Geographic Disparities in Quality of Life in 21st-Century America

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Abstract

Cities and their neighborhoods differ along a large number of dimensions ranging from climate to street safety and clean air. The urban quality of life literature uses revealed preference methods for ranking locations with respect to these specific attributes. This approach yields estimates of the implicit price we pay for consuming more local amenities such as sunshine and clean air. Given that real estate prices are higher in areas featuring higher quality of life, the poor concentrate in areas with lower quality of life. This choice has implications for the long run achievement of the poor's children because safe streets and clean air are key inputs in growing up healthy and achieving one's full potential. The resulting competitive equilibrium is unlikely to be socially efficient as the poor concentrate in high poverty areas. Special attention is paid to the role that federal and local government policy plays in increasing quality of life inequality between the rich and poor.

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Introduction

Each of us seeks to be healthy, and safe. What city and neighborhood we live in plays a key role in determining our ability to produce these two keys goods (Michael and Becker 1976). One's health depends on pollution exposure and pollution varies greatly across neighborhoods and cities.   Safety is produced as a complex function of personal daily choices, local crime risk, and exposure to natural disaster risk.

Quality of life (QOL) at any point in time is not uniformly distributed across space. Since areas with higher quality of life command a real estate price premium, the poor tend to have less access to the highest quality locations within a city.   At a point in time, there is enormous variation in the price of real estate across space. In July 2019; the median home price in California was $550,000, $198,000 in Texas, $388,000 in Washington, $190,000 in Georgia, $244,000 in Connecticut.[2] Few people move from California to Georgia. This suggests that there are offsetting factors keeping people in California. These data highlight that the poor will have trouble affording the California lifestyle.

The open question is what do the poor sacrifice when they cannot live in good neighborhoods in nicer cities?   Economists have sought to answer this by decomposing how much of spatial variation in real estate prices and wages is due to variation in objective indicators of quality of life.   The fundamental idea of compensating differentials as developed by Adam Smith and Sherwin Rosen (2002) states that lower quality cities and neighborhoods will have to pay higher wages (combat pay) and lower rents to entice people to live there.   This equilibrium logic is used as the basis for estimating statistical models called "hedonic regressions" to recover market based index weights that reveal how much people value California's sunshine.

Intuitively, if your rent for the same apartment is $6,000 higher in California than in Georgia and if California and Georgia are identical along all dimensions but California features ten more beautiful days a year than Georgia, then by choosing to rent the California apartment, you reveal that you value a beautiful day at least by $600.   By relying on the revealed preference methodology (that I discuss in detail below), urban economists have created our own

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[2] https://www.zillow.com/il/home-values/

rankings of the "best cities in America" without resorting on relying on choosing arbitrary index weights to create such rankings (Albouy 2009, Gyourko and Tracy 1991).

The payoff of estimating these statistical wage and real estate regression models is that urban economists can calculate how much people pay for non-market local attributes such as safe streets and a temperate climate.   This allows us to estimate a non-linear budget constraint for each household and to observe the actual consumption choice made by each household. This research line has consistently found evidence of income sorting both across cities and within cities (DiPasquale and Kahn 1999). Rich people choose to live in the best cities and in the best areas within these cities while poor people live in the worst part of the city and in the cities with the worst quality of life. As I discuss below, a key issue is whether this is a **selection effect (**i.e poor people cannot afford the rent in better areas) or a **treatment effect** (i.e when poor people move to an area this raises local crime risk and lowers local public school quality).   Such a treatment effect would mean that a byproduct of the poor clustering together is a community downward spiral that further increases quality of life inequality.

An open question is whether parents are aware of the full long run consequences of raising children in high poverty areas. Such areas feature low rents and this raises the private consumption for those who live there. A family's location decision determines both the household head's exposure to local attributes such as crime and pollution and also determines her children's peers, safety level and pollution exposure. In this sense, neighborhood choice represents a consumption decision for parents and an investment decision in the children's future. In recent years, James Heckman has called attention to the critical role of early skill formation through his dynamic complementarity hypothesis. Early exposure to violence and pollution can have compounding effects on a child's development (Currie et. al. 2014). The urban QOL literature has not explicitly addressed this investment point.

