^bIncome adjusted for inflation, reported in 1999 dollars.

Notes: *** significant at the 1 per cent level; ** significant at the 5 per cent level; * significant at the 10 per cent level.

the neighbourhood. While households making RLIN moves are predominantly White, minorities comprise a significantly larger share of our RLIN mover sample than of our other mover sample. In addition, a larger share of RLIN movers are renters and, among homeowners, new owners.⁹ Finally, a smaller proportion of RLIN

movers have children and a larger share live in the central city.

While the comparisons of means shown in Table 1 are generally consistent with our theoretical predictions, we also estimate a regression to identify the independent relationship between household characteristics and the likelihood of making an RLIN move

$$Y_{it} = \beta HH_{it} + \lambda_t + \eta MSA_t + \gamma HH_{it} * MSA_t + \varepsilon_{it} \quad (4)$$

where, Y_{it} represents the decision to make an RLIN move, by household i in time t . HH_{it} includes the same household characteristics described in Table 1. We include a series of year dummies, λ_t , and MSA characteristics, such as housing appreciation, segregation and crime,¹⁰ as well as interactions with key household characteristics. (We also estimate a version of this model with MSA fixed effects.) The time t identifies the cross-section in which the household's decision is observed. A housing unit will be included in our sample if it experiences turnover in the two years before one of four survey years: 1991, 1993, 2001 and 2003.¹¹

Table 2 shows the results of our regressions, estimated for all households (columns 1 and 2) and then separately for homeowners (columns 3 and 4) and renters (columns 5 and 6).¹² We first estimate these models with MSA fixed effects (odd numbered columns) then remove the fixed effects and include metropolitan characteristics that may shape residential decisions. The patterns revealed in Table 1 generally hold up. Consistent with our prediction that households who place less weight on neighbourhood services are more likely to make RLIN moves, renters and childless households are more likely to make moves into low-income neighbourhoods. Further, older homeowners (over 60 years old) are more likely to make RLIN moves than younger homeowners, perhaps because they also place less weight on future conditions in the neighbourhood.

In addition, consistent with our prediction that households who face a more constrained set of choices (financial and otherwise) are more likely to make RLIN moves, first-time homeowners and minority households are more likely to make such

moves. These results, which hold with and without MSA fixed effects, paint a somewhat different portrait of RLIN movers than one might intuit from the literature on gentrification.

As for magnitudes, the race variables have the largest coefficients among the dummy variables. For example, Black homeowners are 18.8 percentage points more likely to make RLIN moves compared with White homeowners, all else constant. Being Black has a much larger association with RLIN moves than the lack of children (more than seven times as large) or a college degree (more than three times as large).

Moving to metropolitan characteristics, we find that more rapid house price appreciation is associated with a greater likelihood of making RLIN moves, but as expected, this relationship only holds among renters and first-time homeowners (and not among repeat homeowners, who can finance the larger required downpayment through the sale of their previous home). Specifically, a one standard deviation increase in house price appreciation (or 5 percentage points) leads to a 1 percentage point increase in the probability that a renter makes an RLIN move and a 3 percentage point increase in the probability that a first-time homeowner makes an RLIN move.¹³ As for segregation, we find White households are somewhat less likely to make RLIN moves in more segregated metropolitan areas.¹⁴ However, as predicted, minority households are *more* likely to make RLIN moves in metropolitan areas in which their particular group is more segregated.

In short, we find evidence that differences in both preferences and choice sets could be driving decisions to make RLIN moves. Households who place less weight on local public services (households without children) or future appreciation (renters and older homeowners) are more likely to make RLIN moves. In addition, households facing

