Love and the (Superstar) City: Housing Costs and the Geography of Marriage

Elena Pellegrini* Gabrielle Penrose†

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PRELIMINARY AND INCOMPLETE

Abstract

We provide new evidence on the drivers of assortative marriage in the United States. Using four decades of microdata from the American Community Survey, we document substantial spatial variation in assortative mating over income: it is strongest in areas with higher housing costs and a larger share of college-educated workers. To interpret these patterns, we develop a spatial marriage-market model that embeds a search-and-matching framework within a superstar-city environment, characterized by heterogeneous housing supply elasticities and returns to productivity. The model replicates observed wage and housing price differentials across cities and generates spatial and marital sorting patterns consistent with the data. In equilibrium, skilled workers endogenously sort into more productive, high-cost cities, where they are more likely to meet and marry other high earners. Preliminary quantitative results suggest that assortative mating on income is substantially stronger in superstar cities than in the average metropolitan area.

Keywords: Marriage market, Sorting, Search and Matching, Housing, Superstar cities
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*Department of Economics, Boston College. Contact: pellegec@bc.edu
†Department of Economics, Boston College. Contact: penroseg@bc.edu

1 Introduction

Over the last four decades, assortative mating on income, that is, the similarity between spouses' earnings, has risen dramatically in the United States. Today's married couples are more similar than ever before, concentrating high earners within the same households and amplifying household income inequality.[1] Despite this, only a few studies have sought to explain the causes of this trend, typically attributing it to technological progress in the home, shifts in the wage structure, increased women's labor-force participation, or changes in the division of labor within households.[2] At the same time, the spatial distribution of earnings has shifted, with high-income jobs increasingly concentrated in metropolitan areas characterized by high housing costs (Moretti, 2012). Because marriage markets are inherently local, these parallel trends raise an important question: to what extent is the rise in positive assortative mating linked to spatial inequality and housing markets?

This paper studies the role of skill-biased technological change and housing prices in shaping the marriage decisions of U.S. couples. As skilled workers increasingly relocate to productive cities, where both the skill premium and housing costs are higher, they are more likely to meet and marry other high-earning singles. In contrast, lower-skilled workers may be priced out of these areas altogether, relocating to more affordable regions. This sorting process reshapes local marriage markets by linking returns to skills and housing affordability to marital choices.

In the first part of the paper, we update estimates of aggregate homogamy in the United States, and present novel empirical evidence on how marital sorting patterns vary across Metropolitan Statistical Areas (MSAs). Using microdata from the American Community Survey (ACS), we document four new facts: (i) income homogamy has steadily risen in recent years, reaching its highest level in 2021; (ii) there is substantial geographic dispersion in the degree of homogamy across the United States; (iii) assortative mating is higher in areas with a higher share of college graduates, and (iv) assortative mating is higher in areas with more expensive housing, even after instrumenting for house prices using variation in local land-use regulation stringency. These results hold after accounting for intra-household division of labor, suggesting that structural changes in marriage decisions, rather than shifts in gender roles alone, are driving these patterns.

We are the first to link housing prices and wage premiums with trends in homogamy, showing that spouses are most economically similar in locations where housing costs and returns to productivity are highest. Importantly, we document that these effects on homogamy

[1] See McCall and Percheski (2010), Schwartz (2010), Reed and Cancian (2012), Greenwood et al. (2014), Eika et al. (2019), Boertien and Bouchet-Valat (2022), Almar et al. (2023)

[2] Becker (1993), Greenwood et al. (2016), Gonalons-Pons and Schwartz (2017)

are causal. Following a large literature that instruments for local house prices using residential land-use restrictions, we show that more stringent land-use regulations raise housing prices and, in turn, increase assortative mating.[3] Because these regulations arise from slow-moving political and institutional processes, they are unlikely to respond to short-run local demand shocks and thus serve as plausibly exogenous drivers of local prices[4]. Using this instrument, we estimate that a doubling of real housing costs leads to a one-third increase in the slope of the relationship between husbands' and wives' earnings percentiles within an MSA.

We rationalize these patterns using a marriage-market model that embeds the Shimer and Smith (2000) framework within the spatial superstar cities setting of Gyourko et al. (2013). In the model, individuals differ by skills and choose between two locations, the *Available City* (A) and the *Superstar City* (S), that differ in both productivity and housing supply. Superstar cities have higher returns to productivity but a more inelastic housing supply, so that as local population rises, housing prices increase sharply and are higher in equilibrium. In contrast, Available cities have more elastic housing supply and lower rents. Because labor and housing markets are local, these differences generate endogenous spatial variation in both earnings and the cost of living.

Workers first choose the location that maximize their expected lifetime utility. Then, within each city, singles meet and marry locally through a random search process. Marriage decisions depend on both the idiosyncratic match-quality ("love") shock, which captures personal tastes, and the economic characteristics of potential partners, such as their productivity and location-specific earnings. A couple forms only if the joint surplus of the match, which combines partner productivities, local housing costs, and the idiosyncratic shock, is positive. Higher-productivity individuals earn more in superstar cities, which raises the potential surplus from marriage in those locations. Since superstar cities also attract a concentration of high-productivity types, couples are more likely to match with partners of similar productivity, while available cities exhibit more heterogeneous couples. This equilibrium sorting mechanism produces endogenous spatial variation in assortative mating, consistent with the patterns observed in the data.

We calibrate the model to MSA-level data and following the literature. The Superstar City features a 10% productivity premium and a more inelastic housing supply than the Available City. Housing supply elasticities are taken from Saiz (2010), with the Available

[3]Our measure of local land use regulation comes from the Wharton Residential Land Use Regulatory Index (WRLURI) and its panel extension (Gyourko et al., 2021), which provide rare longitudinal data on changes in regulatory stringency. These data allow us to exploit within-MSA regulatory shifts over time rather than relying solely on cross-sectional differences, a feature largely absent from prior work.

[4]See Ganong and Shoag (2017); Gyourko and Krimmel (2021); Glaeser and Ward (2009).

City set to 1.75, representing an average U.S. MSA, and the Superstar City set to 0.91, corresponding to a highly constrained city near the 90th percentile of the distribution.

The model generates spatial and marital sorting patterns consistent with empirical evidence. In equilibrium, roughly 60% of workers, predominantly those with above-median skills, endogenously sort into the high-productivity, high-cost Superstar City, where average wages are about twice those in the Available City and housing prices are nearly three times as high. Marriage rates and assortative matching are higher in the Superstar City: 63% of workers are married compared with 47% in the Available City, and the correlation between partners' productivities is 0.49 versus 0.16. These outcomes arise from two reinforcing mechanisms, stronger productivity complementarities and higher housing costs, that jointly generate spatial variation in income homogamy and replicate the observed link between the share of skilled workers, housing prices, and within-couple inequality.

1.1 Related Literature

Our paper contributes to three strands of the literature. First, it contributes to the large literature documenting rising assortative matching in marriage markets. Much of this literature focuses on educational attainment, finding that individuals have become increasingly likely to marry partners with a similar level of schooling,[5] as well as growing assortative mating in earnings.[6] The dominant explanation attributes these trends to stronger sorting on education and other socioeconomic characteristics, with individuals becoming more selective in their choice of partners (Fernández and Rogerson, 2001; McCall and Percheski, 2010; Doepke and Tertilt, 2016).[7]

However, while this literature documents that assortative mating has increased, it offers little explanation for why individuals have become more selective. Our paper contributes by proposing and testing two economic mechanisms, spatial sorting over returns to productivity, and rising housing costs, that jointly influence individuals' location choices across MSAs and raise the returns to marrying a high-earning spouse, thereby increasing homogamy.

Secondly, our paper relates to a growing literature documenting the increasing spatial segregation of workers by education and skill in the United States. A large body of evidence shows that high-skilled, college-educated workers have become increasingly concentrated in high-wage, high-cost metropolitan areas, while less-skilled workers remain in lower-wage re-

[5]See Greenwood et al. (2014); Fernandez et al. (2005); Doepke and Tertilt (2016).

[6]See McCall and Percheski (2010); Boertien and Bouchet-Valat (2022); Cancian and Reed (1998); Schwartz (2010); Reed and Cancian (2012).

[7]A related literature argues that observed increases in homogamy may instead reflect changes in the intra-household division of labor, rather than true shifts in partner matching (Gonalons-Pons and Schwartz, 2017). By focusing on hourly earnings, we largely abstract from such intra-household specialization decisions.

gions (Moretti, 2012; Autor, 2020). Building on this evidence, Diamond (2016) provides causal support that high-skilled workers are disproportionately sorting into expensive cities where wage premia are larger, a process that reinforces geographic inequality. This spatial concentration of skill is closely linked to local housing markets. Saiz (2010) shows that geographic constraints on housing supply make local prices highly sensitive to demand shifts, helping explain why high-skill cities are also high-cost. Similarly, Ganong and Shoag (2017) suggest that high housing costs can deter migration of low-skilled workers, further amplifying spatial and income segregation. Our framework builds on these insights by explicitly modeling how productivity premia and housing costs jointly shape both spatial sorting and the equilibrium degree of assortative matching across locations.

While the existing literature documents the rise in spatial segregation and its contribution to income inequality, it largely overlooks how these spatial patterns interact with marriage market outcomes. A notable exception is Costa and Kahn (2000), who examines the increasing concentration of "power couples" (marriages in which both spouses are college-educated) in urban areas. Her findings suggest that the co-location problem of high-skill dual-earner households helps explain the migration of such couples toward large cities. Our paper bridges these literatures by explicitly analyzing how assortative mating varies across space and by highlighting a mechanism through which marriage market sorting can amplify existing spatial inequalities.