If the poor are under-consuming local QOL, then the policy question arises of why? Is it a lack of information such that parents are unaware of how much their children will gain in the long run if they live in better neighborhoods? Alternatively, high marginal prices for living in good communities may encourage many poor to live in deeply subsidized public housing in low quality areas or to live in low QOL areas featuring low market rents.

In recent years, there has been great interest in the lessons that can be learned about the long run benefits of growing up in a "good place". The evidence for testing this has been based on HUD's Move to Opportunity experiments. This experiment encouraged eligible families to move to lower poverty communities. Recent research by the Opportunity Insights research group finds that "place matters" and thus seeks to move more people to lower poverty areas. The Opportunity Insights team has used intergenerational tax returns data to identify census tracts that offer significant upward mobility in personal income if a person grew up in that area.   This research then uses observational data to try to identify the correlates of upward mobility. QOL attributes such as clean air and good local public schools and safe streets are likely to be key inputs in the structural "upward mobility" production function.

We understand that more children will achieve their full potential if they grow up in good neighborhoods. Yet, a political economy challenge. Many incumbent homeowners worry that if more poor people move in that crime will rise and local school quality will decline and local taxes for redistribution will rise and their property values will decline. Are the homeowners right?   In the language of economics, this group has a "production function" in mind such that areas with more poor people suffer a degradation of local quality of life.

The academic quality of life literature has sidestepped the supply side question of how good neighborhoods are produced.   While this topic merits new research, incumbent homeowners/voters already **know** the answer. They believe that there is a negative correlation between local poverty and quality of life and thus they use land use regulations and other regulatory tools to discourage such moves to their neighborhood (Fischel 2000). These homeowners worry that their home (their main source of wealth) will be less valuable if their neighborhood's quality of life declines and many of these individuals associate a higher local poverty rate with lower QOL.

Incumbent homeowners also actively lobby against new housing construction because such new construction will change the character of the local architecture and lead to a composition shift of their neighbors. Such resistance to change in high QOL areas means that there is a vertical supply curve and the hedonic pricing gradient will be steep and this will limit the ability of the poor and middle class to move there. This dynamic is especially observed in

progressive cities (Kahn 2011). During a time of increasing income inequality, the combination of a rising demand for housing in cities such as San Francisco combined with an inelastic supply curve creates a superstar city phenomena that prices out the middle class (Gyourko, Mayer and Sinai 2011).

This paper explores a fundamental tension in the urban economics arena. Incumbent homeowners in desirable areas have incentives to block new housing supply. At the same time, there is a growing understanding of the critical role of "good places" in helping every child to achieve her full potential. We appear to have two conflicting goals. We want to help the poor experience the Amercan Dream, at the same time many home owning communities do not welcome the poor to their community out of fear that quality of life will decline and this will result in asset value losses.   New policy innovations such as inclusionary zoning offer possible approaches for incentivizing some participating communities to allow for more poor people to move to the area.[3]

An alternative to moving poor people to "better neighborhoods" is to boost quality of life in poor areas. In recent decades, the count of murders has fallen by 90% in Los Angeles and New York City.[4]   Air pollution and water pollution levels have fallen sharply in many cities. As local communities enjoy an improvement in their quality of life, how much do rents rise? Who bears the incidence of such quality of life dynamics? If the housing supply is inelastic (i.e developers face restrictions on building new housing), then incumbent property owners will gain and the poor and middle class renters will face rising rents (Sieg et. al. 2014).   This logic suggests that the ability of real estate developers to build new housing in desirable areas and the ability (and willingness) of such areas to absorb new residents while maintaining their current quality of life will determine whether quality of life inequality will decline.