Table 2. Probability that a household makes an RLIN move

| | <i>Pooled</i> (<i>N</i> = 22 835) | | <i>Owners</i> (<i>N</i> = 10261) | | <i>Renters</i> (<i>N</i> = 12 574) | |
|---|---------------------------------------|-----------------------------|--------------------------------------|-----------------------------|--|--------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| <i>Household characteristics</i> | | | | | | |
| Owner | -0.101*** 0.010 | -0.096*** 0.008 | | | | |
| Income | 0.194*** 0.014 | 0.188*** 0.009 | 0.106*** 0.013 | 0.103*** 0.011 | 0.357*** 0.037 | 0.342*** 0.018 |
| Income squared | -0.021*** 0.002 | -0.020*** 0.001 | -0.012*** 0.002 | -0.012*** 0.001 | -0.037*** 0.004 | -0.035*** 0.003 |
| Black | 0.161*** 0.016 | -0.135** 0.054 | 0.188*** 0.023 | -0.063 0.099 | 0.151*** 0.018 | -0.155** 0.064 |
| Hispanic | 0.109*** 0.011 | -0.045 0.048 | 0.106*** 0.021 | -0.068 0.079 | 0.114*** 0.012 | -0.023 0.061 |
| College or more | -0.053*** 0.007 | -0.055*** 0.006 | -0.055*** 0.010 | -0.056*** 0.009 | -0.050*** 0.010 | -0.054*** 0.009 |
| Under 40 | -0.005 0.006 | -0.007 0.007 | 0.006 0.009 | 0.000 0.010 | -0.014 0.010 | -0.015 0.010 |
| Over 60 | 0.034** 0.013 | 0.037*** 0.012 | 0.041** 0.017 | 0.046*** 0.015 | 0.023 0.019 | 0.019 0.019 |
| Children | -0.029*** 0.008 | -0.030*** 0.007 | -0.025*** 0.009 | -0.029*** 0.010 | -0.028** 0.012 | -0.029*** 0.010 |
| Married | -0.002 0.006 | -0.002 0.007 | -0.010 0.010 | -0.007 0.010 | 0.004 0.009 | 0.003 0.009 |
| New homeowner | 0.053*** 0.011 | 0.048*** 0.011 | 0.040*** 0.011 | 0.015 0.013 | | |
| <i>MSA characteristics</i> | | | | | | |
| MSA house price appreciation | | 0.166** 0.080 | | -0.069 0.132 | | 0.195* 0.101 |
| Interaction new homeowner /house price appreciation | | 0.101 | | 0.565*** | | |
| Black/White dissimilarity | | 0.152 -0.085*** 0.027 | | 0.180 -0.097*** 0.037 | | -0.074* 0.038 |
| Interaction Black/Black/White dissimilarity | | 0.462*** 0.088 | | 0.382** 0.159 | | 0.486*** 0.105 |
| Hispanic/White Dissimilarity | | -0.235*** 0.037 | | -0.234*** 0.051 | | -0.230*** 0.051 |
| Interaction Hispanic/ Hispanic/White dissimilarity | | 0.358*** 0.107 | | 0.412** 0.175 | | 0.313** 0.136 |
| Central city crime | | -0.109 0.143 | | -0.212 0.203 | | 0.114 0.200 |
| Constant | 0.255*** 0.011 | 0.412*** 0.022 | 0.247*** 0.015 | 0.427*** 0.031 | 0.163*** 0.018 | 0.302*** 0.031 |
| MSA FE | X | | X | | X | |

Notes: *** significant at the 1 per cent level; ** significant at the 5 per cent level; * significant at the 10 per cent level.* Regressions of probability that a household makes an RLIN move on household and metropolitan level characteristics. Robust standard errors are reported.

a more constrained set of choices (such as minorities and first-time homebuyers) more commonly make RLIN moves. These effects are particularly pronounced in metropolitan areas that have experienced rapid house price appreciation and that are highly segregated by race.

4. Choices of RLIN Movers: Evidence from Revealed Preferences

Our theoretical predictions suggest that, compared with other movers, RLIN movers should differentially weight housing or neighbourhood attributes. We examine these hypotheses by estimating a residential choice model, expressed in model (4). As established by McFadden (1978), we can use the conditional logit estimation to identify the weights that different households place on unit and neighbourhood characteristics.¹⁵ Intuitively, this model tests for differences in how these attributes affect the selection of a housing unit for those making RLIN moves, compared with those making other moves.

We again begin with all households that move into a new unit in a given cross-section, who have incomes above 60 per cent of AMI. To estimate the model, we assume that households were choosing among the unit they currently live in and 10 randomly selected units within the group of housing units in a given cross-section that were vacant and available, within the same metropolitan area, and of the same tenure class. We separately estimate models for owners and renters.

