Research Notes

University System of Georgia Board of Regents — Office of Research and Policy Analysis

The Flow of Georgia's College-Educated Human Capital: Why It's Important for the State's Future

Why Study of Migration Matters to Georgia

The investment in obtaining a college degree is significant in several respects. It is significant for those students and parents who invest in the acquisition of such a credential. It is a significant investment by the institution of higher education where the degree is earned. It is a significant investment for residents who pay taxes supporting public colleges and universities or who make contributions to private institutions of higher learning. Moreover, these investments are also important for local communities as current research shows that cities with higher concentrations of baccalaureates tend to have better growth patterns and economic well-being, as well as being better at responding to downturns such as the current recession (Glaeser et al. 1995; Glaeser and Saiz 2003).

How competitive local communities are for business start-ups and new branch locations from existing companies depends upon an appropriately skilled workforce. The movement of persons with a college education is a key aspect of economic development in the U.S. as the transformation of the economy toward service and technology sectors continues to emphasize the abilities of communication involving information of one sort or another that a college education provides the graduate.

The long-running question of an area's "brain drain" or "brain gain" is a central part of these issues. It is important to know these demographic patterns of migration by level of completed education in order to understand where Georgia's future is likely to be regarding talented human capital. While most states lose some college-educated adults to other parts of the country, the issue is to what magnitude relative to those moving in, where do they go, where they come from, and why do they come or go?

Leading regional scientists and economists have shown that cities can benefit from a baccalaureate populace through consumption of goods and services, sharing ideas, or adaptation to new technologies (Glaeser and Saiz 2003). Thus, the role that Georgia's public policies may play in facilitating *how* the economic return to the investments in higher education is of primary importance. This includes examples such as enhancing the amenities valued by the college-educated (Atlanta's High Museum, Savannah's Telfair Museum of Art, or the River Center for the Performing Arts in Columbus, for example); the innovation of the production and

communication of progressive new ideas (e.g., CNN, Griffin Experiment Station, university centers); and the adaptation of new technologies (e.g., public WiFi zones; smart car subsidies; e-commerce initiatives, Tifton's Agriculture Innovation Center). As Georgia's population has grown over the past few decades, and as the Atlanta metropolitan area and other metropolitan centers have become concentrated population centers, the importance of the creation and flow of college-educated human capital--the characteristics which make persons more valuable in the workforce--to the state's economy and local community have become increasingly important to the state's future social prospects.

In a provocative essay in the March 2009 issue of *The Atlantic* magazine, Richard Florida addressed the question of how local areas will fare after the current recession in terms of population growth and decline. He makes a compelling argument that the "spatial fix" in where creative (college-educated) talent are likely to locate and spur the response to the post-recession economy is likely to be different than in the past. (The "spatial fix" is a term used by geographers to refer to land use, how businesses and residential areas are arrayed, and physical infrastructure such as transportation and so forth, and how they foster production, consumption, and economic innovation.) Florida sees the continued evolution of "talent-attracting innovation centers" (Charlotte-Atlanta, for instance) as the key geographic patterning of growth in the U.S. He argues that the current recession is an opportunity for creative change, a time for the reinvention of the nation's economy around these principles of spatially-connected communities where young, creative talent is densely populated, and where, unlike Thomas Friedman's argument in *The World is Flat* that place is irrelevant, being in the "right place" still matters:

> "The ability of different cities and regions to attract highly educated people---or human capital---has diverged…Thirty years ago, educational attainment was spread relatively uniformly throughout the country, but that's no longer the case. Cities like Seattle, San Francisco, Austin, Raleigh, and Boston now have two or three times the concentration of college graduates of Akron or Buffalo. Among people with postgraduate degrees, the disparities are wider still. The geographic sorting of people by ability and educational attainment, on this scale, is unprecedented." (2009: 50).

The "rate" at which cities or regions attract college-educated, creative talent---called talent clustering---is a key part of where population, capital, and wealth will flow in the post-recession economy, Florida asserts.

Although a healthy state economy will have workers at all levels of education, with high school diplomas, technical degrees, bachelor's degrees, and graduate/professional degrees, states with economies built around a larger proportion of bachelor's degrees and beyond will be more competitive and can sustain economic growth that is not predicated on population growth alone. Georgia has relied on population growth as the primary economic driver for the past few decades, awash in a flurry of real estate development and the growth of consumer-directed services, but that method of growth will ultimately plateau. Thus, the *manner* in which Georgia grows, rather than grow per se, will become an increasingly important element of social and economic policy in the state.

In this report, I examine the flow of human capital in the U.S. as it involves Georgians. The patterns of in- and out-migration in the state by important characteristics are compared, focusing on education, occupation, and earnings of adults age 25 and over. Since many writers have argued that the "creative capital" reflected in young, single, college-educated persons are important indicators of future growth of local communities, I use a special tabulation from the U.S. Census Bureau to analyze the flow of this group to and from Georgia and its metropolitan centers. Because demographers typically examine factors that "push" or "pull" adults to move, I also address the question of whether moving is related to higher earnings. This includes those who moved to Georgia and Georgians who relocated elsewhere. This income-selectivity question is further analyzed using data from the IRS on inter-annual movement for those filing income tax reports in the U.S. I conclude by consolidating these results into a perspective relevant for higher education and community development policy issues in Georgia.

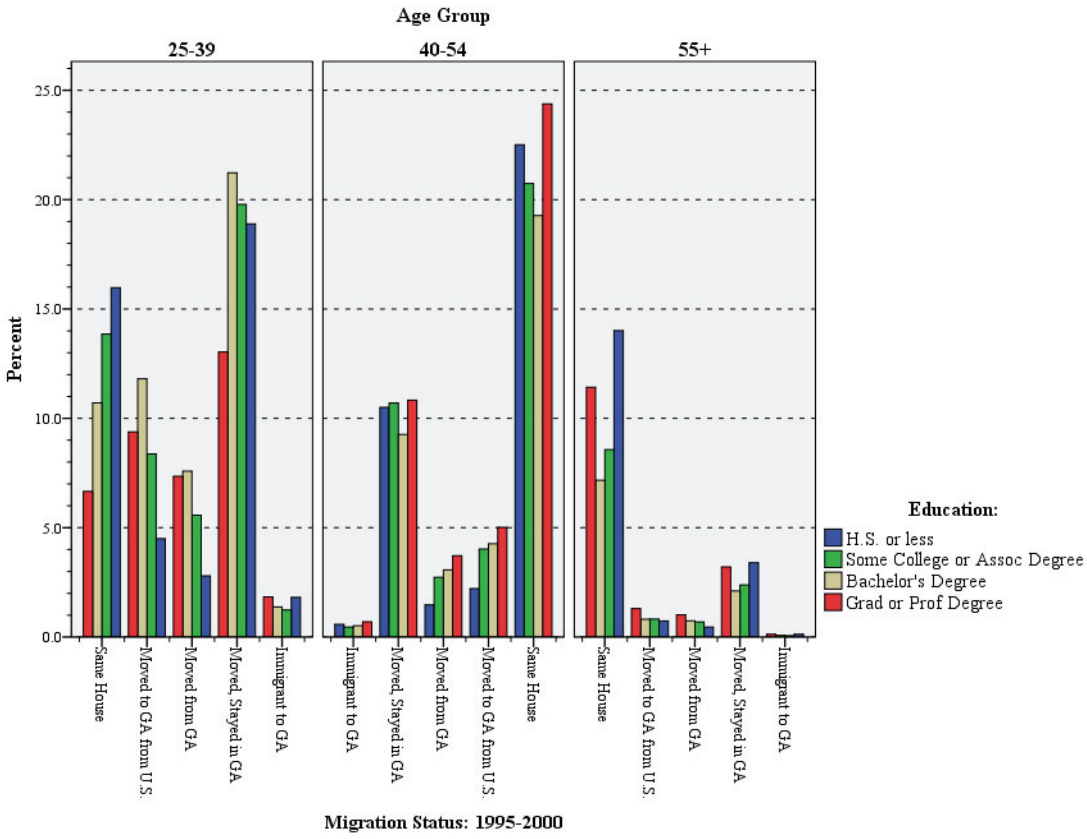
Georgia's Flow of Human Capital through Migration

