

## VISUALIZING INEQUALITY IN AMERICA

One great example of data visualization of inequality can be found at:

[http://www.nytimes.com/packages/html/national/20050515\\_CLASS\\_GRAPHIC/index\\_03.html](http://www.nytimes.com/packages/html/national/20050515_CLASS_GRAPHIC/index_03.html)

Play with it.

Visualizing Inequality: Exploding the mythology. The majority of Americans believe that they are in the top 10% of income in the country. Unfortunately, most of them are wrong. Moreover, the vast majority of them will never have the opportunity to experience the privileges that come with such an exclusive social position. What do inequality and poverty look like in this country, and how do we imagine the lives of the poor? What does wealth look like?

### **1. Geographical visualizations of correlations between variables (represented by graphical overlays).**

This visualization will demonstrate the spatial concentration of disadvantage in the United States. Typically, poor communities are characterized not only by low incomes, but also by low-quality education, high rates of crime and incarceration, high rates of military service and war-time casualties, increased chances of exposure to ecological dangers, and low levels of political influence (among other factors). Data on these variables can be aggregated at the Census tract level, yielding a separate figure for each of the 66,304 tracts in the United States (if needed, data can be aggregated at the level of Census block groups, of which there are 211,267). The user would have the option of choosing which of the variables she or he would like to visualize on the map. To show overlap between different variables, the map could either superimpose multiple layers, or separately visualize census-level statistical correlation figures for the variables in question. The variables we would like to visualize include:

- percent living below the poverty line (data: 2000 Census)
- percent black (data: 2000 Census)
- percent Hispanic (data: 2000 Census)
- percent who own a home, as a measure of wealth
- school funding per capita – this may have to be done at the district, rather than census tract level (data: 2000 Census)
- incarceration rate, per 1000 people (data: not sure)
- military recruitment (data: may not exist – we'd need to know service people's hometowns)
- number of war casualties in recent wars (data: may not exist)
- number of Superfund sites, demonstrating the level of potential exposure to toxic waste (data: not sure)
- asthma rates (one e.g. of environmental consequences)
- child nutrition and child medical expenses
- health insurance and medical expenses
- domestic abuse
- police violence
- portions of housing that are structurally unsound

A related visualization could take all the schools that failed, say, the 4<sup>th</sup>-grade passing exams. How do those records correspond to the wealth or earnings of people in a district? This might be best done for a smaller area like New York City, but it may be possible to show correlations for a larger area, up to and including the United States.

## **2. Growth in income inequality over the past 50 years.**

Income inequality has been steadily rising in the United States since the late 1970s. One measure frequently used to demonstrate this is the 90/10 ratio: the ratio of the income of people at the 90<sup>th</sup> percentile of the income distribution to that of people at the 10<sup>th</sup> percentile. A visual representation of this could consist of a line graph showing the change in the 90<sup>th</sup> and 10<sup>th</sup> percentiles over time, with the widening area between the two lines representing the level of inequality. Separate graphs could show changes in income inequality by gender, race, and educational groups. Furthermore, the graphs could project the inequality trends into the future, assuming that institutional policies and economic conditions remain the same. The data for this can be obtained from many government economic statistics websites.

## **3. Represent political influence according to wealth.**

Where do representatives visit? Who makes campaign donations? Where do politicians locate social services? How are congressional districts drawn with respect to race and income/wealth? Not all of these questions can be easily answered due to a lack of data. However, it would be relatively easy to superimpose congressional districts onto the map of inequality described above. Also, data on campaign donations is publicly available.

## **4. Employment Discrimination.**

How is race linked to earning capacity? It starts with the ability to find work. Profs. Devah Pager and Bruce Western of Princeton Sociology conducted a field experiment, where testers matched on a variety of characteristics applied for real jobs in New York City. The study demonstrated a significant preference on the part of employers to hire white applicants over their black and Hispanic counterparts, even when the white applicants reported having a criminal record. Cf. <http://www.princeton.edu/~pager/>. The entire dataset is available for our use.

## **5. A historical representation of the income gap.**

How do assets grow differentially over time? Wealth is different from earnings, and a lot of economic power comes not from one's job but one's ability to accumulate profit from capital investments, whether these are company stocks or real estate. To demonstrate this, we could compare two families or communities, one primarily African-American or Hispanic, the other white, and show how white people are better able to acquire assets, which reproduce themselves over time (e.g., owning a house helps people obtain loans). Examples might be: help from friends or family, rates of job promotion, economic opportunities in a community, rates of home ownership, etc.