We control for a set of unit characteristics (the cost of each housing unit, its age and its number of bedrooms) and a set of neighbourhood characteristics (the share of the census tract's population that is minority, the share of the population that has

attended college, the share of units that are owner-occupied, the share of units built before 1940 and distance to the nearest job node).¹⁶ Through a series of interactions, the model controls for the degree to which households with similar characteristics make different choices about specific attributes. We interact each of our unit and neighbourhood characteristics with household income, race, presence of children and, most critically, whether the household made an RLIN move. For brevity, Table 3 simply reports the marginal effects evaluated at the means of each unit and neighbourhood characteristic for the interactions that identify the preference parameters of households making RLIN moves relative to those not making such moves. For example, the 0.083 coefficient on the interaction of RLIN moves with the share of units in a neighbourhood built before 1940, means that a one percentage point increase in the share of old housing increases the likelihood that a household making an RLIN move will choose a neighbourhood (relative to other movers) by 8.3 percentage points.

We report results for owners and renters separately, for models focused solely on unit characteristics (odd-numbered columns) and models with both unit and neighbourhood characteristics (even numbered). Focusing first on unit models, the results suggest that, compared with similar movers not making RLIN moves, RLIN movers are choosing *smaller* and less expensive units.¹⁷ RLIN movers are thus picking units that require less total spending on housing. After controlling for neighbourhood characteristics, however, price differences disappear and unit size is now positively associated with RLIN moves. Within a given type of neighbourhood, in other words, households making RLIN moves are not choosing less expensive units (or smaller units). Rather, RLIN movers acquire their lower-cost

Table 3. Residential choice

| | <i>Owners (N = 63 613)</i> | | <i>Renters (N = 104 291)</i> | |
|---|----------------------------|-----------|------------------------------|-----------|
| | (1) | (2) | (3) | (4) |
| <i>Interactions of RLIN moves with:</i> | | | | |
| <i>Unit characteristics</i> | | | | |
| Price/bedroom | -0.034*** | 0.001 | | |
| | 0.003 | 0.005 | | |
| Rent/bedroom | | | -0.090*** | 0.058*** |
| | | | 0.025 | 0.020 |
| Bedrooms | -0.018*** | 0.013*** | -0.023*** | 0.017*** |
| | 0.004 | 0.005 | 0.006 | 0.005 |
| Built pre-1940 | 0.084*** | 0.013 | 0.135*** | 0.022* |
| | 0.012 | 0.013 | 0.013 | 0.012 |
| Built post-1980 | 0.034*** | 0.034*** | -0.030** | 0.008 |
| | 0.009 | 0.010 | 0.013 | 0.011 |
| <i>Neighbourhood characteristics</i> | | | | |
| Median income ratio | | -0.440*** | | -0.501*** |
| | | 0.028 | | 0.018 |
| Percentage minority | | 0.064** | | 0.062** |
| | | 0.029 | | 0.026 |
| Percentage college educated | | -0.010 | | -0.181*** |
| | | 0.042 | | 0.039 |
| Percentage homeowners | | -0.064** | | -0.164*** |
| | | 0.028 | | 0.024 |
| Percentage old housing | | 0.083** | | 0.065** |
| | | 0.034 | | 0.030 |
| Distance to job node | | 0.001* | | 0.001 |
| | | 0.001 | | 0.001 |
| Percentage use public transport | | -0.041 | | -0.001 |
| | | 0.083 | | 0.061 |
| Change in income | | 0.004* | | 0.003 |
| | | 0.003 | | 0.003 |
| Change in minority composition | | 0.010 | | -0.052 |
| | | 0.054 | | 0.047 |
| Change in college educated | | 0.109 | | -0.001 |
| | | 0.085 | | 0.082 |
| Share new construction | | -0.119*** | | -0.091** |
| | | 0.035 | | 0.039 |
| Full interactions | X | X | X | X |

Notes: *** significant at the 1 per cent level; ** significant at the 5 per cent level; * significant at the 10 per cent level. Regressions of probability that a household selects a given unit on unit and neighbourhood characteristics. Coefficients reported are on the interactions between an indicator variable that the household made an RLIN move interacted with the unit and neighbourhood characteristics. Coefficients represent marginal effects. Robust standard errors are reported.

housing by choosing units that are lower-priced because they are located in less-expensive neighbourhoods.

