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Georgia Per Capita Income: Identifying the Factors Contributing to the Growing Income Gap with Other States

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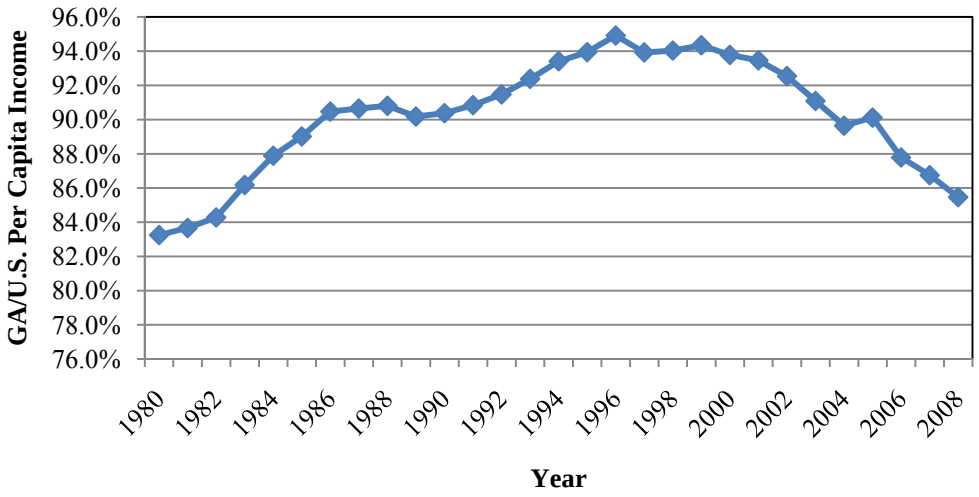
Table of Contents

Table of Contents (continued)

Executive Summary

This report explores why Georgia's per capita personal income growth over the past decade has been slow, resulting in Georgia being ranked 50th in the nation in per capita income growth. The report begins by identifying the changes in Georgia's per capita income relative to the U.S. The ratio of Georgia's per capita income to that of the U.S. peaked at 94.9 percent in 1996 and leveled off at around 94 percent until 2000 when it began a steady decline. In 2008, Georgia's per capita income had fallen to 85.5 percent of the U.S. per capita income (see Figure A).

FIGURE A. GEORGIA TO U.S. PER CAPITA INCOME 1996-2008



Using data from 1996 and 2000 as base years, we calculated what Georgia's per capita income would have been assuming that the ratio of Georgia to U.S. per capita income remained at base year levels. We than calculate the income growth gap for each base year by taking the difference between Georgia's actual and our calculated per capita income. The growth gap shows how much greater Georgia's per capita income would be had Georgia's per capita income relative to the U.S. ratio remained at base year levels. In 2008 the 1996-growth gap was $3,754 and the 2000-growth gap was $3,303. Compared to selected Southern states plus Nevada, Georgia has the largest growth gap; the gap has been steadily growing through 2008.

We examine various factors that may have impacted either total personal income or the population in order to determine which factors may have contributed to the reduction in relative per capita income. We also calculate, when possible, how much of the growth gap is due to each of these factors in order to identify which factor has had the largest impact on the changes in Georgia's per capita income.

Key Findings

- Georgia's 2008 total personal income is 11.0 percent and 9.7 percent less than what it would have been in 2008 if Georgia's per capita income relative to the U.S. ratio remained at 1996 and 2000 levels, respectively.
- The slow growth in Georgia's personal income is driven primarily by job related personal income. This component of personal income accounts for over 74 percent of the per capita income growth gap.
- The 2007 job related personal income per employee growth gap, using 1996 as the base, was $252, and increased to $999 using 2000 as the base year. This indicates that Georgia's job related income growth has not kept up with the growing employee population. The job related personal income per employee growth gap is converted to a per capita compensation growth gap of $116 using 1996 as the base and increases to $462 using 2000 as the base.
- Georgia's population per payroll job increased from 1.96 persons for every wage and salary employee in 1996 to 2.16 persons for every wage and salary employee in 2007, meaning that there are now more people being supported by fewer jobs. If the growth of Georgia's population per payroll job was the same as that for the U.S. between the base years and 2007, the estimated additional income would have decreased Georgia's 1996 per capita income growth gap by 32 percent and 46 percent for the 2000-growth gap. Thus, much of the growth gap is due to lower employment participation among Georgia's population. There are several possible explanations for this trend:

- Population growth in Georgia relative to the U.S. was concentrated in Georgia's youth population, specifically in school age children age 5 and under. Among the comparison states, Georgia has the highest youth population growth for both 1996-2008 and 2000-2008. High growth in Georgia's youth population accounts for 16 percent of the 1996-growth gap and 14 percent of the 2000-growth gap.
- Georgia's elderly population growth is second among all the states in the South and significantly higher than for the U.S. Between 1995 and 2000, Georgia experienced a large number of elderly in-migrants with low mean and median income relative to elderly out-migrants. Over the same time period, elderly unemployment has more than doubled, from 3.7 to 7.6 percent, and the elderly not-in-the-labor force grew 18.9 percent. Elderly migration data suggests that the elderly in Georgia are not contributing much total personal income and are a potential contributor to the growing per capita income growth gap. However, Georgia elderly household median income relative to the U.S. increased significantly to 96.8 percent in 2007 from 88.5 percent in 2000.
- Contrary to this evidence, Georgia's decline in median household income relative to the U.S. between 2000 and 2007 is driven by relatively lower incomes for working age individuals under age 25 and to a lesser extent for individuals age 25 to 44.
- One additional factor may be high in-migration of undocumented workers whose labor force activities may not be captured in income and employment data. However, evidence suggests that this factor is not likely to be a significant contributor to the income growth gap.

- Educational attainment of Georgia residents over age 25 relative to the U.S. increased between 2000 and 2006. Georgia increased its relative percentage who have a bachelor's degree or more and saw no significant increase in relative percentage of individuals with a high school degree or less. This implies that Georgians have higher earning potential, and thus

the relative change in education level does not explain the slow growth in per capita income.

- Another factor associated with the change in income is the change in average wages and salaries. Weighted average compensation growth in Georgia has been lower than that of the U.S. for high, medium, and low wage occupations. Further, Georgia's compensation growth between 2000 and 2008 starts from a lower base than the U.S. Lower percentage growth from a lower base causes the growth gap to widen.
- Among the categories of jobs, the gap between Georgia and U.S. compensation growth was the greatest for low wage jobs. Given that low wage occupations make up more than 50 percent of Georgia's employment mix, the low growth in compensation for these occupations is a significant contributor to low per capita income growth.
- Georgia's total job growth was 5.2 percent between 2000 and 2008 while U.S. overall job growth was only 4.2 percent. New low-wage jobs in Georgia are 1.1 percentage points of the total job growth rate compared to 0.6 percentage points for the U.S. High growth in low wage occupations in Georgia compared to the U.S. leads to lower growth in per capita income and supports the argument that Georgia's job growth is concentrated in low wage occupations.
- Atlanta's consumer price index relative to the U.S. decreased significantly between 2000 and 2008, supporting the argument that the consumer price index basket of goods have become relatively cheaper in Atlanta than in the average U.S. urban city. The cost of living rose more slowly in Atlanta, and thus the nominal gap in per capita income overstates the standard of living difference. This may contribute to the lower growth in average compensation in Georgia. With a lower cost of living, wages and salaries do not have to increase as fast to retain or attract workers.

Georgia Per Capita Income: Identifying the Factors Contributing to the Growing Income Gap with Other States

I. Introduction

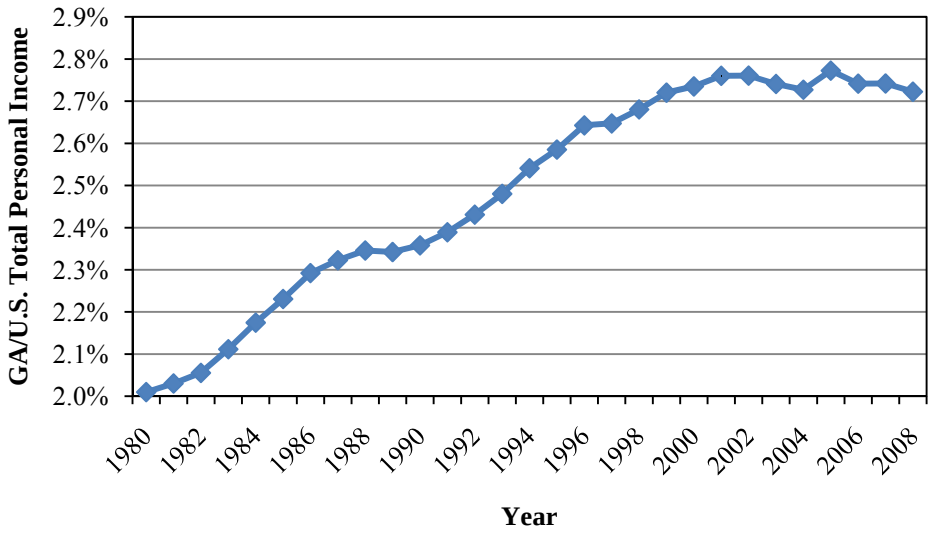
This report explores why the growth of per capita personal income in Georgia over the past decade has been so slow. Georgia's total personal income as a proportion of U.S. total personal income increased between 1980 and 2002 and stabilized at around 2.74 percent thereafter (Figure 1). Georgia per capita income relative to U.S. per capita income increased until 1996, but declined thereafter (Figure 2). The ratio of Georgia to U.S. per capita income peaked at 94.9 percent in 1996 but fell to 93.8 percent in 2000. By 2006, the ratio had fallen to 87.8 percent. Georgia was ranked 50th in the growth of per capita personal income between 2005 and 2006 and 47th between 2006 and 2008.[1] By 2008, the ratio of Georgia to U.S. per capita income had fallen to 85.5 percent.

This decline in Georgia's per capita income relative to U.S. per capita income along with Georgia's low ranking in per capita income growth motivates us to explore potential factors leading to Georgia's low per capita income growth over the period 1996-2008.

We use 1996 and 2000 as base years to calculate a growth gap, i.e. how much greater would income per capita would have been in 2008 if the ratio of Georgia to U.S. per capita income had remained constant at its 1996 peak or its 2000 value. We refer to the 1996-growth gap to mean the growth gap using the 1996 ratio of Georgia to U.S. per capita income, and to the 2000-growth gap when the 2000 ratio is used. The growth gap is derived by assuming that Georgia maintains the base year ratio of Georgia to U.S. income, calculating the product of the per capita income ratio and U.S. per capita income in each subsequent year, and then subtracting actual Georgia income per capita. Using 1996 as the base year yields a 1996-growth gap for the years 1997 through 2008 that ranges from $250 to $3,754 per capita (Figure 3).

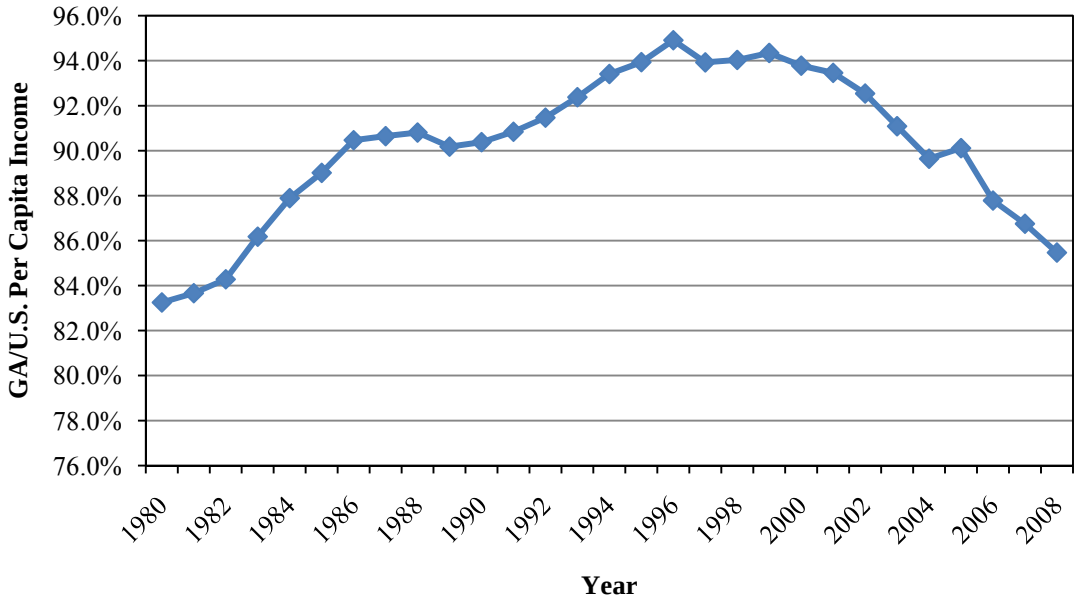
[1] The Bureau of Economic Analysis release, dated March 27, 2007, can be found at the following: http://www.bea.gov/newsreleases/regional/spi/2007/spi0307.htm.

FIGURE 1 – GEORGIA/U.S. TOTAL PERSONAL INCOME, 1980-2008



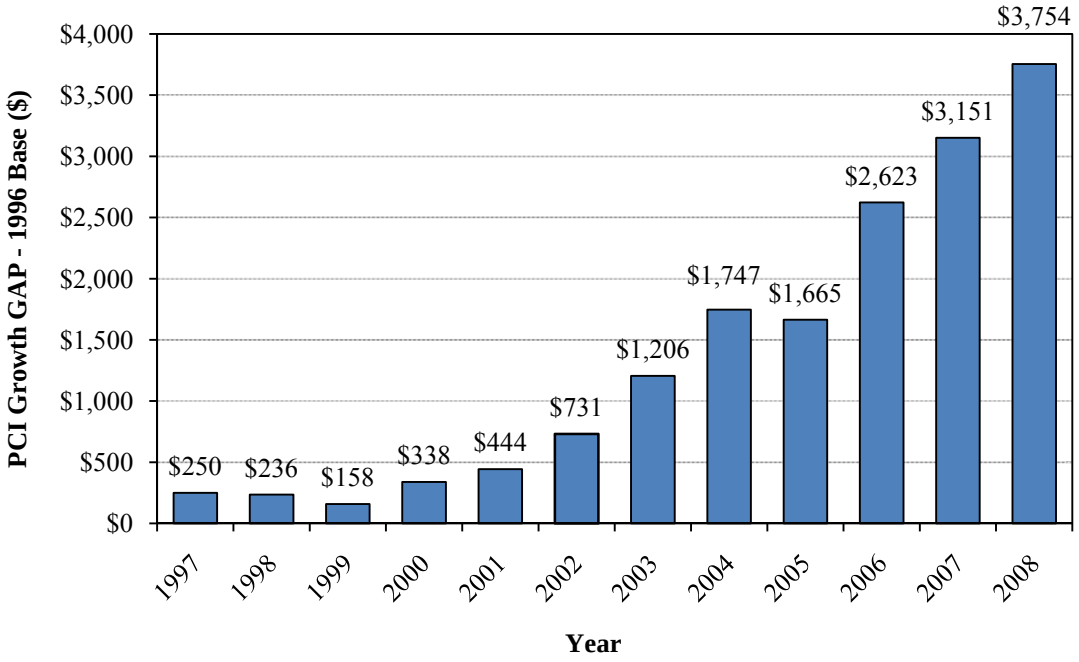
Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System.

FIGURE 2 – GEORGIA/U.S. PER CAPITA INCOME, 1980-2008



Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System.

FIGURE 3 – GEORGIA PER CAPITA INCOME 1996-GROWTH GAP



Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System.

Compared to other Southern States, Georgia has the largest per capita income 1996-growth gap in 2008 (Table 1). Nevada, North and South Carolina and Tennessee's 1996-growth gap are quite large but are significantly lower than Georgia's gap. Alabama, Florida, and Louisiana all have negative 1996-growth gaps. A negative growth gap in 2008 indicates actual per capita income relative to the U.S. in 2008 is greater than the per capita income ratio in 1996.

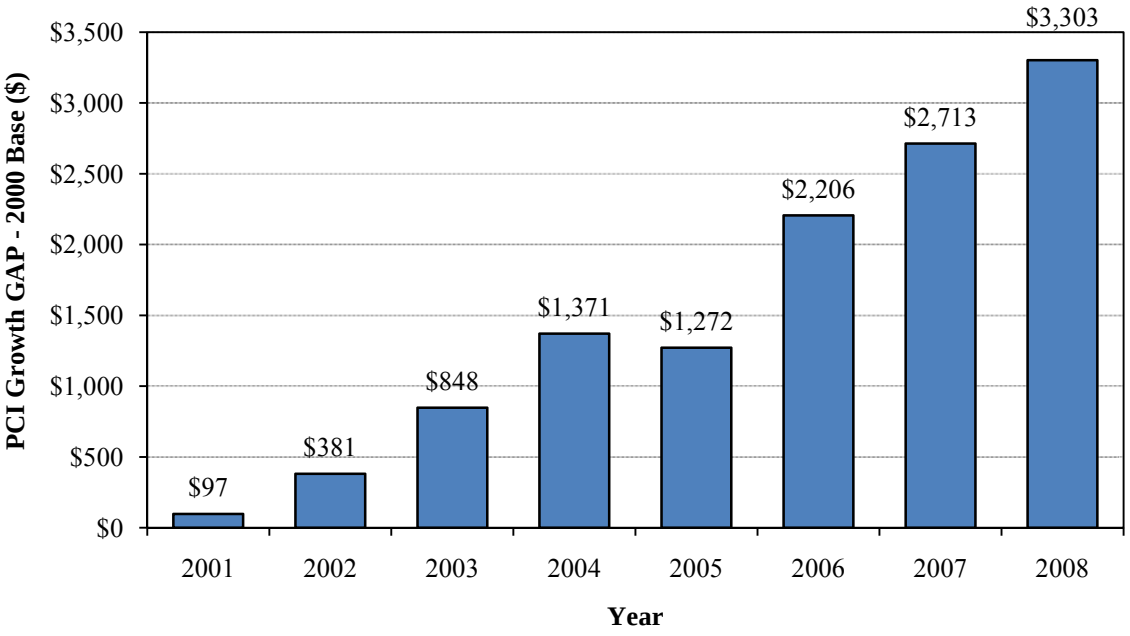
Switching to the 2000 base yields a 2000-growth gap that ranges between $97 in 2001 and $3,303 in 2008 (Figure 4). While the pattern of increases in the 2000-growth gap is similar, starting with the smaller 2000 per capita income ratio leads to lower growth gap values.