The Revealed Preference Approach for Ranking Geographic Quality of Life

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[3] Senator Elizabelth Warren introduced "The American Housing and Economic Mobility Act" in February 2019. https://www.warren.senate.gov/newsroom/press-releases/warren-unveils-historic-legislation-to-confront-americas-housing-crisis
[4] https://www1.nyc.gov/assets/nypd/downloads/pdf/crime_statistics/cs-en-us-city.pdf

This section sketches out the revealed preference approach used by urban economists to both rank city quality of life and to rank neighborhoods within a city.   To appreciate why this is a challenging empirical exercise, I contrast this ranking approach with research that used a similar revealed preference methodology to rank major U.S universities (Avery et. al 2012).

For a set of college applicants, this research team observed where these people applied, what schools they were accepted to, the financial aid package offered to each admitted student at each school and the school the admitted student enrolled at. These data allowed the research team to implement a clean revealed preference approach whose core intuition can be conveyed through an example.

Consider two applicants named Sally and George who both choose to attend Harvard rather than attend Yale. Yale offers a full stipend to both of them, such that their price of attending Yale equals $0. At Harvard, Sally faces a net cost of $14,000 per year and George faces a net cost of $27,000 per year. Given that both chose Harvard (even though its price is higher than Yale), we immediately infer that a lower bound on George's willingness to pay to attend Harvard rather than Yale is $27,000 and for Sally her lower bound is $14,000. This methodology does not tell us what specific attributes of Harvard that George and Sally prefer over Yale's attributes. Note that they must consume the whole bundle by either going to Harvard or Yale. They cannot form a portfolio of some of Yale's attributes and some of Harvard's attributes.

The urban quality of life literature follows this exact same approach for ranking American's best cities. In the case of urban QOL rankings, a researcher seeks to measure each person's real consumption (earnings net of taxes and rents) in each location. If Matthew's consumption would be $125 if he locates in Baltimore and would be $142 if he locates in Philadelphia then if Matthew chooses Baltimore, he prefers it by at least $17 a year (Kahn 1995). The quality of life literature ranks a city as having great quality of life if it features relatively low wages and high rents. Neighborhoods with higher rents within the same city will be ranked higher in terms of quality of life.

While conceptually straightforward, a fundamental missing data problem arises. It is straightforward to use Zillow data to measure housing prices (adjusted for home size) in every

city and every neighborhood but how does a researcher impute a person's earnings in a city where she has never lived and worked? To sidestep around this, urban economists have assumed that all workers of the same age, education and gender are identical and then one can average earnings for a similar demographic group (i.e 53 year old white men in Cleveland) to impute what a 53 year old white man in Baltimore would earn if he moves to Cleveland. This approach is subject to the Nobel Laureate James Heckman's selection bias critique. The people who choose to locate in Cleveland are likely to differ on unobservables from the people in Baltimore and thus there is an "apples and oranges" problem in imputing earnings in other locations.

The urban QOL goes beyond merely ranking cities using revealed preference methods. In a second stage, researchers seek to decompose the implicit extra payment that a person makes by moving to a city as a function of that city's attributes.   This step involves estimating hedonic wage and real estate regressions. To provide the key intuition; suppose that in a given year such as 2019 that a researcher observes the city a person lives in and the person's hourly wage and annual apartment rent. Suppressing all of the attributes of the worker and the apartment, the researcher can use these data to estimate a Wage Regression (see equation 1);

$$\text{Wage} = b1*\text{crime} + b2*\text{climate} + b3*\text{pollution} + b4*\text{public services} + U$$

And a Real Estate Regression; (see equation 2);

$$\text{Rent} = a1*\text{crime} + a2*\text{climate} + a3*\text{pollution} + a4*\text{public services} + V$$

If people greatly value a beautiful climate, then $b2<0$ and $a2>0$. These regressions yield the implicit prices that people pay for living in a great city. Once the researcher has estimated b1-b4 and a1-a4, these implicit prices and the city's attributes (such as crime, air pollution, climate and the quality of public services) can then be used to rank cities.

