

Human Development in the US: An Analysis of the Rich and Poor in NY State

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ABSTRACT

Poverty has a devastating influence on human development, limiting educational access, high speed and efficient technological devices, and health necessities. Initially, economists focused on gains in income as a way to measure progress, such as GDP per capita, and investments in factors of production including land, labor, and capital that can spur such growth. Investments in labor include investments in education, training, and health as a means to promote productivity and therefore income gains. However, there has been a shift in focus to human development, whose objective extends beyond income to improved human capabilities as measured by quality of life, education, and health. Clear trends in the causes and effects of poverty and the impediments to human development have been evaluated globally, but what remains unclear is whether such trends hold at subnational levels. This study therefore seeks to assess one state in the U.S., the state of New York, to determine what factors are associated with disparities in human development by evaluating the differences between the fifty richest and fifty poorest towns. Through inferential hypothesis testing, this research evaluated which measures related to human development and poverty were statistically significantly different for the richest and poorest towns in New York. The two-tailed t-tests revealed significant differences in many factors tested, including health insurance, educational attainment, access to technology, and flood risk. The latter two findings have important policy implications for alleviating impacts of poverty, including closing the digital gap and implementing adaptations in high flood-risk, impoverished communities.

Introduction

Poverty has consequences not merely on income generation but also on educational attainment, skill development, and health. Poverty therefore has consequences that impede human development. Human development is the expansion of capabilities and the improvement of the lives of people. It consists of many different factors, including access to efficient computing devices, high-speed internet connectivity, and vulnerability to environmental hazards. Globally, these factors influence and are heavily influenced by poverty, as the access to high level education, technological resources, proper nutrition, and healthcare are vital to economic mobility and escaping poverty. In New York, however, the degree to which these factors are associated with poverty and therefore human development is unknown. This research can inform state level policies that are more relevant to improving human development at local levels where healthcare, education, technology, and workforce development are actually addressed.

Literature Review

Policies focused on economic growth mainly seek to increase the production of goods and services in a given economy. Economic growth is mainly measured by changes in gross domestic product (GDP), which is a good measuring tool because it accounts for inflation (Sachs 2015). Economic growth can be influenced by many factors, including access to natural resources, technological advancements, education, and government policies, but the two main sources

of economic growth are to either increase the size of the workforce, or to increase the productivity of the workforce (CBPP, 2017). Therefore, economic growth-oriented policies typically focus on individuals within a society as capital inputs that increase the production of goods and services or the efficiency of production. They may also view people as facilitators of economic growth through their consumption of goods and services, which also expands the economy. Though growth matters for fiscal stabilization, it is also important in raising material living standards (CBPP, 2017). This latter consideration helps to emphasize an important aspect of economic growth that is often overlooked in purely microeconomic and macroeconomic policies – that growth is not the goal in and of itself, but that it must have impacts on improving human welfare. Though material living standards do improve with a nation’s economic growth, how it translates to improving the lives of people is often assumed but not evaluated.

Though higher GDP per capita correlates with higher consumption levels, greater food security, better health, it is an imperfect measure of wellbeing (Sachs 2015). Therefore, development economics, which focuses on development that improves the well-being of people in a country, seeks to incorporate considerations in addition to economic factors, such as political, social, and institutional factors. The main focus of development economics is on transformations that effect progress for populations of people whether aggregated to the nation, the state, or local communities (Todaro and Smith, p 9). An important aspect of developmental economics is its concern for equity and the equitable distribution of wealth that improves the welfare of all.

This concept that income and wealth are instruments for improvements in welfare was explicated by Amartya Sen who argued that “the expansion of commodity productions...are valued, ultimately, not for their own sake, but as means to human welfare and freedom” (Sen 1997). Such improvements in well-being does not depend merely on what commodities are consumed but what use the consumer makes of those commodities, or what Sen calls functionings. Such functionings are beings or doings and include being healthy, being well nourished, well clothed, being mobile, having self-esteem, and taking part in the life of the community (Todaro 2020; Sen 1999). Sen argues that this emphasis on development objectives is important not only for development economics but for economics in general. When talking about functionings, Sen mentions the ability to choose is a functioning in and of itself. But choosing how one lives requires capabilities or freedoms to choose. Therefore, Sen’s framework portrays development as a reality and state of mind in which a better life can be attained not only by increasing the availability of life-sustaining goods as well as raising the material standards of living, but also through expanding the range of choices to enable a variety of functionings (Todaro 2020).