TABLE 1. PER CAPITA INCOME 1996—GROWTH GAP

	1997	2000	2006	2008
Alabama	$114	$1,024	-$310	-$624
Florida	$287	$693	-$1,096	-$174
Georgia	$250	$338	$2,623	$3,754
Louisiana	$54	$1,346	-$2,718	-$3,737
Nevada	$474	$1,769	$851	$2,539
North Carolina	-$140	$490	$1,700	$2,262
South Carolina	$33	$339	$487	$1,097
Tennessee	$226	$884	$1,094	$1,605

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System.

FIGURE 4 - GEORGIA PER CAPITA INCOME 2000-GROWTH GAP



Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System.

Table 2 illustrates that Georgia has the highest 2000-growth gap among neighboring Southern states, including Nevada. In 2008, Georgia's 2000-growth gap is at least two times larger than all Southern states used as a comparison. Alabama, Florida, and Louisiana have negative 2000 growth gaps for each year (Table 2), indicating that actual per capita income relative to the U.S. is greater than the per capita income ratio in 1996 for each year.

TABLE 2. PER CAPITA INCOME 2000—GROWTH GAP

	2001	2006	2008
Alabama	-$389	-$1,573	-$1,988
Florida	-$77	-$1,951	-$1,097
Georgia	$97	$2,206	$3,303
Louisiana	-$1,069	-$4,378	-$5,530
Nevada	$447	-$1,330	$182
North Carolina	$247	$1,096	$1,610
South Carolina	$45	$69	$646
Tennessee	-$99	$4	$427

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System.

This report examines various factors impacting either total personal income or total population in order to determine which factors contributed to the reduction in relative per capita income. Per capita income can fall or grow more slowly as a result of a change in the composition of population in favor of those groups with less income, such as youth, as well as from a decline in the income of residents of a particular group. For example, if youth becomes a larger percentage of the population, income per capita will fall since they increase population but not total income. Similarly, if a larger percentage of the working age population does not work, income will be smaller. For each factor we compute the ratio of the value of the factor for Georgia to that of the U.S.; an increase in the ratio means that changes in the factor have to be greater in Georgia than the average for the U.S.

The specific questions we answer are:

- Has growth in specific components of Georgia's personal income led to a decline or slow growth in overall per capita income?
- Have changes in the size of the non-working age population in Georgia compared to the U.S. led to a decline in per capita income in Georgia relative to the U.S.?
- Do elderly in-migrants to Georgia have lower incomes than out-migrants, thereby leading to a decline in personal income levels?
- Has there been a decline in educational attainment of Georgia's working age population leading to a larger portion of the population having low wage occupations and lower personal income?

- How has the composition of the labor market changed; does Georgia now have more low-wage occupations compared to medium and high wage occupations? Has wage growth in various occupations kept up with U.S. wage growth?
- Have consumer price indices changed, leading to a lower cost of living in the South and as such lower nominal personal income growth?

In addition to answering these questions we also calculate, when possible, how much of the growth gap is a result of each of these factors in order to address which factors had the largest impact on the changes in Georgia's per capita income.

The analysis includes the following southern states for comparison: Alabama, Florida, Louisiana, North Carolina, South Carolina, and Tennessee. Nevada is also included in the analysis for comparison because it was also ranked low in the BEA state personal income report (48th).[2] We refer to these states as the comparison states.

The Bureau of Economic Analysis (BEA) publishes personal income and employment data at the state and local level. Per capita income is comprised of two components; total personal income and total population.[3] The BEA defines personal income as the total income individuals earn from all sources and includes the following components: wages and salaries; supplements to wages and salaries; proprietors' income; dividend, interest, and rents; an adjustment for residence, and; current transfer receipts.[4] Capital gains are not included. Midyear population is used to compute per capita income for each state and is based on U.S. Census Bureau estimates.

Before proceeding we calculate how much personal income would have had to increase in 2008 in order to maintain the Georgia to U.S. per capita income ratio for each base year. Table 3 shows this calculation for base years 1996 and 2000. Georgia's per capita income relative to the U.S. per capita income was 94.9 in 1996 and 93.8 percent in 2000. We estimate per capita income in 2008 for Georgia assuming these ratios had remained constant, and then calculate aggregate personal income using Georgia's actual population. The difference between the estimated and

[2] Michigan is ranked 49th, but because of the unique economic factors associated with that state, we do not use it as a comparison state.
[3] Per capita income is calculated using total midyear population; December's release.
[4] Source: http://www.bea.gov/newsreleases/regional/spi/sqpi_newsrelease.htm.

TABLE 3. 2008 GEORGIA TOTAL PERSONAL INCOME GAP ESTIMATE

	Base Year	
	1996	**2000**
Estimate Georgia's 2008 Per Capita Income		
Georgia/U.S. Per Capita Income	94.9%	93.8%
MULTIPLY: U.S. Per Capita Income (2008)	$39,751	$39,751
EQUALS: Georgia Estimated 2008 Per Capita Income	$37,729	$37,278
Estimate Georgia's Total Personal Income		
Georgia Estimated Per 2008 Capita Income	$37,729	$37,278
MULTIPLY: Georgia's Actual 2008 Population	9,685,744	9,685,744
EQUALS: Georgia Estimated Total Personal Income (1000's)	365,428,676	361,063,226
Georgia's Total Personal Income Growth Gap		
Georgia Estimated Total Personal Income (1000's)	$365,428,676	$361,063,226
LESS: Georgia's Actual Total Personal Income (1000's)	$329,070,761	$329,070,761
EQUALS: Georgia's 2008 Growth Gap (1000's)	$36,357,915	$31,992,465
Georgia's Growth Gap/Actual Personal Income	11.0%	9.7%

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System; and U.S. Census Bureau, Population Division, Population Estimates Program.

actual personal income is the growth gap. This aggregate personal income growth gap is $36.4 billion using 1996 as the base year and $32.0 billion using 2000. Thus, Georgia's 2008 actual personal income is 11.0 percent and 9.7 percent less than what it would have been if in 2008 Georgia's per capita income relative to the U.S. equaled the ratio in 1996 and 2000, respectively.

Table 3 identifies the growth gap in Georgia's total personal income. The next section dissects total personal income into its various components in order to identify what may be driving the personal income growth gap.

The report proceeds as follows; the next section documents the per capita income growth gap and the impact from each component of personal income on the gap. Section three addresses population issues followed by section four, which looks at the labor market and job quality growth. Finally, section five examines changes in the consumer price index (CPI) and housing price index (HPI).

II. Georgia's Personal Income: Defining the Growth Gap

This section explores the extent to which changes in the relative importance of the various components of personal income may have contribute to Georgia's per capita income growth gap. Personal income can be broken down into six components: wage and salary disbursements; supplements to wages and salaries; proprietors' income; contributions for government social insurance; adjustment for residence; dividend, interest, and rent, and; personal current transfer receipts. Table 4 illustrates how total personal income and personal income per capita is calculated from these components along with their corresponding definitions.

TABLE 4. DEFINING THE COMPONENTS OF PERSONAL INCOME

Personal Income Component	Definition
Wage and Salary Disbursement	Monetary remuneration of employees: corporate officers' salaries and bonuses, commissions, pay-in-kind, incentive payments, and tips. (Before deductions such as social security contributions and union dues)
Plus: Supplements to Wages and Salaries	This component of personal income consists of employer contributions for employee pension and insurance funds and of employer contributions for government social insurance.
Plus: Proprietors Income	Current-production income (including income in kind) of sole proprietorships and partnerships and of tax-exempt cooperatives.
Less: Contributions for Government Social Insurance	These contributions, which are subtracted in the calculation of personal income, consist of employee and self-employed contributions for government social insurance and employer contributions for government social insurance.
Plus: Adjustment for Residence	Net inflow of net labor earnings of inter-area commuters. The state and county estimates of personal income are presented by the state and county of residence of the income recipients. However, the source data for most of the components of wage and salary disbursements, supplements to wages and salaries, and contributions for government social insurance are on a place-of-work basis therefore, an adjustment is necessary.
Plus: Dividends, Interest, and Rent	Personal dividend income, personal interest income, and rental income of persons with capital consumption adjustment are sometimes referred to as "investment income" or "property income."
Plus: Personal Current Transfer Receipts	Payments to persons for which no current services are performed. It consists of payments to individuals and to nonprofit institutions by Federal, state, and local governments and by businesses.
Equals: Total Personal Income	Income that is received by all persons from all sources. Estimates of personal income are presented by the place of residence of the income recipients.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, State Annual Personal Income.

Components of Personal Income

Table 5 breaks down Georgia's total personal income and personal income per capita by component.

TABLE 5. GEORGIA 2008 PERSONAL INCOME COMPONENTS

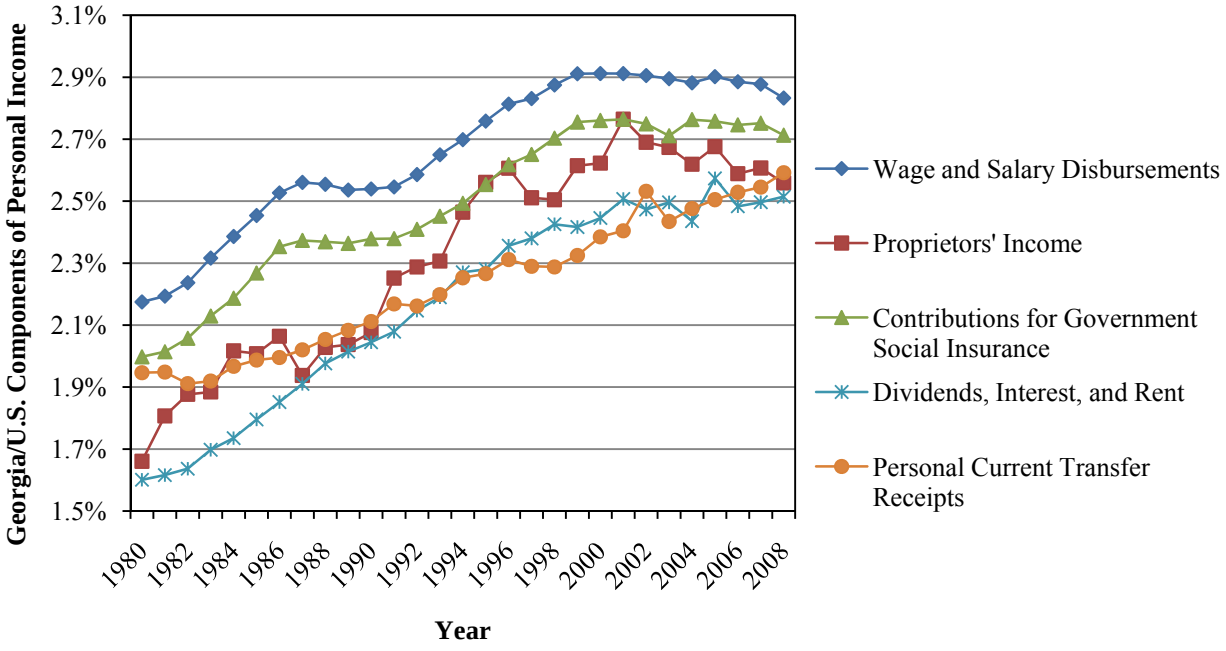
	(1,000's)	Per Capita
Wage and Salary Disbursements	$185,388,266	$19,140
Plus: Supplements to Wages and Salaries	$42,887,591	$4,428
Plus: Proprietors' Income	$27,373,056	$2,826
Less: Contributions for Government Social Insurance	$27,016,956	$2,789
Plus: Adjustment for Residence (Negative in Value)	-$906,657	-$94
Plus: Dividends, Interest, and Rent	$52,888,548	$5,460
Plus: Personal Current Transfer Receipts	$48,456,913	$5,003
Equals: Total Personal Income	$329,070,761	$33,975

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System.

As a share of the U.S. personal income, six of the seven income components increased between 1980 and about 2000. After 2000, Georgia's share of each component either remained constant or began to decline (Figure 5). Given that Georgia's population is growing faster than U.S., a flattening of Georgia's share of personal income components will lead to lower per capita income.

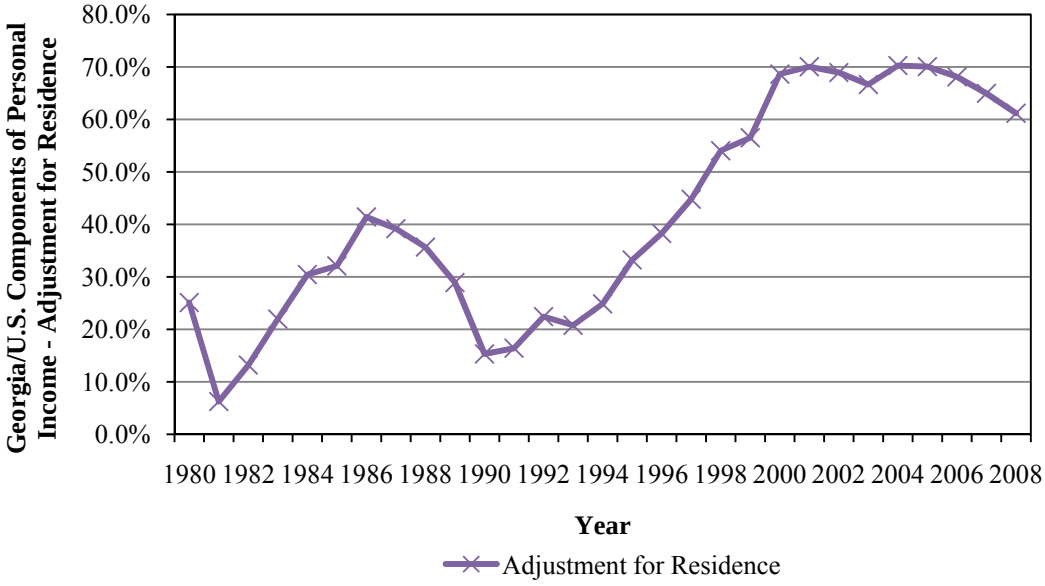
The adjustment for residence is the net inflow of net labor income of inter-area commuters and an increase in the Georgia to U.S. ratio indicates that there are more or higher earning non-residents entering Georgia to work but residing outside of the state. Because Georgia's share of the adjustment for residence component relative to the U.S. is so large, it is shown separately in Figure 6; this component increased during the 1990s, but flattened out between 2000 and 2006 and declined in recent years. Though the Georgia to U.S. ratio of adjustment for residence is large relative to the other components, it is a very small portion of total personal income for both the United States and Georgia leading to a small impact on per capita income growth.

FIGURE 5. – SHARE OF GEORGIA COMPONENTS OF PERSONAL INCOME TO U.S. COMPONENTS OF PERSONAL INCOME



Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System.

FIGURE 6. GEORGIA TO U.S. PERSONAL INCOME COMPONENTS—ADJUSTMENT FOR RESIDENCE



Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System.

TABLE 6. PER CAPITA INCOME COMPONENTS FOR THE U.S. AND GEORGIA

Georgia	**1996**	**2000**	**2008**
Wage and Salary Disbursements	$13,561	$17,075	$19,140
Plus: Supplements to Wages and Salaries	$2,791	$3,323	$4,428
Plus: Proprietors' Income	$1,893	$2,328	$2,826
Less: Contributions for Government Social Insurance	$1,934	$2,353	$2,789
Plus: Adjustment for Residence (Negative in Value)	-$47	-$88	-$94
Plus: Dividends, Interest, and Rent	$3,831	$4,565	$5,460
Plus: Personal Current Transfer Receipts	$2,850	$3,140	$5,003
Per Capita Income	*$22,945*	*$27,990*	*$33,975*
U.S.	**1996**	**2000**	**2008**
Wage and Salary Disbursements	$13,422	$17,103	$21,522
Plus: Supplements to Wages and Salaries	$2,830	$3,361	$4,923
Plus: Proprietors' Income	$2,022	$2,589	$3,519
Less: Contributions for Government Social Insurance	$2,057	$2,487	$3,275
Plus: Adjustment for Residence (Negative in Value)	-$3	-$4	-$5
Plus: Dividends, Interest, and Rent	$4,528	$5,444	$6,918
Plus: Personal Current Transfer Receipts	$3,433	$3,841	$6,149
Per Capita Income	*$24,175*	*$29,847*	*$39,751*

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System.

Table 6 shows the components of personal income per capita for 1996, 2000, and 2008 for both Georgia and the U.S. Growth between 2008 and each base year is then computed for each income component (Table 7).

TABLE 7. PER CAPITA INCOME GROWTH RATE (BASE YEAR TO 2008) BY INCOME COMPONENT

Georgia	1996	2000
Wage and Salary Disbursements	41.1%	12.1%
Plus: Supplements to Wages and Salaries	58.7%	33.3%
Plus: Proprietors' Income	49.3%	21.4%
Less: Contributions for Government Social Insurance	44.2%	18.5%
Plus: Adjustment for Residence (Negative in Value)	100.7%	5.9%
Plus: Dividends, Interest, and Rent	42.5%	19.6%
Plus: Personal Current Transfer Receipts	75.5%	59.3%
U.S.	**1996**	**2000**
Wage and Salary Disbursements	60.4%	25.8%
Plus: Supplements to Wages and Salaries	74.0%	46.5%
Plus: Proprietors' Income	74.0%	35.9%
Less: Contributions for Government Social Insurance	59.2%	31.7%
Plus: Adjustment for Residence (Negative in Value)	43.7%	29.8%
Plus: Dividends, Interest, and Rent	52.8%	27.1%
Plus: Personal Current Transfer Receipts	79.1%	60.1%

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System.

Comparing Georgia growth in per capita income to that of the U.S. by component we find that for both base years Georgia experienced lower growth in every income component except adjustment for residence. However, low growth does not indicate what effect, if any, that each income component may have on Georgia's per capita income growth gap.

Georgia's Components of Income and the Growth Gap

The growth gap for each income component is calculated in order to assess the impact each income component has on the total growth gap. The growth gap by component is calculated in the same manner as the total growth gap as illustrated in Table 3.