There are two basic public sources for migration data on individuals in the U.S.: the Census Bureau's data collected using the long-form in each decennial census and summary data from the Internal Revenue Service based upon matched tax returns from one year to the next. In this section, I use data on individuals from the Public Use Microdata 5-Percent Sample (PUMS 5%) released by the Census Bureau. This file was restricted to those residing in Georgia during 2000. The Bureau asks where the household lived five years prior to the Census data collection (i.e., 1995). For those reporting to have lived in Georgia in 1995 but who lived elsewhere in 2000, I included those in the analysis as "former" Georgians. Based upon the residential status of these two years, 1995 and 2000, five categories of migration status were constructed, as follows: lived in the same house (non-movers); (foreign) immigrant to Georgia; moved elsewhere in Georgia; moved to Georgia from elsewhere in U.S.; or moved from Georgia to elsewhere.

Because age is known to shape the proclivity to move, these migration patterns for 1995-2000 are compared by age, income, and education. Figure 1 illustrates these patterns by education and major age group.

The greatest rates of migration occur in the youngest age group of 25-39 years. Proportionately, the highest rates of migration for this group were to move *within* Georgia. These were followed by "staying put," in the same house over this period. The third highest migration stream was movement *to* Georgia from elsewhere in the U.S. Immigrants to Georgia had the lowest rate of migration within this age group. Education played a significant role in these migration streams. Those individuals with a high school diploma or less (blue bars) tended to either stay in place (same house) or to move within the state. They are the least likely to move from Georgia. Finally, note that the countervailing flows of movement *to* and *from* Georgia result in a positive net flow into the state. This is the case with all four educational groups, but it is especially important to note that it is so for those with college degrees in this age group.

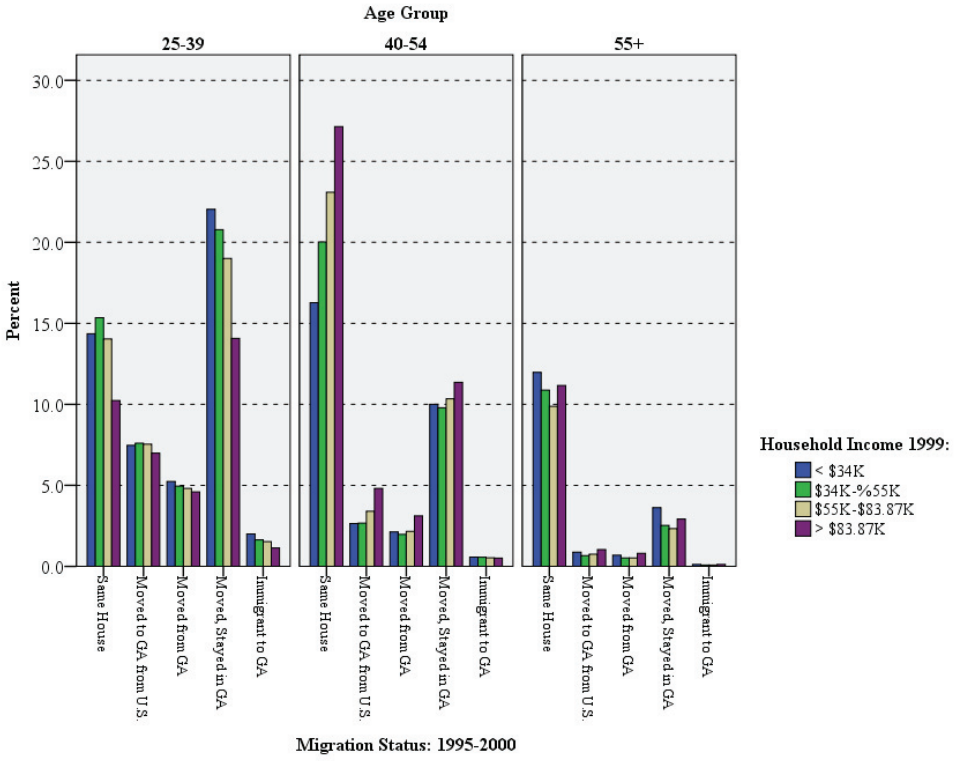
Figure 1. Migration Status by Age and Education: Georgia Residents and Former Residents, 1995-2000



The next age group, 40-54, reflects a typical period when mid-career shifts occur, but also when fewer overall moves are made. This chart bears out that Georgians also fit this expected pattern. The two largest migration patterns are, firstly, non-movers who stayed in the same house and, secondly, those who moved but only within the state. There is still the net gain of movers into Georgia versus those leaving by each education level. This age group tends to reflect those adults who have made personal investments in local communities, families, and careers. While the data are not available to demonstrate this interpretation, there is little doubt that the moves within the state reflect the long term patterns of increasing suburbanization in Georgia.

Turning to those entering pre-retirement to post-retirement, aged 55 and over, the migration patterns are very clear. Most Georgians stay in the same house where they lived five years ago. This is more pronounced at each end of the educational spectrum. Those with a high school diploma or with graduate or professional degrees are most likely to have stayed where they were. Those with some college or who completed a college degree were more likely to move. The highest rates of migration for this older age group clearly are moving somewhere else in Georgia, perhaps locating for the retirement phase of life. Movement from or into the state reflects a low rate among these comparisons. Perhaps disappointing for those in the retirement industry, only 2-3 percent of those in this age group locates from outside the state into Georgia. About the same rate of persons leaves the state for elsewhere.

Figure 2. Migration Status by Household Income and Age: Georgia Residents and Former Residents, 1995-2000



I now turn to household income as a human capital factor since it is correlated with education and contributes to better health and well-being. Figure 2 displays the same breakdown as in Figure 1. There are strikingly similar patterns to those obtained for education by age.

Among the youngest age group (25-39), the dominant pattern was to move within Georgia. However, the highest household income group was less likely to do so, as they tended to stay in the same house (i.e., non-movers). In contrast to the results for education, Georgia experiences a net loss of higher income households of this age group moving into the state versus those who leave as more lower-income households move into the state than do higher income households. These differences, nonetheless, are not large in size.