Given that GDP is solely about income and ignores freedoms and welfare when being used to measure well-being, the Human Development Index (HDI) was created to account for such factors. The Human Development Index, created by Mahbub ul Haq with the assistance of experts (including Amartya Sen), is composed of three dimensions: a long and healthy life, knowledge, and a decent standard of living. These are measured by life expectancy at birth, expected and mean years of schooling, and GNI per capita respectively. This index focuses less on strictly monetary factors, and instead looks to measure the quality of a person’s life. This index emphasizes the importance of people and their capabilities in the process of development. By focusing on improving people's lives rather than just economic growth, this approach provides a more holistic and human-centered view of development. The Human Development Index is an important tool for measuring progress in this regard and can help guide policy decisions to support continued human development around the world.

In order to display and assess these variations, scholars, government agencies, and nonprofits have applied similar measurements to reflect Human Development at subnational levels, such as the American Human Development Index created by Measure of America. This index utilized comparable but different measurements for the 3 components of the Human Development Index: a long and healthy life, access to knowledge, and decent standard of living. Although the long and healthy life component to the American HDI used the same measurement (ie. life expectancy at birth), access to knowledge and decent standard of living were both measured differently. As opposed to expected and mean years of schooling, the American Human Development Index utilized the percent school enrollment from ages three and up and percent educational degree attainment for ages 25 and older to measure access to knowledge. Additionally, the index measured a decent standard of living through median earnings instead of GNI per

capita. All data was provided by the U.S. Census Bureau's American Community Survey. This data shows that within the US, there are variations in human development across geographies at different levels: regions, states, and even congressional districts. It also revealed that variations in human development exist across gender, as well as race and ethnicity. This provides strong evidence that there are substantial variations within a country, revealing that human development indices should not only be applied at the national level for comparisons across countries, but that they should also be considered across demographics within a country.

Reducing poverty is a goal that contributes to economic development. Todaro (2020) poses five reasons why policies aimed at reducing poverty are productive in economic development. First, alleviating poverty enables individuals to access credit, which in turn finances their children's education as well as entrepreneurial activities, both of which spur economic growth. Second, alleviating poverty implies a higher income for people, which means that they have more money than what is needed to cover their basic necessities (food and water, bills, etc). Such extra income can therefore be saved and invested into their local economy, a practice that the rich are not noted for. Third, higher incomes and higher levels of living contribute to improved health and better education, leading to higher economic productivity. Higher incomes also correlate with higher demands for locally produced necessity products, which in turn will improve the economy. Lastly, Todaro mentions how the alleviation of poverty acts as a psychological motivator encouraging participation in the development of the local economy.

Although there are economic benefits to addressing poverty, there exists strong ethical reasons that should motivate us to reduce poverty and inequality. Jeffrey Sachs (2015) posits that virtue ethics, which is based on the idea that we have a responsibility to others, provides compelling reasons why we ought to pay less attention to ourselves and more attention to the well-being of others. The great religions – Judaism, Christianity, and Islam – promote the Golden Rule: “Do not do to others what you would not want them to do to you.” Therefore the religions teach the principle of equality, advocating actions that should lead to alleviation of both poverty and inequality. Sachs describes a third approach called deontological ethics or “duty ethics,” which philosopher Immanuel Kant describes as a universal standard of behavior. According to Sachs, the modern universal standard of behavior ought to be understood as maximizing the condition of the least well off member of society, as proposed by John Rawls. The fourth approach to ethics, Jeremy Bentham's utilitarianism, provides a secular depiction centered on maximizing “utility” or the greatest happiness or well-being for the greatest number of people. Another approach is based on human rights philosophy, which is based on the protection of individual rights such as life, liberty, security, and the right to partake in political and economic decision making. Regardless of which approach we live by, calls to improve well-being for others beyond ourselves serve as common duties or responsibilities. The only approach that doesn't clearly explicate this is libertarianism, which focuses solely on the benefit of oneself. Libertarianism opposes heavy government intervention, valuing self determination and free choice. This does not advocate for the reduction of poverty and inequality, as it only promotes what is in a person's self interest, and that all people are responsible for their own actions. This is especially a problem in America, where freedom is valued above all else, even at the cost of a person's well being. Despite this line of thought, the other ethical paradigms and perspectives continue to weigh upon society and government, demanding actions to address poverty in the US and abroad.

Therefore, the UN sought to address poverty globally, enlisting the help of all countries particularly in the developed world. In 2000, the UN created the Millennium Development Goals, which, generally, looked to reduce poverty, promote sustainable development, and improve the quality of life for people around the world. The Millennium Development Goals include eight goals: the reduction of poverty and hunger, universal education, gender equality, child mortality, maternal health, combating diseases, environmental sustainability, and global partnership. By setting specific targets, the UN hoped to focus attention and resources on critical areas in need of development. Though the Millennium Development Goals were eventually replaced in 2015 by the Sustainable Development Goals, the focus on poverty as a form of vulnerability remains.