The results also suggest that households making RLIN moves are making different choices about neighbourhood characteristics.

(We are more cautious in interpreting neighbourhood differences, as our definitions of RLIN moves may drive some of the differences.)¹⁸ Specifically, households making RLIN moves select neighbourhoods with larger shares of old housing, perhaps because these neighbourhoods are perceived as ripe for redevelopment. However, the neighbourhoods they choose also have lower rates of new construction, suggesting little new investment. Further, RLIN renters tend to select neighbourhoods with fewer college-educated residents, suggesting that they are not choosing the neighbourhoods expected to improve. As for accessibility, we find no evidence that RLIN movers are choosing neighbourhoods that are more accessible to jobs. The coefficient on RLIN moves interacted with distance to job node is weakly significant and *positive* in the model for owners (column 2) and insignificant for renters. When using distance to the central business district as our measure of access instead, we again find no evidence that RLIN movers are aiming to live in more accessible neighbourhoods. Similarly, public transit use in the tract does not appear to be a significant driver of the neighbourhood choice.

To explore whether RLIN movers are selecting neighbourhoods that they expect to improve based on past trends, we include several variables that capture changes that occurred over the past decade (the change in income, the change in percentage of residents with college education and the change in minority composition). We see few significant coefficients on the change variables, which could indicate that households are not selecting neighbourhoods they expect to improve, or simply reflect the fact that past changes may not be a strong proxy for expectations of the future. We do find slight evidence that homeowners making RLIN moves (although not renters) are selecting neighbourhoods where incomes have been

growing, but these results are not robust to alternative specifications.

Because prior trends may not capture household expectations of future changes, we also examine what happens to the majority of neighbourhoods selected by RLIN movers and we find that they do not experience income gains in the next decade, even when we focus on homeowners.¹⁹ If RLIN homeowners are trying to choose rising neighbourhoods, they are not doing a very good job.²⁰

In sum, we find that RLIN movers tend to choose smaller and less expensive units than other similar movers (thrift), but they do not appear to be choosing neighbourhoods that are trending up or that are more accessible to employment centres.

One explanation for the weak results on job access may be our imperfect measures and data. Our measures of distance to the nearest job node and the central business district are clearly crude proxies for job accessibility, as jobs are now typically distributed throughout a metropolitan area, rather than being concentrated in particular job nodes (Redfean, 2007). Thus, households may be choosing neighbourhoods that are closer to their own jobs, but we are not able to capture their proximity using the measures available to us.

Yet even when we look directly at the commute times reported by household heads, we find little evidence that households making RLIN moves are moving closer to their jobs. Specifically, we estimate the following descriptive regression

$$Y_{it} = RLIN_{it} + HH_{it} + \varepsilon_{it} \quad (5)$$

where, Y_{it} represents the commute time of the head of household. Our key independent variable, $RLIN_{it}$, identifies whether the household made an RLIN move. Additionally we control for a number of household characteristics, HH_{it} , including race, income, the presence of children and tenure status.²¹

Table 4. Commute to work

| | <i>Pooled (N = 19 240)</i> | <i>Owners (N = 8 509)</i> | <i>Renters (N = 10 731)</i> |
|------------------------------|----------------------------|---------------------------|-----------------------------|
| | (1) | (2) | (3) |
| RLIN move | -0.005 | 0.582 | -0.473 |
| | 0.389 | 0.623 | 0.494 |
| Income | 1.229*** | 1.047*** | 1.664*** |
| | 0.269 | 0.323 | 0.484 |
| Owner | 2.846*** | | |
| | 0.301 | | |
| Minority | 2.025*** | 1.966*** | 2.024*** |
| | 0.385 | 0.648 | 0.474 |
| Children present | 1.072*** | 0.687 | 1.465*** |
| | 0.293 | 0.443 | 0.388 |
| Interaction minority/pioneer | -1.078 | -2.247* | -0.363 |
| | 0.675 | 1.208 | 0.813 |
| Constant | 19.239*** | 22.055*** | 19.130*** |
| | 0.360 | 0.584 | 0.462 |
| Year dummies | X | X | X |

Notes: *** significant at the 1 per cent level; ** significant at the 5 per cent level; * significant at the 10 per cent level. Regressions of length of commute to work on household characteristics.