## **6. A historical representation of neighborhood prosperity.**

“Red-Line Maps” are used by banks to determine the areas in which houses are eligible for a mortgage loan and the areas in which they are not. Before 1969, many

neighborhood covenants, moreover, allowed residents to refuse to let an African-American family move in. If a person cannot get a loan to buy a house in one neighborhood and is not allowed to buy one in another, he ends up a renter and not a home-owner. There are substantial consequences to this fact. But perhaps more interesting is showing the decline of “red-line” neighborhoods over time. How do these areas correlate with poverty, crime, school funding, etc.? [We can obtain access to some older red-line maps and compare them over time]

### Visualizing Equality: Exploding the Myth of Government Ineffectiveness.

If poverty and widening inequality are serious problems in the United States – and they are – what are the solutions? It has become a common assumption over the last 25 years that government intervention in unfair social conditions creates more problems than it solves. As a result, policy makers often throw up their hands and say there is nothing we can do about poverty. Is this actually the case? These projects look into recent American history to examine the effects of government intervention.

### **7. Social Security ended Elderly Poverty.**

Look at national data on elderly poverty. Compare Census data for 1940, 1960, 1980, and 2000. What happens to the poverty rate among the elderly generally? What are the differences, at each of these intervals, between senior citizens with Social Security and those without? What are the correlations between economic security and other outcomes, like mortality? All of this can be calculate using the Census or the Current Population Survey.

### **8. The Tennessee Valley Authority transformed the lives of people in Appalachia.**

The Tennessee Valley Authority brought electricity to Appalachia, transforming the region from a 3<sup>rd</sup>-world to a 1<sup>st</sup>-world country. Compare census data for income in the region in 1930 to data for 1950. Look at what percentage of homes had electricity at those two points in time. Look at the other social indicators that come with electricity – indoor plumbing, refrigeration. What were the results of the transformation? Compare the types of jobs people did in 1930 and in 1950 – how many miners, for example, moved to work in the manufacturing sector? Use the area of Appalachia to which the TVA did not extend the electricity grid as a control. Census data should provide us with most of the relevant information.

### **9. AFDC (Aid to Families with Dependent Children)**

This program started under the New Deal and expanded significantly under Eisenhower in the ‘50s. This is what the 1996 welfare reform under Clinton ended. What is the correlation between the expansion of AFDC and the decline of child poverty rates? Poverty rates in general?

### **10. The GI Bill and Federal Mortgage Program**

What happened to the rates in home ownership from 1940 to 1970? What percentage of men got higher education in 1945 and what percentage got it in 1960? What was the difference in average incomes between people who graduate from college and those who

graduate only from high school in this period? Here, we could use secondary analyses from studies of these two programs.

### **11. The Head Start Program**

Communities that have the program show significantly greater economic health within 10-20 years than communities without it.

Charitable giving: who does it and what does it do?

### **12. Concretizing inequality**

How much money do people need to survive? What percentage of this amount do people living below the poverty line have access to? Those who live above the poverty line but not too far? Compare these figures to the amount of money wealthier people spend on luxuries. What does a plasma television mean? The choice of a Mercedes instead of a Honda Civic? What percentage of income for the well-off and the rich do these luxuries represent? This can illustrate not only income inequality but also the relative consequences of charitable donations for the recipients and donors. (For this, we will need to determine what percentage of a given donation goes to a recipient helped by a charity. A good place to start is [CharityNavigator.com](http://CharityNavigator.com))

### **13. Placing generosity in the context of poverty**

How much money do the relatively poor give to charity – as a proportion of their income – and how much money do the relatively wealthy give?

Visualizing New Orleans

### **14. Poverty and the effects of the Hurricane**

Correlate household income with the levels of destruction and the progress of recovery. Correlate income with mortality resulting from the hurricane. A good place to start is John Logan's (Brown University) report: <http://www.s4.brown.edu/Katrina/index.html>

### **15. Resettlement and Reconstruction**

- A map of New Orleans – who is returning, where are they from, where are they returning to? Who is not returning, what are the areas where people cannot return? How does this correlate to household income? Very little data is available at this time.
- A map of the United States – where are the inhabitants of New Orleans? The data here may be a problem as well. However, a project being conducted at Harvard Medical School may be a good start: <http://hurricanekatrina.med.harvard.edu/index.php>.