Another important factor related to human development and poverty is the restricted access to technology of the poor, also known as the digital divide. Being able to use computing devices has become increasingly vital in

today's society, opening doors to educational and career opportunities. Therefore, such access has important implications for human development particularly with regards to skill attainment and generation of both present and future income. However, not all computing devices are the same. While computers offer greater processing power and are favored for actual work tasks like video editing and programming, iPads and smartphones are more convenient for general browsing and entertainment such as media consumption (Warschauer, 2003). Affordability and ease of use make smartphones the primary choice for internet access for many people. Though having access to any type of computing device is of great importance in today's digital world, being able to use devices with higher computing abilities and greater range and ease of use of programs commonly utilized in the workplace such as word processing and presentation programs is critical. Consequently, having access to computers rather than to tablets or smartphones is important for skill and capacity development and therefore human development (Gonzales 2015). However, computers are less affordable to the poor.

Similarly, limited data plans and connectivity issues can also pose challenges to accessing online resources by the poor. With a rich trove of resources, the Internet serves as a world wide library. Being able to access such resources is required to function in today's society, hence the proliferation of academic online platforms such as blackboard and google classroom. Even in academia, students must communicate with teachers, follow online syllabi and curricula, and submit their work online. This daily utilization of the internet continues post graduation as one enters the workforce. Therefore, being able to use the internet, find relevant research, and communicate with others efficiently, effectively, and flexibly is critical to success in work and human development. However, those who are poor may not be able to afford internet services or may be able to afford only slower speed internet. Even these restrictions have consequences for achievement and success in academia and the workplace. For instance, Gonzales (2018) explored the relationship between technology problems and student achievement gaps and found evidence of achievement gaps, underscoring the need to address technological challenges faced by students to reduce these gaps.

Another challenge that poorer populations face relates to the environment they live in. Because of the lack of financial resources, poorer residents live in areas that are often cheaper because of greater exposure to neighborhood stressors and unhealthy land use such as environmental hazards, air pollution, urban decay, man-made and natural disasters, and climate change (Wilson, Hutson, & Mujahid 2008). Poorer communities are also often located in areas of higher flood risk (Powell 2007), which have consequences for health and therefore human development.

Although these general patterns related to poverty have been researched at international and national levels, what is unknown is whether they exist at local levels. This research therefore seeks to evaluate associations of poverty with human development factors found in literature within one state by assessing differences between the fifty richest and fifty poorest cities and towns in the state of New York. By doing so, this research seeks to determine what statistically significant differences exist between residents of rich and poor towns and what policies specific to New York state would help address such human development concerns.

Data and Methods

The data used for this research was obtained from the 2021 American Community Survey's (ACS) 5-year-estimates and First Street Foundation's Risk Factors. The ACS provides period estimates for a variety of topics, ranging from social, economic, demographic, and housing characteristics. For this research, we first collected data on the median incomes of households across the 1332 places in New York State, ranking them from richest to poorest median incomes. Hamlets or Census Designated Places (CDPs) were excluded from the list since many of these places included college campuses with large populations of students who earned little to no income. The top 50 richest and 50 poorest towns were then identified and used for the analysis, fulfilling the condition that a minimum of 30 observations are needed to conduct certain inferential statistical analyses. For those 100 towns and cities, data on general demographics, educational achievement, access to healthcare, access to technology, and vulnerability to environmental risk were collected.

From the American Community Survey’s 5 year-estimates, we gathered data on median income to determine the top 50 richest and 50 poorest places in New York. Then, we gathered data on population, median age, percent population that is white, percent population that is non-white, percent of the population with a bachelor's degree or higher, percent of the population below the poverty level, percent of the population with 1 or more computing devices, percent of the population with either a computer or laptop, percent of the population insured, percent of the population with internet subscriptions for these 100 places. From the First Street Foundation, we found the percentage of properties with flood risk, the number of properties with flood risk, the percentage of homes with flood risk, and the number of homes with flood risk for the top 50 richest and 50 poorest places. A property or home was considered to have a flood risk if there was at least a 26% chance of being affected by flooding in the next 30 years.

We chose which data to gather based on the different aspects of economic development. We gathered data on the percentage of the population that was insured because it is closely tied to health. Insurance means better access to healthcare, which in turn should translate to better health. Health is important because healthier people are able to be more productive in their work which is beneficial for the person as well as the economy. In addition to the purely economic perspective, Amartya Sen’s capability approach views health and well-being as the end goal of economic development, so health is an important piece to measure. We gathered data on the percentage of the population with a bachelor's degree or better because higher levels of education lead to greater productivity. Additionally, higher education is a part of the HDI, which measures well-being.

