## policybrief

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## HOUSEHOLD INCOME INEQUALITY IN GEORGIA, 1980-2007

## Introduction

The income distribution in the United States changed significantly over the last thirty years. In general, the trend has been one of increasing income inequality, whether considering individual wages, family earnings, or household income. Family income inequality increased sharply from 1975 through the 1980s. Inequality continued to grow during the economic expansion of the 1990s, but at a slower rate (Gottschalk and Danziger 2005).

In this policy brief we explore, using Census Bureau data, how the income distribution changed between 1980 and 2007 in Georgia. We consider two measures of inequality for Georgia, the $90 / 10$ ratio of household income and the share of income held by each income decile. To construct the 90/10 ratio, household income was sorted from lowest to highest. The 90/10 ratio is the ratio of income at the $90^{\text {th }}$ percentile to the income at the $10^{\text {th }}$ percentile. We use the income at the $90^{\text {th }}$ and $10^{\text {th }}$ percentile rather than the highest and lowest household incomes in order to avoid extreme outliers that would produce a measure that is not reflective of the overall distribution of income.

Consider as an example, income for 2007. Using individual household data from the American

Community Survey from the Census Bureau, we determined the household income for the household at the $10^{\text {th }}$ and $90^{\text {th }}$ percentile. Household income in 2007 at the $10^{\text {th }}$ percentile was $\$ 11,925$ and at the $90^{\text {th }}$ percentile it was $\$ 133,640$. (This implies that in 2007, 10 percent of Georgia households had an income less than $\$ 11,925$ and 10 percent had an income greater than $\$ 133,640$.) The $90 / 10$ ratio is thus II.2I, which is $\$ 133,640$ divided by $\$ 11,925$. Thus, household income at the $90^{\text {th }}$ percentile is 11.21 times the income of the household at the $10^{\text {th }}$ percentile. If the incomes of the two households increased by the same percentage, then the 90/I0 ratio would not change. But if the income at that $90^{\text {th }}$ percentile increased by a greater percentage than the income for the household at the $10^{\text {th }}$ percentile, then the value of the ratio would increase, and we would say that income inequality increased.

The other approach to measuring inequality is to compare the distribution of income. For this, we first array households by income and then divide the population of households into ten equal parts. (Because the Census Bureau does not reveal that actual income for the very highest income households, it was necessary to estimate income for those households. The Appendix describes how that was

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done.) We then calculate the percentage of total household income that goes to each of the 10 groups. If the income distribution was absolutely equal, each decile of households would have exactly ten percent of total income. The more unequal the distribution of income, the greater the percentage of income held by the higher income households.

## Household Income Inequality

Figure 1 presents the $90 / 10$ ratio for Georgia household income for decennial census years (1980, 1990, and 2000), and for 2007. The figure also shows household income at the $90^{\text {th }}$ and $10^{\text {th }}$ percentile for each year. As can be seen, the value of $90 / 10$ ratio has increased since 1980. The 90/10 ratio for all Georgia householders increased by 4.7 percent between 1980 and 1990, which is about half the national change. (As reported by Jones and Weinberg (2000), the 90/10 ratio for U.S. household income increased by 9.9 percent between 1980 and 1990.) The $90 / 10$ ratio then fell in the following decade and remained at that lower value, so that in 2007 its value was only slightly higher than what it was in 1980.

Figure 2 shows the aggregate share of income held by each income decile. The most noticeable change is that the share for the top ten percent of all Georgia householders increased from 29 percent to 33.2 percent of total income, a 14 percent increase, between 1980 and 2007. The other income deciles, with the exception of the $9^{\text {th }}$ decile, experienced a decrease in their share of total income.

The change in the share held by the households in the top ten percent is mostly due to increases in the share of income for the $95^{\text {th }}$ and $99^{\text {th }}$ percentile. Thus, the income level at the $90^{\text {th }}$ percentile did not increase as much. Thus, the $90 / 10$ ratio suggests that inequality in Georgia did not increase very much between 1980 and 2007, while the distribution by deciles implies that the very rich got richer over this period.

The vast literature examining the determinants of income inequality has identified two sets of factors responsible for changes in family and household income. Labor economists have examined extensively the drivers behind wage and earnings inequality. The higher return to education due to technological change, the decline in the minimum wage, deunionization of industries, outsourcing of jobs, and the increase in performance pay at the top end of the distribution, are some of the widely recognized factors that have played a role in the observed change in earnings over the last three decades.

There are also factors that are specific to family and household income inequality. Among these are, the relative
decrease in two-earner families at the bottom of the income distribution, the stronger increase in labor supply of spouses from middle and higher income households compared to the bottom tenth percentile, the larger increase in the wages of secondary earners at the top of the income distribution, and the relative importance of non-labor income sources, for example, capital gains, at the top of the income distribution (Lee, 2008).

## Inequality by Race and Ethnicity

Table 1 and Table 2 provide income distribution information for Georgia broken down by race. As can be seen from Table I, there are distinct differences in the trends in income inequality for each race group. Income inequality as measured by the $90 / 10$ ratio rose steadily for whites from 1980 to 2007, for a total increase of 9.8 percent. African-Americans also experienced growth in income inequality between 1980 and 2000, but that was followed by a significant drop since 2000, which offset the earlier increases. Therefore, income inequality slightly decreased over the period 1980-2007. Household income inequality among AfricanAmericans is greater than among whites. Hispanics experienced the most significant drop in inequality, with income inequality, as measured by the 90/10 ratio, in 2007 close to half of what it was in 1980; income inequality in 2007 for Hispanics is the lowest among the three groups.