Finally, this paper contributes to three related literatures. First, it speaks to a body of work on household formation and demographic responses to housing market conditions, which have shown that higher housing costs delay marriage and childbearing and increase co-residence with parents (Ermisch, 1999; Dettling and Kearney, 2017; Martínez Mazza, 2020). Second, it connects to research on the consequences of housing supply constraints, which has primarily focused on wages, migration, and local labor markets (Ganong and Shoag, 2017; Gyourko et al., 2021), by showing that these constraints can also shape patterns of household sorting. Finally, our work relates to studies on the microeconomic origins of income inequality within households, which highlight how changes in household structure contribute to rising inequality (Lundberg et al., 2017). By linking housing market frictions to marriage market outcomes, our paper unites these strands and identifies marriage as a new margin through which housing supply constraints can amplify inequality.

The remainder of the paper is organized as follows. Section 2 describes the data and discusses our key measure of homogamy before establishing a new set of empirical facts on housing prices and income homogamy. Section 3 shows our causal identification strategy whereby we use exogenous variation in local land use restrictions to instrument for housing price change, finding this has a significant effect on the level of homogamy. Section 4 proposes the model and characterizes the equilibrium of the economy. Section 5 takes the model to the data and shows the key results alongside our policy counterfactual exercises. Finally Section 6 concludes.

2 Empirical Evidence

This section documents new empirical facts about assortative mating over income in the United States and establishes a causal link between local housing prices and the degree of assortative mating. We begin by describing the data and sample construction, then outline our approach to measuring assortative mating. We next present trends over time and across space before turning to our identification strategy using exogenous variation in land-use regulation to identify causal effects.

2.1 Data and Sample Selection

We use data from the American Community Survey (ACS), a large, publicly available, cross-sectional dataset that samples roughly 0.1 to 1 per cent of US households each year and is representative of the national population.[8] The survey, administered by the U.S. Census Bureau, is mandatory for households, leading to high compliance rates.

The ACS is well-suited to studying geographic variation in marital sorting because it reports earnings, spousal characteristics, and housing values at the metropolitan statistical area (MSA) level. As well as linking spouses detailed earnings information to one another, the survey asks questions on the year of marriage, allowing us to look at assortative matching by length of marriage. Data on earnings using the ACS is available from 2000 to 2021, while housing data is available from 2005 and data on year of marriage from 2007. To ensure measurement consistency over time, we restrict the sample to heterosexual married couples.[9][10] We further limit the sample to respondents aged 25–65 to exclude periods associated with schooling or retirement.

Couples are retained in our sample if both spouses report positive labor income, non-zero annual hours, and valid wage data. This focus on dual-earner couples means we do not

[8] The data are accessed via the Integrated Public Use Microdata Series (IPUMS) website (Ruggles et al., 2020)

[9] While ideally we would include all cohabiting couples, the ACS only began identifying same-sex and cohabiting partnerships in 2007. This limits our ability to study long-run trends outside heterosexual marriages.

[10] We abstract from co-residing but unmarried couples, who are not consistently identified in the data prior to 2007, and whose financial arrangements may differ from those of married couples. Our focus on formally married couples aligns with the wider assortative-mating literature (e.g. Greenwood et al. (2014); Eika et al. (2019))

consider the roughly 40 per cent of married couples where one spouse does not earn wage income. Because our goal is to understand assortative mating insofar as it contributes to household income inequality, conditioning on couples with two earners isolates the component of sorting most relevant to studying household income. The resulting sample is a cross-sectional panel of roughly 7 million married couples observed between 2005 and 2021 across 380 MSAs.

Our primary earnings variable is the hourly wage, calculated by dividing *incwage* by *uhrswork*, the usual number of hours worked per week in the prior year. For housing, we use data on respondents' estimates of the value of their own house to construct MSA-level average housing costs. The homeowner's value of housing is given by the respondent's estimate of the property's market value, that is, the amount the house would sell for if placed on the market. This question is only asked of homeowners.[11] From 2012 onwards, metropolitan areas follow the US Office of Management and Budget (OMB) definitions, which define MSAs as urbanized areas with at least 50,000 residents and their economically linked surrounding communities. Prior to 2011 metropolitan areas use 1999 OMB definitions.

2.2 Measuring and Documenting Trends in Assortative Mating

Our goal in this section is to quantify how similar spouses are in their earnings potential. Because our focus is on how couples sort by relative position in the earnings distribution, rather than absolute wage levels, we use a rank-based measure. This approach captures whether higher-earning individuals tend to marry others with similarly high relative earnings, independent of changes in overall wage dispersion. Formally, we modify the framework of Greenwood et al. (2014). For each year t we regress the wife's percentile on the husband's income percentile, estimating the following Equation:

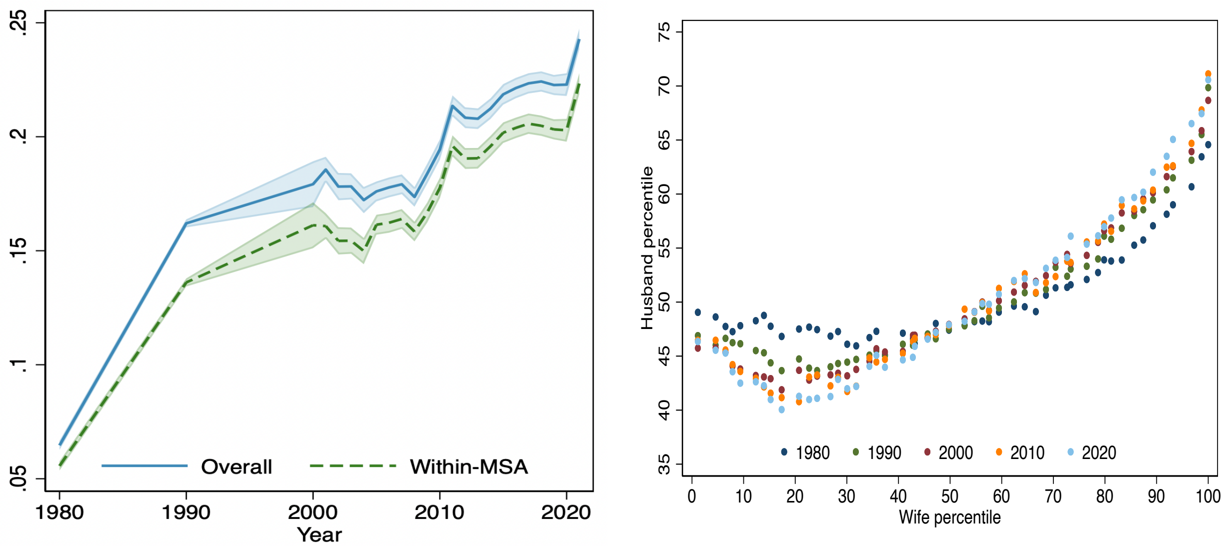
$$wife\_pct_{it} = \alpha_t + \beta_t \times husband\_pct_{it} + \epsilon_{it} \tag{1}$$

The coefficient β_t captures the strength of assortative mating within year t. The higher β, the stronger we say assortative mating is. A β of 1 would indicate perfect assortative mating, while a β of 0 would correspond to random pairing. By converting incomes to ranks, rather than using levels, this regression-based measure is invariant to changes in income dispersion[12].

[11] This variable provides a level measure of housing value that can be consistently compared across MSAs. To validate the accuracy of these self-assessed values, we compare them against an MSA-level house price index based on transaction data. The correlation between the two series is 0.89, indicating that self-assessed property values are largely accurate. A scatterplot illustrating this relationship is presented in Appendix 10.

[12] The regression coefficient is given by $\beta = \frac{\sigma_{xy}}{\sigma_x^2} = \frac{\sigma_y}{\sigma_x}\rho$. As noted by Eika et al. (2019) and Gihleb and Lang (2020), if variables are used in levels, shifts in β may reflect changes in the relative distributions of income or education between men and women rather than true changes in sorting behavior.

Figure 1. Time Trends in Assortative Mating



(a) Assortative mating over time

(b) Rank-rank assortative mating

Notes: Panel a) plots the estimated slope of wife's hourly earnings rank on husband's hourly earnings rank (β) over time. Light blue area represents 95% confidence intervals. Separate regressions are estimated for years 1980, 1990, and every year from 2000. Panel b) plots the average husband's hourly wage percentile in that MSA, by each within-MSA percentile of wifes' hourly earnings in the ACS for each year cross-section as indicated. The figure is constructed by binning wife rank into 2-percentile point bins (so that there are 50 equal-width bins) and plotting the mean husband rank in each bin versus the mean wife rank in each bin. For both plots the sample consists of married dual-earner couples ages 25–54.

This regression-based method is preferable simple correlation coefficients because it allows us in specifications later on in this section to include MSA level controls, allowing us to comment on assortative mating absent of omitted variables that can cause bias. This is important since we make causal statements about assortative mating and housing.

We estimate Equation 1 using ordinary least squares (OLS) separately for each year in the sample to create a time-series of β estimates. We construct two versions of this series. The first is a national series, where we define each spouse's percentile relative to the national wage distribution for their gender and year. The second version constructs a within-MSA measurement of β, abstracting from regional differences in wage levels and how this affects local dating markets. The resulting first series captures how assortative mating evolves over the US as a whole, while the second isolates only changes in our "preference" channel. Comparing the two series allows us to distinguish between "composition" and "preference" in the contribution to aggregate levels of assortative mating.