Table 8 shows the per capita income growth gap by component. Every component of per capita income contributes to Georgia's growth gap for both base years.

TABLE 8. GEORGIA PER CAPITA INCOME COMPONENT GROWTH GAP—2008

	-------Base-------	
	1996	**2000**
Per Capita Income Growth Gap		
Wage and Salary Disbursements	$2,606	$2,347
Plus: Supplements to Wages and Salaries	$427	$440
Plus: Proprietors' Income	$467	$338
Less: Contributions for Government Social Insurance	$290	$310
Plus: Adjustment for Residence (Negative in Value)	$27	-$21
Plus: Dividends, Interest, and Rent	$393	$340
Plus: Personal Current Transfer Receipts	$101	$25
Equals: Per Capita Income Growth Gap	$3,731	$3,158

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System; and U.S. Census Bureau, Population Division, Population Estimates Program.

The total per capita income growth gap calculated in Table 8 is not equal to the growth gap presented in Figures 3 and 4; $3,754 and $3,303 respectively. This is a result of how the component growth gaps are calculated. For example, we begin with actual per capita income in 2008 less actual wage and salary disbursements in 2008. Therefore, the difference between the per capita income growth gaps in Table 8 and Figures 3 and 4 results because when we consider a particular income component we hold all other income components at their actual 2008 levels.

Table 9 compares the shares of the growth gap accounted for by each per capita income component to its 2008 share of per capita personal income. This indicates the components that were relatively large contributors to the overall growth gap. If one component's share of the growth gap is larger than that component's share of per capita income, then that component is a relatively larger contributor to the total gap. We find that the largest contributors to Georgia's growth gap, for both base years, are wages and salary disbursements, and dividend, interest, and rent income (Table 9). Proprietors' income is a large contributor to the 1996-growth gap but less so for the 2000-growth gap.

TABLE 9. GEORGIA'S COMPONENTS OF PER CAPITA INCOME GROWTH GAP AS SHARE OF THE TOTAL GROWTH GAP

	--------2008--------		
	1996	**2000**	**2008***
Wage and Salary Disbursements	69.8%	74.3%	56.3%
Plus: Supplements to Wages and Salaries	11.4%	13.9%	13.0%
Plus: Proprietors' Income	12.5%	10.7%	8.3%
Less: Contributions for Government Social Insurance	7.8%	9.8%	8.2%
Plus: Adjustment for Residence (Negative in Value)	0.7%	-0.7%	-0.3%
Plus: Dividends, Interest, and Rent	10.5%	10.8%	16.1%
Plus: Personal Current Transfer Receipts	2.7%	0.8%	14.7%
Total Per Capita Income	*100.0%*	*100.0%*	*100.0%*

* Georgia's per capita income components as a share of total per capita income.

A less negative or positive share in the adjustment for residence in both base years compared to 2008 indicates that if Georgia remained at either the 1996 or 2000 ratio level in Table 8, the adjustment for residence would have reduced the 1996 and 2000-growth gap. Though the adjustment for residence does not contribute as much as the other income components, it does indicate that more income is leaving Georgia than coming into Georgia through inter-area commuters and that this component increased in relative importance.

We can now combine wages and salaries, supplements to wages and salaries, contributions for government social insurance, and adjustment for residence into a job related component. The job related component accounts for over 74 percent of Georgia's per capita growth gap in both base years (Table 10). Income from dividends, interest, and rent follow with about 20 percent of the growth gap for both years.

TABLE 10. GEORGIA PER CAPITA GROWTH GAP SUMMARY

	-------Base Year------		-------Base Year------	
	1996	**2000**	**1996**	**2000**
Job Related	$2,769	$2,456	74.2%	77.8%
Proprietors' Income	$467	$338	12.5%	10.7%
Dividends, Interest, and Rent	$393	$340	10.5%	10.8%
Personal Current Transfer Receipts	$101	$25	2.7%	0.8%
Per Capita Income Growth Gap	*$3,731*	*$3,158*	*100%*	*100%*

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System; and U.S. Census Bureau, Population Division, Population Estimates Program.

Per Capita Compensation Growth Gap

Table 10 shows that Georgia's job related income per capita grew slowly compared to the U.S. This section begins to examine the performance of Georgia's labor market. First we look at compensation per job and then per person. The per capita compensation growth gap is the portion of Georgia's total per capita income gap that is due strictly to slow growth in wage and salary income relative to the growth in population (Table 11).

We begin by calculating total wage and salary income to include: wage and salary disbursements, supplements to wage and salary income, adjustments for residence, and net contributions to government social insurance. Using this total along with total wage and salary employment we compute job related income per employee for Georgia and the U.S. In both base years U.S. per employee wage and salary income growth was greater than for Georgia. Assuming that Georgia per employee wage and salary income grew at the same rate as the U.S., we estimate Georgia's adjusted per employee wage and salary income. Job related personal income per employee growth gap is $252 for base year 1996, which increases to $999 for base year 2000. This increase in Georgia's job related personal income per employee growth gap indicates that Georgia's job related income growth has failed to keep up with the growing employee population and is a contributing factor to low per capita income growth.

TABLE 11. JOB RELATED PERSONAL INCOME PER JOB/PER CAPITA COMPENSATION GROWTH GAP*

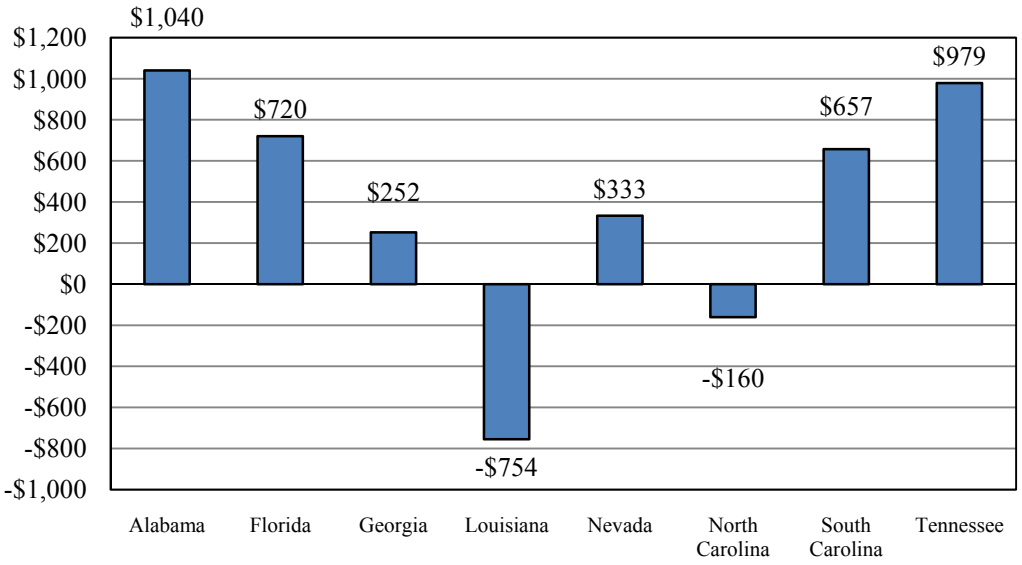
	1996	2000
Total Wage and Salary Income (1,000's)		
Georgia	$107,799,037	$147,781,975
U.S.	$3,822,992,000	$5,071,511,000
Total Wage and Salary Employment		
Georgia	3,743,589	4,171,583
U.S.	126,807,000	139,002,000
Job Related Personal Income Per Job		
Georgia	$28,796	$35,426
U.S.	$30,148	$36,485
Georgia Adjusted Personal Income per Job	$45,103	$45,850
Personal Income per Job Growth Gap	$252	$999
Per Capita Compensation Growth Gap	$116	$462

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System; and U.S. Census Bureau, Population Division, Population Estimates Program.
* 2007 total wage and salary employment used; 2008 total wage and salary employment is not available.

The final step is to transform the per employee income to per capita terms, thus producing the per capita compensation growth gap using Georgia's total wage and salary employment and population in 2007. Georgia's per capita compensation growth gap using base year 1996 is $116, and increases to $462 for base year 2000. The difference in the gap between base year 1996 and 2000 points to Georgia's wages and salaries failing to keep up with the growing population and is a contributing factor to the low per capita income growth in 2006 and to the increases in the growth gap in recent years.

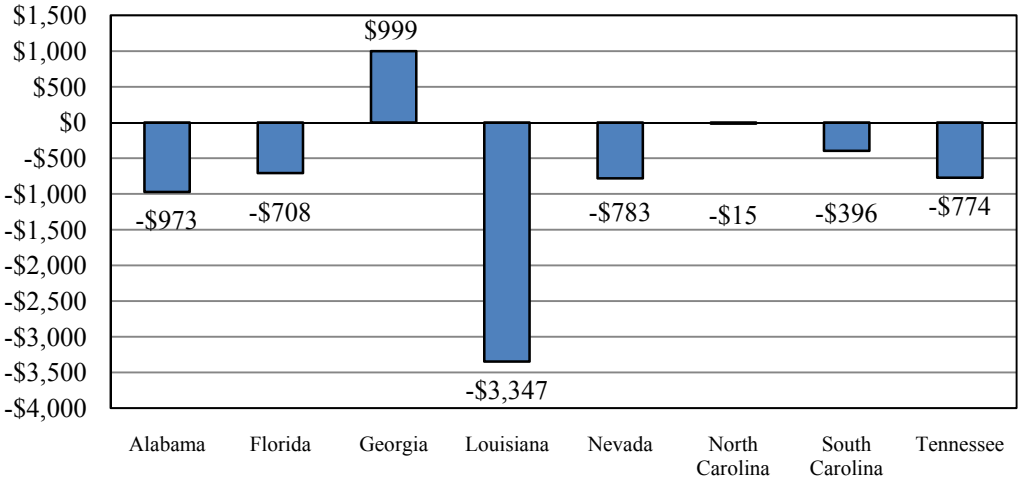
Figure 7 illustrates the job related growth gap for base year 1996 for selected states, primarily Georgia's southeastern neighbor states. States in the analysis with positive growth gaps indicates that job related income per job did not keep up with growth relative to that of the U.S. (Figure 7). Louisiana and North Carolina have negative growth gap indicating that job related income in those states grew at a higher rate than at the national level. Despite having a positive income growth gap, Georgia's gap is quite small relative to other states with a positive gap.

FIGURE 7. JOB RELATED INCOME GROWTH GAP—2007 OVER 1996 ($/PAYROLL JOB)*



Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System; and U.S. Census Bureau, Population Division, Population Estimates Program.
*2008 wage and salary employment data not available.

FIGURE 8. JOB RELATED INCOME GROWTH GAP—2007 OVER 2000 ($/PAYROLL JOB)*



Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System; and U.S. Census Bureau, Population Division, Population Estimates Program.
*2008 wage and salary employment data not available.

Figure 8 considers the job related income growth gap between 2000 and 2007; Georgia is the only state with a positive growth gap. This shows that Georgia's job related income per payroll job did not keep up with the level of growth occurring in the U.S. while in Southeastern states and Nevada job related income per job grew more than the U.S. on average.

Georgia's labor market conditions may contribute to the growth gap. Analysis of changes in Georgia's job quality will address whether low wage occupations have increased compared to high and medium wage occupations. Additionally, we will be able to identify whether Georgia has more low, medium, or high wage occupations. Finally, we address inflation in Georgia compared to other urban areas and the U.S. If a bundle of goods are cheaper in Atlanta compared to other urban areas one may argue that per capita income does not need to grow at high rates in order to maintain a similar standard of living compared to other parts of the country. The rest of the report will address each one of these factors beginning with changes in Georgia's population.

III. Changes in the Population

This section analyzes the changes in Georgia's population that may have had an impact on per capita income. We begin by looking at changes in Georgia's population per payroll job and what impact changes in either the population or employment may have had on this ratio. Increases in Georgia's non-working population will cause an increase in the population per payroll job, assuming that the increase in the non-working population is not met with an equal increase in Georgia's employment. Here, non-working population is defined as children under age 17 and the elderly (over 65 years of age). The employment component will change via alterations in the labor force participation; therefore we consider changes in labor force participation rate, followed by consideration of the unemployment rate. Second, we consider changes in the relative size of the youth population, separating them into two groups: under age 5 and age 5 to 17. Using some simplifying assumptions about the Georgia to U.S. youth population ratio, we are able to compute the effect of changes in the size of the youth population on the per capita income growth gap. Third, we look at Georgia's elderly population, specifically whether Georgia are losing high income elderly and gaining low income elderly, thereby leading to lower per capita income. Finally, we look at differential changes in the educational attainment of Georgia's population because educational attainment influences personal income. Lower educated individuals tend to earn lower income and if a larger portion of Georgia's population has low educational attainment, then personal income would tend to be lower, as would per capita income.

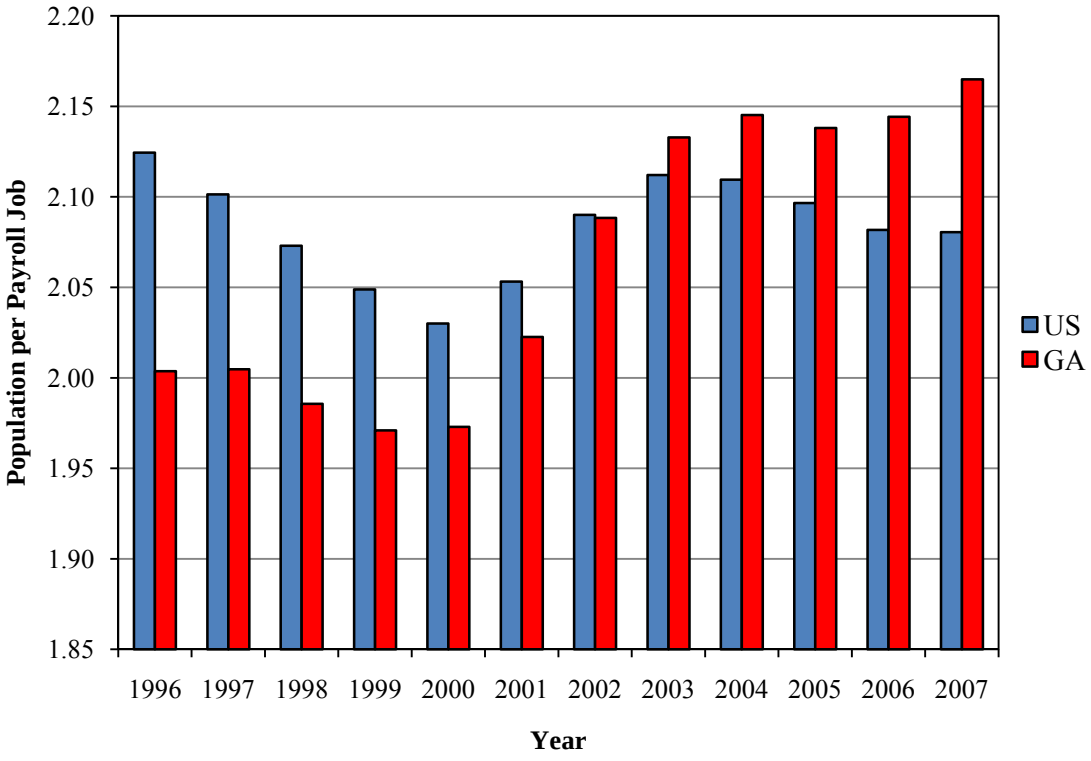
Population per Payroll Job

One contributing factor causing Georgia's declining per capita income relative to the U.S. could be faster growth in the population that does not contribute to personal income. We start by comparing the ratio of Georgia's population to payroll jobs, and then turn to an exploration of the components of the population that may be driving the change in the ratio, in particular the youth and elderly. We then consider changes in labor force participation and unemployment.

The population per payroll job is calculated from data collected from the Bureau of Economic Analysis website and measures the number of persons per wage and salary job in Georgia. Before 2002, the U.S. population per payroll job was greater than Georgia's, supporting the argument that Georgia's non-working population relative to the U.S. has pulled down per capita income in recent years (Figure 9). Between 1996 and 2007 Georgia's population per payroll job increased from 2.00 to 2.16 persons per payroll job. Georgia's population per payroll job has been increasing since 2000; 1.97 persons for every wage and salary employee to 2.16 persons for every wage and salary employee (Table 12). In 2003, the U.S. population per payroll begins to decrease while Georgia's population per payroll job continues to increase. This indicates that U.S. job growth has outpaced U.S. population growth while Georgia's job growth has not kept up with population growth. We then compute how much Georgia's population per payroll job would have had to be in 2007 to maintain the Georgia to U.S. population per payroll job ratio for each base year. This will help determine how much additional employed population Georgia would have had if it remained at base year levels.

Using the 2007 estimated population per payroll job from Table 13 we are able to estimate Georgia's employed population had Georgia's population per payroll job ratio remained at base year levels (Table 14). Georgia's additional employed population is the difference between Georgia's 2007 estimated employed for each base year and 2007 actual employed. Assuming that the additional employed population earns actual income per payroll job in 2007, we estimate Georgia's additional personal income and the 2007 estimated per capita income strictly from the population growth.

FIGURE 9. POPULATION PER PAYROLL JOB (1996-2007)



Source: Author's calculation; data from U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System; and U.S. Census Bureau, Population Division, Population Estimates Program.

TABLE 12. POPULATION PER PAYROLL JOB

	1996	2000	2007
Georgia	2.00	1.97	2.16
U.S.	2.12	2.03	2.08

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System; and U.S. Census Bureau, Population Division, Population Estimates Program.

TABLE 13. POPULATION PER PAYROLL JOB 2007—GEORGIA ESTIMATE

	----------Base Year--------		
	1996	2000	2007*
Georgia	1.96	2.02	2.16
U.S.	2.12	2.03	2.08

* Actual 2007 population per payroll job.

TABLE 14. GEORGIA'S ADDITIONAL PERSONAL INCOME DUE TO POPULATION GROWTH

	Base Year	
	1996	2000
2007 Actual Population	9,523,297	9,523,297
2007 Estimated Employed	4,853,174	4,709,846
LESS: 2007 Actual Employed	4,398,956	4,398,956
EQUALS: Georgia's Additional Employed	454,218	310,890
2007 Georgia Actual Income Per Job*	$44,851	
Georgia's Additional Personal Income	$20,372,196,593	$13,943,782,405
PLUS: 2007 Actual Personal Income	$319,018,383,000	$319,018,383,000
EQUALS: Georgia Adjusted Personal Income	$339,390,579,593	$332,962,165,405
Georgia 2007 Estimated Per Capita Income	$35,638	$34,963

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System; and U.S. Census Bureau, Population Division, Population Estimates Program.
*Assume that additional employed earn 2007 actual income per job.