For the middle-aged group, income plays a part in staying in place over the years of 1995 to 2000. There is an increasing percentage of those in the 40 to 54 age group that stayed in place, and this is positively related to household income. Comparisons of these two groups during the middle aged group shows that Georgia experiences a net gain among those with the highest household incomes. Those adults reporting the highest incomes tended to both stay in the same house as well as move, whether it was within, to, or from, the state. There was no income differential among middle-aged international immigrants to Georgia.

In the 55-and-over age group, income played a much smaller role in migration. Only a few percentage points separate income groups within the five migration types in this age category.

Income thus also plays a noticeable role in the migration patterns for Georgia. This is not surprising as education and income tend to be positively related. However, income differentiates migration patterns during the early and middle-age groups but not during the oldest age group. It has different effects during the first two age categories. Higher income is linked to lower migration rates during the early career (ages 25-39) but higher rates during the mid-career (ages 40-54).

Table 1. Occupation by Migration Status: Georgians and Former Georgians, 1995 to 2000[a]

	Migration Status: 1995-2000:					
Occupation 2000:	Same House	Immigrant to GA	Moved, Stayed in GA	Moved to GA from U.S.	Moved from GA	Total
Management	43.1%	1.6%	30.5%	14.9%	9.8%	100.0% (28,723)
Professional & Related	43.6%	1.8%	30.6%	14.0%	10.1%	100.0% (38,143)
Service	46.6%	3.1%	34.1%	9.4%	6.8%	100.0% (24,423)
Sales	46.4%	1.4%	32.5%	11.7%	8.0%	100.0% (49,037)
Farming/Fishing/Forestry	55.1%	5.3%	27.3%	7.8%	4.6%	100.0% (1,409)
Construction	47.5%	3.5%	33.9%	9.1%	6.0%	100.0% (21,254)
Production & Transport	50.7%	2.6%	33.5%	8.3%	5.0%	100.0% (32,494)
Military	11.7%	8.6%	10.5%	42.1%	27.1%	100.0% (1,043)
Total	46.1%	2.2%	32.2%	11.6%	7.9%	100.0% (196,526)

[a] Source: Bureau of the Census, PUMS 2000 5% sample and author's calculations. Table N = 196,526.

While education and income are key elements of Georgia's human capital stock, other elements include those in key major occupational or industry groups. I used summary categories of the North American Industry Classification System (NAICS) classifications for occupation (in Table 1) and industry (in Table 2) and cross-classified them by migration status.

Reflecting the general migration patterns presented above, most occupations remained in the same house for the five years (see Table 1). The exception to this was the military which had personnel moving into (42 percent) and from (27 percent) Georgia, reflecting a net gain of military personnel through migration. Not surprisingly given their ties to the local land area, those in farming, fishing, or forestry exhibited the highest stability by not moving. Immigrants tended to work in Georgia's farming or service sectors more than others. (The military "immigrants" are mostly those returning from international deployments.) Almost one-third or so "churned" through Georgia by moving from one part of the state to another, a statistic that appears fairly stable across all of the occupational groups (from 27 percent to 34 percent, except the military). Finally, in the comparison of net flows, Georgia experienced a gain in each occupational group, averaging about three percent net inflow.

Table 2. Industry by Migration Status: Georgians and Former Georgians, 1995-2000[a]

Industry 2000:	Inter-State Migrant Status (1995-2000): Same House	Immigrant to GA	Moved, Stayed in GA	Moved to GA from U.S.	Moved from GA	Total
Ag./Fishing/Forestry	61.9%	2.9%	25.0%	6.3%	3.8%	100.0% (2,760)
Mining	63.5%	1.1%	26.1%	4.3%	5.0%	100.0% (460)
Construction	44.6%	3.9%	36.0%	9.1%	6.4%	100.0% (15,061)
Manufacturing	50.1%	2.4%	32.0%	9.5%	6.1%	100.0% (31,703)
Whsle/Retail Trade	45.2%	1.8%	33.2%	11.9%	7.9%	100.0% (28,304)
Transportation & Utilities	49.6%	1.3%	32.3%	10.4%	6.4%	100.0% (12,008)
Information	37.0%	2.1%	33.5%	16.8%	10.6%	100.0% (6,494)
Financial	42.4%	1.2%	32.8%	13.7%	10.0%	100.0% (8,795)
Real Estate	42.7%	1.1%	35.4%	12.0%	8.8%	100.0% (3,746)
Professional & Business Services	38.0%	2.2%	32.5%	16.3%	11.0%	100.0% (10,684)
Education & Health Services	50.2%	1.2%	30.5%	10.5%	7.6%	100.0% (36,067)
Leisure & Hospitality	37.3%	3.8%	35.5%	13.3%	10.1%	100.0% (10,667)
Other Services	45.4%	2.7%	33.2%	11.3%	7.5%	100.0% (16,336)
Public Administration	52.8%	1.6%	30.8%	9.0%	5.8%	100.0% (10,698)
Military	9.9%	10.1%	10.8%	42.5%	26.7%	100.0% (2,743)
Total	46.1%	2.2%	32.2%	11.6%	7.9%	100.0% (196,526)

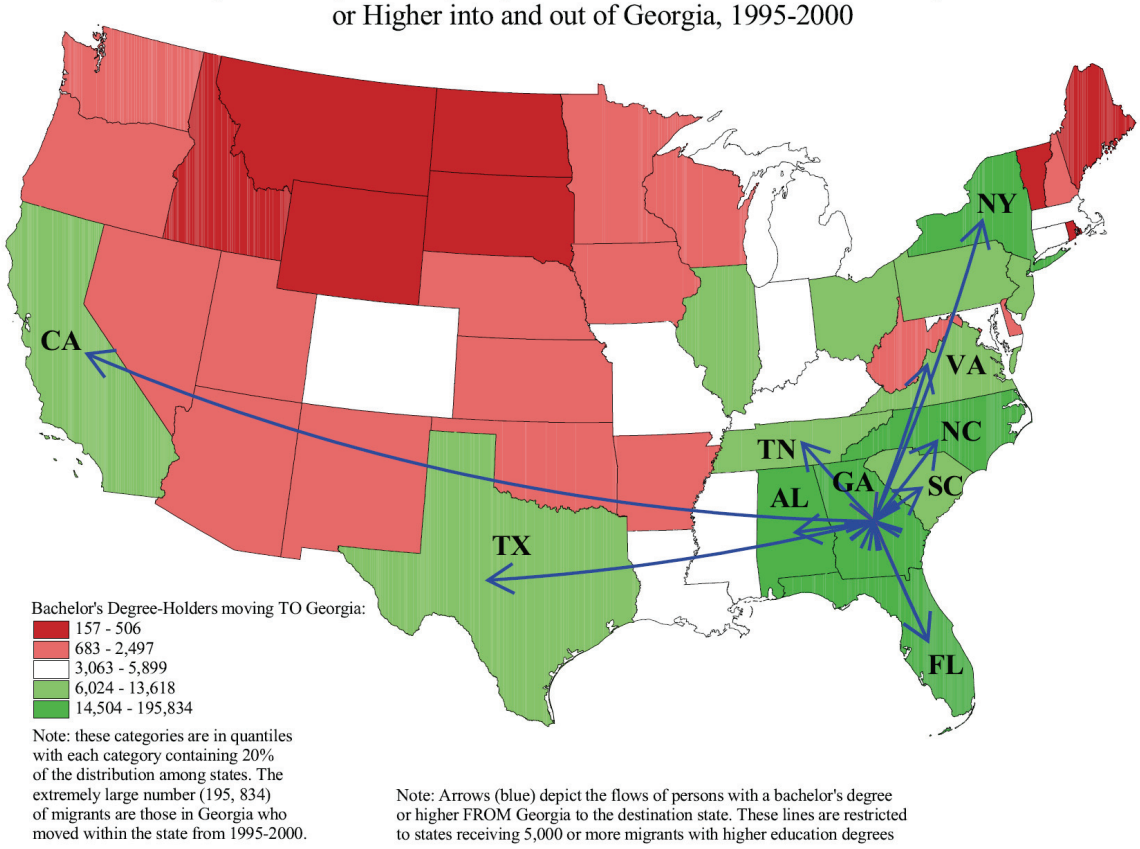
[a] Source: Bureau of the Census, PUMS 2000 5% sample and author's calculations. Table N = 196,526.