Table 2 shows the change in the share of income held by each income decile between 1980 and 2007, and confirms some of the patterns indicated by the $90 / 10$ income ratio. The share of income held by the top ten percent of white residents increased by 18 percent (from 28.1 percent to 33.2 percent). The sixth through eighth deciles experienced about a one percentage point decrease each and mostly account for the increase in the share of total income going to the richest decile. For African-Americans there is not a significant change in the share of income held by each decile, which is consistent with the findings that the 90/10 ratio remained about the same over the period. Lower income Hispanic households gained some ground in terms of the share of total Hispanic income; however, households in the top ten percent lost one percentage point of their share.

## Summary and Conclusions

Overall, the patterns observed in Georgia confirm the national trend of growing income inequality during the 1980s and 1990s, followed by slowing increase in inequality after 2000. However, there are differences by race and some differences in magnitude when compared to the overall national trend. Inequality did not increase as much for all Georgia residents as it did nationally. One explanation for that may be that in Georgia there was a larger increase (or smaller decrease) in the share of better jobs for lower income households than in the U.S. This would also explain

Figure 1. Household Income, 90/10 Ratio, All Householders, Georgia (2007 dollars)


Figure 2. Aggregate Share of Income Held by Each Income Decile, All Householders, Georgia


TABLE 1. RATIO OF HOUSEHOLD INCOME AT THE 90TH PERCENTILE TO THE 10TH Percentile, Georgia

| Year | All | White | African-American | Hispanic |
| :--- | :---: | :---: | :---: | :---: |
| 1980 | 11.1 | 9.2 | 12.9 | 12.2 |
| 1990 | 11.7 | 9.4 | 13.0 | 11.7 |
| 2000 | 11.2 | 10.1 | 13.5 | 8.0 |
| 2007 | 11.2 | 10.1 | 12.5 | 7.0 |

TABLE 2. AgGregate Share of Income Held by Each Income Decile, by Race, GEORGIA

|  |  | $-\cdots------A l l---------$ | ----- White------ |  |  | African-American |  | ----- Hispanic------- |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Decile | $\mathbf{1 9 8 0}$ | $\mathbf{2 0 0 7}$ | $\mathbf{1 9 8 0}$ | $\mathbf{2 0 0 7}$ | $\mathbf{1 9 8 0}$ | $\mathbf{2 0 0 7}$ | $\mathbf{1 9 8 0}$ | $\mathbf{2 0 0 7}$ |
| 1 | 0.9 | 1.0 | 1.1 | 1.1 | 0.7 | 0.8 | 0.8 | 1.4 |
| 2 | 2.6 | 2.4 | 2.9 | 2.6 | 2.1 | 2.4 | 2.5 | 3.3 |
| 3 | 4.0 | 3.8 | 4.5 | 4.0 | 3.4 | 3.7 | 4.1 | 4.7 |
| 4 | 5.7 | 5.2 | 6.0 | 5.3 | 5.0 | 5.3 | 5.8 | 5.8 |
| 5 | 7.5 | 6.6 | 7.6 | 6.9 | 6.7 | 6.9 | 6.8 | 7.1 |
| 6 | 8.9 | 9.1 | 9.3 | 8.0 | 9.1 | 9.0 | 8.6 | 9.1 |
| 7 | 11.1 | 9.2 | 11.0 | 10.0 | 10.6 | 11.2 | 10.7 | 10.1 |
| 8 | 13.5 | 12.7 | 13.2 | 12.5 | 14.0 | 13.6 | 13.1 | 12.7 |
| 9 | 16.9 | 16.9 | 16.4 | 16.4 | 18.2 | 17.2 | 16.9 | 16.3 |
| 10 | 29.0 | 33.2 | 28.1 | 33.2 | 30.1 | 29.9 | 30.6 | 29.6 |

the decrease in inequality for African-Americans and Hispanics, who are, on average, lower skilled than whites. Thus, the decrease in inequality among African-Americans after 2000 and Hispanics may reflect several trends. One is the growth in low-paying service jobs, which may have increased the income of those at the low end of the income distribution. A second factor might be the lower education level among these two groups, which would make it difficult to obtain the higher paying service and high-tech jobs at the top end of the income distribution. And a third possible factor may be the lower proportion of dual earner families who are responsible for the significant increases of income at the top end of the distribution. Hispanics have the lowest income at the $90^{\text {th }}$ percentile when compared to the other groups, while income of Hispanics at the $10^{\text {th }}$ percentile is almost as high as that of whites. Both income at the top decreased significantly after 2000 and income at the bottom increased significantly for Hispanics, when compared to the other groups. Most likely, these changes are driven by immigration patterns in the last couple of decades.

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## Appendix: Calculation of Income of Very High Income Households

The Census Bureau protects the confidentiality of individual data in many steps, including top-coding of very high or very low values. For example, if an individual in a particular county has very high income it would be easy to determine the identity of the individual based on the Census data. For the 1980 Census, household income is top-coded at $\$ 75,000$ (in 1979 dollars), so that we only know that this household has an income in excess of $\$ 75,000$. In order to calculate total income and share of income, we need to know the actual income for those individuals with top-coded values. One approach is to assume that the top-end of the income distribution follows a Pareto distribution and estimate
income above the cut-off point. We use households in the top 20 percent of the income distribution in order to estimate the income held by individuals above the cut-off point. We sum the estimated household income for all individuals above the cut-off point and then divide by the number of households who are top coded to obtain the mean household income for this group. The mean is used in place of the cut-off value in order to determine total income and share of income for each percentile.

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