If Georgia's population per payroll job rate had remained constant there would have been an additional 454,218 persons employed using base year 1996. Using base year 2000, Georgia's additional employed population would have been slightly less at 310,890. Based on the assumption that the additional employed population earn $44,851 annually, the result is additional personal income of $20.4 billion for base year 1996 and $13.9 billion for base year 2000. Georgia's base year 1996 per capita income is $35,638 and for base year 2000 per capita income is $34,963. The additional income for base year 1996 would reduce Georgia's 2007 per capita income growth gap from $3,151 to $2,139, or 32 percent. Switching to base year 2000 would reduce Georgia's 2007 per capita income growth gap by 46 percent from $2,713 to $1,464. Thus, the change in the number of people supported per payroll job has had a significant impact on Georgia's per capita income growth gap.

The increase in Georgia's population per job and per capita income growth gap may be directly attributed to high growth of any non-working groups. The non-working population is broken down into three groups; youth (age 17 and under), the elderly (age 65 and older), and working age individuals who are not working. The latter is reflected in the labor force participation rate, which measures the percent of the adult population (16 years of age and older) that is employed or actively seeking employment, and the unemployment rate. In what follows each component of the

non-working population is analyzed to assess its potential impact on the employment-population ratio.

Youth Population (Under 18 Years of Age)

Georgia's share of the youth population as a percentage of the U.S. share of youth population increased from 102.4 in 1996 to 108.2 percent in 2008 (Table 15). Georgia's youth population grew by 30.3 percent between 1996 and 2008, and by 17.0 percent since 2000; Nevada is the only comparison state with a higher growth rate for each period (Table 16). Table 15 shows that the youth population in each southeast state is growing fast relative to the U.S. and Table 16 shows that Georgia has the fastest growth in the South. Significant growth in Georgia's youth population relative to the U.S. contributes to the decrease in the population per job ratio.

The youth population can further be broken down into two age groups; under age 5 and 5 to 17. Among the comparison states in the analysis; Florida, Georgia, Nevada, and North Carolina, relative to the U.S., experienced significant increases in the number of children under the age of 5 between 1996 and 2008 (Table 17). Georgia's share of youth population under age 5 relative to the U.S. was 103.8 percent in 1996 and increased to 112.4 percent by 2008. Nevada is the only comparison state to have a higher share of youth population under the age of 5 relative to the U.S. than Georgia in each of the three years, 1996, 2000, and 2008.

TABLE 15. STATE SHARE OF YOUTH/U.S. SHARE OF YOUTH

	1996	2000	2008
Alabama	96.5%	98.3%	99.0%
Florida	90.8%	88.8%	89.8%
Georgia	102.4%	103.2%	108.2%
Louisiana	107.8%	106.2%	103.3%
Nevada	100.9%	99.8%	105.6%
North Carolina	96.4%	94.9%	100.0%
South Carolina	97.5%	97.9%	97.9%
Tennessee	95.3%	95.7%	97.8%

Source: U.S. Census Bureau, Population Division, Population Estimates Program.

TABLE 16. 2008 YOUTH POPULATION GROWTH (AGE 17 AND UNDER)

	---------Base Year--------	
	1996	**2000**
U.S.	7.0%	2.2%
Alabama	3.9%	0.0%
Florida	17.3%	9.6%
Georgia	*30.3%*	*17.0%*
Louisiana	-9.1%	-9.0%
Nevada	59.1%	29.4%
North Carolina	22.3%	14.1%
South Carolina	12.3%	5.5%
Tennessee	12.1%	5.7%

Source: U.S. Census Bureau, Population Division, Population Estimates Program.

TABLE 17. STATE SHARE OF YOUTH/U.S. SHARE OF YOUTH UNDER AGE 5

	1996	**2000**	**2008**
Alabama	94.9%	97.6%	98.0%
Florida	90.7%	86.8%	91.5%
Georgia	103.8%	106.7%	112.4%
Louisiana	102.4%	104.1%	103.6%
Nevada	107.7%	107.2%	112.7%
North Carolina	96.9%	98.3%	104.1%
South Carolina	94.3%	96.7%	99.5%
Tennessee	94.0%	96.7%	98.5%

Source: U.S. Census Bureau, Population Division, Population Estimates Program.

Though less pronounced similar results can be seen in children 5 to 17 years of age. Georgia's share of youth age 5 to 17 relative to the U.S. share increased from 101.8 percent in 1996 to 107.2 percent in 2008. The only state to have a greater state to U.S. ratio for children age 5 to 17 was Louisiana in 1996 and 2000. Alabama, Nevada, North Carolina, and Tennessee's 2008 share of youth population age 5 to 17 relative to the U.S. increased significantly. Louisiana and South Carolina are the only states that saw a decrease in the share of youth population age 5 to 17 relative to the U.S. share, although the decrease was slight.

Georgia's youth under age 5 relative to the U.S. grew more than did youth age 5 to 17 (Table 18). Nevada is the only state with higher growth than Georgia for both age groups for both periods. North Carolina's growth is similar to that of Georgia's and may be one explanation why North Carolina also ranked in the bottom ten states in per capita income growth between 2005 and 2006.

TABLE 18. 2008 YOUTH POPULATION GROWTH

	Under Age 5 ------Base Year------		Age 5 to 17 --------Base Year-------	
	1996	**2000**	**1996**	**2000**
U.S.	8.9%	9.5%	6.3%	-0.4%
Alabama	4.8%	5.1%	3.6%	-1.9%
Florida	19.9%	20.4%	16.4%	5.8%
Georgia	33.7%	24.0%	29.0%	14.4%
Louisiana	-3.9%	-1.8%	-10.9%	-11.5%
Nevada	59.3%	35.4%	59.1%	27.0%
North Carolina	26.8%	20.9%	20.5%	11.5%
South Carolina	18.2%	14.5%	10.1%	2.3%
Tennessee	14.7%	11.1%	11.1%	3.7%

Source: U.S. Census Bureau, Population Division, Population Estimates Program.

Large growth in Georgia's youth population relative to the U.S. will result in a decrease in Georgia's per capita income relative to the U.S. Among the states in the analysis we find that Georgia had the second highest growth in the youth population relative to the U.S.

Youth Population's Share of Georgia's Per Capita Income Growth Gap

It still remains to be seen how much of the per capita income growth gap may be explained strictly by changes in the number of youth. Georgia's youth age 17 and under grew more than for the U.S. in both periods (Table 19). To estimate the effect of this relatively greater increase in Georgia's youth population on the growth gap, we first estimate Georgia's 2008 youth population assuming that Georgia's share of the youth population grew at the same rate as the U.S. share of the youth population.

We then calculate Georgia's adjusted total population by subtracting actual youth population from Georgia's total population and add back the estimated youth population based on U.S. growth rates. Georgia's adjusted per capita income is then calculated using the adjusted population. Using the adjusted per capita income, the adjusted growth gap is calculated in a similar manner as before. The difference between the growth gap and the adjusted growth gap represents that part of the total growth gap that can be explained by changes in the youth population (Table 20).

Had Georgia's share of the youth population grown at the same rate as the U.S. share of the youth population, then 2008 per capita income would have been $34,582 using base year 1996 and $34,443 using base year 2000. The adjusted growth gap is equal to $607 or 16.2 percent of Georgia's 1996 growth gap ($3,754). Thus, the relatively higher growth in Georgia's share of the youth population accounts for a reduction in 2008 per capita income of $607 using 1996 as the base year. When we switch to 2000 as the base year, Georgia's 2008 adjusted per capita income would have been $34,443. Thus, the relatively larger growth in Georgia's youth population between 2000 and 2008 accounts for $468 of the per capita income growth gap, or 14.2 percent of Georgia's per capita income growth gap for base year 2000.

TABLE 19. 2008 YOUTH POPULATION GROWTH

	Under Age 5 ------Base Year------		Age 5 to 17 ------Base Year------	
	1996	**2000**	**1996**	**2000**
Georgia	33.7%	24.0%	29.0%	14.4%
U.S.	8.9%	9.5%	6.3%	-0.4%

TABLE 20. GEORGIA 2008 GROWTH GAP—YOUTH POPULATION

	--------Base Year--------	
	1996	**2000**
2008 Actual Population	9,685,744	9,685,744
LESS: Actual Youth	2,548,841	2,548,841
	7,136,903	7,136,903
PLUS: Estimated Youth	2,378,851	2,417,218
2008 Adjusted Population	9,515,754	9,554,121
2008 Adjusted Per Capita Income	$34,582	$34,443
Gap Explained by High Growth of Youth Population	$607	$468
% of Total Gap Explained by High Growth of Youth Population	16.2%	14.2%

Data Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System; and U.S. Census Bureau, Population Division, Population Estimates Program.

In 2007, there were an estimated total of 454,218 additional employment (missing workers) due to Georgia's population growth for base year 1996 (Table 14). Repeating the calculations in Table 20 for 2007 we find that for base year 1996 Georgia had 149,203 additional youth, which is 32.8 percent of the estimated missing workers. For base year 2000 Georgia's estimated additional employment was 310,890 and 110,919 additional youth, which is 35.7 percent of the estimated missing workers. The relatively greater growth in Georgia's share of the youth population explains about one-sixth of the growth gap for 1996 and approximately one-seventh of the gap for 2000. In other words, had the share of the youth population growth been more comparable to U.S. growth, Georgia's total growth gap would be about 83 percent of its current value using base year 1996 and about 86 percent using 2000.

Elderly Population (Age 65 and Over)

Georgia's elderly population (i.e., those 65 and over) as a percentage of the U.S. elderly population increased from about 2.2 to 2.5 percent between 1996 and 2008. Georgia's elderly population growth is similar in magnitude to Georgia's youth population growth; however, Georgia's elderly population growth since 2000 is larger than the youth population growth (Table 21).

TABLE 21. 2008 ELDERLY POPULATION GROWTH (AGE 65+)

	--------Base Year-------	
	1996	**2000**
U.S.	14.5%	10.8%
Alabama	14.3%	10.4%
Florida	19.1%	13.3%
Georgia	34.0%	24.4%
Louisiana	8.5%	4.4%
Nevada	61.5%	34.0%
North Carolina	23.7%	17.1%
South Carolina	31.8%	22.3%
Tennessee	22.6%	16.2%

Source: U.S. Census Bureau, Population Division, Population Estimates Program.

Again, Nevada is the only comparison state with larger elderly population growth for each of the two periods. With the exception of Alabama, all southeast states experienced growth in the elderly population; Georgia is the fastest growing state in the South in terms of elderly. The increase in Georgia's youth and elderly relative to the U.S. youth and elderly population will decrease the population per payroll job if Georgia's employed population does not increase.

We have shown that Georgia's elderly population relative to the U.S. increased between 1996 and 2008 and that Georgia's growth of the elderly was second only to Nevada and the fastest among the states in the South. There some evidence that Georgia is experiencing a significant amount of in-migrating elderly with low income and those elderly with high income are migrating out of Georgia having the effect of lowering Georgia's per capita income (Rork, 2006). In other

words; do elderly in-migrants have lower incomes than the elderly migrating out of Georgia, leading to lower personal income levels?

Migration data were collected from IPUMS-USA for 1990 and 2000. These data consists of mean and median income of migrants arriving and leaving Georgia. The Census asks whether the person has moved within the previous 5 years. Therefore, we consider elderly migration between 1985 and 1990 and between 1995 and 2000 in order to determine whether elderly migrants leaving Georgia have lower income levels than migrants arriving.

Elderly Migration In and Out of Georgia

Georgia has experienced an increase of 13,248 in number of in-migrants between 1985-90 and the 1995-2000, as reported in the 1990 and 2000 censuses. Among the comparison states, Georgia ranks fifth in mean income of elderly in-migrants (Table 22). Florida has significantly higher level of elderly migrants relative to the comparison states. If we compare the difference between migrants arriving in 1985-1990 to those arriving in the period 1995-2000, we find that Georgia ranks first, followed closely by Nevada (12,798).

TABLE 22. ELDERLY MIGRANTS ARRIVING

	---Migrants Arriving---		-------Mean Income[1]----		-----Median Income[1]----	
	1990	**2000**	**1990**	**2000**	**1990**	**2000**
Alabama	16,965	20,365	$17,909	$22,841	$10,080	$13,000
Florida	316,426	285,644	$24,166	$31,003	$15,891	$17,300
Georgia	30,812	44,060	$20,309	$23,221	$12,064	$12,600
Louisiana	9,957	12,222	$18,555	$22,706	$11,679	$12,000
Nevada	28,416	41,214	$21,784	$27,306	$14,276	$16,100
North Carolina	44,367	52,623	$22,374	$26,750	$14,564	$15,500
South Carolina	22,647	30,929	$24,447	$29,995	$14,582	$16,000
Tennessee	24,618	33,692	$17,080	$21,988	$11,096	$12,600

[1] In 1999 dollars.
Source: Ruggles et.al. (2008).

TABLE 23. ELDERLY MIGRANTS LEAVING

	----Migrants Leaving---		------Mean Income[1]-----		-----Median Income[1]---	
	1990	**2000**	**1990**	**2000**	**1990**	**2000**
Alabama	14,839	17,320	$15,353	$22,236	$9,139	$12,000
Florida	103,426	138,118	$18,381	$23,036	$12,056	$14,000
Georgia	19,795	28,289	$18,949	$25,005	$10,833	$14,200
Louisiana	14,106	14,739	$18,348	$22,265	$10,056	$12,100
Nevada	11,631	19,317	$17,596	$22,805	$11,650	$13,700
North Carolina	19,282	30,260	$18,922	$24,727	$11,290	$14,600
South Carolina	11,507	18,011	$19,483	$25,936	$10,966	$13,400
Tennessee	18,437	22,481	$17,538	$23,139	$10,779	$13,110

[1] In 1999 dollars.
Source: Ruggles et.al. (2008).

Georgia's elderly out-migrants ranked second for the period 1985-1990, behind Florida; for 1995-2000 Georgia was third among the comparison states, behind Florida and North Carolina (Table 23). Georgia's mean and median income of out-migrants ranked second in both census years among all the comparison states, with the exception of median income in 1990, where it ranked fifth. Between the 1985-1990 and 1995-2000 periods elderly migrants leaving Georgia increased by 8,494.

Comparing Georgia's in-migrants and out-migrants, we find that in both census years the number of migrants arriving is greater than the number leaving the state. This is also true for the remaining comparison states, with the exception of Louisiana. Switching to the difference between mean income of in-migrants and out-migrants, we find that Tennessee out-migrants have higher mean income levels in both census years. For 1995-2000, Georgia's elderly out-migrants had higher mean and median income levels than elderly migrants arriving in Georgia; out-migrant mean income was $1,784 greater than the mean income of in-migrants to Georgia. Similarly, median income for migrants leaving Georgia was $1,600 greater than for those arriving in Georgia. If this difference in mean and median income levels between in-migrants and out-migrants persists through 2006-08 it would give credence to the argument that elderly migration accounts for part of the lower per

capita income and contributing to the income growth gap. However, given the magnitude of elderly in-migration, the effect on the income growth gap is small.

Elderly Population Labor Participation

This section considers whether the elderly in Georgia are entering the labor force and gaining employment. Working and earning income contributes to Georgia's total personal income and increases per capita income calculations. Consequently, elderly in Georgia may not be pulling down per capita income.

Georgia's elderly labor force participation increased between 1990 and 2000, from 84,340 to 110,388 (Table 24). The number of elderly employed also saw a similar increase between 1990 and 2000, leading to the conclusion that most of the elderly entering the labor force are in fact gaining employment.

TABLE 24. ELDERLY EMPLOYMENT AND LABOR FORCE

	---------Employed--------		-----Unemployed-----		Elderly Labor Force	
	1990	**2000**	**1990**	**2000**	**1990**	**2000**
Alabama	52,670	63,240	2,918	3,340	55,588	66,580
Florida	237,435	316,219	15,843	22,204	253,278	338,423
Georgia	81,242	102,027	3,098	8,361	84,340	110,388
Louisiana	43,806	60,470	3,312	2,900	47,118	63,370
Nevada	19,294	32,859	1,226	2,591	20,520	35,450
North Carolina	98,073	128,107	3,606	11,826	101,679	139,933
South Carolina	44,943	60,416	1,824	4,946	46,767	65,362
Tennessee	66,876	88,693	2,712	5,286	69,588	93,979

Source: Ruggles et.al. (2008).

Georgia's elderly employment to elderly labor force ratio has decreased from 96.3 percent in 1990 to 92.4 percent in 2000, and unemployed has increased to 7.6 percent in 2000 from 3.7 percent in 1990 (Table 25). In 2000, Georgia had the second highest unemployed rate among the elderly; North Carolina ranked first with 8.5 percent elderly unemployment rate.

TABLE 25. ELDERLY EMPLOYED AND UNEMPLOYED/ELDERLY LABOR FORCE

	---------Employed--------		-----Unemployed-----	
	1990	**2000**	**1990**	**2000**
Alabama	94.8%	95.0%	5.2%	5.0%
Florida	93.7%	93.4%	6.3%	6.6%
Georgia	96.3%	92.4%	3.7%	7.6%
Louisiana	93.0%	95.4%	7.0%	4.6%
Nevada	94.0%	92.7%	6.0%	7.3%
North Carolina	96.5%	91.5%	3.5%	8.5%
South Carolina	96.1%	92.4%	3.9%	7.6%
Tennessee	96.1%	94.4%	3.9%	5.6%

Source: Ruggles et.al. (2008).

The number of Georgia's elderly who are not in the labor force grew 18.9 percent between 1990 and 2000 (Table 26). Compared to other Southern states and Nevada, Georgia ranks third behind Nevada and North Carolina. If those elderly not in the labor force earn no income at all, then a growing elderly population would tend to reduce per capita income.