In closing this section it is relevant to point out some of the implicit assumptions in this literature. Note that there are no key latent local attributes. At the time when people choose a location, they have full information about what San Francisco and Detroit have bundled into

them. Similar to buying a car, consumers know the attributes of the product they have purchased and thus we can infer their latent demand for the city's attributes from the choices they make. This model also assumes that people can costlessly migrate across cities. I will return to this point below. Finally, the wage and rental approach relies on slow moving annual price data. These data do not capture the disruption and loss of quality of life on the worst day of the year in terms of rainfall or extreme heat. These events (in a year featuring 365 days) are unlikely to affect the average rainfall or average summer temperature but they cause dislocation on the day when they occur. This point highlights that the quality of life literature would be improved by using higher frequency data such as social media such as tweets to indicate the well being of the population on hot or polluted days (Zheng et. al. 2019).

The Economic Incidence of Local Quality of Life Dynamics

A city's quality of life can change over time. New York City in 2019 is a cleaner, safer city than it was in 1982. While we do not fully understand the causes of major city crime declines, such progress sets off a type of domino effect. As a city becomes safer, people desire to spend more time in public spaces and walk the streets at night. This in turn provides an incentive for retailers and cultural outlets to invest to compete for their share of the emerging consumer city (Glaeser, Kolko, Saiz 2001). A city with a proven record for quality of life will attract young educated people. The rise of Seattle in recent years highlights such dynamics. Of course, the presence of Microsoft and Amazon have fueled the city's progress but why are those companies there? What role did quality of life place in attracting them to the location?

In progressive cities ranging from Seattle to Portland to Boston to New York City and San Francisco, there are highly desirable cities where it is difficult for developers to build new housing (Kahn 2011). The net result of an area featuring rising demand for housing and limited supply is rising home prices. As home prices rise, incumbent home owners will be richer and local renters may be priced out of their area.

At any point in time some cities are experiencing declines in quality of life. This can occur because of exogenous shocks such as exports from China being in direct competition with

the city's leading industries and this leads to unemployment, and a declining tax base. As the tax revenue declines, crime will rise and public school quality will decline as there is less money to fund the local government. As discussed by Glaeser and Gyourko (2005), cities such as Baltimore, Cleveland and Detroit feature a durable housing stock build decades ago. If housing demand declines in an area suffering from job loss, and increased crime, then incumbent home owners will face a sharp loss in their asset's value and the city will now feature very low rents and become a poverty magnet. As this dynamic plays out, the poverty rate may rise even further as poor people move to the location because of the cheap rents.

If people could costlessly migrate away, then renters who live in one area could just get up and go if any specific area suffered an amenity loss. In this case, homeowners would bear the full incidence of the "new news" about a geographic area. In reality, we face rising migration costs as we age. When we are young, we are more footloose. Middle aged people commit to a career at a specific firm located in a given city. The family plants roots by making friends and learning the local area's strengths (Glaeser, Laibson, Sacerdote 2002). While this social capital represents a key part of our life, it is also raises a family's risk exposure. The family who owns a home in a specific area and has invested in location specific capital has made a place based undiversified bet.

The economic incidence of quality of life dynamics hinges on whether a family is a renter or an owner. If a city or its neighborhoods decline in quality of life, then rents fall and poor people who rent will gain an increase in private consumption. Middle class people who aspire to own a home will be exposed to asset price depreciation risk. Recent research has documented that African-Americans who bought homes in the second half of the 20th century did not earn a high rate of return on this investment because they tended to own homes in minority areas that did not appreciate in value over time (Akbar, Li, Shertzer and Walsh 2019).

Differential Consumption of Quality of Life by Race and Income

Each person chooses a city by comparing her earnings, taxes, rents and quality of life in each location and then chooses that city that maximizes her utility. Such an individual then

chooses a neighborhood by comparing the rents, commute time and amenities in each community. The person faces a budget constraint. She may prefer to live in the best neighborhood in the city but may not be able to afford to live there.   The hedonic wage and rent equations (see equations 1 and 2) trace out the non-linear budget constraint that each person faces. Facing this constraint, each person must choose what bundle to purchase.