I now revisit the flow of the college-educated population in Georgia. By aggregating the PUMS 5% Sample data to the state-level, the map in Figure 3 was constructed using the origin and destination states just for those who held a bachelor's degree or higher. There are two factors represented in this map. The legend for this map is such that the color base map depicts the number of bachelor's degree holders that moved *to* Georgia. To address the question of where do Georgia's college educated go, the (blue) arrows, on the other hand, point to states *receiving* 5,000 or more Georgians with bachelor's degrees or higher.

The results in Figure 3 show that there are two tiers of destinations. The neighboring states of Florida, Alabama, South Carolina, Tennessee, and North Carolina received most but they also supply the most to Georgia. Thus, *Georgia has a key pattern of exchange for baccalaureate holders.* Although the detailed data are not shown in this graphic, Florida had by far the strongest pattern of exchange of bachelor's degree holders with Georgia. This exchange represents an important finding in this study, as the social networks inevitably established between these two states among their respective college-educated talent has implications for economic growth. The second tier of out-migration patterns for Georgians with college degrees includes New York, Texas, California, and Virginia. In short, Georgia gains more college-educated migrants than it

loses. Both directions of this stream reflect "exchange" relationships with mostly nearby states but especially with Florida. The fast growing states of California, Texas, and New York are also attractive to outbound college-educated Georgians *and* vice versa.

Figure 3. Map Showing Migration of Persons with Bachelor's Degrees or Higher into and out of Georgia, 1995-2000

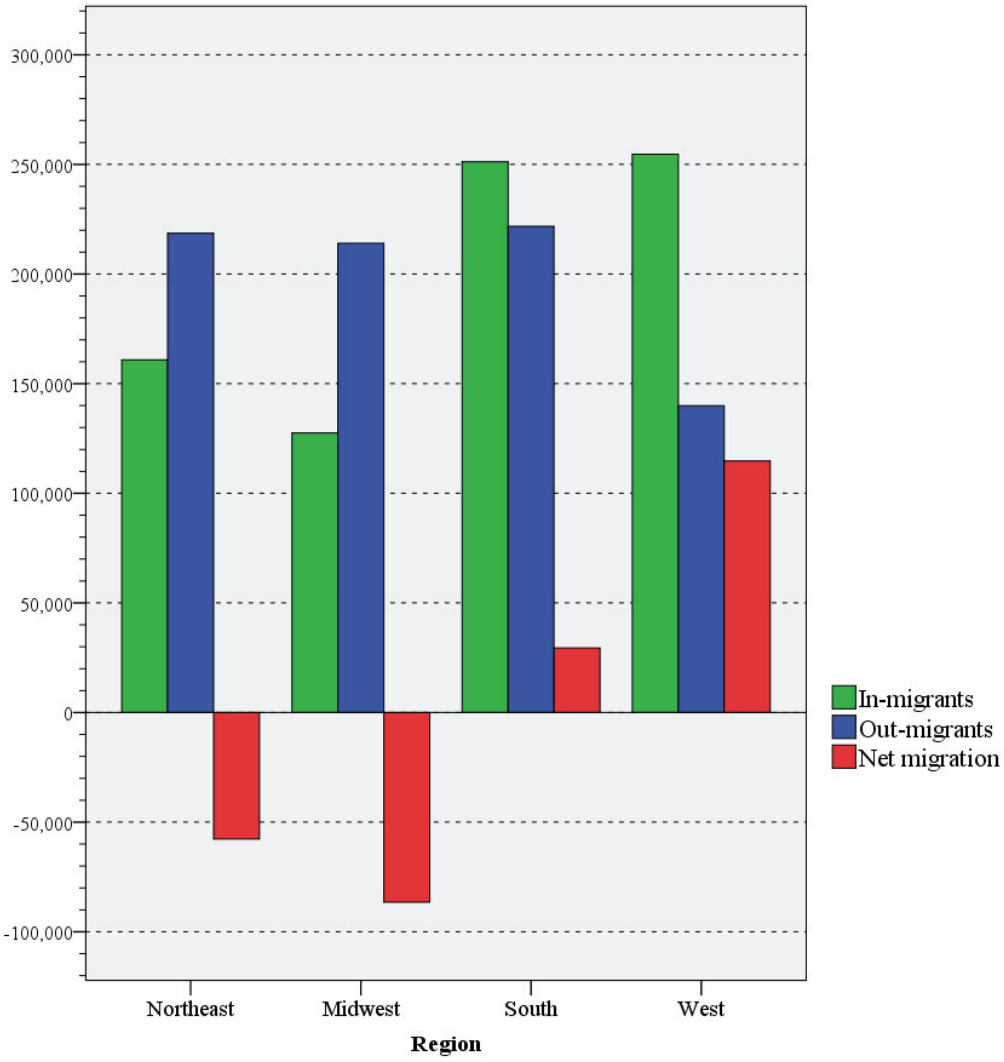


The general picture that these Census data show for moves of a decade ago, 1995-2000, is that Georgians do move, but most move within the state itself. This occurs at all three age periods examined in Figure 1 but is most pronounced during the youngest, career-forming ages of 25 to 39 years. By comparison, Georgia experiences some significant "churning" of its college educated human capital in that 8-12 percent of this group moves into the state whereas only 6-7 percent leaves for locations outside of Georgia. The impact of this pattern, assuming that it has been so for recent decades, is seen in the middle age years of career productivity, ages 40-54 there is a smaller but similar pattern of a net gain in human capital. This pattern of keeping or experiencing a surplus in the net migration of those with college educations is also seen in the 55 and over age group. A hidden benefit to this exchange pattern is the enhancement of social networks among those moving to and from Georgia. Knowing others in Georgia from their home state provides a sense of commonality just as knowing someone from Georgia in another state does. The economic benefits of these social networks can be substantial, especially when return migration provides network "ties" across two or more states in the industry where persons are employed.