TABLE 26. ELDERLY NOT IN THE LABOR FORCE

	1990	**2000**	**Growth**
Alabama	466,591	509,923	9.3%
Florida	2,109,907	2,468,237	17.0%
Georgia	568,629	676,014	18.9%
Louisiana	419,739	454,640	8.3%
Nevada	106,578	183,172	71.9%
North Carolina	698,910	832,147	19.1%
South Carolina	395,685	422,712	6.8%
Tennessee	544,488	612,155	12.4%

Source: Ruggles et.al. (2008).

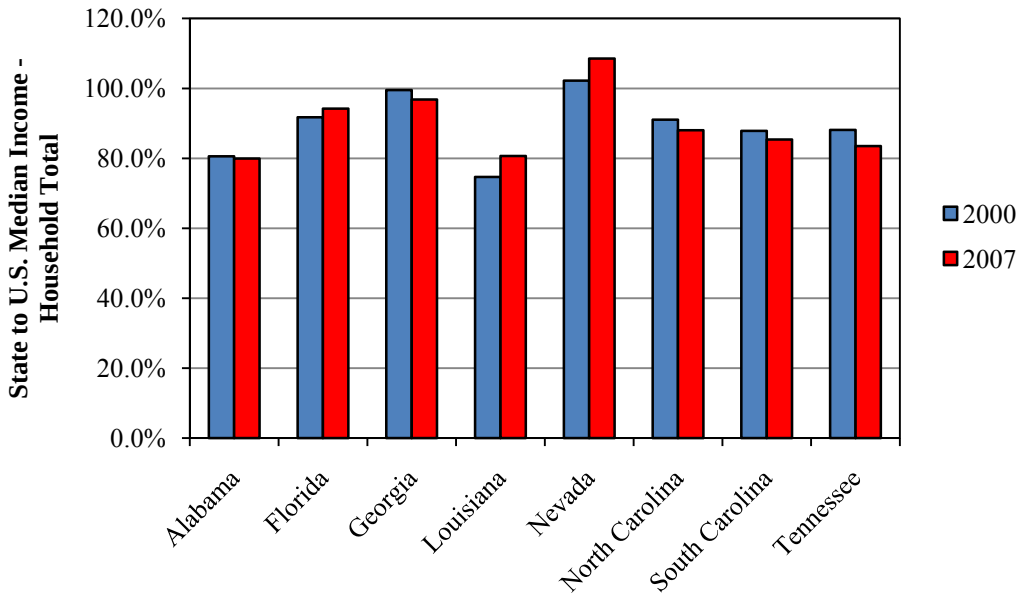
Including these data with the preceding section on elderly migration may lead one to conclude that the elderly are not contributing much total personal income to Georgia's per capita income calculation.

Median Income of the Elderly

On average, personal income of an individual increases from the time he or she enters the workforce until the person retires, either completely or partially. Once retired the individual lives off of retirement income and generally personal income decreases. Given decreasing personal income of the elderly, we should find that an increasing percentage of elderly households will pull down state per capita income.

We collect household median annual income data from the Census' American Community Survey for 2000 and 2007; average income is not available. Household median income was reported for 12 months preceding the interview month. These data are then inflation adjusted to represent January to December for each reference year. For instance, if the interview was conducted in March 2000 the household respondents will report income for March 1999 through February 2000. An adjustment is needed to inflate income to represent January through December 2000. Therefore, all median income data are in nominal terms and represents January through December income for each reference year. Between 2000 and 2007 household median income in Georgia decreased from 99.5 to 96.8 percent of U.S. household median income (Figure 10).

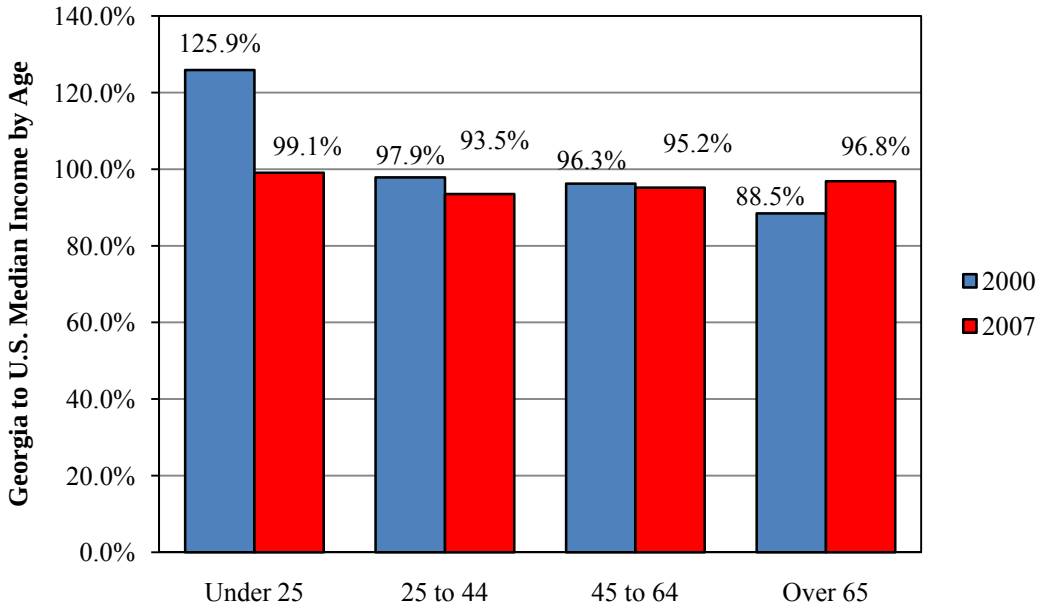
FIGURE 10. STATE TO U.S. MEDIAN INCOME—HOUSEHOLD TOTAL



Source: U.S. Census Bureau, 2000 & 2006 American Community Survey.

Florida, Louisiana, and Nevada are the only other states in the analysis that experienced an increase in the state to U.S. median income ratio for all households. It would be expected that a net increase in the percentage of elderly in Georgia would pull down median income. However, between 2000 and 2007 the ratio of Georgia to U.S. median income for households 65 years of age and older increased from 88.5 to 96.8 percent (Figure 11). Therefore, the elderly are not driving the decrease in the Georgia to U.S. ratio of household median income reported in Figure 10. In fact, as can be seen in Figure 11, the decrease in median income for all households is driven by individuals under age 25. The only state to have similar median income patterns over the same time period was North Carolina.

FIGURE 11. STATE TO U.S. MEDIAN INCOME BY AGE GROUP



Source: U.S. Census Bureau, 2000 & 2006 American Community Survey.

Labor Force Participation Rate

Georgia's labor force participation rate relative to that for the U.S. increased from 102.1 to 103.7 percent between 1996 and 2000 (Table 27). However, since 2000 Georgia's labor force participation rate decreased relative to the that for the U.S. The change in the ratio of Georgia's labor force participation rate to that for the U.S. between 1996 and 2008 was -0.1 percent and -1.7 percent for the period 2000 to 2006 (Table 28). The only comparison states to have positive increase in the ratio for both periods are Florida, Louisiana, and Nevada.

TABLE 27. STATE/U.S. LABOR FORCE PARTICIPATION RATE

	1996	2000	2008
Alabama	95.1%	95.1%	91.2%
Florida	93.1%	93.9%	96.8%
Georgia	102.1%	103.7%	102.0%
Louisiana	92.1%	92.0%	94.4%
Nevada	104.0%	104.0%	105.6%
North Carolina	101.3%	100.4%	98.2%
South Carolina	99.4%	97.9%	95.0%
Tennessee	99.6%	98.2%	95.8%

Source: U.S. Department of Labor, Bureau of Labor Statistics, Local Area Unemployment Statistics.

TABLE 28. 2008 STATE/U.S. LABOR FORCE PARTICIPATION RATE GROWTH

	1996	2000
Alabama	-4.0%	-4.1%
Florida	4.0%	3.1%
Georgia	-0.1%	-1.7%
Louisiana	2.5%	2.7%
Nevada	1.5%	1.5%
North Carolina	-3.1%	-2.3%
South Carolina	-4.4%	-3.0%
Tennessee	-3.8%	-2.5%

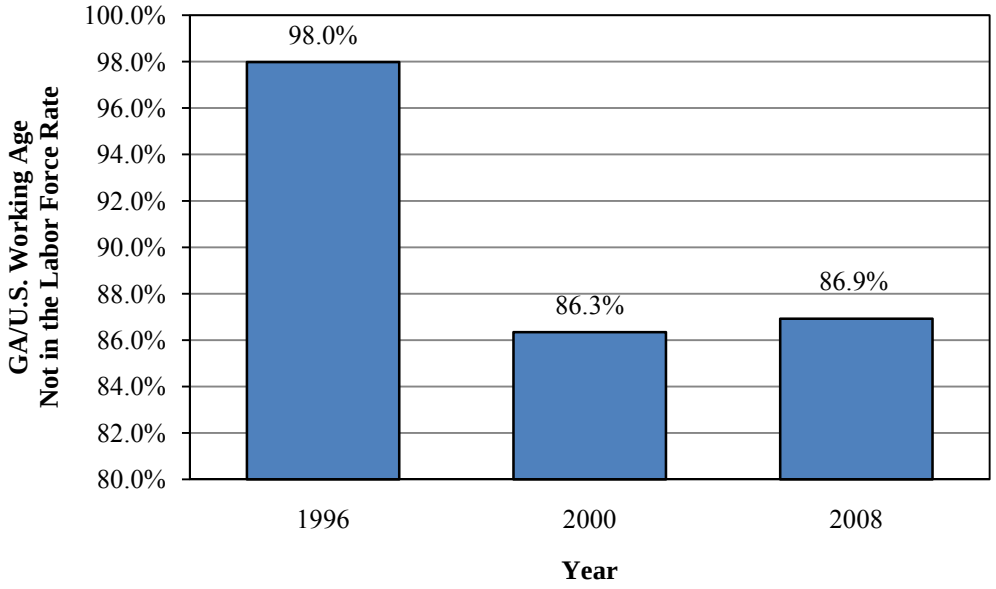
Source: U.S. Department of Labor, Bureau of Labor Statistics, Local Area Unemployment Statistics.

Despite Georgia's labor force participation decrease between 2000 and 2008; Georgia's 2008 labor force participation is larger relative to the U.S. It is not clear from looking at labor force participation that Georgia's employment would have increased relative to the increase in the non-working population. To consider this issue we look at individuals of working age not in the labor force in Georgia relative to the U.S.

Using IPUMS-CPS data we calculated the percentage of working age individuals not in the labor force.[5] As a ratio to the U.S., Georgia's percentage of the population that is of working age not in the labor force decreased between 1996 and 2000, 98.0 to 86.3 percent but increased to 86.9 percent in 2008 (Figure 12). We calculated the rate of individuals of working age not in the labor force for males and females. Though it is generally true that a higher percentage of women of working age are not in the labor force, we find that in recent years Georgia relative to the U.S. had an increase in the percentage of women of working age not in the labor force than men (Figure 12.1). Georgia's percentage of working age individuals not in the labor force relative to the U.S. decreased for both male and female between 1996 and 2000 but increased between 2000 and 2008. In 2000, Georgia to U.S. ratios of out of the labor force for males and females were nearly equal; however, in 2008 the ratio for females was significantly higher than that for males. The increase between 2000 and 2008, along with the disparity between male and female in the ratio, could be because fewer spouses of working age are not participating in the labor force.

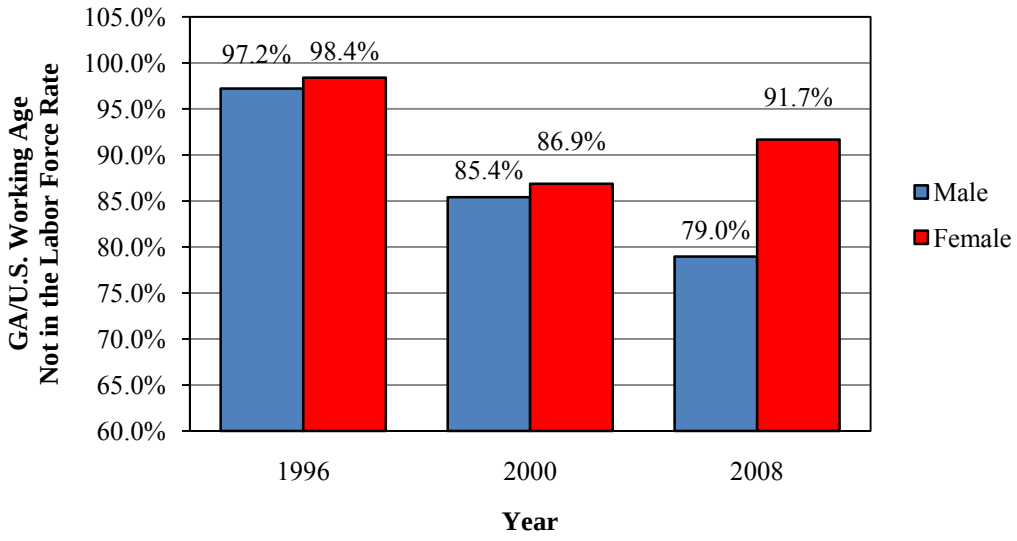
[5] Using person weights from the IPUMS-CPS data to calculate total population and labor force estimates.

FIGURE 12. GA/U.S. WORKING AGE NOT IN THE LABOR FORCE RATE



Source: King et. al. (2004).

FIGURE 12.1 GA/U.S. WORKING AGE NOT IN THE LABOR FORCE RATE BY SEX



Source: King et. al. (2004).

Illegal Immigrants Missing from the Labor Force

A potentially important component of labor missing from the labor force data are illegal immigrants. It is possible that illegal immigrants are working, but are not recorded in the labor data, the employment data, or income data.[6] It is not possible to determine whether the presence of illegal immigrants results in an increase or decrease in measured per capita income. It has been suggested that illegal immigrants have led to an understatement of personal income through growth in the underground economy. This results from not measuring the income and jobs – not to a lowering of average wage from illegal immigrants.

It has also been suggested that illegal immigrants push down wages. Previous research on the impact of Hispanic immigrants on Georgia's economy shows that an increase in the share of immigrants in manual labor markets will reduce the wages of native workers. However, this reduction is quite small and depends on the degree of substitutability of Hispanic workers for native workers. In professional occupations an increase in the share of Hispanic immigrants will actually increase the wages of native workers (Rioja et al. 2006). Therefore, it is not likely that Hispanic immigrants have led to an understatement of personal income through a reduction of wages and salaries of native workers.

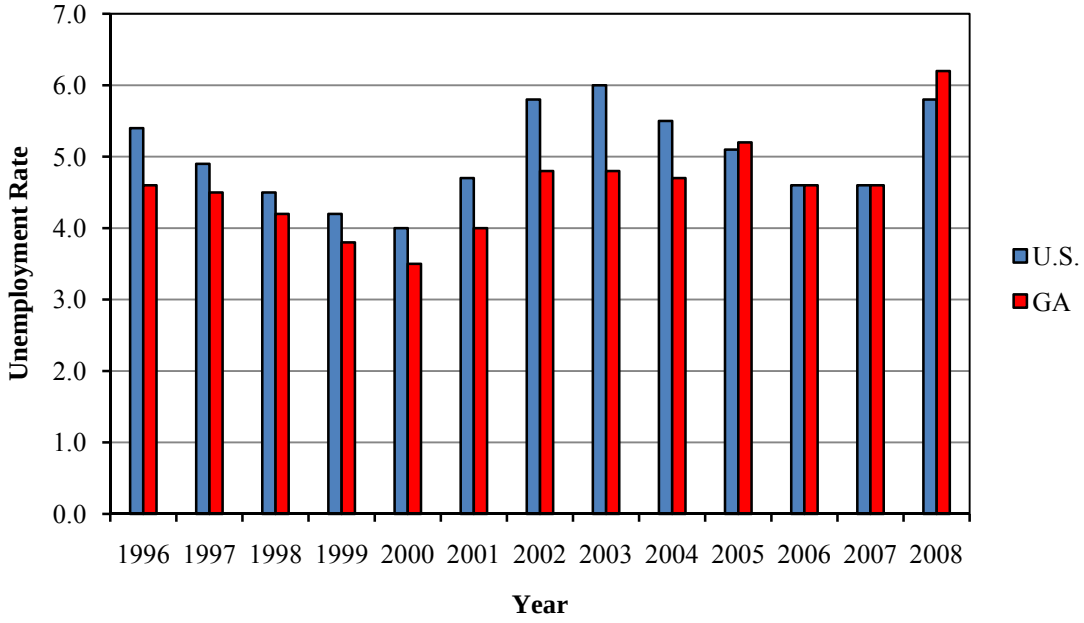
Thus far, no one component of the population per payroll job ratio explains all of the decrease in the Georgia-U.S. ratio of per capita income between 2000 and 2008. Decreases in Georgia's labor force participation over this time period would reduce the number of both employed and unemployed individuals and subsequently increasing the population per payroll job ratio. It may be that Georgia's unemployed increased leading to low total personal income and per capita income.

[6] The census calculates an estimate for undocumented persons in the population estimates.

Unemployment Rate

Georgia's overall unemployment rate decreased between 1996 and 2000 to 3.5 percent, but increased between 2000 and 2008 to 6.2 percent (Figure 13). The U.S. has similar patterns over this time period. However, the U.S. unemployment rate failed to increase to its 1996 levels in 2000 and is only slightly higher in 2008. A year-to-year look at unemployment rates indicates that both the U.S. and Georgia had a downward trend in unemployment since 1996, although the rates increased through 2003 from the 2001 recession, but decreased thereafter. High unemployment rates in 2008 are from the current recession beginning in 2007. From what we have shown thus far, it appears that the decrease in labor force participation among adults and increases in the youth and elderly populations are the primary causes of the increase in the population per payroll job ratio in recent years.

FIGURE 13. UNEMPLOYMENT RATE



Source: U.S. Department of Labor, Bureau of Labor Statistics, Current Population Survey and Local Area Unemployment Statistics.

Unemployment in North and South Carolina also decreased between 1996 and 2000; however they both had unemployment rates in 2006 that were above their 1996 rate (Table 29). Unlike Georgia, Tennessee, North and South Carolina; Alabama, Florida, Louisiana and Nevada's unemployment rates decreased each year up to 2006. All states and the U.S. follow similar trends over the 1996 to 2006 time period, including an increase in unemployment from the 2001 recession.