Empirical research has examined how different demographic groups (broken out by race and income) tradeoff being a homeowner versus living in a better neighborhood. DiPasquale and Kahn (1999) use 1990 Los Angeles Census micro data. These data provide information on which of 58 neighborhoods a person lives in. They collect data for each of these areas on the neighborhood's ozone pollution level, murder rate, local test scores, and area's percentage of college graduates.   They disaggregate the results and report quality of life consumption estimates for whites, blacks and Hispanics. Each group moves to a higher QOL neighborhoods as they grow richer but blacks live in objectively worse neighborhoods and the richest blacks on average live in similar quality areas as lower middle class whites.

Data from Baltimore highlight the differential in quality of life across neighborhoods. Within the city of Baltimore in the year 2018, the following zip codes experienced 0 murders; 21208, 21209, 21210, 21211, 21222, 21227, 21228, 21234, 21236, 21237, 21251. In contrast, the zip code 21217 had 48 homicides and the zip code 21223 had 35 homicides. The zip code 21217 is 85% black.   Minorities tend to live in areas with lower QOL.

A simple test of the compensating differentials hypothesis that rents are lower in these low quality of life areas is based on using Zillow data. Zillow reports the median home price per square foot for each zip code. Using data for Baltimore's 25 zip codes or the first six month of 2019,   I estimated the following regression with month fixed effects suppressed; N= 150, R2=.58

log(Price per Sqft) = 5.20 - .058*log(distance to City Hall) - .021*Count of murders in 2018

This hedonic compensating differentials model highlights that Baltimore's property exhibits the monocentric feature (but this coefficient is small). One extra murder per year in a

zip code is associated with a 2.1% drop in home prices. I recognize that there are omitted variables but this example is meant to highlight that people are compensated for living in more dangerous areas.

Differential pollution exposure represents another example of how the quality of life varies across demographic groups. In Los Angeles, a region featuring notoriously high air pollution levels, whites are more likely to live in the cleaner west side of the city closer to the Ocean while Hispanics are more likely to live inland in the cheaper rent but hotter and more polluted parts of the city. Ongoing research seeks to measure environmental exposure differences across racial groups (Banzhaf, Ma, Timmins 2019).

An interesting ethical issue arises here. A strict libertarian might look at the rent discount the household receives and the choice to live in such an area and say; "well, this must be optimal because the person selected it." A more nuanced view is emerging from recent work in urban economics. Christensen and Timmins (2019) argue that minorities face a conscribed choice set because they are sometimes steered away from apartments in better parts of the city. Christensen, Sarmiento-Barbieri and Timmins (2019) document that this contributes to an air pollution exposure gap between whites and minorities. Recent research has used linked administrative records to document the long run labor market consequences of growing up in a more polluted environment (Isen, Rossin-Slater, and Walker (2017) and Vorheis (2017)).

Such racial steering also means that the researcher cannot infer a decision maker's preference from observing an outcome. To appreciate this point, suppose that communities a, b and c are all affordable for a person and she choose a. By revealed preference logic, "a" must be better for her than "b" and "a" must also be better for her than "c". But, if the real estate agent does not show her units in "b" and the researcher does not know that, the researcher will make the wrong inference about her preferences.   Given the challenges that minorities have historically faced, some may be more comfortable living in a majority minority area even if the quality of life is not objectively high. Such areas may pose less stress (an unobservable) for such individuals.   The close proximity of similar people to each other creates sufficient local demand for barber shops and restaurants that cater to a specific group to locate nearby (Waldfogel 2008).

This increase in the variety of services offers a minority group a boost in consumer surplus that would be lost if the person move away to a higher QOL area.