Figure 1a plots both series from 1980 to 2021, with shaded bands showing 95 percent confidence intervals around our estimates. The solid line (national rank) and dashed line (within-MSA rank) both rise steadily over time, indicating that the level of assortative mating has increased. In 1980, the assortative mating coefficient β was approximately 0.06, implying that the highest-earning women were, on average, married to men whose earnings percentile was about 6 points higher than that of the husbands of the lowest-earning women. By 2021, this difference had risen to roughly 26 percentiles. In other words, the correlation between spousal earnings has increased by more than a factor of four over the past four decades. Our results are consistent with earlier work documenting relatively stable levels of income and educational homogamy in the early 2000s (Gihleb and Lang, 2020; Gonalons-Pons and Schwartz, 2017; Eika et al., 2019). However, our estimates suggest that this apparent flattening was temporary: assortative matching has continued to intensify in more recent years. The trend toward greater economic similarity between spouses thus shows no sign of reversal.

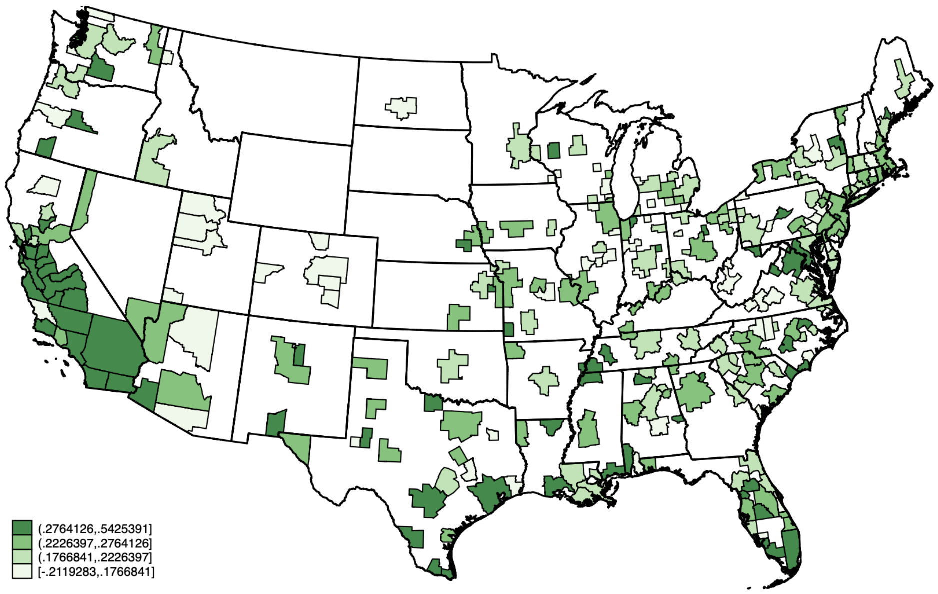
While the solid line in 1a captures aggregate changes in assortative mating, the dashed line in the same figure abstracts from how regional differences in incomes and their distributions have changed. Unsurprisingly, the within-MSA estimates of β are lower than the overall estimates. This means that indeed a component of assortative mating is driven by the fact that people with similar earnings are clustered in the same geographic regions as one another, and tend to marry each other. The gap between these two series is around 0.02, accounting for a small fraction of the overall degree of assortative mating and staying fairly constant over the time series.

We next examine how the strength of assortative mating varies across the income distribution, within metropolitan areas, by plotting a rank–rank relationship between wives' and husbands' earnings (Figure 1b). Each spouse's percentile is defined relative to their own MSA wage distribution for their sex, allowing the figure to capture sorting patterns within local marriage markets rather than across them. This approach illustrates how the correlation between spouses' hourly wages differs at each point of the distribution and over time.[13]

The figure shows that assortative matching is present throughout the distribution but is particularly pronounced at the top: high-earning women are most likely to be married to men with similarly high earnings ranks. The rank–rank plot also highlights which parts of the income distribution have driven the rise in assortative mating. While the slope of the relationship has steepened across the entire distribution, the largest changes occur between the 10th and 30th percentiles of women's earnings. In this range, women are now less likely to be married to high-earning men than in earlier periods. Interestingly, the relationship is

[13] Chetty et al. (2014) employ rank–rank measures in a similar framework to study inter-generational mobility.

Figure 2. Hourly wage β Coefficients, 2019



Note: This figure maps the estimated slope of wife's hourly earnings rank on husband's hourly earnings rank (β) for each MSA in 2019. Coefficients are estimated from separate regressions of wife's rank on husband's rank within each MSA using ACS data. The sample includes married dual-earner couples ages 25–54.

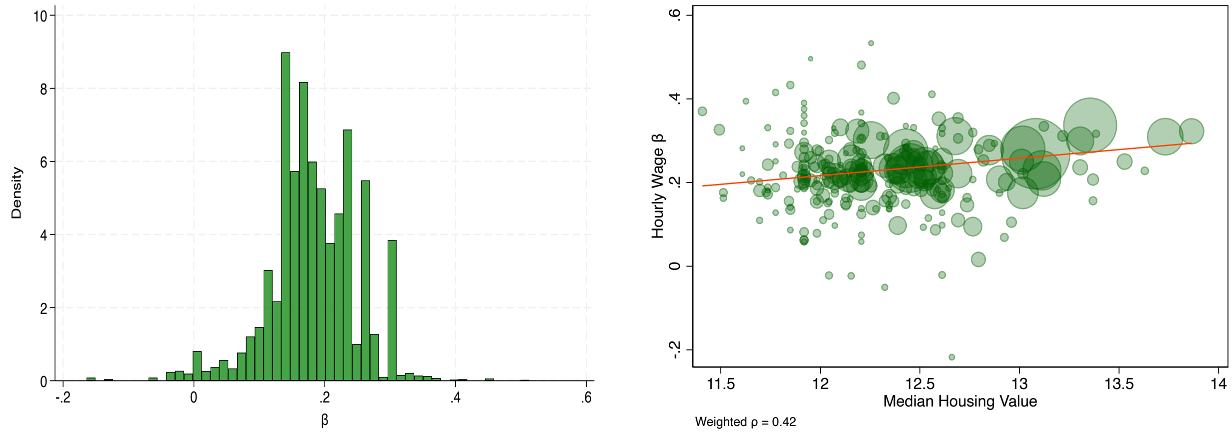
not fully monotonic: women in the bottom decile of hourly earners tend to have husbands who earn more, on average, than those of women in the 10th–30th percentile. This pattern may reflect a persistence of traditional household income arrangements, in which men remain the primary earners while their spouses contribute relatively less to household income.

Having examined how assosrtative mating varies within metropolitan areas and across the income distribution, we now turn to how its overal level differes across metropolitan areas. Using the same within-MSA measure of spousal income ranks, we estimate Equation 1 separately for each MSA-year pair to obtain a local β_{tc} that captures the strength of assortative mating within each marriage market as defined by an MSA c.

Figure 2 plots our MSA-level β estimates on a map of the continental United States. Darker areas indicate regions with higher levels of homogamy, whereas lighter areas reflect weaker assortative matching. The figure reveals substantial geographic dispersion in homogamy across the country. Higher homogamy is concentrated in high-cost coastal metropolitan areas, particularly California, the Pacific Northwest, and the Northeast Corridor, while lower levels prevail across interior metropolitan areas and much of the South and Midwest. This spatial pattern closely parallels regional variation in cost of living, with the strongest homogamy estimates observed in high-cost, and especially high-housing-cost, areas.

To quantify the magnitude of this dispersion, Figure 3a plots the distribution of MSA-

Figure 3. Local βs and Housing Costs



(a) Distribution of βs

(b) Hourly Wage Homogamy by Housing Cost

Note: Panel a) shows the distribution of β coefficient estimates by MSA in 2019. For each MSA, β represents the coefficient of women's hourly earnings percentile on their husband's hourly earnings percentile. Panel b) plots these same β estimates by log median housing value in that MSA. The linear fitted (weighted) regression line is displayed in red. Plot markers weighted by sample size. Data taken from the ACS.

level β estimates. The modal value is approximately 0.2, and homogamy is positive for the majority of MSAs. However, the range is wide: some regions exhibit coefficients as high as 0.5, while others fall slightly below zero. Figure 3b shows the unconditional relationship between local housing prices and the estimated β values by plotting each MSA's 2019 estimate against the log of its median housing price. To account for variation in MSA size, each marker is weighted by the number of married, dual-earner couples residing in that area. The figure suggests a positive association: MSAs with higher median housing prices tend to exhibit higher levels of homogamy. Specifically, the weighted correlation coefficient is 0.42.

Overall, we find that there is substantial geographic dispersion in homogamy across the United States, with higher levels concentrated in expensive coastal metropolitan areas. In the next section, we more formally test the relationship between local housing prices and the degree of homogamy across metropolitan areas.