As shown in Table 4, commute times are greater for those with higher income, for homeowners and for minorities. However, we find no difference in commute times between households that make RLIN moves and those of other households. This provides further evidence that households are not deciding to make an RLIN move in order to increase accessibility to work.

5. Motivations for RLIN Moves: Evidence from Stated Preferences

The AHS includes several questions that ask households about the motivations underlying their residential choices. We use responses to these questions to run a series of simple regressions, testing for differences between households making RLIN moves and other movers in the reasons they state for their choice, after controlling for differences in household characteristics.

5.1 Stated Reasons for Choosing Neighbourhoods

We start by adapting equation (5) to let Y_{it} represent a set of dichotomous dependent variables, each indicating the primary reason a household chose their neighbourhood. Again, our key independent variable, $RLIN_{it}$, identifies whether the household made an RLIN move and we control for the same set of household characteristics.

Results are presented in Table 5.²² Consistent with earlier findings, households making RLIN moves are slightly less likely than other movers to report having chosen their neighbourhood for its convenience to work or leisure. This provides further support for our findings that RLIN households are not choosing neighbourhoods because they are more convenient to employment. Surprisingly, households making RLIN moves are more likely to have selected a neighbourhood for its convenience to

family and friends. Such a preference may indicate an additional constraint some households face on remaining proximate to needed family support. Alternatively, it is possible that households making RLIN moves may simply place greater weight on proximity to family and friends than on many neighbourhood amenities.

Additionally households making RLIN moves are less likely to report selecting a neighbourhood because of school quality or for aesthetic reasons. This is consistent with our predictions, suggesting that they weight aspects of the 'residential bundle' differently from other movers and, specifically, that they place less weight on neighbourhood service quality and conditions.

5.2 Stated Reasons for Choosing a Housing Unit

The second part of Table 5 provides additional evidence on why a household chose its particular housing unit. Here, we again estimate regression model (5), but our dependent variables are now whether the household reports that it chose its unit primarily for financial reasons and whether a household reports that it selected its unit primarily for its size. We find that households making RLIN moves are more likely to have chosen their unit for financial reasons but less likely to have chosen their unit because of its size. Consistent with results from our residential choice model, they appear to be choosing their housing units, at least in part, because they are more affordable, and thus leave them with more money to spend on other goods.

5.3 Comparison of New and Previous Housing Units

As a check on whether the actual behaviour of households matches their stated desire to save money, we examine responses to a

series of questions about how current housing units compare with previous housing units with respect to housing cost, unit quality and neighbourhood quality. If these households are motivated by cost savings, and are therefore more willing to sacrifice housing or neighbourhood quality than other households, there should be evidence of these trade-offs *ex post*.²³ Controlling for income, tenure, race and the presence of children, we find that households making RLIN moves are significantly more likely than other movers to have experienced a reduction in housing costs after their recent move. So, relative to other movers with similar characteristics (income, tenure status and presence of children), RLIN movers experience reductions in their housing expenses after moving. These savings seem to come from reductions in the quality of both housing units and neighbourhoods, as households making RLIN moves are also more likely than other movers to report entering a unit of lower quality than their previous unit and a neighbourhood of lower quality than their previous neighbourhood.

6. Conclusion

Our primary objective was to place the decision to move into a relatively low-income neighbourhood in a broader empirical and theoretical context. Our results reveal a somewhat different profile of which higher-income households make moves into relatively lower-income neighbourhoods than might be suggested by research on gentrification. Most notably, renters, first-time homebuyers, minority households and those without a college education disproportionately make such moves. These findings may provide some guidance for policy-makers and urban officials wishing to foster diversity within low-income neighbourhoods.