TABLE 29. UNEMPLOYMENT RATE

	1996	2000	2006	2008
Alabama	4.5	4.1	3.5	5.0
Florida	5.3	3.8	3.4	6.2
Georgia	4.6	3.5	4.6	6.2
Louisiana	6.3	5.0	3.9	4.6
Nevada	5.2	4.5	4.3	6.7
North Carolina	4.4	3.7	4.8	6.3
South Carolina	5.6	3.6	6.3	6.9
Tennessee	5.3	4.0	5.2	6.4

Source: U.S. Department of Labor, Bureau of Labor Statistics, Local Area Unemployment Statistics.

Decreases in Georgia's unemployment should lead to higher per capita income because more individuals are working. However, the growth of Georgia's labor force participation rate to the U.S. for both base years is negative, indicating that there may be some discouraged workers leaving the labor force. Discouraged workers leaving the labor force will decrease Georgia's per capita income and increase the income growth gap.

Educational Attainment of the Population

The U.S. Census Bureau collects data on educational attainment for non-institutional individuals over age 25 by state in the Current Population Survey and the American Community Survey. These data are utilized in order to examine if educational attainment is declining and potentially contributing to lower individual income. If a state's educational levels are declining or improving more slowly than nearby states, then total personal income would be expected to decline as well, leading to lower levels of per capita income. Educational attainment can be broken

down into two broad categories; individuals with a high school degree or more and individuals with a bachelor's degree or more. The Census data reports the total population that is 25 or older and the percentage of that population with at least a high school degree and a bachelor's degree or higher. The percents are used to calculate the portion of the population that falls into each category; however individuals with high school degrees or more also includes those with bachelor degrees. We correct for this by subtracting out those with a bachelor degree or higher. This results in three categories; the first is the population with at least a high school degree and includes individuals that have some college but no bachelor degree and academic and occupational associate degrees (high school plus). The second category includes only those with a bachelor degree or higher (bachelor degree or better) and the third category are those individuals with no high school diploma.

High School Degree or Better Excluding Bachelor's Degree

In 2006, Georgia is the only state among those analyzed to have a lower high school plus educational attainment (but no bachelor's degree) than the U.S. Moreover, high school educational attainment has been declining since 2003. Georgia had a higher high school plus educational attainment in 2000 than the U.S. but fell below the U.S. by 2006 (Table 30). High school plus educational attainment percentages are calculated by dividing the total number of high school plus educated (age 25 and older) by the total population age 25 or older for each state including the U.S.

TABLE 30. EDUCATIONAL ATTAINMENT—HIGH SCHOOL DEGREE OR BETTER BUT NO BACHELOR'S DEGREE

	1996	2000	2006
U.S.	58.1%	58.5%	57.5%
Alabama	58.3%	57.1%	61.3%
Florida	59.7%	61.2%	59.5%
Georgia	*56.5%*	*59.5%*	*56.1%*
Louisiana	57.6%	58.3%	58.5%
Nevada	65.5%	63.5%	64.8%
North Carolina	55.8%	56.0%	58.6%
South Carolina	58.1%	64.0%	60.5%
Tennessee	59.0%	57.9%	58.7%

Source: U.S. Census Bureau, American Community Survey and Current Population Survey.

In 2006, 56.1 percent of Georgia's population over age 25 had a high school degree (includes associate degrees and those who have some college education but did not graduate). Alabama, Louisiana, and North Carolina have a higher proportion of high school plus educated in 2006 than they did in both base years. Nevada and Tennessee had lower high school plus educational attainment in 2006 than 1996 but higher levels than in 2000. South Carolina had just the opposite with higher high school plus educational attainment in 2006 compared to 1996 but lower in 2006 compared to 2000. The only states with lower educational attainment at the high school plus level, comparing 2006 with both base years, are Florida and Georgia.

Georgians with a high school degree or better but no bachelor's degree relative to the U.S. increased between 1996 and 2000 but decreased to 97.6 percent thereafter. Georgia is the only state in the South, including Nevada, to fall below the U.S. in educational attainment of individuals with at least a high school degree but no bachelor's degree in 2006 (Table 31). Florida and Tennessee also decreased between 2000 and 2006 relative to the U.S. but they still outpace the U.S.

TABLE 31. STATE/U.S. EDUCATIONAL ATTAINMENT—HIGH SCHOOL DEGREE OR BETTER BUT NO BACHELOR'S DEGREE

	1996	2000	2006
Alabama	100.3%	97.6%	106.6%
Florida	102.8%	104.6%	103.5%
Georgia	97.2%	101.7%	97.6%
Louisiana	99.1%	99.7%	101.7%
Nevada	112.7%	108.5%	112.7%
North Carolina	96.0%	95.7%	102.1%
South Carolina	100.0%	109.4%	105.2%
Tennessee	101.5%	99.0%	102.1%

Source: U.S. Census Bureau, American Community Survey and Current Population Survey.

Bachelor's Degree or Better

Georgia's population age 25 or over with a bachelor's degree or higher has been increasing since 1996 and surpassed the national population with bachelor degree attainment in 2006 (28.1 percent) (Table 32). Alabama, Florida, Nevada, North and South Carolina have more individuals with bachelor degrees in 2006 compared to the base years. Tennessee is a special case which had higher educational attainment in 2006 compared to 1996 but same level compared with 2000. Georgia is the only state in the analysis to have a higher proportion of individuals with bachelor degrees than the U.S. in 2006.

TABLE 32. EDUCATIONAL ATTAINMENT—BACHELOR'S DEGREE OR MORE

	1996	2000	2006
U.S.	23.6%	25.6%	28.0%
Alabama	19.3%	20.4%	20.8%
Florida	21.7%	22.8%	27.2%
Georgia	*22.3%*	*23.1%*	*28.1%*
Louisiana	18.1%	22.5%	21.2%
Nevada	19.9%	19.3%	20.8%
North Carolina	22.6%	23.2%	25.6%
South Carolina	19.2%	19.0%	22.6%
Tennessee	17.1%	22.0%	22.0%

Source: U.S. Census Bureau, American Community Survey and Current Population Survey.

Georgia's educational attainment with a bachelor's degree or more relative to the U.S. increased significantly between 2000 and 2006 (Table 33). In fact, Georgia is the only state in the South to perform better than the U.S. in educational attainment of individuals 25 years of age and older with a bachelor's degree or better. It may be argued from this evidence that Georgia's per capita income should have increased over this time period because higher levels of education should be associate with higher earning potential.

TABLE 33. STATE/U.S. EDUCATIONAL ATTAINMENT— 'BACHELOR'S DEGREE OR MORE

	1996	2000	2006
Alabama	81.8%	79.7%	74.3%
Florida	91.9%	89.1%	97.1%
Georgia	94.5%	90.2%	100.4%
Louisiana	76.7%	87.9%	75.7%
Nevada	84.3%	75.4%	74.3%
North Carolina	95.8%	90.6%	91.4%
South Carolina	81.4%	74.2%	80.7%
Tennessee	72.5%	85.9%	78.6%

Source: U.S. Census Bureau, American Community Survey and Current Population Survey.

No High School Diploma

One question remains: what about the percent of the population over twenty-five that does not have a high school or a bachelor degree or more, i.e., those with no high school degree. Using the U.S. Census data, we calculate that portion of the population that does not have a high school degree. Georgia's population over twenty-five with no high school diploma is higher than the U.S. but decreases in each year of the analysis (Table 34). Louisiana and Nevada are the only states in the analysis that do not tend to decrease in each year of the analysis like Georgia.

TABLE 34. EDUCATIONAL ATTAINMENT— NO HIGH SCHOOL DIPLOMA

	1996	2000	2006
U.S.	18.3%	15.9%	14.5%
Alabama	22.4%	22.5%	17.9%
Florida	18.6%	16.0%	13.3%
Georgia	*21.2%*	*17.4%*	*15.8%*
Louisiana	24.3%	19.2%	20.3%
Nevada	14.6%	17.2%	14.4%
North Carolina	21.6%	20.8%	15.8%
South Carolina	22.7%	17.0%	16.9%
Tennessee	23.9%	20.1%	19.3%

Source: U.S. Census Bureau, American Community Survey and Current Population Survey.

Alabama and Nevada are the only states to have less individuals 25 years of age and older with no high school diploma relative to the U.S. in 2006 (Table 35). Georgia does have more individuals with no high school diploma relative to the U.S. between 1996 and 2006 yet there has not been much change between 2000 and 2006.

TABLE 35. STATE/U.S. EDUCATIONAL ATTAINMENT—NO HIGH SCHOOL DIPLOMA

	1996	2000	2006
Alabama	122.4%	141.5%	123.4%
Florida	101.6%	100.6%	91.7%
Georgia	115.8%	109.4%	109.0%
Louisiana	132.8%	120.8%	140.0%
Nevada	79.8%	108.2%	99.3%
North Carolina	118.0%	130.8%	109.0%
South Carolina	124.0%	106.9%	116.6%
Tennessee	130.6%	126.4%	133.1%

Source: U.S. Census Bureau, American Community Survey and Current Population Survey.

So far we do not find strong evidence that a declining Georgia's educational attainment has led to lower personal income levels. Increasing levels of bachelor degrees or more relative to the U.S. and declining high school degrees or better but no bachelor's degree relative to the U.S. for Georgia points toward the hypothesis that Georgians have higher education levels, and this should lead to higher personal income.

Summary

The analysis of the population indicates that each Georgia job supports more people in recent years and that this is driven by the non-working population. First, Georgia's youth, particularly school age children under age 5, increased significantly resulting in lower per capita income and contributed to the income growth gap. The youth population explains 16.2 percent of Georgia's 1996-base per capita income growth gap and 14.2 percent of the 2000-base growth gap. Second, Georgia has been experiencing a large amount of elderly in-migration compared to out-migrants. Further, the in-migrants on average have lower mean and median income, indicating

that those elderly moving into Georgia contribute less to personal income than those migrants moving out. Georgia's elderly unemployment increased from 3.6 percent to 7.6 percent between 1990 and 2000 and elderly not in the labor force grew 18.9 percent over the same period. The elderly data indicates that the elderly are not contributing much to Georgia's total personal income and may be a factor in the growing per capita income growth gap. Comparing Georgia's household median income by age to the U.S. we find elderly (over age 65) household median income increased between 2000 and 2007. Median income of households under age 25 and 25 to 44 declined over the same time period driving down overall household median income for Georgia. Increases in Georgia's non-working population, decreases in elderly in-migrant mean and median income relative to elderly out-migrants, and decreases in household median income of working age individuals relative to the U.S. will lead to lower per capita income and increase the population per payroll job.

Third, Georgia's labor force participation relative to the U.S. declined between 2008 and each base year. Though the Georgia to U.S. ratio of working age individuals not in the labor force decreased between 1996 and 2008, we found that females of working age not in the labor force increased significantly between 2000 and 2008 leading to lower growth in payroll jobs.

Fourth, Georgia's unemployment rate decreased between 1996 and 2000 only to increase through 2005. Relative to the U.S., Georgia's unemployment rate increased between 2004 and 2008 and may lead to lower personal income and contribute to the per capita income growth gap.

Finally, in order to address whether Georgia's educational attainment decreased leading to lower income we compare Georgia's educational attainment of the population 25 and older to the U.S. and other Southern states. We find that relative to the U.S., Georgians with at least a high school degree but no bachelor's increased between 1996 and 2000 but declined between 2000 and 2006. Individuals with a bachelor's degree or more increased significantly between 2000 and 2006 while those with no high school diploma decreased between 1996 and 2006. These data do not indicate that Georgia's educational attainment decreased, and thus have

not led to lower personal income. The increase in Georgians with a bachelor's degree or more would lead to higher income earning potential and higher personal income.

IV. Analysis of the Labor Market and Job Quality Growth

The purpose of this section is to analyze changes in Georgia's labor market and job quality in order to investigate whether job growth has tended to be concentrated in low wage occupations. Increasing low wage occupations may be a contributing factor to why Georgia's per capita income growth fell to 50th in the nation. Concentration of Georgia's employment in low wage occupations will lead to low levels of total personal income and per capita income. There are twenty-two major occupation groups published by the Bureau of Labor Statistics and we have divided them into three groups according to the average annual wage that each receives in the United States (Table 36).

This configuration for high, medium, and low wage occupations is maintained for each state for consistency. The rest of this section examines Georgia's employment growth in high, medium, and low wage occupations followed by Georgia's employment mix by occupation group. We then analyze the detail within each occupation group in order to determine what major occupation category may be driving changes in employment within each occupation group. Aggregate compensation growth is calculated in order to determine if low wage growth has contributed to low per capita income growth. Finally, we address speculation that the dot com bust of the 1990's has led to low growth in high wage occupations and then analyze the extent to which Georgia's job growth has kept up with population growth.

TABLE 36. UNITED STATES—HIGH, MEDIUM, AND LOW WAGE BREAKDOWN

	2008 U.S. Mean Annual Wage
High Wage Major Occupation Category	
Management	$100,310
Legal	92,270
Computer and Mathematical Science	74,500
Architecture and Engineering	71,430
Healthcare Practitioners and Technical	67,890
Business and Financial Operations	64,720
Life, Physical, and Social Science	64,280
Medium Wage Major Occupation Category	
Arts, Design, Entertainment, Sports, and Media	50,670
Education, Training, and Library	48,460
Construction and Extraction	42,350
Community and Social Services	41,790
Installation, Maintenance, and Repair	41,230
Protective Service	40,200
Sales and Related	36,080
Low Wage Major Occupation Category	
Production	32,320
Office and Administrative Support	32,220
Transportation and Material Moving	31,450
Healthcare Support	26,340
Building and Grounds Cleaning and Maintenance	24,370
Personal Care and Service	24,120
Farming, Fishing, and Forestry	23,560
Food Preparation and Serving Related	$20,220

Source: U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics (OES) Survey.

Employment Growth

Georgia's employment growth between 2000 and 2008 was 8.7 percent for high wage occupations and 8.3 percent for medium wage occupations (Table 37). Low-wage occupations only grew 2.0 percent since 2000. Georgia employment growth exceeded that of the U.S. for each of the three occupation groups. Nevada and Florida grew more than Georgia in the three wage categories while Louisiana,

TABLE 37. EMPLOYMENT GROWTH 2000 TO 2008

	Wage Group		
	High	**Medium**	**Low**
U.S.	6.2%	7.9%	1.2%
Alabama	-0.3%	7.2%	4.6%
Florida	7.8%	16.9%	8.0%
Georgia	8.7%	8.3%	2.0%
Louisiana	-0.7%	4.3%	1.3%
Nevada	30.6%	28.0%	19.6%
North Carolina	10.3%	11.2%	1.3%
South Carolina	5.8%	8.0%	2.8%
Tennessee	6.0%	6.8%	0.1%

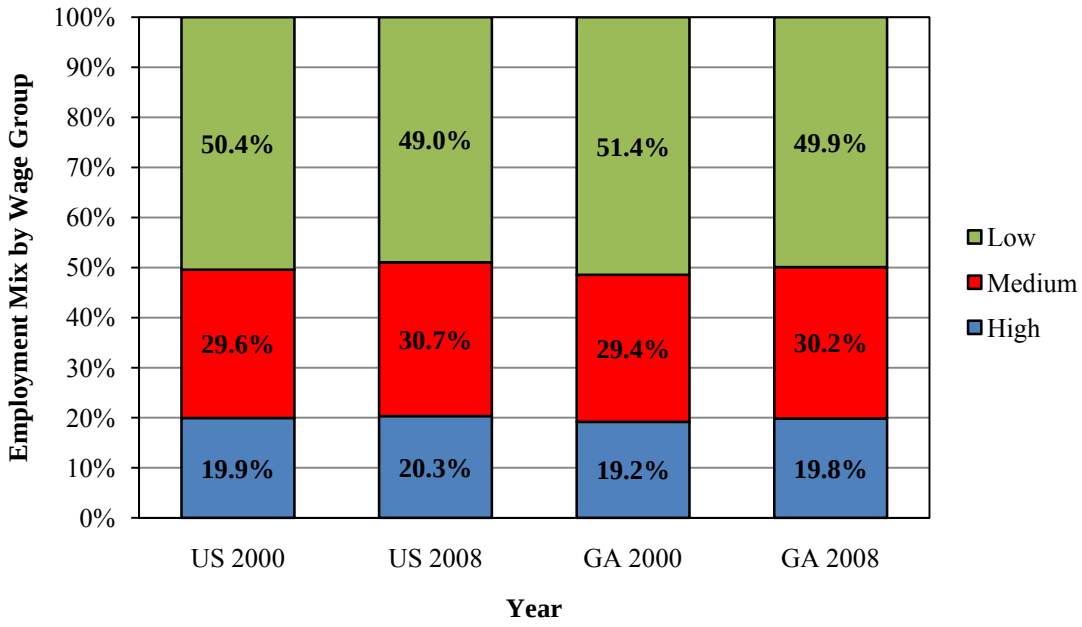
Source: U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics (OES) Survey (Employment and Wage Estimates).

South Carolina, and Tennessee grew less than Georgia in all three categories. Georgia's employment growth over this time period is concentrated in high and medium wage occupations and does not support the claim that job quality growth has been concentrated in low wage occupations leading to lower aggregate personal income.

Employment Mix

We look next at the job mix between 2000 and 2008 to see if there has been a significant change in the mix of employment in Georgia. We consider occupations by annual U.S. average wage level.

FIGURE 14. GEORGIA AND U.S. EMPLOYMENT MIX BY WAGE GROUP



Source: U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics (OES) Survey (Employment and Wage Estimates).

In Figure 14, low wage occupations are at the top of the bar followed by medium and high wage occupations on the bottom of each bar. Overall, there has been small change in Georgia's employment mix of low, medium, and high wage employment. Of those employed in Georgia, 49.9 percent are in low wage occupations in 2008 compared to 51.4 percent in 2000. Individuals employed in medium wage occupations have increased to 30.2 percent in 2008 from 29.4 in 2000 and high wage occupations have also slightly increased to 19.8 percent from 19.2 percent. Compared to the U.S., Georgia has a similar job mix with slightly more low wage jobs and less high wage jobs in 2008. This does not lead to the conclusion that growth in employment was concentrated in low wage occupations, thereby slowing the growth of Georgia's personal income. It may indicate the U.S. growth in medium wage jobs has slightly out stripped Georgia and requires analysis of average compensation growth over the 2000-2008 time period.