The Flow of Young Creative Capital in Georgia

Many scholars (e.g., Florida 2002) argue that the important strand of a community's human capital is the young "creative" capital, exemplified by those who are college-educated, single, and young (25-39 years of age). What happens to Georgia's young creative capital in terms of their migration patterns? I make use of a special tabulation of the 2000 Census data which conforms to this definition of human capital (see Franklin 2003 for more details). These data are compared by region, and state, as well as by metropolitan areas to better understand where young creative capital tends to flow. How well Georgia fares in terms of where they go and come from is likely to shape the state's economic posture once the current recession subsides (see Florida 2009).

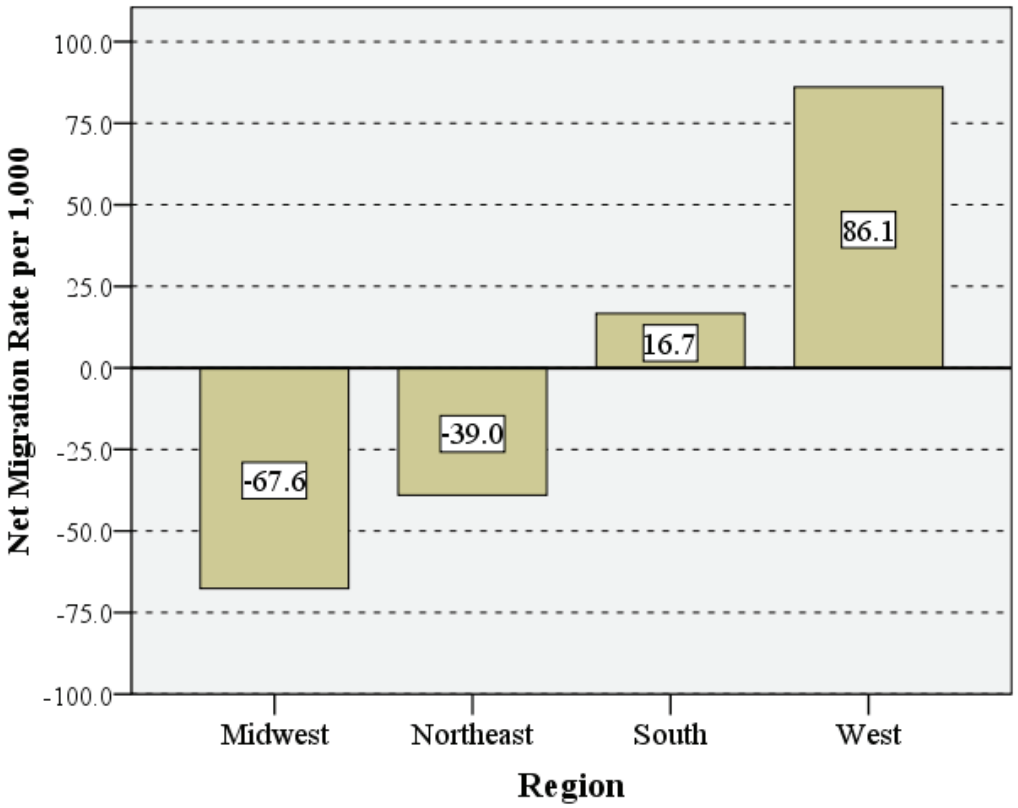
Figure 4. Migration Patterns of Young, Single, College-Educated Persons by Region, 1995-2000



Source: Bureau of the Census, Special Tabulation (see Franklin 2003) and author's calculations.

Shown in Figure 4 is a regional comparison of the components of migration. While the Northeast and Midwest were losing such creative capital on a net basis, the South and West were gaining. This is very pronounced for the West as their net gain approached 125,000 young, single, and college-educated persons to the region. The South netted almost 30,000 over the five-year period. It is clear, however, that the size of this net gain does not adequately reflect the significant movement occurring into and from the South, as the numbers of in-migrants and out-migrants are many times larger than the resulting net migration. It does, however, suggest that the traditional social relationships in the South are likely to be changed by the substantial "churning" of people moving out and into the community.

Figure 5. Net Migration Rate Per 1,000 Young, Single, College-Educated Persons by Region, 1995-2000



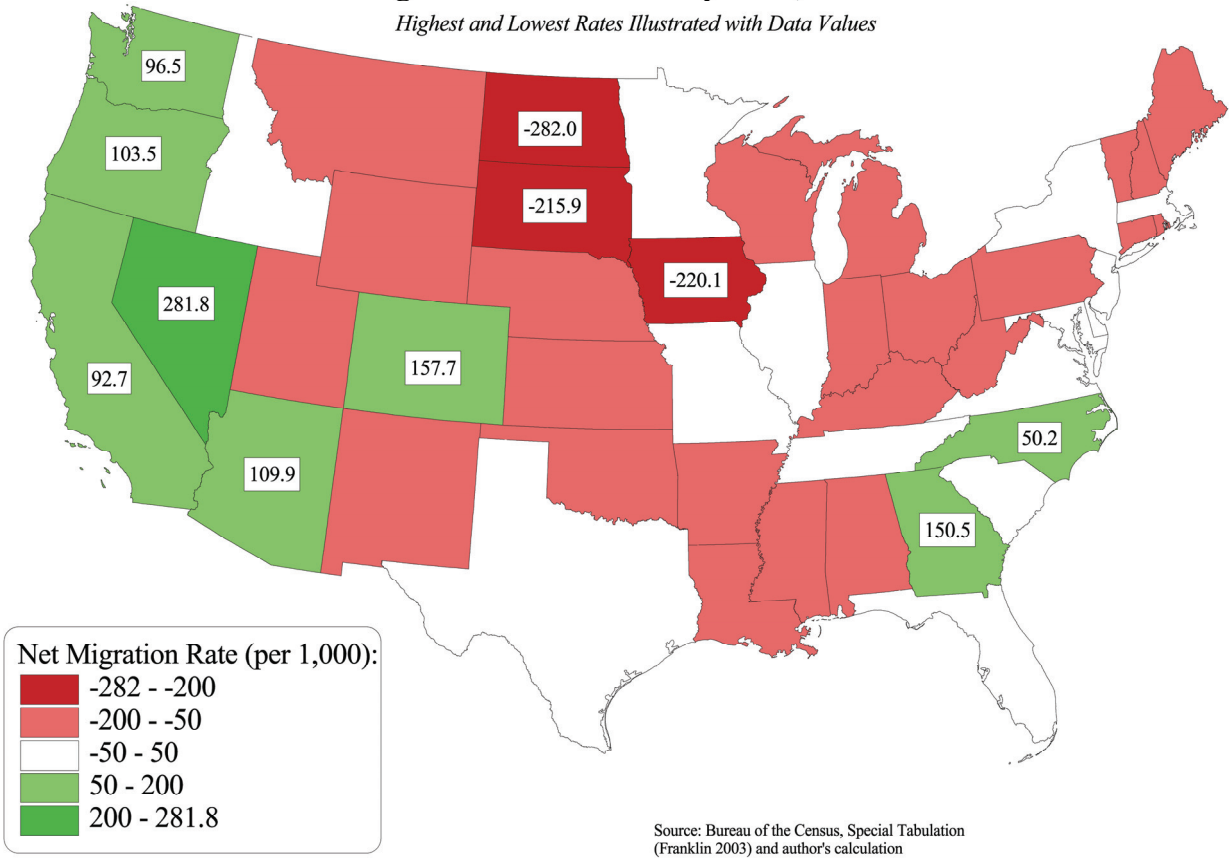
Source: Bureau of the Census, Special Tabulation (see Franklin 2003).

