Wealth Disparity in the United States

Group members:

Gaurav Keswani (gk368)

Rui Liang (rl522)

Taihang Ye (ty322)

1. Data Source

The data set of wealth distribution of U.S. from 2000~2011 was found at <http://www.census.gov/people/wealth/>

We retrieved data sets for multiple years between 2000 and 2011, but went with 3 i.e. 2000, 2005 and 2011. The reason for doing so was to compare the status of the society at the beginning of the millennium to the time before and after the great recession of 2008.

2. Data description & data binding

**2.1 Age-Quintile-Wealth distribution in different years**

The heat maps for “Age-Quintile Wealth distribution” are in 3 parts - one for each year i.e. 2000, 2005 and 2011. In each of these heat maps we have age (“<35”, “35-44”, “45-54”, “55-64”, “>65”) and quintiles (1, 2, 3, 4, 5) where quintile 5 is the richest top 20% group. The purpose of these heat maps is to analyze the distribution of mean net worth.

The data for this is coming from the “Distribution 2000.xlsx”, “Distribution 2005.xlsx” and “Distribution 2011.xlsx” files. We selected the age groups sections in “Distribution of Net Worth By Net Worth Quintiles” table and manually converted into “age\_quintile\_wealth.csv”.

For “Age-Quintile-Wealth distribution” chart, we divide mean value into three ranges, which are “wealth\_min to zero”, “zero to two third of wealth range”, and “two third of wealth range to wealth\_max”. Then we use colorScale to linearly map mean value to different colors, red for the poorest and green for the richest. We use rectangles for the heat map, and label the age groups and years at the bottom and the quintiles on the left side of chart.

The purpose of this chart is to show that the more and more wealth is being accumulated by the 5th quintile over the years while the 1st quintile is in a worse state.

**2.2 Mean Net Worth Per Quintile**

Since we saw such a huge gap between the 5th quintiles and the other quintiles, we decided to drop the age variable and concentrate only on the mean net worth per quintile across these 3 years.

Since the difference between the maximum and minimum mean net worth was huge, we decided to map the values to a scale of 0 to 1 where 1 represents the total mean net worth of all quintiles put together in 2011 (can be seen by the 2011 bar ending at 1.0). Also, the negative mean worth values have been mapped to 0 since we are not considering the debt in this graph. The 5 quintiles are represented by 5 colors - dark green (5th quintiles) to red (1st quintile)

As can be seen from the graph, the 5th quintile owned about 74% of the wealth in the United States at the beginning of the millennium. This number shrunk to 72% by 2005 and probably would have shrunk further if not for the recession in 2008. The recession in 2008 led to losses for everyone, but it is clear that the poor were affected in the worst possible way while the 5th quintile’s share of the mean net worth grew to 79.5%

The data for this visualization was taken from the 2000, 2005 and 2011 data files from the “Monthly Household Income” section of the “Mean Net Worth” sheet. In the data set, each of the net worth quintile was itself divided into 5 quintiles based on the monthly incomes. But we manually calculated the overall mean worth for each quintile of net worth by using the individual means values and number of households data given in the sheet. These values were then manually mapped to “quintile\_data.csv”

**2.3 Mean and Median Net Worth By Region**

## In the “Median and Mean net worth comparison by regions” chart, we concentrate on the data from 2011. We use the region section from the data set and include both mean and median values for each quintile, (manually converted into into “region.csv”), which has four variables: region (“North east”, “Mid west”, “South”, “West”), quintile (2, 3, 4, 5), median and mean.

## In this region bar chart, we use the linear mapping to map the both mean and median wealth values to the length of the bars and differentiate between the different quintiles using different colors, like red for quintile 2(60~80%), orange for quintile 3(40~60%), light green for quintile 2(20~40%), dark green for quintile 1(0~20%).

**2.4 Mean Net Worth By Race**

## In the “Wealth Distribution within Racial Groups” chart, we divided each race group equally into 5 quintiles, from the richest to the poorest. Each quintile contains 20% of the population of that race.

## The data has been edited in following way:

## Add up the numbers from 5 quintiles to calculate the total mean net worth of the four racial groups: White, Asian, Black, and Hispanic;

## Calculate the percentage of mean net worth of each quintile against the total net worth of that race;

## Because the positive net worth and negative net worth would be reflected on two different dollar signs, we then take the percentage of mean net worth of positive quintile and divide that by the sum of percentage of positive net worth. This would give us a new percentage to display on graph. (Detailed calculation can be found on “racial-data.csv”)

## The size of dollar sign represents the average net worth owned by each racial group, and the span of color represents the percentage of mean net worth owned by each quintiles within that race. The dollar sign under x-axis indicates a negative number in net worth. As shown, the majority of the wealth is owned by the richest 20%, while the poorest 20% has a negative net worth.

3. Story