Table 5. Primary reasons for choosing neighbourhood and unit (N = 22 835)

| | Primary reasons for choosing neighbourhood | | | | | | | | Primary reasons for choosing unit | | |
|------------------|--|-----------------------|------------------------|------------------|-----------|----------------|------------------------|-----------|-----------------------------------|-----------|-----------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (1) | (1) | (2) |
| | Convenience to job | Convenience to people | Convenience to leisure | Public transport | Schools | Other services | Looks of neighbourhood | Unit | Financial | Financial | Size |
| RLIN Move | -0.010* | 0.013*** | 0.001 | -0.001 | -0.017*** | 0.002** | -0.021*** | 0.008 | 0.025*** | 0.025*** | -0.009** |
| Income | 0.005 | 0.004 | 0.002 | 0.001 | 0.003 | 0.001 | 0.005 | 0.005 | 0.006 | 0.006 | 0.004 |
| | -0.003 | -0.011*** | 0.003** | 0.000 | 0.004* | 0.000 | 0.011*** | -0.009*** | -0.044*** | -0.044*** | 0.007** |
| Owner | 0.003 | 0.002 | 0.001 | 0.000 | 0.002 | 0.000 | 0.003 | 0.003 | 0.003 | 0.003 | 0.003 |
| | -0.120*** | -0.034*** | -0.007*** | -0.007*** | -0.001 | -0.002* | 0.035*** | 0.084*** | -0.015** | -0.015** | -0.048*** |
| Minority | 0.005 | 0.004 | 0.002 | 0.001 | 0.003 | 0.001 | 0.005 | 0.005 | 0.006 | 0.006 | 0.004 |
| | 0.006 | 0.006 | -0.010*** | 0.006*** | -0.015*** | 0.003** | 0.005 | -0.004 | -0.007 | -0.007 | 0.013** |
| Children present | 0.006 | 0.005 | 0.002 | 0.002 | 0.003 | 0.001 | 0.005 | 0.005 | 0.007 | 0.007 | 0.005 |
| | -0.067*** | -0.003 | -0.012*** | -0.004*** | 0.107*** | 0.000 | -0.005 | 0.019*** | -0.008 | -0.008 | 0.053*** |
| Constant | 0.005 | 0.004 | 0.001 | 0.001 | 0.004 | 0.001 | 0.005 | 0.005 | 0.006 | 0.006 | 0.004 |
| | 0.230*** | 0.096*** | 0.019*** | 0.011*** | 0.019*** | 0.005*** | 0.107*** | 0.144*** | 0.310*** | 0.310*** | 0.076*** |
| Year Dummies | 0.006 | 0.005 | 0.002 | 0.002 | 0.003 | 0.001 | 0.005 | 0.006 | 0.007 | 0.007 | 0.005 |
| | X | X | X | X | X | X | X | X | X | X | X |

Notes: *** significant at the 1 per cent level; ** significant at the 5 per cent level; * significant at the 10 per cent level. Regressions of primary reason for choosing a neighbourhood and unit on household characteristics.

As to *why* higher-income households move into relatively low-income neighbourhoods, we find that households who place less value on neighbourhood services (such as renters and childless households) are more likely to make RLIN moves. Further, we find that many households who make RLIN moves do so for financial reasons—these moves save households money.²⁴ Counter to conventional wisdom, then, at least on average, households making RLIN moves do not seem to be selecting unique Victorian homes or opting for neighbourhoods that are hipper, more accessible or expected to improve. Rather, they are choosing these neighbourhoods because they are cheaper, and these households are willing to give up neighbourhood quality for such savings. An important caveat is that such moves appear to be more common when residential choices are more limited—for example, among minorities in more racially segregated areas and among renters and first-time homebuyers in areas that have experienced greater house price appreciation. So some of these households may have made different choices had they faced (or believed they faced) a broader set of possibilities.

Of course, there are other motivations that are also consistent with these moves. For example, higher-income minority households may be affirmatively choosing low-income neighbourhoods out of a preference for living with other minorities; or RLIN movers more generally may wish to live in economically diverse environments. Such additional rationales should be addressed in future research on this topic.