Regardless of why minorities are choosing the locations where they live, empirical research has documented that even controlling for household income that blacks and Hispanics live in lower quality neighborhoods than whites. The resulting impact on their children's future remains an open question. A key point is that parts of the quality of life index such as local school quality, pollution and exposure to violence all represent key inputs in determining a child's future development.

Supply Side Policies that Increase Quality of Life Inequality

This section explores the role that government policies such as local land use regulation, and public housing play in discouraging the poor from living in higher quality areas. Malibu, California is a beautiful beach community reasonably close to the center of Los Angeles. This area is mainly zoned for single family homes and it is not surprising that the average home costs many million dollars. In beautiful parts of major cities ranging from Boston to Seattle to Portland to San Francisco, land use zoning inhibits the ability of developers to build multi-family buildings. By limiting the density in some of our most beautiful and productive areas, the laws of supply and demand guarantee that in supply constrained areas that high prices will emerge and that many people (even the upper middle class) will be priced out.

In each of these communities, incumbent homeowners are pursuing their own self interest. By limiting the entry of developers, the homeowners protect both the character of the neighborhood's structures, and they guarantee that the new homeowners will be richer than the incumbents. Many communities in productive cities are pursuing this strategy and the net result is an inelastic supply of housing creating a type of zero sum game and limiting access to good neighborhoods for both the poor and the middle class. If developers were allowed to build at higher density in high quality of life areas, this would shift the shape of the hedonic real estate gradient (equation 2) and this would lower the marginal price of renting in a high QOL area. By

the law of demand, people would consume more QOL and this would help the poor to invest more in themselves and their children as measured in terms of safety and environmental exposure.

Public housing is another policy that increases quality of life inequality between the poor and everyone else. Each person values QOL and private consumption. The poor are eligible to live in public housing which features very low rents and low local quality of life as the poor live with other poor people. Such units will self select people who value quality of life the least. Sociology research documents the social cost of isolating the poor and having them live in hyper-concentration. Those who choose to live there may be unaware of the long run costs they are imposing on themselves and their children because they do not know the counterfactual of how their lives and their children's lives would play out if they live in a better area. Work by Jacob (2004) and Chyn (2018) measures the benefits to children who move away from such areas. Incumbent home owners in nicer areas have a political incentive to support the construction of isolated public housing isolation because this reduces the pressure placed on them by progressives for them to build poor people's housing in their jurisdiction.

The key open empirical question here focuses on the causal effect of how increasing the percentage of poor people in an area affects a location's quality of life. How much does crime risk go up by when more people live there? Are local public schools disrupted by the introduction of more poor people (Lazear 1999)? Without knowledge of these deep production parameters, we have no way of knowing how much of the concern expressed by high QOL areas about welcoming poor people is fear versus realism. An interesting tradeoff issue arises. Given that the poor benefit from moving to a high QOL area, how does society tradeoff this benefit versus the cost borne by incumbent homeowners if the area suffers a QOL decline by welcoming the entrants? A property rights issue arises here. Should the communities who welcome the less fortunate be compensated for making this sacrifice. The modern field of mechanism design offers tools for creating a truthful revelation mechanism so that good QOL communities who have local residents who are willing to live in closer proximity with the poor truthfully express their preferences and are rewarded for doing so (Jones and Teytelboym 2017).

This section has emphasized that the high QOL communities benefit from the spatial isolation of the poor. Urban political champions in poor communities also benefit from such packing of poor people into a district as this increases their political clout. Such clout is used to attract political pork ranging from public hospitals, to local jobs and other favors that allow the urban champion to be a king maker. Would these leaders be weaker if the poor were more uniformly distributed? The urban political economy of interest group support for the continued isolation of the urban poor appears to be an important subject for future research (Canon 1999).