In inferential statistics, a hypothesis is a tentative statement or assumption about a population parameter. The null hypothesis is typically the statement that we expect to be false and the alternative hypothesis the statement that we expect to confirm through hypothesis testing. Hypothesis testing involves gathering evidence from sample data to determine whether to accept or reject the null hypothesis in favor of the alternate hypothesis. The null hypothesis tested in this research is that measurements related to human development will be the same for rich and poor places in New York: that the mean values of key demographic measurements related to human development – education, health, technology, and environmental vulnerability – will be essentially the same. The alternate hypothesis is that the mean values will be different.

We conducted a two-tailed t-test to compare the statistical difference between the 50 richest and 50 poorest towns. Before conducting the t-test, we used Levene's test to determine whether the data for the variable we were examining had equal variance. This test measures the variability between the distance of the data points to the mean. Once we determined whether the data points had equal variance, we conducted the appropriate two-tailed t-test. The t-test generated a p-value, and if the p-value was less than the critical value α of 0.05, we rejected the null hypothesis that the means of the specific measurements were equal, indicating a statistically significant difference between the means for the 50 richest and the 50 poorest towns/cities. Conversely, a p-value above 0.05 fails to reject the null hypothesis, indicating that the means are statistically equal.

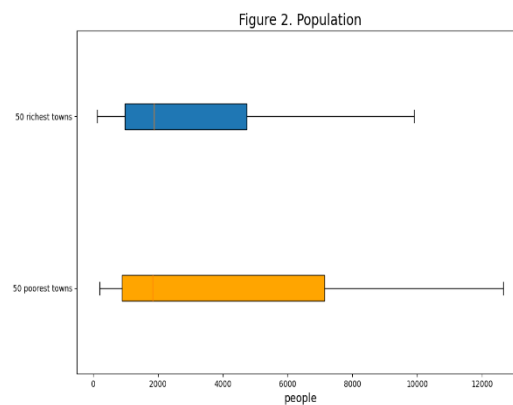
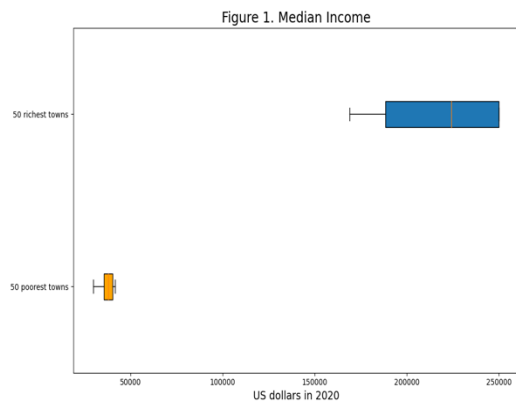
Results

Table 1. Human Development Indicators of the 50 Poorest and 50 Richest Towns/Cities in NY

Variable	Poorest Town/Cities Mean (Standard Error)	Richest Town/Cities Mean (Standard Error)
Median Income (\$ in 2020) ***	37,176 (575.1054)	219,280.68 (4274.1804)
Population (people) *	13,287.78 (5280.1872)	3,680.26 (661.8319)
% white	85.73 (2.0029)	81.87 (1.4267)

% non-white	14.19 (2.0040)	18.13 (1.4267)
Median Age (years) ***	37.7179 (1.4560)	44.9619 (0.9585)
% pop with bachelor's degree or better ***	19.31 (1.7413)	76.59 (1.0605)
% pop below poverty level ***	25.83 (1.6101)	3.75 (0.4120)
% pop with 1+ types computing devices ***	82.02 (.3267)	97.47 (0.3034)
% pop with computer or laptop ***	64.17 (2.0646)	94.21 (0.5031)
% pop with internet subscription ***	74.81 (2.4912)	95.59 (0.4098)
% Insured (Civilian Noninstitutionalized) ***	94.88 (0.5315)	98.21 (0.1821)
# prop with flood risk ***	538.94 (140.9034)	140.84 (22.8661)
% prop with flood risk ***	31.16 (2.9024)	17.16 (2.0203)
# homes with flood risk **	609.62 (182.5898)	139.8 (23.0920)
% homes with flood risk **	38.30 (9.9855)	16.42 (2.0866)