While these raw numbers are important to assess the overall sizes of the migration flow, when converted into rates, the relative scale of gain or loss of young creative talent is clearer. Figure 5 contains the regional breakdown of the numbers of young, single, college-educated migrants per 1,000 such persons. The bleeding of such talent from the Midwest stands in stark contrast to the destination venue of the West. The losses from the Northeast are higher than the gains in the South. Effectively, the existing creative talent bases in the Midwest and northeast were eroding at about the same overall rate as the South and West were gaining. So it seems clear that the Sun Belt, long an attraction to the overall population flow of migrants, is particularly desirable by young creative talent in the U.S.

Which states are key attractants to this important population? The state-level data shown in Figure 6 provide a significant answer regarding Georgia's young creative talent base. The net migration rates are calculated for selected states on the highest end (green states) and on the lowest end (red states) of the continuum. While Nevada led the nation with a net migration rate of 281.8 per 1,000 persons in this demographic group, only two states in the South had a rate above 50 per 1,000. North Carolina's rate of 50.2 per 1,000 is only one-third of Georgia's dominant rate of 150.5 per 1,000. Note, too, that Florida, a key state in which there is reciprocal migration of both the total and college-educated population with Georgia, has an even exchange of its creative talent with other states, neither gaining nor losing. *These results show that Georgia has been, by far, the most attractive venue for the movement of young creative talent in the region.*

Figure 6. Net Migration Rate Per 1,000 for Young, Single, College-Educated Persons by State, 1995-2000

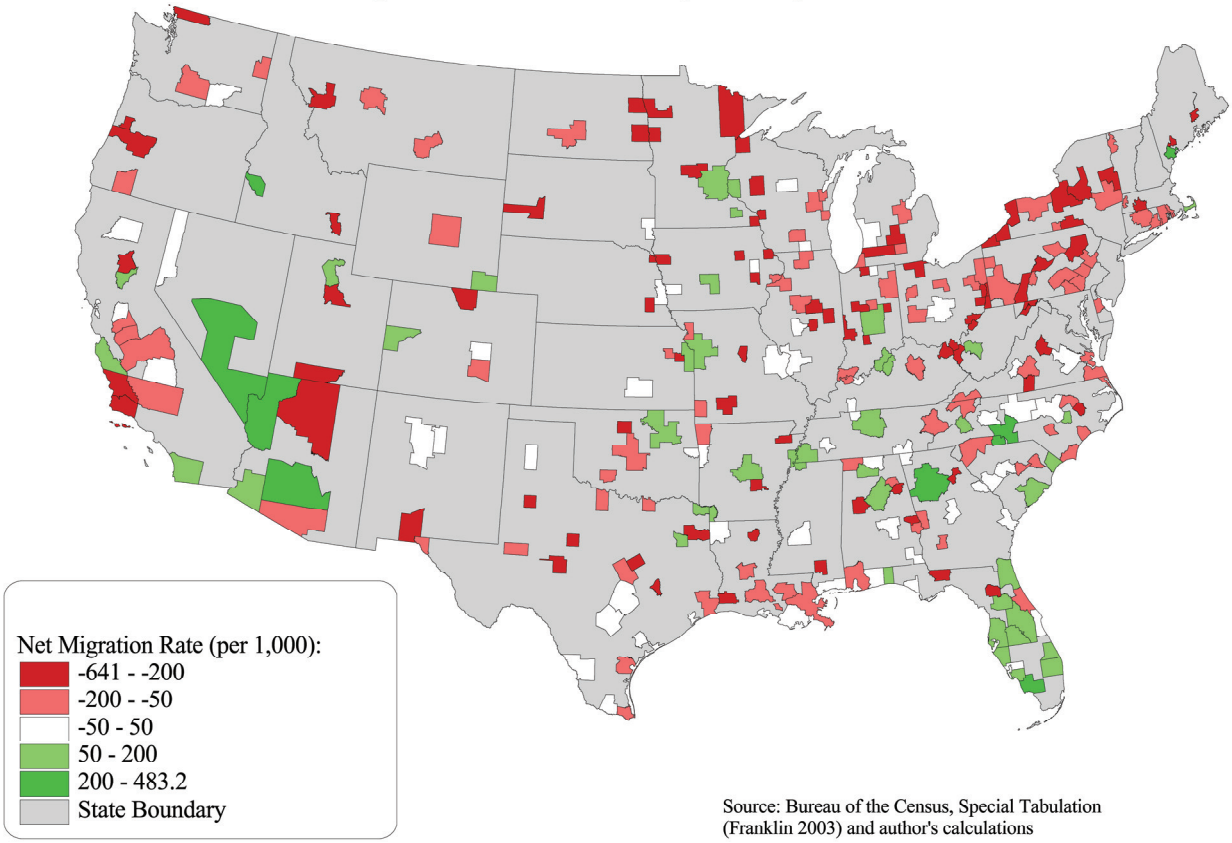
Highest and Lowest Rates Illustrated with Data Values



Source: Bureau of the Census, Special Tabulation (Franklin 2003) and author's calculation

It is not surprising to see in Figure 7, where these data are presented for metropolitan areas across the U.S., that it is the Atlanta area that is driving Georgia's magnetism for this talent pool. (The loss in the Athens area, shown in red, results from the dominance of graduates from the University of Georgia and other institutions of higher education in that metro area.) This map also shows how state level statistics can vary substantially in sub-state areas. It shows rather dramatically how important the greater Atlanta sub-region is for Georgia and the South as a whole in terms of recruiting the "best and brightest" flow of human capital, a key indicator of potential for future economic growth and development.

Figure 7. Net Migration Rate Per 1,000 for Young, Single, College-Educated Persons by Metropolitan Area, 1995-2000



Do Movers Have Higher Earnings than "Stayers"?