2.3 Housing Costs and the Strength of Assortative Mating

Having established substantial geographic heterogeneity in assortative mating, we next formally test whether this variation is systematically related to local housing costs. Specifically, we test how the strength of the assortative mating coefficient β varies with median house prices across MSAs. To formally test the relationship between housing prices and income homogamy, we augment Equation 1 by interacting the husband's earnings percentile with quartiles of local house prices:

$$\begin{aligned} wife\_pct_{tic} = \alpha + \beta \times husband\_pct_{tic} + \gamma \times (husband\_pct_{tic} \times college\_share_c) \\ + \sum_{q=1}^{4} \delta_q \left(husband\_pct_{tic} \times Q_{q,c}\right) + \eta_{tc} + \varepsilon_{tic}. \end{aligned} \tag{2}$$

Where $Q_{q,c}$ is an indicator for whether MSA c falls into the q-th quartile of the national distribution of median housing prices in year t and $college\_share$ is the per cent of the sample in that MSA whose have obtained at least a college education. The variables $wife\_pct_{tic}$ and $husband\_pcy_{tic}$ capture wife and husbands' rank within their MSA. A vector of MSA-year level fixed effects η_{tc} controls for systematic differences between MSAs and their time trends that may bias the coefficients. The coefficients β_q capture how the strength of the correlation between spouses' incomes varies across the housing-cost distribution of MSAs. Relative to the base category (the cheapest 25% of MSAs), we would expect estimates of δ to be positive, with assortative mating increasing with housing costs suggesting we should see $\delta_2 < \delta_3 < \delta_4$. The coefficient γ tests whether the degree of assortative mating is systematically different in places where people are more educated.

Regression results from this equation are reported in Table 1. Column 1 shows that in the baseline specification without college share of housing cost interactions, the estimate of β is 0.2. This coefficient means that the highest-earning-ranked woman would be expected to be married to a man 20 percentiles higher earnings than the husband of the lowest-earning-ranked woman.

In columns 2) through 5) we introduce the college and price quartile interactions with a range of modifications. We see that estimates of γ, the coefficient on the interactions of college share and husband's wage rank is positive and significant in all specifications. This implies that indeed, in places where there are more high-educated people, the similarity between spouses' incomes is higher. This is true even after controlling for MSA-specific unobserved time-variant and invariant characteristics. If, as we posit, housing prices are associated with an increased level of assortative mating, we would expect house prices at marriage to be more informative for predicting sorting than contemporaneous prices.

Column 3) shows the results for the full sample with housing price quartiles now representing the housing price quartile the couple was in in the year that they married.[14] Consistent with our theory, changing the house price quartiles in this way makes the relationship between housing prices and assortative mating stronger, and weakens the relationship between

[14] We are not able to identify the MSA the couple lived in at marriage, so assume that they lived in the MSA they are currently residing in.

Table 1. Wife Wage Rank

	(1)	(2)	(3)	(4)	(5)
Husband wage rank	0.200***	0.0897***	0.247***	0.219***	0.225***
	(0.00415)	(0.00658)	(0.00738)	(0.0151)	(0.0169)
College % × Husband wage rank		0.268***	0.0798***	0.140***	0.113***
		(0.0159)	(0.0142)	(0.0300)	(0.0350)
Q2 × Husband wage rank		-0.00649*	0.00239	0.0145*	0.0177**
		(0.00337)	(0.00200)	(0.00760)	(0.00772)
Q3 × Husband wage rank		-0.0127***	0.00711***	-0.00227	0.0165*
		(0.00435)	(0.00240)	(0.00789)	(0.00848)
Q4 × Husband wage rank		0.0288***	0.0380***	0.0237***	0.0272***
		(0.00779)	(0.00347)	(0.00796)	(0.00924)
Constant	40.15***	40.31***	36.02***	34.72***	34.69***
	(0.208)	(0.104)	(0.0632)	(0.113)	(0.120)
N	7,174,843	6,322,942	1,157,457	168,998	153,037
FE	Yes	Yes	Yes	Yes	Yes
F	2318.9	5839.1	10504.5	2672.0	2314.0

Notes: The table reports results from regression (3) across multiple specifications. The dependent variable, Wife's Hourly Earnings Percentile, measures her earnings rank within the local metropolitan area. Husband Wage Rank denotes the husband's corresponding percentile within the local male earnings distribution. Columns (2) and (4) use quartiles of contemporaneous MSA-level house prices, while columns (3) and (5) use the quartile at the couple's year of marriage. Columns (4) and (5) restrict the sample to couples married one year or less. College (%) represents the share of married adults with at least a college degree in each MSA. All models include year × 2013 MSA fixed effects (coefficients omitted). Standard errors (in parentheses) are clustered at the year × 2013 MSA level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. *Source:* ACS, 2005–2021.

college and assortative mating. Another way housing prices may be related to the correlation between spouses earnings are if higher housing prices cause couples to change their career decisions in a way that increases their earnings. This could be due to increased pressure for spouses to earn more in order to pay for more expensive housing, or it could be due to spillovers from higher housing prices/wealth onto couples' earnings.

To abstract from this, in columns 4) and 5) we look only at couples who were married within the last year, with the idea being that if it is indeed sorting driving the relationship, this should be strongest at the point of the decision of marriage. We find similar results with these restrictions, leading us to conclude that the marriage matching process is indeed changed by higher housing prices. In column 5), our specification of interest, estimates are for couples married within the last year and housing quantiles are based on housing prices in the year of marriage. We see that the extent of assortative marriage is around 10 per cent stronger in the most expensive quartile of MSAs than in the cheapest quartile. In this specification we also see that the regression predicts that assortative mating would be twice as strong in MSAs where everyone is college educated than MSAs where nobody is. Taken together, these results show that the strength of assortative mating increases systematically with both the cost of housing and the concentration of college-educated individuals, even after controlling for time- and place-specific effects.

While our empirical results so far demonstrate a robust positive association between local housing costs and assortative mating, this correlation may still reflect endogenous residential sorting: high-income, highly educated individuals are more likely to live in, and thus meet similar partners, in expensive cities. In the next section we address the question of endogeneity by exploiting exogenous variation in housing supply regulation as an instrument for local housing prices.

3 A Causal Link from Housing Prices to Assortative Mating

So far, we have documented a positive relationship between local house prices and the degree of assortative mating. Our theory posits that high housing costs causally influence the partner selection process by raising the returns to marrying a high-earning spouse. However, housing prices themselves may be endogenous to the local distribution of earnings. In areas with a greater concentration of dual high-earner households (and thus a higher degree of assortative mating), increased local demand may bid up housing prices. Alternatively, rising housing prices could induce couples to become dual-earners in order to afford homeownership, mechanically increasing the correlation between spouses' earnings. To address these confounding mechanisms, we instrument local housing prices with a measure of land-use regulation stringency. A well-established literature shows that more restrictive land use policies constrain housing supply and raise prices (Pollakowski and Wachter, 1990; Quigley and Raphael, 2005; Glaeser and Ward, 2009). By restricting new construction and by lengthening and complicating the approval process, housing supply is constrained and prices rise. Importantly, these regulatory frictions arise from political and institutional forces that evolve slowly, and are independent of local short-run fluctuations in labor market conditions.

Panel measures of land use regulation are rare due to data limitations on local planning processes and the highly decentralized nature of zoning authority in the United States.[15] In our analysis we rely on data from the Wharton Residential Land Use Regulatory Index (WRLURI), developed by Gyourko et al. (2008, 2021). The WRLURI is the most comprehensive and widely used measure of regulatory stringency in the United States, covering more than 2,600 local jurisdictions. The index draws on survey responses combining detailed information on zoning procedures, density restrictions, approval timelines, and political oversight of development. It summarizes these multiple dimensions through a principal-component index standardized to have a mean of zero and a standard deviation of one, where higher values denote stricter regulation. Because the WRLURI is constructed entirely from survey and administrative data it captures the institutional environment governing supply rather than the outcomes of demand pressures.

We merge the 2008 and 2018 WRLURI data waves onto ACS microdata using consistent metropolitan definitions. Because the questions asked in the WRLURI are not comparable across survey years, we reconstruct a single measure of local land-use regulation that is comparable across the 2008 and 2018 surveys. We first harmonize governance and supply-constraint items across waves—who holds zoning authority (municipal vs county), the number of approval bodies with veto power (commission, council/board), court layers and environmental review, and reported constraints on single-family, multifamily, commercial, and industrial development. We recode these items so that higher values consistently indicate greater barriers to new construction. We then estimate a principal-component model on the pooled survey and use the first component as our index, standardized to mean zero and unit standard deviation and oriented so that higher values denote stricter regulation. Estimating the loadings on the stacked file places both waves on a common scale. Finally, we aggregate jurisdiction scores to metropolitan areas using the survey's published weights in 2008 and CBSA weights in 2018, and then map them to 2013 MSAs via a crosswalk.[16] The resulting

[15] A notable exception is Ganong and Shoag (2017), who proxy regulation intensity using the frequency of land-use cases in state and supreme court records.

[16] The 2008 WRLURI is linked to historical metarea codes used in IPUMS, however this geographic identified exists up until 2011 only. Following 2011, data uses the 2013 Metropolitan Statistican Areas (met2013) variable. Because these two codings do not align, we construct a crosswalk that retains only one-to-one

Table 2. IV Output: Wife's Hourly Earnings Percentile

	OLS	IV
$hus\_pct \times ln(hs\_price)$	0.164^{***}	0.111^{*}
	(0.0357)	(0.0619)
hus_pct	-1.888^{***}	-1.142
	(0.463)	(0.805)
N	74202	12552
FE	Yes	Yes
F	174.1	218.8

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

MSA-year panel of regulatory stringency is our instrument for housing costs in the two-stage design. Evidence from Gyourko and Krimmel (2021) confirms that this index is strongly positively correlated with local land values. They show that a one-standard-deviation increase in the WRLURI corresponds to an increase of roughly $\$125,000$ per quarter-acre lot. This is equivalent to about one-quarter of median house values in highly regulated metropolitan areas. This relationship supports our first-stage assumption that stricter regulation constrains housing supply and raises prices. The institutional origins of the index reinforce the exclusion restriction by ensuring that the instrument is orthogonal to short-run shifts in labor demand or household composition. We first examine the first-stage relationship between the WRLURI instrument and local housing prices. Consistent with prior evidence, we find that stricter land-use regulation is strongly associated with higher prices.