Note: * = $p < 0.10$; ** = $p < 0.05$, *** = $p < 0.01$



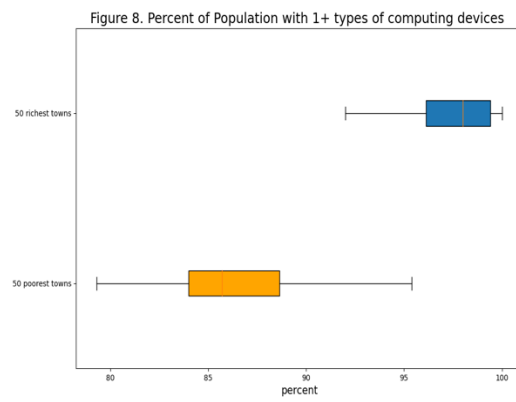
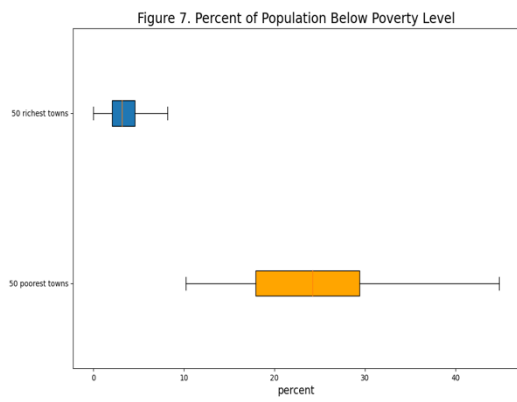
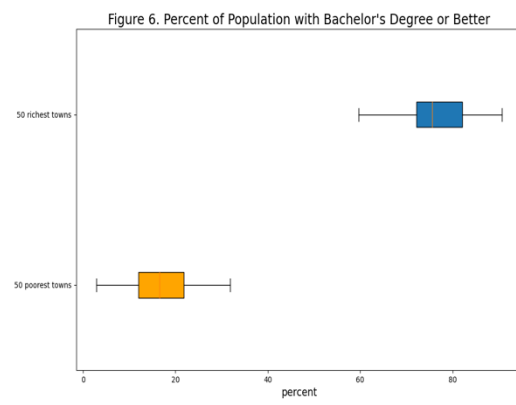
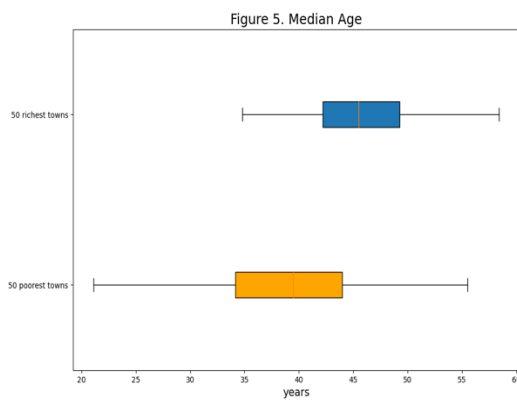
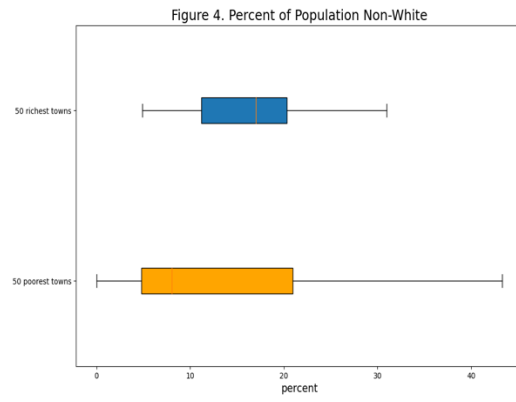
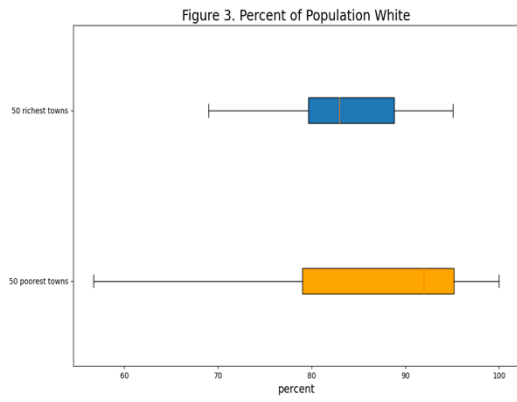


Figure 9. Percent of Population with a Computer or Laptop

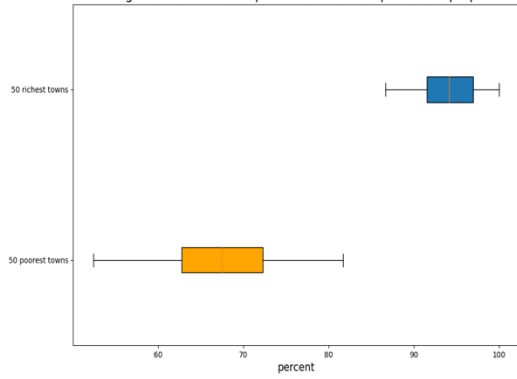


Figure 10. Percent of Population with an Internet Subscription

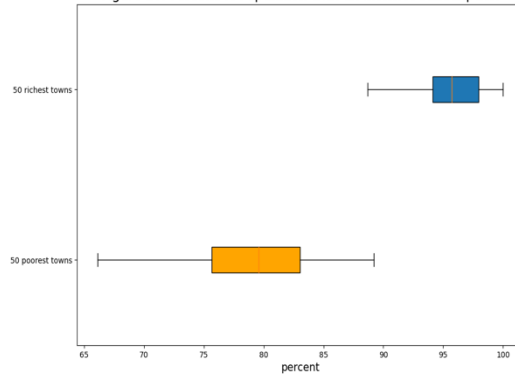


Figure 11. Percent of Population Insured (Civilian Noninstitutionalized)