Georgia's Weighted Average Compensation Growth

Table 38 breaks down the various occupations within each wage group for Georgia. The occupations within each wage group are listed along with Georgia's mean annual wage and total employment for 2000 and 2008. We have calculated the growth in both employment and mean annual wage between 2000 and 2008. In no occupation category was the mean wage growth negative. High wage occupations lost jobs in Management, Computer and Mathematical, and Architecture and Engineering occupations over the time period. Medium wage occupations lost over 6 percent in Construction and Extraction occupation employment while low wage occupations lost 22.48 percent in Production and 1.24 percent in Farm, Fishing, and Forestry occupation employment.

If we assume that each individual occupation earns Georgia's mean wage for that occupation in both 2000 and 2008 we can calculate a weighted average compensation for each occupation category along with the corresponding growth over the time period (Table 39). We find that high and medium weighted average compensation increased 34.4 and 23.8 percent over the time period, respectively. The weighted average compensation of low wage occupations increased 20.1 percent. Using the same assumptions we find similar results for the U.S. (Table 40). High and medium wage occupation weighted average compensation growth was 34.7 and 27.3 percent, respectively, while low wage occupations had 21.2 percent growth.

TABLE 38. GEORGIA'S HIGH, MEDIUM, LOW WAGE OCCUPATION BREAKDOWN

	Employment		Mean Wage		Employment Growth	Mean Wage Growth
	2000	2008	2000	2008		
High Wage Occupations						
Management	256,870	224,740	$68,820	$95,680	-12.51%	39.03%
Legal	19,640	27,310	$59,450	$93,100	39.05%	56.60%
Computer and Mathematical	96,520	95,080	$56,310	$71,990	-1.49%	27.85%
Business and Financial Operations	136,070	181,930	$47,720	$65,680	33.70%	37.64%
Healthcare Practitioners and Technical	153,230	195,340	$44,810	$64,960	27.48%	44.97%
Architecture and Engineering	60,540	58,480	$50,690	$64,690	-3.40%	27.62%
Life, Physical, and Social Science	19,780	24,270	$44,130	$58,370	22.70%	32.27%
Medium Wage Occupations[1]						
Arts, Design, Entertainment, Sports, and Media	34,320	40,390	$33,920	$48,720	17.69%	43.63%
Education, Training, and Library	227,370	275,900	$35,490	$42,950	21.34%	21.02%
Installation, Maintenance, and Repair	168,020	179,990	$33,470	$39,690	7.12%	18.58%
Community and Social Services	27,350	42,900	$32,480	$39,370	56.86%	21.21%
Construction and Extraction	181,580	170,200	$29,390	$35,030	-6.27%	19.19%
Sales and Related	409,110	424,370	$27,550	$34,410	3.73%	24.90%
Protective Services	88,380	96,750	$25,300	$32,650	9.47%	29.05%
Low Wage Occupations						
Office and Administrative Support	691,960	731,300	$25,640	$31,410	5.69%	22.50%
Transportation and Material Moving	323,890	333,050	$25,880	$30,960	2.83%	19.63%
Production	407,220	315,680	$24,220	$28,970	-22.48%	19.61%
Personal Care and Service	60,010	77,600	$22,120	$25,100	29.31%	13.47%
Farming, Fishing, and Forestry	12,050	11,900	$19,070	$24,750	-1.24%	29.79%
Healthcare Support	69,240	82,650	$19,410	$24,440	19.37%	25.91%
Building and Grounds Cleaning and Maintenance	118,220	124,210	$17,730	$22,060	5.07%	24.42%
Food preparation and Serving Related	307,280	354,230	$15,420	$18,650	15.28%	20.95%

Source: U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics (OES) Survey.

[1]Note the growth at the bottom of the Medium Wage Occupation group (Sales and Related and Protective Services). If low wage occupations were defined as those earning less than $35,000 (mean wage) then a portion of medium wage employment gains would fall into the Low Wage Occupation group leading to the conclusion that low wage occupation in Georgia have increased and contributing to Georgia's per capita income growth gap.

TABLE 39. GEORGIA OCCUPATION AVERAGE COMPENSATION GROWTH

	2000	2008
High Wage Occupations		
Aggregate Salary	$41,581,593,300	$60,728,653,300
Total Employment	742,650	807,150
Weighted Average Compensation	$55,991	$75,238
Average Compensation Growth		34.4%
Medium Wage Occupations		
Aggregate Salary	$34,589,083,800	$46,374,047,100
Total Employment	1,136,130	1,230,500
Weighted Average Compensation	$30,445	$37,687
Average Compensation Growth		23.8%
Low Wage Occupations		
Aggregate Salary	$45,722,457,300	$56,035,323,700
Total Employment	1,989,870	2,030,620
Weighted Average Compensation	$22,978	$27,595
Average Compensation Growth		20.1%

Source: U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics (OES) Survey.

TABLE 40. U.S. OCCUPATION AVERAGE COMPENSATION GROWTH

	2000	2008
High Wage Occupations		
Aggregate Salary	$1,465,050,737,300	$2,097,225,126,900
Total Employment	25,881,170	27,494,970
Weighted Average Compensation	$56,607	$76,277
Average Compensation Growth		34.7%
Medium Wage Occupations		
Aggregate Salary	$1,252,532,579,400	$1,720,794,055,200
Total Employment	38,455,080	41,506,940
Weighted Average Compensation	$32,571	$41,458
Average Compensation Growth		27.3%
Low Wage Occupations		
Aggregate Salary	$1,549,572,837,600	$1,900,196,585,800
Total Employment	65,402,730	66,183,330
Weighted Average Compensation	$23,693	$28,711
Average Compensation Growth		21.2%

Source: U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics (OES) Survey.

TABLE 41. OCCUPATION WEIGHTED AVERAGE COMPENSATION GROWTH

	2000	2008	Growth
High Wage			
Georgia	$55,991	$75,238	34.4%
U.S.	$56,607	$76,277	34.7%
Medium Wage			
Georgia	$30,445	$37,687	23.8%
U.S.	$32,571	$41,458	27.3%
Low Wage			
Georgia	$22,978	$27,595	20.1%
U.S.	$23,693	$28,711	21.2%

Source: U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics (OES) Survey.

Table 41 indicates that average weighted salary growth is higher for the U.S. than for Georgia in each of the three occupation groups (calculations in Tables 39 and 40). Moreover, Georgia's labor growth rates are applied to a lower weighted 2000 base wage. For example, the difference between the weighted average compensation for the high wage occupations for the U.S. and Georgia in 2000 is $616. This difference grows to $1,039 in 2008. This might be caused by variations in employment at the specific occupation level. It might be another age issue; young accountants are paid less than more experienced accountants. Finally, if Georgia's employment grows faster than the U.S. in those occupations with lower wages, this might push relative per capita income down. Though weighted average compensation growth is positive in all three wage occupations it does appear that lack of growth in compensation of low wage occupations relative to medium and high wage occupations has contributed to low per capita income growth in Georgia. Low wage occupations make up 50 percent of Georgia's employment so that low wage compensation growth will have a significant impact on per capita income. If the weighted average compensation for Georgia had increased at the U.S. growth rate, Georgia would have had $1.98 billion in additional income. This would have increased per capita income to $34,180, and reduced the 2008 income growth gap by

$205 for both base years, or 5.4 percent of the growth gap for base year 1996 or 6.2 percent for base year 2000.

Dot Com Bust of the 1990's

There has been speculation that the dot com bust of the 1990s has led to low growth in high wage occupations. We use Georgia's computer and mathematical occupation employment relative to the U.S. as a proxy for the dot com industry. We find that between 2000 and 2008 computer and mathematical occupations declined and may be a result of the dot com bust and subsequent reduction in industry employment (Table 42). One might expect other states in the South to also experience a decline in this industry; however Georgia is the only state to experience a decline in this occupation group relative to the U.S.

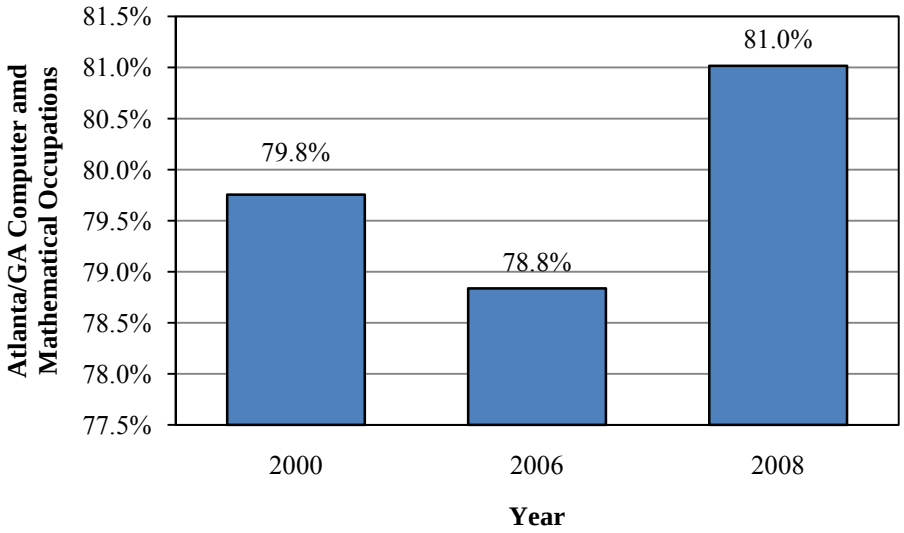
TABLE 42. STATE/U.S. COMPUTER AND MATHEMATICAL OCCUPATIONS

	2000	2008
Alabama	0.9%	1.0%
Florida	4.5%	4.7%
Georgia	3.3%	2.9%
Louisiana	0.5%	0.5%
Nevada	0.4%	0.4%
North Carolina	2.7%	2.8%
South Carolina	0.7%	0.9%
Tennessee	1.2%	1.2%

Source: U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics (OES) Survey.

A closer look at the Atlanta metropolitan area indicates that Atlanta may be driving the state's declining employment in the computer and mathematical occupations between 2000 and 2006 (Figure 15). Yet, since 2006 Atlanta's math and computer employment related to Georgia has increased from 78.8 percent in 2006 to 81.0 percent in 2008. This does not explain why Georgia's per capita income growth gap has continued to increase through 2008. Therefore it is not clear that low growth in high wage occupations has led to low per capita income.

FIGURE 15. ATLANTA TO GEORGIA COMPUTER AND MATHEMATICAL EMPLOYMENT



Source: U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics (OES) Survey.

Job Growth versus Population Growth

Without salary information and because employment in each wage category increased between 2000 and 2008; calculating the growth gap due to changes in Georgia's occupations by wage becomes impossible. We can look at the new jobs in Georgia and ascertain to what wage category they belong as a percent of Georgia's overall job growth. The number of new jobs is calculated by taking the difference in employment for each occupation in each category between 2000 and 2008 (Table 43). Overall, job growth in Georgia was 5.2 percent and for each category new jobs divided by 2000 total jobs equals the proportion of total job growth for each occupation category. Table 43 shows that Georgia's new jobs are normally distributed among the three wage categories with medium wage jobs having the highest proportion of Georgia's job growth at 2.4 percent.

TABLE 43. NEW JOBS BY WAGE CATEGORY

	High	Medium	Low	Total
Georgia				
2000	742,650	1,136,130	1,989,870	3,868,650
2008	807,150	1,230,500	2,030,620	4,068,270
New Jobs	64,500	94,370	40,750	199,620
Overall Job Growth				5.2%
Proportion of Job Growth	1.7%	2.4%	1.1%	
U.S.				
2000	25,881,170	38,455,080	65,402,730	129,738,980
2008	27,494,970	41,506,940	66,183,330	135,185,240
New Jobs	1,613,800	3,051,860	780,600	5,446,260
Overall Job Growth				4.2%
Proportion of Job Growth	1.2%	2.4%	0.6%	

Source: U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics (OES) Survey.

Compared to the U.S., Georgia has experienced more growth in high wage jobs; 1.7 percent of Georgia's overall job growth, while high wage jobs in the U.S. were only 1.2 percent of the overall job growth. New low wage jobs in Georgia are 1.1 percent of overall job growth compared to 0.6 percent for the U.S. High growth in Georgia's low wage occupations compared to the U.S. leads to lower growth in per capita income and supports the argument that Georgia's job growth is concentrated in low wage occupations.

We also find that the decrease in computer and mathematical occupations may be driven by the dot com bust in the 1990s and this loss is largely a result of changes in the Atlanta metropolitan area and not widespread across Georgia; leading to lower growth in high wage occupations than what Georgia may have had otherwise in 2006. The recovery of Atlanta's math and computer occupations in 2008 fails to explain why Georgia's per capita income growth gap has continued to grow through 2008.

Growth Gap Due to the Increase in the Population per Payroll Job

Per capita income is calculated from total personal income and total population. Table 12 (reprinted below) used the population per payroll job and

considered what extra income Georgia would have received by estimating additional employed individuals. Here we want to consider what Georgia's total population would have been if Georgia had the same growth in the population per payroll job as the U.S. This will allow us to calculate Georgia's per capita income growth gap due to Georgia's job growth failing to keep up with the population growth. We begin by recalling Table 12 describing how many people each job supports for Georgia and the U.S. In 2007, each job in Georgia supported 2.16 people, an increase from 2.00 and 1.97 in 1996 and 2000 respectively. The growth between each base year and 1996 is computed and using U.S. growth we are able to estimate Georgia's adjusted population for each base year (Table 44).

TABLE 12. POPULATION PER PAYROLL JOB

	1996	2000	2007
Georgia	2.00	1.97	2.16
U.S.	2.12	2.03	2.08

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System; and U.S. Census Bureau, Population Division, Population Estimates Program.

TABLE 44. 2007 POPULATION PER PAYROLL JOB GROWTH

	---------Base Year---------	
	1996	2000
2007 Population Per Job Growth		
Georgia	8.0%	9.7%
U.S.	-2.1%	2.5%
Georgia Adjusted Population Per Job	1.96	2.02
Georgia Adjusted Population	8,631,994	8,894,678
Per Capita Income	$36,958	$35,866
2007 Growth Gap Due to Increase in the Population Per Payroll Job	$3,459	$2,367

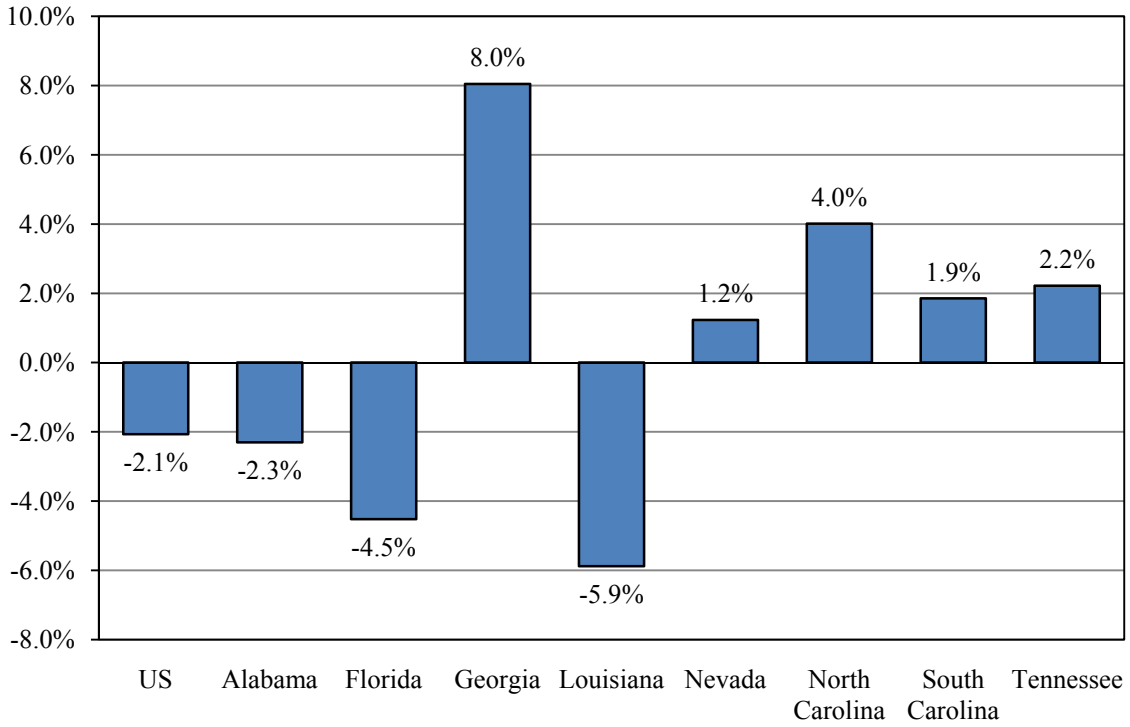
Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System; and U.S. Census Bureau, Population Division, Population Estimates Program.

We find that Georgia jobs support more people in 2007 than in 1996 and 2000 and if growth in population per payroll job in Georgia had been that of the U.S., Georgia would have higher per capita income in 2007. In fact, our estimates indicate that if Georgia had the same population per payroll job growth as that of the U.S. in 1996, per capita income would have been $36,958 and there would have been no growth gap. Georgia's base-1996 per capita income growth gap in 2007 is $3,151 and the growth gap resulting from the increase in the population per payroll job is $3,459 indicating that the growth gap would have been zero had Georgia's population per payroll job grown at the same rate as the U.S. Base-2000 per capita income would have been $35,866 resulting in a growth gap of $2,367 and is 87 percent of Georgia's 2007 per capita income growth gap ($2,713).

We have shown that increases in the youth population accounts for a large portion of the per capita income growth gap and is one reason why job growth appears to not be keeping up with Georgia's population growth. The additional youth population is part of the non-working population and thus contributes little or no income towards the calculation of per capita income. Although the Census accounts for illegal immigrants in their population estimates the BEA does not account for income earned in cash employment. Therefore it is important to note that Georgians working for cash-in-hand would fall into the underground economy and are not accounted for in the income data.

Georgia's percent change in the population per payroll job indicates that job growth has not kept up with population growth relative to the U.S., select southern states, and Nevada (Figure 16). The U.S., Alabama, Florida, and Louisiana have negative change in population per payroll job indicating that job growth outstripped population growth.