4 Model

This section presents a general equilibrium model that combines a spatial structure of cities with a search-and-matching framework of marriage. The model embeds the spatial environment of Gyourko et al. (2013) into the matching model of Shimer and Smith (2000) to study how housing costs and skill concentration jointly shape the degree of assortative mating across locations. Agents differ by gender and productivity and choose where to live before entering the marriage market. Locations differ in both the returns to productivity and the elasticity of housing supply, which together determine local wages, housing costs, and the composition of residents.

mappings between *metarea* and *met2013*.

4.1 Environment

Time is continuous and infinite, and future utility is discounted at rate $\rho > 0$. The economy consists of two locations: the *Available City* (A) and the *Superstar City* (S). The Available City has elastic housing supply, while the Superstar City faces barriers to development that limit its housing supply. Its capacity $K(R_S)$ increases with rents R_S only when higher prices make new construction profitable, with $K'(R_S) \geq 0$. When $K'(R_S) = 0$, supply is completely inelastic, so rents must rise to clear the market as population grows. This friction generates equilibrium differences in housing costs across cities.

4.2 Agents

The total mass of individuals is normalized to one, with a share $N_f \in (0, 1)$ female and a share $N_m = 1 - N_f$ males. Each individual is risk-neutral and indexed by gender $g \in \{m, f\}$ and productivity $x \in \mathbb{R}_+$. Productivity translates directly into wages, but the return to productivity differs across locations. A worker of type x in location $\ell \in \{A, S\}$ earns

$$w_\ell(x) = \begin{cases} x, & \text{if } \ell = A, \\ y_0 + yx, & \text{if } \ell = S, \end{cases}$$

where $y_0 > 0$ and $y \geq 1$ capture the Superstar City's productivity advantage arising from agglomeration economies, network effects, or better job opportunities. Hence, the Superstar City is both more productive and more expensive.

Each individual chooses where to live before entering the marriage market, trading off the higher wage and rent in the Superstar City against the lower income but cheaper housing in the Available City. Once a location is chosen, individuals only interact with others in the same city. This local matching assumption ensures that spatial variation in housing markets and wages translates into differences in marriage-market selectivity.

Search and Matching. Within each location $\ell \in \{A, S\}$, single men and women meet randomly over time. Let $g_m(x_m, \ell)$ and $g_f(x_f, \ell)$ denote the densities of single men and women of productivity x_m and x_f in city ℓ. The total masses of singles are

$$G_m(\ell) = \int g_m(x_m, \ell)\, dx_m, \quad G_f(\ell) = \int g_f(x_f, \ell)\, dx_f.$$

The probability that a single individual meets a potential partner depends on the total mass of singles of the opposite gender in that city. A single man meets potential female partners at rate

$$\lambda_m(\ell) = \lambda \, G_f(\ell),$$

and symmetrically, a single woman meets potential male partners at rate

$$\lambda_f(\ell) = \lambda \, G_m(\ell),$$

where $\lambda > 0$ captures the efficiency of the local marriage market. Conditional on a meeting, the productivity of the potential partner is drawn from the *conditional density* $g_j(x_j, \ell)/G_j(\ell)$, which gives the probability of meeting a type-x_j individual among all available singles of that gender. When a man and a woman meet, they observe each other's productivities and draw an idiosyncratic match quality $\gamma \sim \Gamma(\gamma)$, distributed on $[\underline{\gamma}, \overline{\gamma}]$. Given this realization, the couple decides whether to marry based on the joint surplus that the match would generate.

Preferences and Utilities. Singles consume their income net of local housing costs. The instantaneous utility of a single individual i of productivity x in location ℓ is

$$u^s(x_i, \ell) = w_\ell(x_i) - R_\ell.$$

When a man of type x_m and a woman of type x_f marry in location ℓ, they share resources, experience location-specific amenities, and enjoy a match-specific quality γ. Their instantaneous utilities from marriage are given by

$$\begin{aligned} u_m^m(x_m, x_f, \gamma, \ell) &= (1 - \beta) \, \Phi(x_m, x_f, \gamma, R_\ell, \ell), \\ u_f^m(x_m, x_f, \gamma, \ell) &= \beta \, \Phi(x_m, x_f, \gamma, R_\ell, \ell), \end{aligned}$$

where $\Phi(\cdot)$ represents the joint surplus from the match, which includes the effects of partner characteristics, housing costs, and location. The parameter $\beta \in (0, 1)$ denotes the woman's share of the marital surplus. Following the literature, we assume that $\Phi(x_m, x_f, \gamma, R_\ell, \ell)$ is log-supermodular in marriage type (x_m, x_f):

$$\frac{\partial^2 \log \Phi(x_m, x_f, \gamma, R_\ell, \ell)}{\partial x_m \, \partial x_f} > 0.$$

This property implies complementarity between partner types: higher-type individuals generate disproportionately higher joint surplus when matched together—leading to positive assortative matching (PAM) in equilibrium.

4.3 Value Functions and Marital Surplus

Let $V_i^s(x_i, \ell)$ denote the lifetime value of being single for an individual of gender $i \in \{m, f\}$ and productivity x_i in location ℓ, and let $V_i^m(x_m, x_f, \gamma, \ell)$ denote the value of being married. Singles receive the flow utility $u^s(x_i, \ell)$ and meet potential partners at rate $\lambda_i(\ell)$. Upon meeting, they evaluate whether the expected marital surplus is positive. The Bellman equation for a single individual is:

$$\rho V_i^s(x_i, \ell) = u^s(x_i, \ell) + \lambda_i(\ell) \iint \max\{S(x_m, x_f, \gamma, \ell), 0\} \, \frac{g_j(x_j, \ell)}{G_j(\ell)} \, d\Gamma(\gamma) \, dx_j, \tag{3}$$

where $S(x_m, x_f, \gamma, \ell)$ denotes the *total marital surplus* from the match. The term $g_j(x_j, \ell)/G_j(\ell)$ ensures that the integral averages over the distribution of partner types conditional on meeting, rather than over the entire population of singles. The value of being married satisfies:

$$\rho V_i^m(x_m, x_f, \gamma, \ell) = u_i^m(x_m, x_f, \gamma, \ell) + \delta\big[V_i^s(x_i, \ell) - V_i^m(x_m, x_f, \gamma, \ell)\big], \tag{4}$$

where δ is the Poisson rate of exogenous separation (death or divorce). The first term captures the flow utility from marriage, including joint income, housing consumption, and match quality, while the second term accounts for the expected loss in case of divorce, weighted by its arrival rate.

Nash Bargaining. The total marital surplus between partners (x_m, x_f) in location ℓ is the total lifetime value that marriage generates relative to the option value of each partner remaining single:

$$S(x_m, x_f, \gamma, \ell) = V_m^m(x_m, x_f, \gamma, \ell) + V_f^m(x_m, x_f, \gamma, \ell) - V_m^s(x_m, \ell) - V_f^s(x_f, \ell).$$

Following Foerster et al. (2024), spouses divide the marital surplus through Nash bargaining with weights $(1-\beta, \beta)$. Given total surplus $S(x_m, x_f, \gamma, \ell)$, the equilibrium division satisfies:

$$V_m^m(x_m, x_f, \gamma, \ell) - V_m^s(x_m, \ell) = (1-\beta)\, S(x_m, x_f, \gamma, \ell),$$

$$V_f^m(x_m, x_f, \gamma, \ell) - V_f^s(x_f, \ell) = \beta\, S(x_m, x_f, \gamma, \ell).$$

A marriage occurs if and only if $S(x_m, x_f, \gamma, \ell) \geq 0$. As shown in Foerster et al. (2024), this outcome can equivalently be derived from a bargaining problem with transfers t_m and t_f between spouses that ensure the Nash solution maximizes the weighted product of individual gains from marriage. The transfers adjust payoffs so that each spouse receives exactly their bargaining share of the total surplus, yielding the linear split above. Because transfers are fully internal to the couple, they affect the distribution of gains but not the total surplus or the marriage decision itself.

4.4 Equilibrium

We now characterize the steady-state equilibrium in both the marriage and housing markets. The sequence of events is as follows. First, individuals choose a city $\ell \in \{A, S\}$ to maximize expected utility, taking rents and local matching conditions as given. Then, singles in each city meet potential partners randomly over time and decide whether to marry based on realized match quality and expected surplus. Married couples separate exogenously at rate δ, re-entering the pool of singles in the same city. This dynamic process determines the steady-state distribution of singles, married couples, and local housing demand.