It remains an open question whether the urban poor's representatives have the political clout to substantially improve the area's quality of life. Interesting work in environmental justice studies the correlation between an area's percentage of minorities and the presence of toxic waste sites (Been 1993). The open question here relates to causality; which came first; the toxic waste sites or the poor people? Given that rents are lower closer to toxic waste sites, such sites act as a poverty magnet. But, at the same time the concentration of poor people provide majority mayors with a tempting target to place new noxious facilities. If this second dynamic plays out then the spatial isolation of the poor simply feeds on itself.

Factors Causing Quality of Life Convergence

The previous section emphasized political forces that limit the poor's access to living in better areas. At the same time there are overall technological trends and competition trends that contribute to increasing access to urban quality of life.

Oi (1998) argued that the diffusion of air conditioning has had differential effects on regional quality of life as southern summers became less painful. As air conditioning becomes cheaper, fewer and fewer people are dying on extremely hot days. This means that even the poor are increasingly insulated against such risk (Bacerra et. al. 2016). This example highlights how the Beckerian production of comfort can change over time as inputs become cheaper.

Another example is cheaper air travel. Airlines such as Southwest allow millions of people to visit other cities. Airline competition lowers prices and allows more affordable travel. This ability to spend time in another city allows people to form a type of quality of life portfolio

over the course of a year. If one lives in a low rent place for 50 weeks a year and spends 2 weeks a year in San Francisco, the memories from this experience may last all year. The App economy allowing one to stay in AirBnb allows people to experience "real" day to day life in an area they are just visiting. This ability to experiment and to use the Internet helps people to be better matched with where they go. In this sense, the Internet plays a key role in helping people to figure out what quality of life opportunities exist in places they have never visited. YouTube offers videos of every place in America. Such videos help us to expand our imagination and allow us to find our best match.

Conclusion

Since the pioneering work of Nordhaus and Tobin (1972), macroeconomists have sought to benchmark nations with respect to quality of life by incorporating more features than merely per-capita GNP. Recent research by Jones and Klenow (2017) incorporates leisure and health in ranking nations. This research is useful for benchmarking national progress in quality of life. If a market for national passports existed, an economist would recommend simply comparing the market clearing prices of different passports for ranking nations.

This essay has introduced the urban economics approach for evaluating an area's quality of life at a point in time. Geographic areas that feature relatively low wages and high rents and yet few people move away and people continue to move there must have high quality of life. Given that these areas offer relatively little private consumption, there must be offsetting local factors that attract people to live there. This logic forms the basis for the massive revealed preference literature (see Gyourko, Kahn and Tracy 1999).

If quality of life of a given area simply affects our utility level, then the poor simply suffer a utility loss by not being able to live in places such as Malibu, CA. This essay has argued that this logic is false because neighborhood Quality of Life is also a key input in a child's development. Real costs are imposed on people and society as a whole if a poor child's norms, habits, human capital and health capital are degraded by living in a low quality of life

environment. The intergenerational implications of living in a low QOL area have not been fully explored.

Future research should explore what is the relationship between growing up in a low QOL area versus growing up in a low upward mobility census tract based on the Raj Chetty Opportunity Insights index. One way to explore this would be to study the objective air pollution and crime levels and school quality levels in the communities where MTO voucher recipients actually move to versus in the communities they left.

Future research should attempt to disentangle the causality that generates the correlation that poor people live in low quality areas. One direction of causality posits that high quality of life areas are more expensive to live in and the poor cannot afford to live there. This is the Engel Curve hypothesis. An alternative explanation is that the concentration of the poor in a geographic area degrades local quality of life as crime increases and public school quality declines and environmental problems such as litter arise.

In 2019, the continuing support for strong local land use regulations highlight that even in progressive communities that there is a strong desire to limit new entry in existing communities. This point highlights a tension in urban economics. While we celebrate the positive externality of local average educational attainment on city productivity, an awkward siting issues arises of where would a benevolent planner build housing for the poor? The inclusionary zoning offers compensation to communities who agree to build housing for the poor. An open question concerns whether this policy has significant unintended consequences?[5]

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[5] https://www.minneapolisfed.org/publications/fedgazette/expert-insights-on-inclusionary-zoning

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