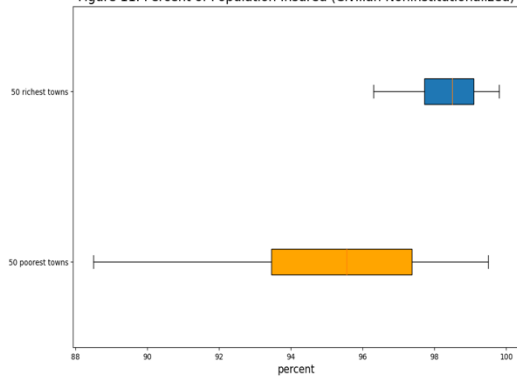
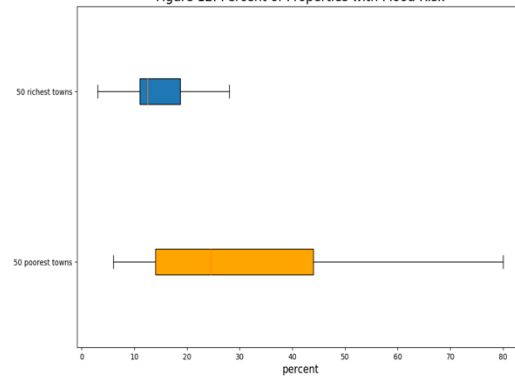
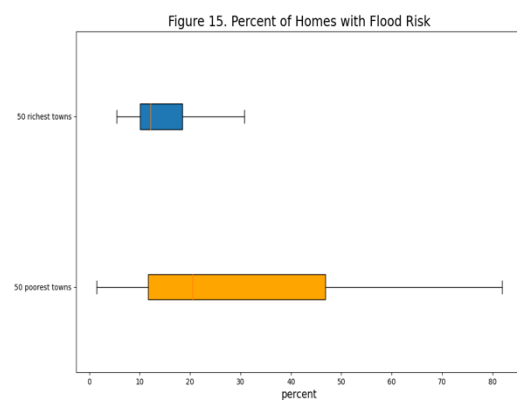
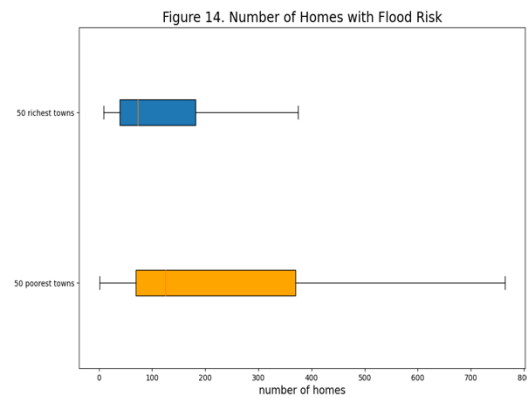
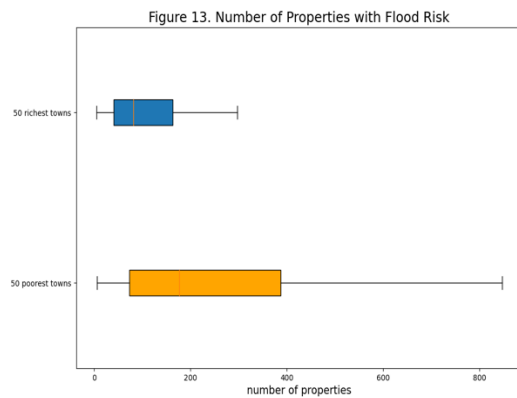


Figure 12. Percent of Properties with Flood Risk





Discussion

Table 1 presents the mean values of the measurements by the 50 poorest and 50 richest towns and cities in New York State. Differences in the means between these two groups were statistically significant for demographic measures (i.e., median income, percent population below poverty level, median age), education measures (percent population with bachelor's degree or higher), health measures (i.e., percent population insured), technology measures (i.e., percent population with 1+ types of computing devices, percent population with computer or laptops, percent population with internet subscription), and environmental vulnerability measures (i.e., percent properties with flood risk, percent of homes with flood risk). The only measures that were not statistically significantly different were total population, percentage of the population that identified as white, and percentage of the population that identified as non-white.