Steady–State Marriage Market. Within each city ℓ, let $c(x_m, x_f, \ell)$ denote the steady-state mass of married couples with characteristics (x_m, x_f). In steady state, the inflow of new marriages equals the outflow from exogenous separations:

$$\delta\, c(x_m, x_f, \ell) = \lambda\, g_m(x_m, \ell)\, g_f(x_f, \ell)\, \alpha(x_m, x_f, \ell), \tag{5}$$

where $\alpha(x_m, x_f, \ell) \equiv \Pr_\Gamma\left[S(x_m, x_f, \gamma, \ell) \geq 0\right]$ is the probability that a match yields non-negative surplus. Here, λ is the primitive matching efficiency, so a man of type x_m meets potential partners at rate $\lambda G_f(\ell)$. Let

$$N_m(x_m, \ell) \equiv g_m(x_m, \ell) + \int c(x_m, x_f, \ell)\, dx_f,$$
$$N_f(x_f, \ell) \equiv g_f(x_f, \ell) + \int c(x_m, x_f, \ell)\, dx_m,$$

be the total mass of men and women of each type in location ℓ, including singles and married individuals. Integrating (5) over potential partners yields the steady-state balance for singles:

$$g_m(x_m, \ell) = \frac{\delta\, N_m(x_m, \ell)}{\delta + \lambda \int g_f(x_f, \ell)\, \alpha(x_m, x_f, \ell)\, dx_f}, \tag{6}$$

$$g_f(x_f, \ell) = \frac{\delta\, N_f(x_f, \ell)}{\delta + \lambda \int g_m(x_m, \ell)\, \alpha(x_m, x_f, \ell)\, dx_m}. \tag{7}$$

where we substituted $g_m(x_m, \ell) = N_m(x_m, \ell) - \int c(x_m, x_f, \ell)\, dx_f$ and $g_f(x_f, \ell) = N_f(x_f, \ell) - \int c(x_m, x_f, \ell)\, dx_m$ in equation (5). These identities imply that inflows from divorce exactly offset outflows to new marriages, so that the distributions are constant in steady state.

Housing Market Equilibrium. Housing demand must equal housing supply in each city. Let H_ℓ denote the steady-state measure of households in city ℓ (each single individual and each married couple occupies one unit). The Superstar City clears when

$$H_l = \int g_m(x,l)\,dx + \int g_f(x,l)\,dx + \iint c(x_m,x_f,l)\,dx_m\,dx_f = K(R(l)), \tag{8}$$

where $K(R(l))$ is the city's housing supply. In particular, following Gyourko et al. (2013), we assume that housing capacity increases in rents, but at a decreasing rate:

$$0 \leq K'(R(S)) < K'(R(A)), \qquad K''(R(l)) \leq 0$$

so that the Superstar City has a more inelastic housing supply than the Available City. That is, as rents rise, housing capacity expands more slowly in the Superstar City, resulting in higher equilibrium housing costs for local workers.

Location Choice and Consistency. Before entering the marriage market, individuals choose a location $\ell \in \{A, S\}$ to maximize expected lifetime utility. Let $\pi_\ell^g(x) \in \{0,1\}$ indicate the location chosen by an individual of gender g and type x:

$$\pi_\ell^g(x) = \begin{cases} 1, & \text{if } V_g^s(x,\ell) \geq V_g^s(x,\ell'), \\ 0, & \text{otherwise.} \end{cases}$$

These choices determine the aggregate type distributions $N_g(x,\ell)$ used above. In equilibrium, expectations are consistent:

$$\pi_\ell^g(x) = \tilde{\pi}_\ell^g(x), \qquad \forall x, g, \ell,$$

where $\tilde{\pi}$ denotes the location decisions implied by the endogenous rents, marriage rates, and value functions.

Definition 1. *A* steady-state equilibrium *is a collection* $\{V_i^s(x,\ell), g_i(x,\ell), c(x_m,x_f,\ell), R_\ell, \pi_\ell^g(x)\}$ *such that:*

1. *Value functions satisfy the Bellman equations (3)–(4);*
2. *The steady-state distributions (6)–(7) hold in each location;*
3. *Housing markets clear via (8);*

4. Location choices are optimal and consistent with equilibrium distributions.

In equilibrium, high-productivity individuals disproportionately sort into the Superstar City to benefit from higher wages despite higher rents. This self-selection increases the concentration of productive workers in expensive areas, reinforcing assortative matching and generating a spatial gradient in income homogamy: assortative mating is stronger in high-cost, high-productivity cities and weaker in affordable ones.

5 Quantitative Analysis

This section describes the baseline calibration of the model. As a preliminary exercise, all parameters are externally set following standard values in the search and matching literature. All quantities are expressed in annual terms unless otherwise noted.

5.1 Parametrization

The model is solved on discretized grids for male and female productivities and for match quality. Productivity types are uniformly distributed on $x \in [1, 5]$ for both genders, discretized into $n_m = n_f = 101$ grid points. Match quality γ is uniformly distributed on $[\underline{\gamma}, \overline{\gamma}] = [-5, 5]$ with $n_\gamma = 21$ In the baseline specification, productivity and match quality are independent, and all draws are equally likely. The instantaneous flow utilities from marriage are

$$
\begin{aligned}
u_m^m(x_m, x_f, \gamma, \ell) &= (1-\beta)\big[w_\ell(x_m) \cdot w_\ell(x_f)\big] - \sigma R_\ell + \gamma, \\
u_f^m(x_m, x_f, \gamma, \ell) &= \beta\big[w_\ell(x_m) \cdot w_\ell(x_f)\big] - \sigma R_\ell + \gamma,
\end{aligned}
$$

where $\beta \in (0, 1)$ is the woman's bargaining weight in the division of the marital surplus, and σ captures the extent of economies of scale in housing consumption. For simplicity, we set $\sigma = 2$, implying no economies of scale in rent sharing.[17] The multiplicative structure $w(x_m) \cdot w(x_f)$ implies that the joint surplus from marriage is log-supermodular in partner productivities: the marginal gain from a higher-type partner is increasing in one's own type.

The two locations, the *Available City* (A) and a *Superstar City* (S), differ in both productivity returns and housing supply elasticities. Housing supply in each location is modeled as a linear function of rents,

$$K(R(l)) = \bar{K}_0(l) + \kappa_l R(l) \tag{9}$$

[17]Allowing for economies of scale, $\sigma < 2$, does not change the results.

Table 3. Baseline Parameter Values

	Parameter	Value	Targeted Moment	Source
r	Discount rate	0.05	Externally set	-
δ	Death/Divorce rate	0.05	Average marriage duration	-
λ	Meeting rate	1	Normalization	Foerster et al. (2024)
μ_f	Female bargaining share	0.5	Equal bargaining power	Foerster et al. (2024)
y_A	Available City productivity	1	Normalization	-
y_S	Superstar City productivity	1.1	Urban wage premium	Glaeser and Gottlieb (2009)
κ_A	Housing supply elasticity (A)	1.75	Elasticity of average MSA	Saiz (2010)
κ_S	Housing supply elasticity (S)	0.91	Elasticity of 90th pct MSA	Saiz (2010)

Note: All parameters are expressed at annual frequency.

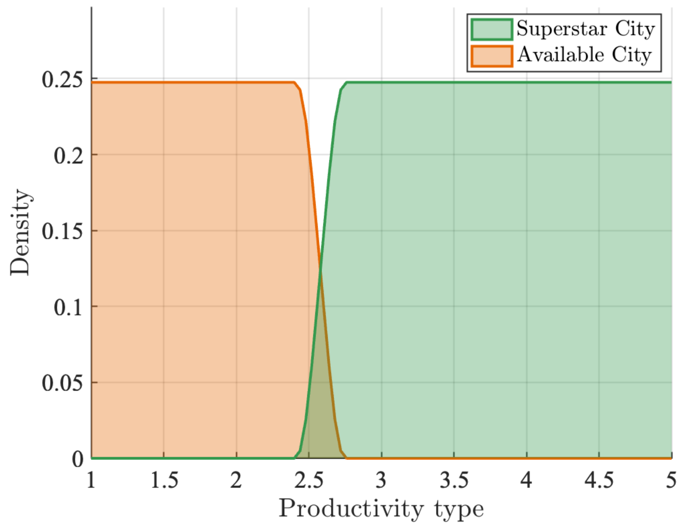
where κ_l denotes the housing supply elasticity and $\bar{K}_0(l)$ the baseline capacity (the notional stock available at zero rents).

5.2 External Calibration

Table 3 summarizes the baseline parameter values used in the quantitative analysis. The annual discount rate is set to $r = 0.05$, consistent with standard values in lifecycle and search models. The exogenous separation (death/divorce) rate is set to $\delta = 0.05$, which implies an expected marriage duration of $1/\delta \approx 20$ years and is chosen to match typical U.S. marital duration patterns. The meeting rate λ and the female bargaining share μ_f are set to one and 0.5, respectively, following Foerster et al. (2024).

Productivity levels are normalized to $y_A = 1.0$ and $y_S = 1.1$, implying a 10% wage premium in the Superstar City as suggested in Glaeser and Gottlieb (2009). This specification captures the higher returns to skill and tighter labor market typically observed in large urban centers (Gyourko et al., 2013). Housing supply elasticities are taken from Saiz (2010), who reports large cross-metropolitan variation in the responsiveness of housing supply to price changes. We set $\kappa_A = 1.75$ to represent an average U.S. metropolitan area and $\kappa_S = 0.91$ to represent a highly constrained coastal city (90th percentile of the distribution). The baseline housing capacity intercepts $\bar{K}_0(A)$ and $\bar{K}_0(S)$ are normalized to zero, as empirical estimates of this term are unavailable and its level only affects the scale of equilibrium rents, not relative outcomes.