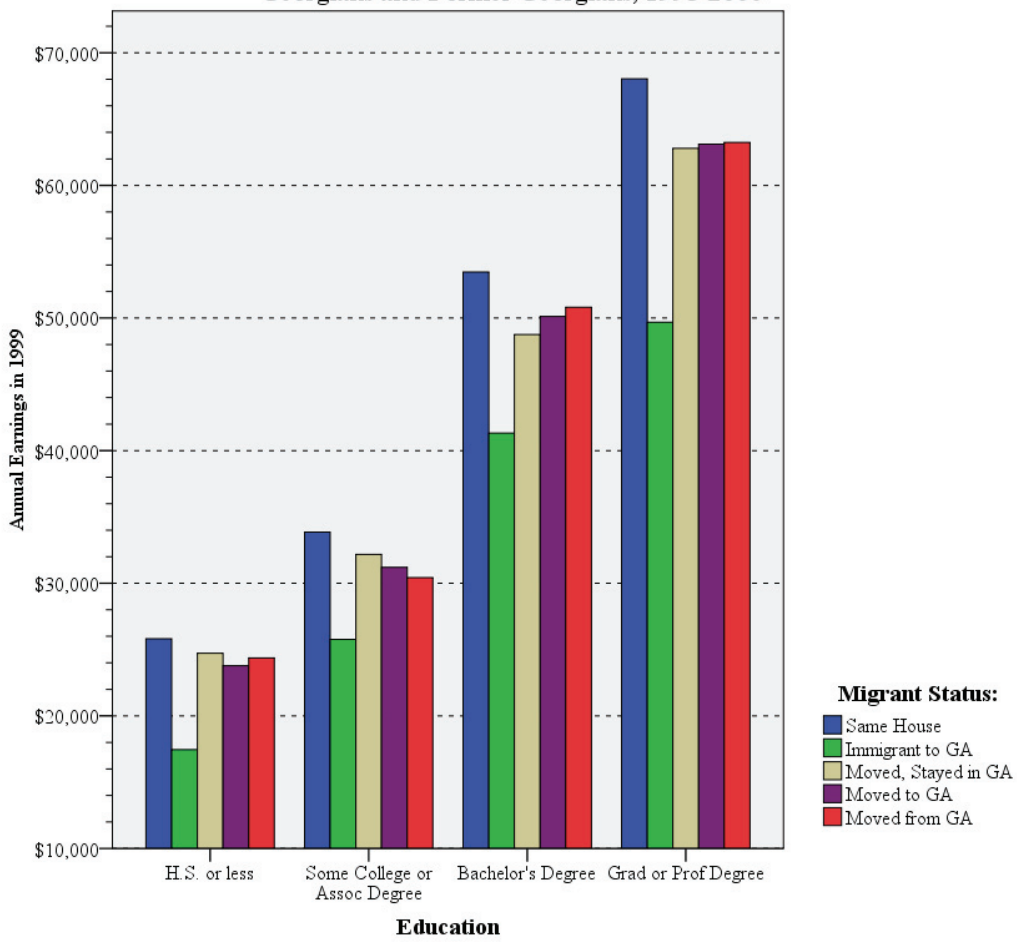
One of the key reasons for moving is the tangible "pull" of higher earnings through new employment. This issue is challenging to study, because there are no federal, national, or state data matching data on earnings in the previous (origin location) job as well as earnings on the new (destination) job. If such data were available, it would be possible to directly determine whether there is actually a net gain in earnings based upon the move itself. Although there are isolated studies of earnings across moves, there are no such data available for Georgia. In this study, earnings from the destination job are available, but earnings from the previous job are not available. However, I do make use of data with high generalization for the state of Georgia. Thus, in this section, I address the question of whether "movers" ultimately have higher average earnings levels than "stayers" who do not leave the state.

There is a second reason for the importance of this phase of the analysis. Those who migrate to Georgia bring with them the social network connections which give rise to "flows" by communication to objective experiences about the state. In addition, those who leave Georgia for other states bring with them similar networks of professional and personal contacts. A certain amount of this "churning" could have very positive benefits to a state by building this "social capital" of networks that lead to further business development. By contrast, a state with a

population that has few incomers and few out-migrants becomes an enclave, without such social networks that lead to a vibrant economy that is interlinked with the nation's economic activity. One countervailing process, nonetheless, is the localized social networks that non-movers accrue over time.

In Figure 8, average annual earnings for 1999 by highest education are compared for the five migration status groups that were analyzed in the previous section. For each level of education completed, those who remained in the same house over the five-year period had the highest average earnings. Among those who moved to Georgia, those originating outside the U.S. averaged the lowest earnings among all of the groups, regardless of education level. Among those who moved from within the U.S., there is very little difference, on the average, in earnings. Among those with college degrees or higher, moving from Georgia resulted in no higher average earnings than moving within the state or moving from somewhere else into Georgia. Thus, from these data which only compare migrant status for the destination job, it seems that the accrual of longevity in the same location is associated with higher economic returns at each level of education.

Figure 8. Annual Earnings by Highest Completed Education and Migration Status, Georgians and Former Georgians, 1995-2000

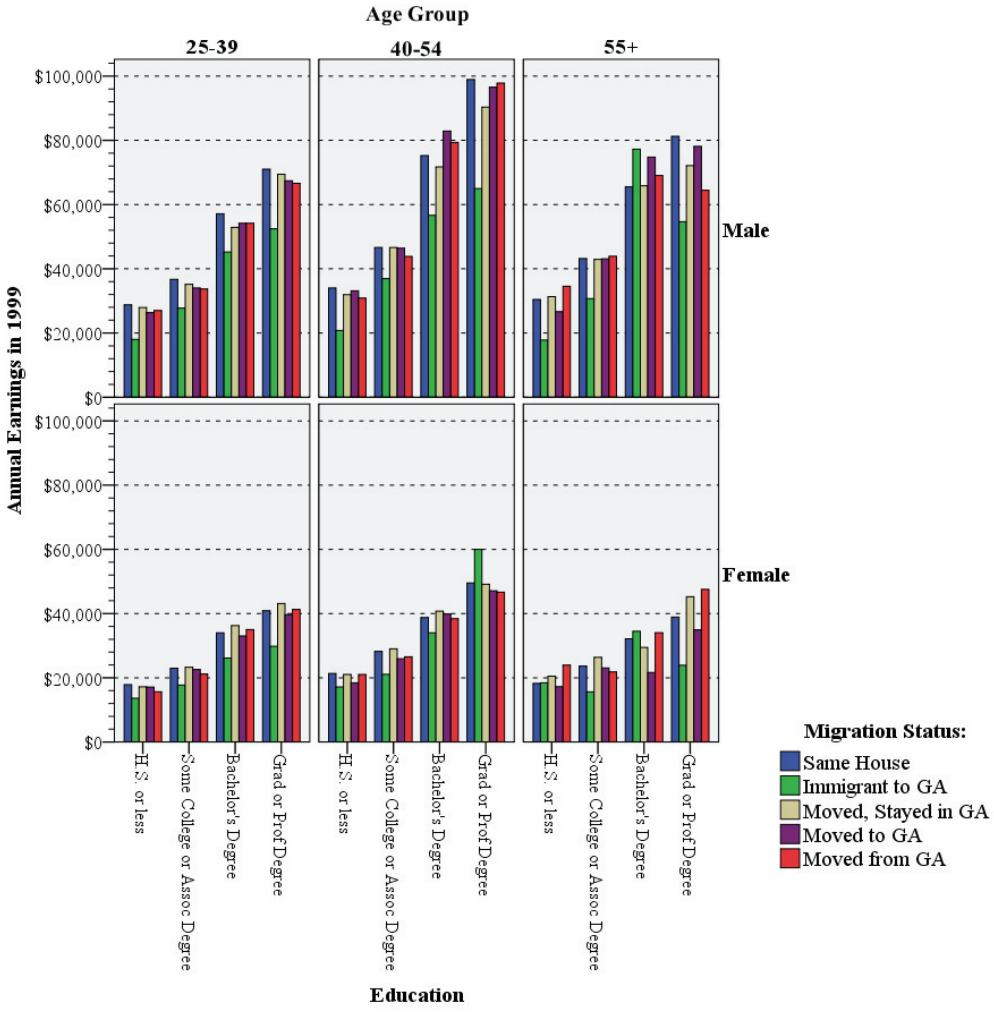


Source: Bureau of the Census, PUMS 5% Sample Microdata, and author's calculations.