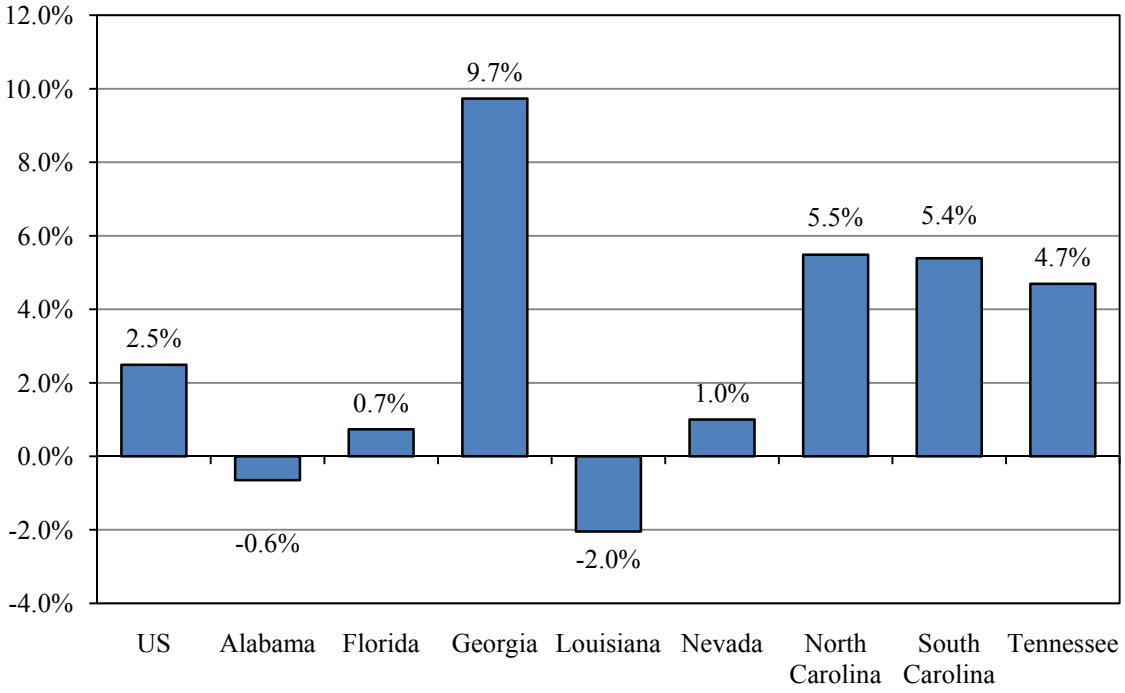
FIGURE 16. PERCENT CHANGE IN POPULATION PER PAYROLL JOB (1996-2008)



Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System; and U.S. Census Bureau, Population Division, Population Estimates Program.

Comparing data for 2000 and 2008 yields similar results that Georgia's population is still growing faster than job growth (Figure 17). In both Figures 16 and 17, Georgia is well above the next highest state, North Carolina.

FIGURE 17. PERCENT CHANGE IN POPULATION PER PAYROLL JOB (2000-2008)



Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System; and U.S. Census Bureau, Population Division, Population Estimates Program.

Overall, we found growth in high, medium, and low occupations was larger in Georgia relative to the U.S. but, the employment mix remained fairly stable between 2000 and 2008. Low wage occupations make up about 50 percent of all Georgia employment and low growth in average compensation of low wage occupations will have a significant impact on per capita income growth. Further, Georgia's low wage occupation growth is large relative to the U.S. contributing to lack of growth in personal income. We do not find much evidence that the dot com bust of the 1990's has lead to significant decreases in employment of high wage occupations through 2008.

Finally, among other states in the South including the U.S., Georgia has the highest growth in population per payroll job for both base years. This indicates that Georgia's job growth has not kept up with population growth. High

population per payroll job growth contributed to the decreasing trend in per capita income between 1996 and 2008 and increasing per capita growth gap.

V. Consumer and Housing Price Indices

Per capita income is reported in nominal dollars and does not adjust for differences in cost of living among states. It may be that the cost of living in Georgia is low relative to the rest of the South and the U.S. requiring lower income growth to maintain living standards. This may explain why wages in Georgia have grown at a slow pace relative to the rest of the U.S. To assess how Georgia's cost of living might explain part of the per capita income growth gap, consumer price data was gathered from the Bureau of Labor Statistics from 1996 through 2008. The Bureau of Labor Statistics does not have state level consumer price indices so we are limited to looking at five urban areas: U.S., South, South Size Class A, Atlanta, GA, and Miami-Ft. Lauderdale urban areas.

Table 45 illustrates that the South CPI growth falls short of U.S. growth and Atlanta CPI growth is significantly lower relative to the U.S. Atlanta's 2008 CPI growth for base year 1996 was only 86.9 percent of U.S. CPI growth and falls to 84.0 percent of U.S. CPI growth for base year 2000. Miami-Ft. Lauderdale area and South Size Class A saw significant growth and outpaced the U.S. in 2008 CPI growth for both base years. This leads to the conclusion that prices paid by consumers in Atlanta have not risen as much as other urban areas such as Miami-Ft. Lauderdale and South Size Class A areas or in the U.S. as a whole.[7]

TABLE 45. 2008 CPI GROWTH

	--------Base Year-------	
	1996	**2000**
U.S.	37.2%	25.0%
South	35.9%	24.8%
South Size Class A	38.2%	26.4%
Atlanta, GA	32.3%	21.0%
Miami-Ft. Lauderdale	44.5%	32.4%

Note: CPI data is not seasonally adjusted; base period: 1982-84=100.
Source: U.S. Department of Labor, Bureau of Labor Statistics, Consumer Price Index.

[7]Size Class A areas are those with more than 1.5 million people.

Given that Atlanta has the smallest CPI growth among all the urban areas it can be argued that Georgia has a lower cost-of-living and thus the differences in per capita income overstate the implied differences in living standards when comparing Georgia to the U.S. average. If an individual can purchase the same basket of goods in Atlanta with lower personal income because of lower prices, then Georgia per capita income does not need to grow as much as other areas to allow people to remain at their current standard of living.

Atlanta's CPI relative to the U.S. CPI decreased significantly between 2000 and 2008 supporting the argument that the CPI's basket of consumer goods is relatively cheaper in Atlanta than in the average U.S. urban city (Table 46). A closer look at the components of the CPI calculation, we find that differences in the overall CPI are being driven by housing costs (owner equivalent rent of primary residence) (Table 47). Since shelter is a relatively important component of consumer purchases (shelter's weight relative to all items is 32.8) we look at Atlanta and South Urban CPI less shelter relative to the U.S. CPI and we get a much different story (Table 48).[8]

TABLE 46. URBAN AREA/U.S. CONSUMER PRICE INDEX

	1996	2000	2008
South	97.9%	97.1%	96.9%
South Size Class A	97.3%	96.9%	98.0%
Atlanta	99.4%	99.1%	95.9%
Miami-Fort Lauderdale, FL	98.0%	97.4%	103.2%

Note: CPI data is not seasonally adjusted; base period: 1982-84=100.
Source: U.S. Department of Labor, Bureau of Labor Statistics, Consumer Price Index (webpage).

TABLE 47. AREA/U.S. OWNER'S EQUIVALENT RENT FOR PRIMARY RESIDENCE

	1996	2000	2008
South Urban	88.8%	88.2%	88.1%
South Size Class A	88.7%	88.7%	91.1%
Atlanta	92.3%	93.2%	84.9%
Miami-Fort Lauderdale	88.0%	85.3%	99.3%

Source: U.S. Department of Labor, Bureau of Labor Statistics, Consumer Price Index (data).

[8]U.S. Department of Labor, Bureau of Labor Statistics, Consumer Price Index (pdf)

TABLE 48. AREA/U.S. ALL ITEMS LESS SHELTER

	1996	2000	2008
South Urban	100.3%	99.8%	99.9%
South Size Class A	99.7%	99.3%	100.2%
Atlanta	100.3%	99.3%	100.1%
Miami-Fort Lauderdale	100.6%	101.1%	101.9%

Source: U.S. Department of Labor, Bureau of Labor Statistics, Consumer Price Index (data).

Tables 47 and 48 show that housing is cheaper in Atlanta compared to South Urban areas in general, including Miami-Fort Lauderdale. The price for a basket of good excluding shelter is more expensive in Atlanta than South Urban and almost equal to South Size Class A urban areas, however, the difference is not very significant. This makes it difficult to argue that salaries are not keeping up with prices of goods less shelter in Atlanta. When we include shelter, the basket of goods in Atlanta is relatively cheaper than other areas and may justify lower salary growth levels. Overall conclusion – cost of living rose more slowly in Atlanta thus the nominal gap in per capita income overstates the standard of living difference.

Housing Price Index

Housing price index (HPI) data was also collected to investigate how housing prices have changed from 1996 through 2008 from the Federal Housing Financing Agency (FHFA). The FHFA has quarterly data but does not report an annual index, therefore, we average the quarterly data to estimate the annual HPI. Georgia's HPI relative to the U.S. increased between 1996 and 2000 but decreased significantly between 2000 and 2008 indicating that average prices of housing in Georgia has been decreasing relative to the U.S. average (Table 49). Florida and Nevada's HPI relative to the U.S. had a marked increase over the same time period while all other states substantially decreased. Caution must be used when referencing the HPI because it is the weighted average price changes from repeated sales and refinancing of housing. Compared to the CPI, the HPI is highly volatile because of what it is measuring.

TABLE 49. STATE/U.S. HOUSING PRICE INDEX

	1996	2000	2008
Alabama	90.8%	85.5%	79.2%
Florida	90.2%	88.7%	107.8%
Georgia	97.9%	100.3%	88.3%
Louisiana	71.2%	69.2%	67.7%
Nevada	90.0%	81.2%	87.4%
North Carolina	103.7%	100.9%	92.3%
South Carolina	93.8%	93.4%	87.2%
Tennessee	96.6%	92.6%	83.4%

Source: Federal Housing Finance Agency.

Both the CPI and HPI support the argument that individuals in Georgia do not need as large an increase in salary to maintain current living standards as those in the rest of the U.S. However, it is imperative to note that the housing market is highly volatile and the CPI does not include housing prices but a rental equivalence measure. This eliminates the investment component of housing and measures the rental value of housing to owner-occupiers. Therefore, it is more accurate to consider the CPI rather than the HPI as measuring the average change in prices, and given the evidence presented Atlanta has a lower cost of living and requires lower income levels.

VI. Conclusion

This report explored why the growth of per capita personal income in Georgia over the past decade has been so slow. There are three dominating factors explaining Georgia's growing per capita income growth gap; Georgia's population growth has consistently outpaced job growth driven in part by growth in the population of school age children, slow growth in employee compensation, specifically job related income (Table 50), and compared to the U.S., Georgia's job growth was concentrated in low wage occupations. Other factors such as changes in the elderly population, illegal immigrants, educational attainment, changes in the employment mix, and the consumer price index may have an impact in the future but the data we presented do not suggest that they have had a significant impact on Georgia's per capita income growth in recent years.

TABLE 50. GEORGIA PER CAPITA GROWTH GAP SUMMARY

	------Base Year------		-------Base Year------	
	1996	**2000**	**1996**	**2000**
Job Related	$2,769	$2,456	74.2%	77.8%
Proprietors' Income	$467	$338	12.5%	10.7%
Dividends, Interest, and Rent	$393	$340	10.5%	10.8%
Personal Current Transfer Receipts	$101	$25	2.7%	0.8%
Per Capita Income Growth Gap	$3,731	$3,158	100%	100%
Compensation Growth	$116	$462	3.3%	16.3%
High Youth Population Growth	$607	$468	17.0%	16.5%
More People Supported Per Job	$3,459	$2,367	96.7%	83.7%
Per Capita Income Growth Gap	$3,575	$2,829	100%	100%

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System; and U.S. Census Bureau, Population Division, Population Estimates Program.

Increases in the youth population have contributed to a continual increase in Georgia's population per payroll job ratio. The youth population can explain about 14 percent of the growth gap for 1996 and about 17 percent of the growth gap for 2000. The second half of Table 50 indicates that the largest portion of the per capita income growth gap came from an overall increase in Georgia's population per payroll job (more people supported per job). This also includes the effects from higher youth population, and indicates that Georgia's job growth has not been keeping up with the

growth in the population resulting in an increase in the amount of people supported per job. Although we cannot estimate that part of Georgia's growth gap strictly from the elderly population, Georgia does have higher growth in elderly migrating into the state than leaving however those arriving have lower mean and median income than those elderly migrating out of Georgia in 2000 (see Rork, 2006). Further, the portion of those elderly entering the labor force that is unemployed increased between 1990 and 2000. This coupled with out-migrants having higher mean and median income may point to the elderly earning less personal income and contributing to lower per capita income for Georgia.

Educational attainment of individuals with a bachelor's degree or higher has been increasing in Georgia and would lead to higher overall wages than individuals with only a high school degree. The percent of those with high school degrees or better but no bachelor increased, while those with no high school diploma have decreased in Georgia relative to the U.S. We cannot conclude that Georgia's educational attainment has been declining leading to lower personal income.

Georgia's employment growth has been concentrated in high and medium wage occupation groups, however the employment mix has been fairly stable across all three wage-level occupation groups between 2000 and 2006. In fact, Georgia and the U.S. are quite similar in that a majority of people are in low wage occupations in both 2000 and 2008. We explored the computer and mathematical occupations as the contributing factor to the decline in high wage occupations in Georgia's employment mix. There is evidence that not only did the dot com bust of the 1990s affect the share of high wage jobs in Georgia but Atlanta may be driving the decline through 2006. Between 2000 and 2008 Atlanta's computer and mathematical employment picked up pace and does not help explain why Georgia's per capita income growth gap has continued to increase through 2008. When we considered new jobs in Georgia between 2000 and 2008 we found that Georgia's new jobs as a proportion of overall job growth was concentrated in medium wage occupations with the rest of the job growth being evenly distributed between high and low wage occupations. Compared to the U.S., Georgia's job growth has been concentrated in low wage occupations, leading to lower per capita income.

The CPI and HPI (housing price index) analysis, at first glance, leads to mixed results. Atlanta's CPI relative to the U.S. CPI indicates that for consumers in Georgia the increase in the price of goods and services was lower than for the nation. Increases in the HPI points to higher housing prices for individuals living in the area. Taken together the CPI and HPI argue for opposite income changes; a decreasing CPI allows for lower personal income while an increasing HPI demands higher personal income. Given this fact and when we consider that the CPI uses a rental equivalence measure to eliminate the investment effect on prices one should use the CPI as the benchmark for the changing prices in the south and Atlanta. When we subtract shelter, Atlanta's CPI relative to the U.S. is larger than most South Urban and Size Class A areas. Including shelter reduces the cost-of-living in Atlanta relative to the U.S. The present examination indicates that consumers in Atlanta have a lower cost of living and as such may not require as large an increase in personal income to maintain their current standard of living.

References

Federal Housing Finance Agency. "1st Quarter 2009 Manipulatable Data for the Census Divisions and U.S.; 1st Quarter 2009 Manipulatable Data for Individual State Index; 1975-2009." http://www.fhfa.gov (accessed August 2007, May 2008 and August 2009).

King, Miriam, Steven Ruggles, Trent Alexander, Donna Leicach, and Matthew Sobek (2004). "Integrated Public Use Microdata Series, Current Population Survey: Version 2.0. [Machine-Readable Database]." Minneapolis, MN: Minnesota Population Center [producer and distributor]. http://cps.ipums.org/cps.

Rioja, Felix, Neven Valev, and Amanda Wilske (2006). "The Demographics of Georgia IV: Hispanic Immigration Economic Policy Issues." Fiscal Research Center Report #12, Andrew Young School of Policy Studies, Georgia State University, March.

Rork, John (2006). "Geographic Breakdown of Georgia's Interstate Migration Patterns." Fiscal Research Center Policy Brief #137, Andrew Young School of Policy Studies, Georgia State University, December.

Ruggles, Steven, Matthew Sobek, Trent Alexander, Catherine A. Fitch, Ronald Goeken, Patricia Kelly Hall, Miriam King, and Chad Ronnander (2008). "Integrated Public Use Microdata Series: Version 4.0 [Machine-Readable Database]." Minneapolis, MN: Minnesota Population Center [producer and distributor]. http://usa.ipums.org/usa.

U.S. Census Bureau (2009). 2000 and 2007 Median Household Income in the Past 12 Months (in Inflation-Adjusted Dollars) by Age of Householder; *American Community Survey*. Generated by Sean Turner, using American Factfinder; <Factfinder.Census.Gov>. http://www.census.gov/acs/www (accessed March and August 2009).

_____, Housing and Household Economics Statistics Division, "Educational Attainment, 1996-2006." *American Community Survey* and *Current Population Survey*. http://www.census.gov/population/www/socdemo/educ-attn.html. (accessed August 2007 and July 2009).

_____, Population Division (2008). "Table 2: Annual Estimates of the Population by Age and Sex for Alabama, Florida, Georgia, Louisiana, Nevada, North Carolina, South Carolina, Tennessee, and the U.S.,: April 1, 2000 to July 1, 2006." Sc-Est2006-02-13. Released: May 1. http://census.gov/population/ www (accessed August 2007, May 2008, and July 2009).

U.S. Department of Commerce, Bureau of Economic Analysis. *State Annual Personal Income*. http://www.bea.gov/regional/spi.

_____. "Sa04 - Income and Employment Summary." *Regional Economic Information System*. http://www.bea.gov/regional/index (accessed October 2007, March 2008, and July 2009).

U.S. Department of Labor, Bureau of Labor Statistics. "Consumer Price Index." (data) http://www.bls.gov/cpi/ #data.

_____. "Consumer Price Index." (pdf) Chapter 17 of *BLS Handbook of Methods*. Updated 06/2007. http//www.bls. gov/opub/hom/pdf/homch17.pdf.

_____. "Consumer Price Index." (webpage) http://www.bls.gov/cpi/home.htm.

_____. *Local Area Unemployment Statistics*. http://www.bls.gov/lau (accessed August 2007 and July 2009).

_____. *Occupational Employment Statistics (OES) Survey*, 2000-2008; http://stats.bls.gov/oeshome.htm (accessed August 2007 and July 2009).

_____. "Employment and Wage Estimates." *Occupational Employment Statistics (OES) Survey*. http://stats.bls.gov/oes/oes_dl.htm.

About the Author

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