Figure 4. Sorting Across Cities



Notes: The figure shows the equilibrium distribution of worker productivity types across two city environments. The orange area ("Available City") represents the baseline location with more elastic housing supply and lower productivity returns. The green area ("Superstar City") corresponds to a high-productivity region with tighter housing supply and higher equilibrium housing prices.

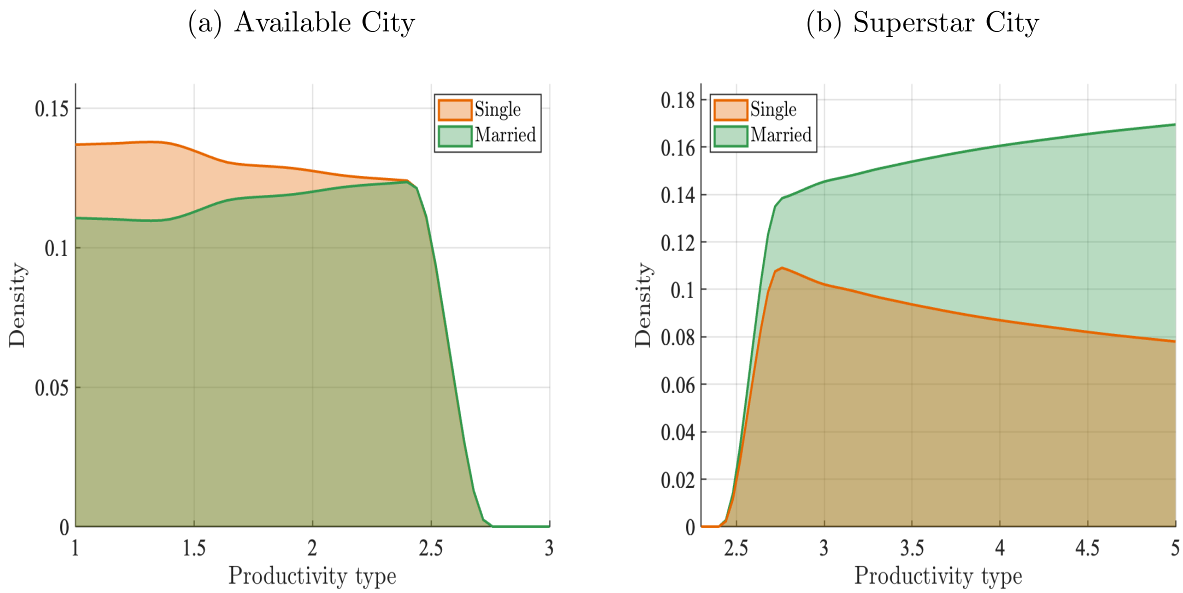
5.3 Preliminary Results

The model successfully captures main moments of the labor and housing markets. Average wages in the Superstar City are roughly twice those in the Available City, while housing prices are nearly three times as high. For comparison, in 2019, the mean annual income in superstar metros such as San Francisco or DC was approximately $75,000, compared with about $44,000 in lower-cost cities such as Columbia, SC or Knoxville, TN. [18] In parallel, average rents for a typical home or apartment were about $2,700 in San Francisco, versus roughly $1,000 in Columbia.[19] The observed differences in income and housing costs across these cities closely mirror those generated by the model.

Figure 4 plots the equilibrium distribution of skills across cities, reflecting agents' location choices by productivity type. Consistent with the model's equilibrium mechanism, high-productivity workers select into the Superstar City, while lower-productivity individuals concentrate in the Available City. This spatial sorting arises because the Superstar City offers a 10 percent productivity premium, which raises the potential earnings of high-type workers. In equilibrium, approximately 60% of both men and women choose to reside in the Superstar City. The wage premium thus compensates high-productivity individuals

[18]Bureau of Labor Statistics, *Occupational Employment and Wages*, May 2019.
[19]Zillow Research, *Zillow Observed Rent Index (ZORI)*, 2019.

Figure 5. Singles and Couples Densities across Cities



Notes: Density distributions of single and married individuals by productivity type, Available vs Superstar City. Solid shaded areas represent smoothed estimates of the population shares for each marital status, with orange indicating singles and green indicating married individuals. Densities are constructed using a smoothing parameter to highlight general patterns across skill levels.

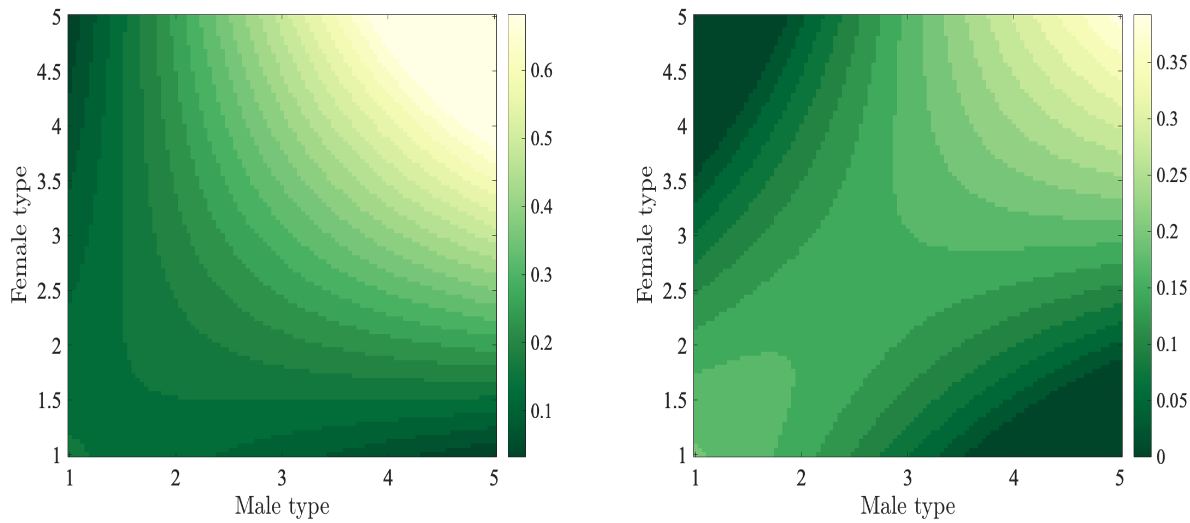
for higher rents, whereas lower-productivity agents optimally locate in the more affordable Available City.

Figure 5 compares the stationary distributions of single men and women to those of married couples within each location. As evident from the graph, marriage is more prevalent in the Superstar City, where 63% of workers are married compared with 47% in the Available City, where the mass of singles is noticeably larger, particularly among lower-productivity workers. Moreover, marriage rates in the Superstar City rise with productivity, indicating that higher-type individuals are disproportionately likely to find a partner. This pattern reflects two reinforcing mechanisms in the model: first, the higher returns to productivity in the Superstar City increase the joint surplus from marriage among productive types due to the log-supermodular structure of the match output; and second, the higher housing costs amplify the benefits of cohabitation, since couples share rent expenses. Together, these forces make marriage relatively more attractive in high-productivity, high-cost cities.

Figure 6 plots the heatmaps of match acceptance probabilities across male and female productivity types. In both locations, acceptance probabilities are highest along the main diagonal of the (q_f, q_m) plane, indicating positive assortative matching. However, the diagonal is visibly narrower in the Superstar City, where the average acceptance probability of match reaches $\bar{p}^S_{\text{acc}} = 0.446$, compared with $\bar{p}^A_{\text{acc}} = 0.287$ in the Available City. Higher accep-

Figure 6. Assortative mating across Cities

(a) Available City (b) Superstar City



Notes: Heatmaps of equilibrium match acceptance probabilities across male and female productivity types in each location. Each panel plots the probability that a proposed match between a woman of type q_f and a man of type q_m is mutually accepted in each city. Brighter areas correspond to pairs with higher acceptance likelihoods, while darker regions indicate low-surplus or rejected matches.

tance rates reflect stronger income homogamy: high-skill men and women are more likely to match with partners of similar type, as complementarities in productivity and the urban wage premium make the marital surplus function more steeply supermodular. Consistent with this, the weighted correlation coefficient between male and female types is over three times higher in the Superstar City than in the Available City: 0.49 versus 0.16, respectively.

Overall, the baseline equilibrium reproduces the three key empirical patterns on income homogamy documented in the data: (i) it varies systematically across space, (ii) it is higher in areas with a greater concentration of skilled workers, and (iii) it rises with local housing prices. These outcomes emerge endogenously from two core mechanisms in the model. On the labor-market side, the log-supermodular structure of the match surplus amplifies complementarities in productivity, so that higher returns to skill in dense, high-wage cities strengthen assortative matching among productive individuals. On the housing side, higher rents in the Superstar City screen out low-skilled workers, concentrating high-productivity individuals and increasing the likelihood that they meet and match with similarly skilled partners. Together, these forces generate a strong positive relationship between urban productivity, housing costs, and the degree of income homogamy across locations.

6 Conclusion

This paper documents and explains the rise of positive assortative mating in the United States, highlighting the important role of spatial inequality and housing markets. Using detailed MSA-level microdata from the ACS, we show that income homogamy has steadily increased over the last two decades, with stronger sorting observed in areas with higher shares of college graduates and more expensive housing. Instrumental-variable estimates confirm that local housing costs, driven by slow-moving land-use regulations, causally amplify marital sorting, with a doubling of housing prices raising the within-MSA correlation of spouses' earnings percentiles by roughly one-third. These patterns are robust to controlling for intra-household division of labor, suggesting that structural changes in marriage decisions, rather than shifts in gender roles alone, underpin the trends.