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Notes

1. We focus only on mover households, households who have already decided that the benefits from moving outweigh the costs.
2. Admittedly, credit standards may loosen in rapidly appreciating markets, but in the US, until the recent sub-prime boom, downpayment requirements continued to pose a real constraint for new homebuyers.
3. We do not include the 1995, 1997, 1999, 2005, 2007 or 2009 cross-sections as we do not feel that the 1990 and 2000 decennial census data can accurately describe these neighbourhoods.
4. Note, this is a minimum income difference requirement. Based on this definition, about half of the RLIN movers have incomes that are twice the neighbourhood median income.
5. Where income of the previous occupant is missing (including newly constructed units), we require the incoming household to have an income at least 15 per cent above that of the neighbourhood.
6. Income at one point in time will be subject to error. Specifically, we may misclassify a move as RLIN for households with a temporary positive shock. We are also looking at gross income, rather than disposable resources. To the extent that some households differentially experience other costs (for example, medical) or have fewer assets, they too will be classified as making RLIN moves.

7. Tables 1, 2 and 5 include the full sample described here. Tables 3 and 4 include sub-samples of this primary sample which are limited by missing data.
8. RLIN movers make up between 25 and 30 per cent of movers in any given cross-section.
9. Note that this is in contrast to households moving into 'gentrifying' neighbourhoods, who are more commonly White homeowners than those who move into other low-income neighbourhoods (see for example, McKinnish *et al.*, 2010).
10. Households may be unwilling to make RLIN moves in areas where the trade-offs are perceived to be too large in terms of critical neighbourhood attributes, such as safety. Since census tract crime rates are not available for the bulk of our sample, we proxy with central city crime rates.
11. About 75 per cent of the housing units in our sample appear once, about 20 per cent appear twice and the remainder of the housing units appear three or four times. Standard errors are clustered at the unit level.
12. We have estimated both OLS and logistic regressions with very similar results; we present the OLS results to ease comparison of the relative magnitude of coefficients within and across models.
13. Our measure of house price appreciation is drawn from the Federal Housing Finance Agency metropolitan house price indices and measured as one year house price appreciation, one year prior to the given survey year.
14. We use the dissimilarity index, a commonly used measure of segregation (see James and Tauber, 1985, for a more detailed discussion).
15. The underlying assumptions associated with the use of this model are that the error terms are independent and identically distributed across the households' choices (following an extreme value distribution) and that households select the residential choice that maximises their utility.
16. We identify a job node as a census tract that contains more than 5 per cent of the jobs in a metropolitan area. For metropolitan areas with no census tracts that contain over 5 per cent of the total jobs, distance to job node takes a value of zero. We rely on the Longitudinal Employer–Household Dynamics OnTheMap dataset (<http://lehd.did.census.gov/led/onthemap/>) as our measure of metropolitan jobs. We then compute the Euclidean distance between the centroid of each tract to the nearest job node.
17. RLIN homeowners, but not renters, are also more likely to select newer housing.
18. While we control for neighbourhood income, there may remain a correlation between other neighbourhood characteristics and the share of units in a neighbourhood that would meet our RLIN definition for a given mover. Hence, some differences may be driven by our definition of RLIN moves.
19. We define neighbourhood income gain through a comparison of the 1990 tract mean income with the 2000 tract mean income, relying on the Neighborhood Change Database for normalised tract boundaries.
20. We do find that homeowners (who have more to benefit from entering neighbourhoods that improve) are somewhat more likely to pick gaining neighbourhoods than renters, although this is only true for existing homeowners. However, given that existing homeowners also have higher incomes than other households, these gains in neighbourhood income may well be endogenous.
21. We present results for estimation using OLS, but logistic regressions yield similar results.
22. Again we run these models using OLS, but have also estimated these models using logistic regressions and find similar results. This is true for all models in this section.
23. Of course, if a household's previous housing decision was also an RLIN move, the current move may be motivated by cost savings and yet, *ex post*, housing costs may well not decline.
24. We cannot explore here what drives the desire for costs savings, which may arise from unobserved constraints or costs (i.e. high debt, high medical costs).

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