As expected, richer towns and cities exhibited higher median incomes and lower rates of poverty. The differences were substantial with median incomes of the top richest towns and cities typically averaging about \$220,000 and those of the poorest towns and cities typically averaging about \$37,000, indicating an order of difference of a little under 6. Although median income might be expected to be substantially higher in richer towns, the relative number of households below poverty levels may not always be lower in these richer towns since property values of residences or rentals may be more affordable or cheap in certain areas or districts of a town or city. However, the poverty rates followed closely the stark differences between the richest and poorest towns with the former exhibiting only 3.75% of the population below the poverty level and the latter 25.83%. Median age holds a clear statistical difference, with the poorest towns averaging a median age of approximately 38 years old, about 7 years younger than the richest towns, which average a median age of approximately 45. Since income tends to follow an inverted U-shaped pattern with

income rising up to a point and then falling as one enters retirement, it should be expected that richer towns are inhabited by somewhat older people (pre-retirement). However, age cannot explain the \$180,000 income gap.

The data table demonstrates significant differences between the poorest and richest places concerning education and health as well. The data shows that the richest places have a higher percentage of the population with a bachelor's degree or higher, with a mean of 76.59%, while the poorest places have a much lower percentage, with a mean of only 19.31%. The data further shows that the poorest places have a higher percentage of residents living below the poverty level, with a mean of 25.83%, compared to only 3.75% in the richest places. These statistics suggest that education plays a crucial role in promoting economic opportunities and reducing poverty. Additionally, the data indicates that the percentage of insured residents is higher in the richest places with a mean of 98.21%, as compared to a mean of only 94.88% in the poorest places. Although there are stark differences in income and poverty levels between the richest and poorest towns and cities in New York State, there is not a large difference in insurance coverage, emphasizing the importance of healthcare policies such as Obamacare in promoting access to healthcare. Although having health insurance is an important factor in maintaining or improving health, it alone does not directly translate to improvements to well-being. Financial resources are needed to cover deductibles and copayments despite having basic health insurance, further highlighting the process by which poverty can negatively impact health.

From the data table above, we can observe that there are significant differences in access to technology between the poorest and richest places. The data shows that both the poorest and richest places have a high percentage of residents with one or more computing devices (i.e., computers, laptops, tablets, and smartphones), with means of 82.02% and 97.47%, respectively. However, when it comes to computers or laptops, the richest places have a much higher percentage of residents with access to these devices, with a mean of 94.21%, compared to only 64.17% in the poorest places. This suggests that while the digital divide has narrowed in terms of overall access to technology, there are still significant differences in access to specific types of devices and therefore ease, volume, and speed of computing. For example, computers and laptops have keyboards that make typing, accessing information, and even viewing easier than doing so on tablets and smartphones that lack keyboards and that typically have smaller screens. Computers and laptops also typically have more storage space for work or educational resources than other devices. Having more space allows you to keep important references without having to delete them or having to look them up again, saving you time and effort. Being able to use a keyboard and having storage space can be time efficient and therefore increase your work speed. Furthermore, computers and laptops can run more powerful software than tablets and smartphones, which may lag or simply be unable to run the programs desired. Therefore, the larger differences in the percentage of residents with access to computers and laptops in wealthier versus poorer places are significant and translate to real impacts on people's capabilities to educate themselves and even conduct work, which then impacts incomes.

Another important factor related to computing is access to the internet. Since most professional and academic work uses resources and data found on the internet, having basic internet subscription is of utmost importance. There is also a clear disparity between the poorest and richest places in regard to internet subscriptions, as the poorest places only have a mean of 74.81% as opposed to the mean of 95.59% in the richest places. This difference is in large part due to a larger cycle, where impoverished households cannot afford internet subscriptions, and in turn are limited in their uses of devices to increase their income. Additionally, this difference doesn't account for a potentially larger disparity in internet speed, as the poorest places may only have the slowest types of internet connections such as dial-up while the richest place may have fiber optics available. Faster connections, which can facilitate work efficiency, costs more and are often financially inaccessible to poorer households. Overall, the data suggests that while access to technology is more readily accessed across places, there are still disparities in access to more advanced devices such as computers or laptops as well as to the Internet, which as previously mentioned can impact economic opportunities and educational outcomes.