We rationalize these findings using a spatial marriage-market model in which skilled workers self-select into high-productivity, high-cost superstar cities. In equilibrium, superstar cities attract a concentration of high-productivity individuals, raising both the potential surplus from marriage and the likelihood of pairing with similar partners. Lower-skilled workers, in contrast, are more likely to relocate to available cities with lower rents, generating heterogeneous matches and weaker assortative mating. The model quantitatively reproduces the observed geographic and marital sorting patterns: assortative mating is nearly three times higher in Superstar Cities as opposed to Available City.

Overall, our results underscore that the rise in income homogamy is not solely a consequence of changes within households, but also reflects broader spatial and market forces that shape the opportunities for meeting and marrying similar partners. By linking local labor markets, housing costs, and marital outcomes, this paper provides new insights into the mechanisms behind the increasing concentration of high-income households and the amplification of household-level inequality.

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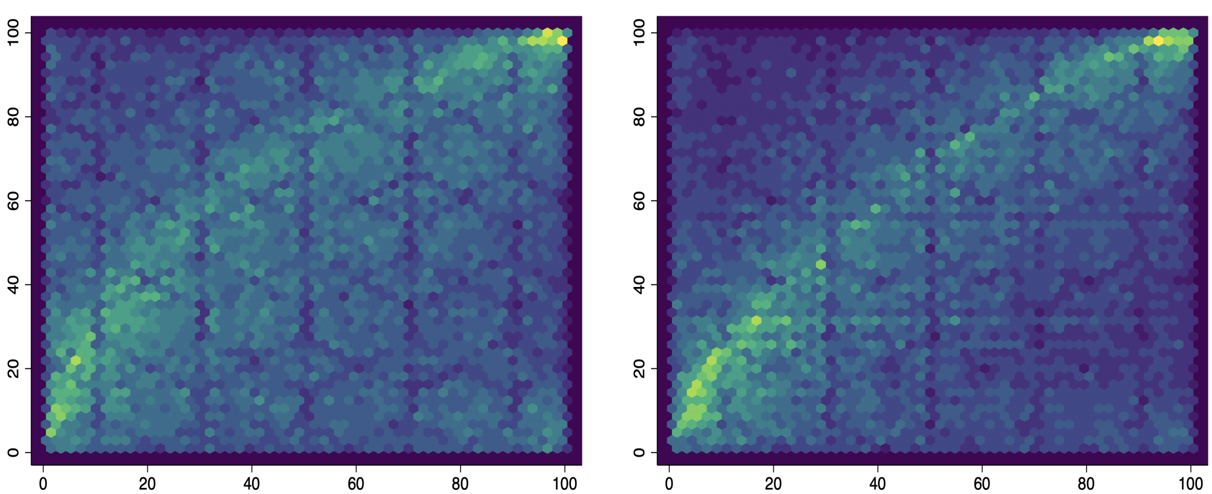
Appendix

A Additional Figures

To understand which couples are driving changes in homogamy we plot a series of "heat maps" that represent sorting between couples over time and over geography. The x-axis of each plot represents the hourly wage percentile of married men with working wives. Similarly, the y-axes represent the hourly wage percentile of women with working husbands. In these graphs, lighter colors represent areas of the joint distribution with a greater mass of observations. For example, in the 2019 plot, the bright mass in the top right corner means a concentration of high-earning men married to high-earning women.

The heat maps reveal two main points. Firstly, the visible line becomes stronger over time. This is due to an increase in homogamy. It seems that homogamy across the entire distribution is driving the increase in homogamy, although the very top and the very bottom of the distribution seem to be particular drivers. Secondly, the line of strongest matching is concave over the entire sample period, but becomes increasingly less so over time, becoming more and more similar to a linear function over time. This means that there are less low-percentile women who are married to top percentile men.

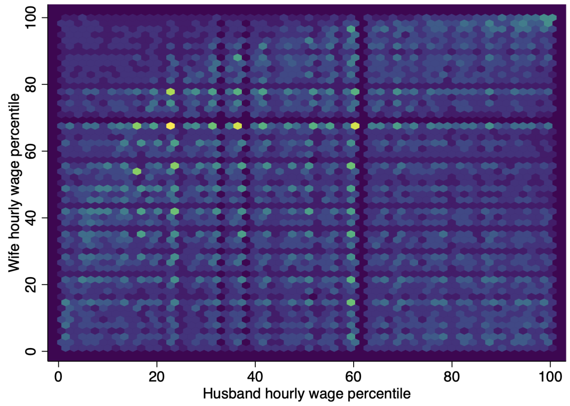
Figure 7. Assortative Mating Heat Plots by Local Housing Costs



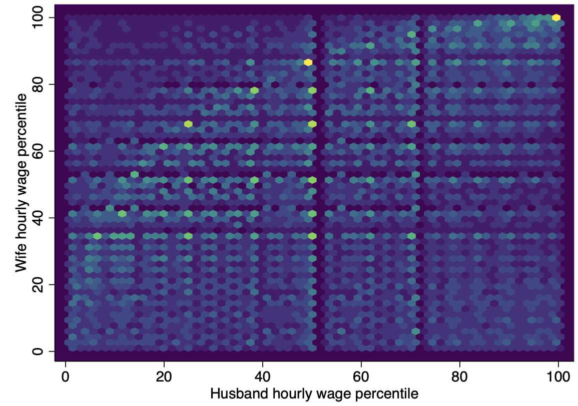
(a) Lowest housing cost decile (b) Highest housing cost decile

Note: This figure plots the joint distribution of husband's and wife's hourly earnings ranks for married dual-earner couples in 2019 ACS data. Couples are divided into high- and low-housing-cost areas based on the top and bottom quintiles of their MSA's median house value distribution. Each panel shows a heat map of the density of couples across the joint rank–rank space; brighter colors indicate higher density.

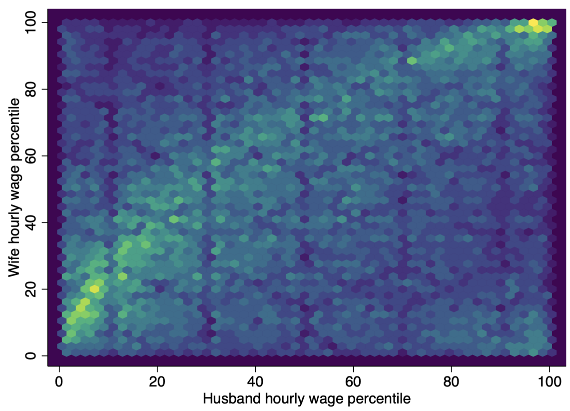
Figure 8. Spousal Hourly Earnings Homogamy Heat Maps



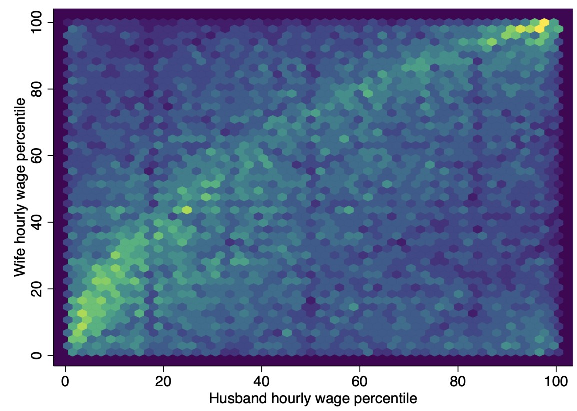
(a) 1980



(b) 1990

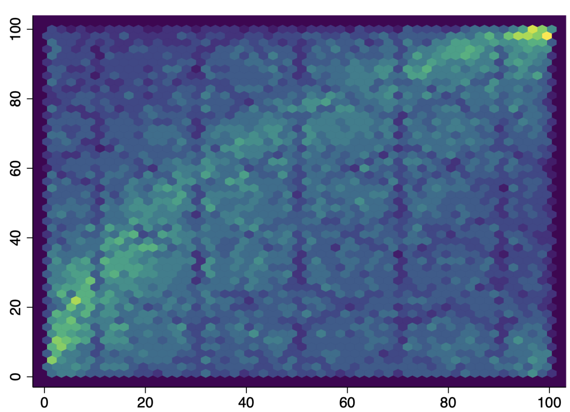


(c) 2010

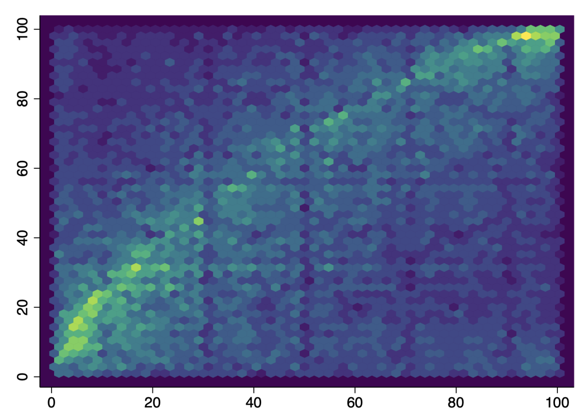


(d) 2019

Figure 9. Spousal Hourly Earnings Homogamy Heat Maps by Price



(a) Bottom 10 %



(b) Top 10 %

Figure 10. Housing Price Measures