In regard to vulnerability to climate change, particularly to flooding, the table demonstrates a much higher vulnerability in the poorest places than the richest. There are significant differences in the percentage of properties and homes that are at risk of flooding: 31.16 % of properties in poorer places and 17.16% in richer places have flood risk, while 38.3% of homes in poorer places and 16.42% in richer places have flood risk. The substantially higher

percentages, however, do not mask differences in total number of properties or homes as indicated by the higher mean in number of properties and homes with flood risk in the poorest places, 538.94 properties and 609.62 homes, compared to that in the richest places, 140.84 properties and 139.8 homes. The fact that the differences in the number of properties that are at risk of flooding between the poorest and richest places is statistically significant as well as significant in size reveals that it's not just the poor placement of housing construction that has led to flood risk: the land in poorer places itself is more prone to flooding. One implication is that because the land was flood prone, housing prices were priced lower and, therefore, attracted poorer households. It could also imply that richer towns were able to adapt and set up structures to limit flooding. Such vulnerability to flooding has direct connections to resident health and well-being with more exposure to flooding leading to higher exposure to hazards that can affect life-expectancy as well as state of health (through disease impacts). Flooding's economic effects include a decrease in the value of the house and the possessions in it, as well as the need to use money to rebuild the house itself. Additionally, homeowners and property owners in places of high risk must pay for flood insurance or risk an even heavier economic toll.

Conclusion

This research found that compared to richer towns/cities, poorer areas generally had lower median incomes, higher rates of poverty, lower rates of educational attainment, lower rates of healthcare coverage, lower rates of access to computing devices, lower rates of internet subscriptions, and higher likelihoods of exposure to floods and flood risks. Though these findings are similar to those found at international levels, between higher and lower income countries, this research found similar patterns at the subnational state level (New York) in a highly developed country (United States).

Findings of particular interest include differential risks to flooding and access to technology. The study found that flooding can have significant impacts on both the health of individuals and the economy. These impacts can be particularly devastating for low-income communities, which may have fewer resources to cope with the aftermath of flooding and which may potentially face long term difficulties in recuperating from such crises. Greater exposure to flood risk and fewer resources to recuperate compound problems faced by poorer residents who may not be able to pay for additional health services. As for access to technology, there will probably be variations across the different states because of the different policy measures addressing the digital divide, particularly with regards to education. Though New York state does not have a policy addressing access to computers for students in all schools, its neighbor New Jersey does. New Jersey's \$115 million plan to close the digital divide has been making progress and will likely exhibit different results from New York. As previously noted, the data concerning internet subscriptions is limited in explaining underlying factors that contribute to internet use such as internet speed, which is dependent on heavy spending to obtain high end speeds that promote work efficiency.

Limitations

It is important to acknowledge the limitations of the study. Firstly, we only looked at the top 50 richest and 50 poorest towns, so the findings may not be representative of the entire state. Additionally, this study is specific to the poorest and richest towns in New York and cannot with perfect certainty be applied to places in different states. However, the statistically significant findings of this study could serve as potential hypotheses to be tested for the other states in the US.

The flooding analysis also only focused on the number of properties and residential buildings affected and did not take into account how infrastructure like roads and schools are impacted. Furthermore, while insurance is a crucial component of maintaining good health, it is not a perfect measure for health outcomes. Even with insurance coverage, individuals may still have to pay out of pocket for copayments and deductibles, meaning that the rather high rates of insurance coverage even amongst residents of poorer towns and cities (94.9% to 98.2% in richer places) may

be masking lower rates of accessing healthcare because the poor might find doing so difficult given the additional costs. Therefore, these financial burdens can be a significant barrier to accessing healthcare.

References

- Amartya Sen. (1999). *Commodities and capabilities*. Oxford University Press.
- Amy L. Gonzales, Jessica McCrory Calarco, and Teresa K. Lynch.
Forthcoming. "Technology Problems and Student Achievement Gaps: A Validation and Extension of the Technology Maintenance Construct," *Communication Research*.
<https://doi.org/10.1177/0093650218796366>
- Amy Gonzales (2016) The contemporary US digital divide: from initial access to technology maintenance, *Information, Communication & Society*, 19:2, 234-248, DOI: 10.1080/1369118X.2015.1050438
- Richard L. Brinkman & June E. Brinkman (2011) GDP as a Measure of Progress and Human Development: A Process of Conceptual Evolution, *Journal of Economic Issues*, 45:2, 447-456, DOI: 10.2753/JEI0021-3624450222
- Sachs, J. (2015). *The Age of Sustainable Development*. Columbia University Press.
- Todaro, M. P., & Smith, S. C. (2015). *Economic Development* (12th ed.). Pearson.
- United Nations Development Programme. (2022). *Human Development Index*. United Nations Development Programme; United Nations. <https://hdr.undp.org/data-center/human-development-index#/indicies/HDI>
- Warschauer, M. (2003). Demystifying the Digital Divide. *Scientific American*, 289(2), 42–47.
- Wiebke Kuklys. (2005). *Amartya Sen's capability approach : theoretical insights and empirical applications*. Springer.
- Wilson, S., Hutson, M., & Mujahid, M. (2008). How planning and zoning contribute to inequitable development, neighborhood health, and environmental injustice. *Environmental Justice*, 1(4), 211-216.