This finding is further examined by breaking down the data in this graph by age group and gender. Because we do not have longitudinal data on a panel of individuals, the effect of age on migration status is unclear in one sense, but the display in Figure 9 does give additional understanding to the relationship of migration for those with a college education. In addition, the comparisons by gender illustrate how migration works differently for women versus men.

The major differences shown in Figure 9 reflect the age-earnings curve where earnings peak during the 40-54 age group and are lower during the early (25-34 years) and later (55+ years) periods, although the pattern is more clear for men than women. In almost every age-education comparison for men, staying "put" in the same house is linked to higher average earnings. The nominal exceptions for men are for bachelor's degree (only) holders. During the middle-age period (40-54 years), those moving *to* Georgia out-paced all others in terms of average earnings. A similar distinction is observed for those men in the oldest group (55+ years), as those with a bachelor's degree who moved to Georgia had higher average earnings than all others (except immigrants).

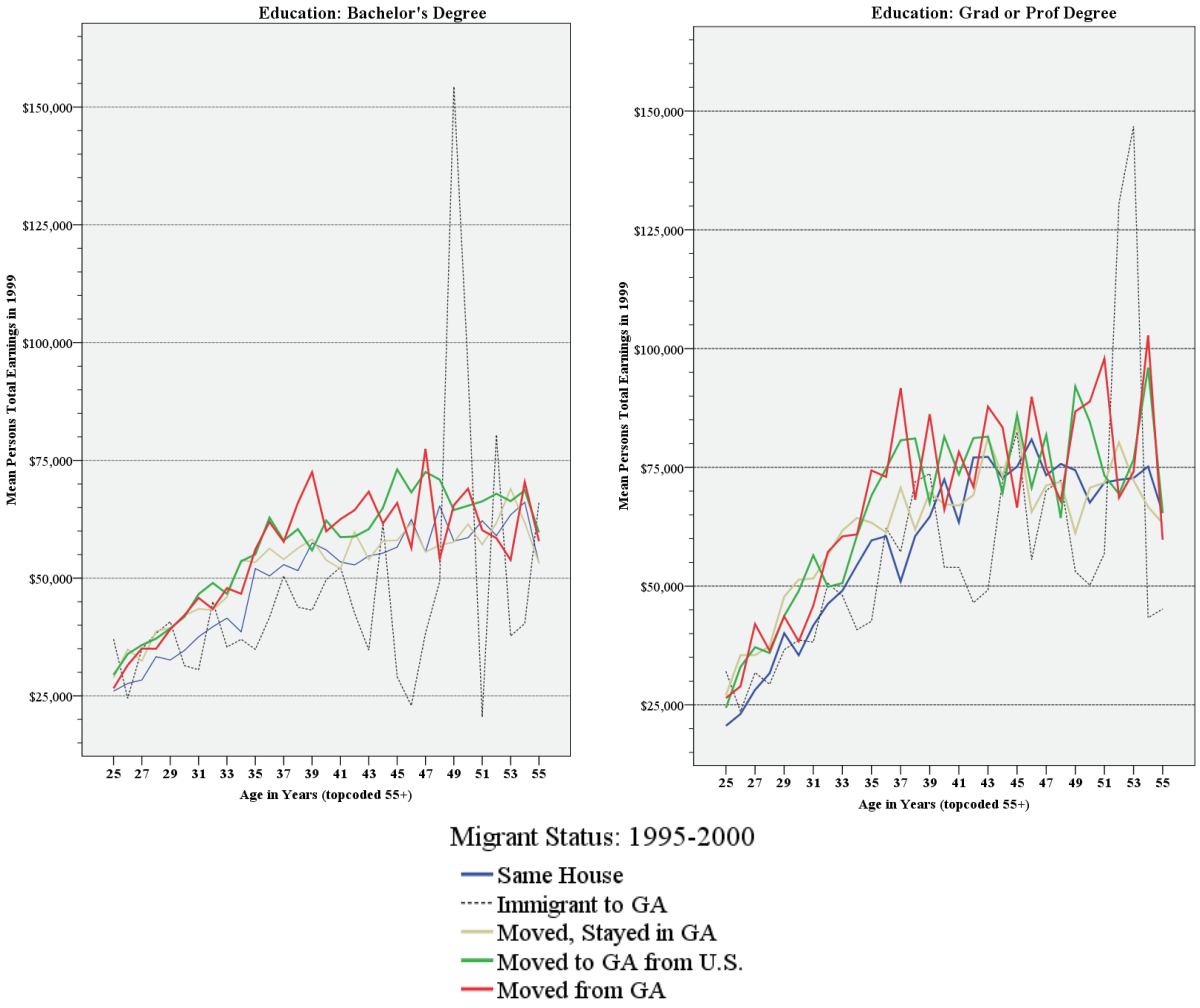
Figure 9. Annual Earnings by Education, Age, Gender, and Migration Status: Georgians and Former Georgians, 1995-2000



Source: Bureau of the Census, PUMS 5% Sample Microdata, and author's calculations.

Gender makes an important difference in this graph. Women, at every level of education and across the life span, earn less on average than comparable men in this analysis. The nominal gains by men from moving to Georgia are not only erased for women but are in fact reversed for those with graduate or professional degrees. Women with graduate or professional degrees, on the average, earned more if they moved *from* Georgia to another state. While there are no doubt a number of other relevant factors not measured in this analysis--such as marital status, presence and age of children, tenure in the labor force, industry and occupational niche, and so forth--they should be taken as descriptive patterns worthy of more in-depth analysis.

Figure 10. Average Earnings by Age for College Educated Georgians and Former-Georgians, 1999



Source: Bureau of the Census, PUMS 5-Percent Sample, and author's calculations.

To further examine how migration and age are linked, Figure 10 illustrates specifically the patterns underlying the averages illustrated in Figure 9. At each age between 25 and 55 and over, the mean reported income for 1999 is shown for those with college degrees and graduate or professional degrees. The additional pay-off for post-graduate education, regardless of migration behavior, occurs during the thirties for most Georgians and former Georgians. Those who moved to or from the state tend to exhibit the highest earnings in these detailed line charts, especially those who moved out of state. Caution should be used, however, with this chart as the number of

data points creating the mean earnings can be small for a specific age. More reliable results are presented in Figure 9 after grouping ages into meaningful ranges. Nevertheless, it is important to understand the variability underlying averages, especially in import relationships such as these.

A final analysis in this section addresses the spatial aggregation of the data for migrants to and from Georgia by state of origin or destination. Table 3 organizes the data on average earnings by migration to and from the state according to which state was the destination or origin. Mean incomes are shown in bold font for states where the average earnings were higher than the average earnings for in-migrants ($38,373) or out-migrants ($39,169). These results show that some states' economies provide a significant "pull" attraction for some Georgians (e.g., California, Maryland). In turn, Georgia provides a pull for some previously residing in other states (e.g., Connecticut and New Hampshire). Additional research with more complete data than now exists in the public realm is needed to fully understand these patterns, but these results are suggestive of what might be expected in that the fit of migrants with opportunities elsewhere, whether this is in Georgia or another state, varies to some degree with economic opportunity.

Table 3. Detailed Earnings in 1999 by Migration State Origin or Destination for Georgians and Former Georgians, 1995-2000

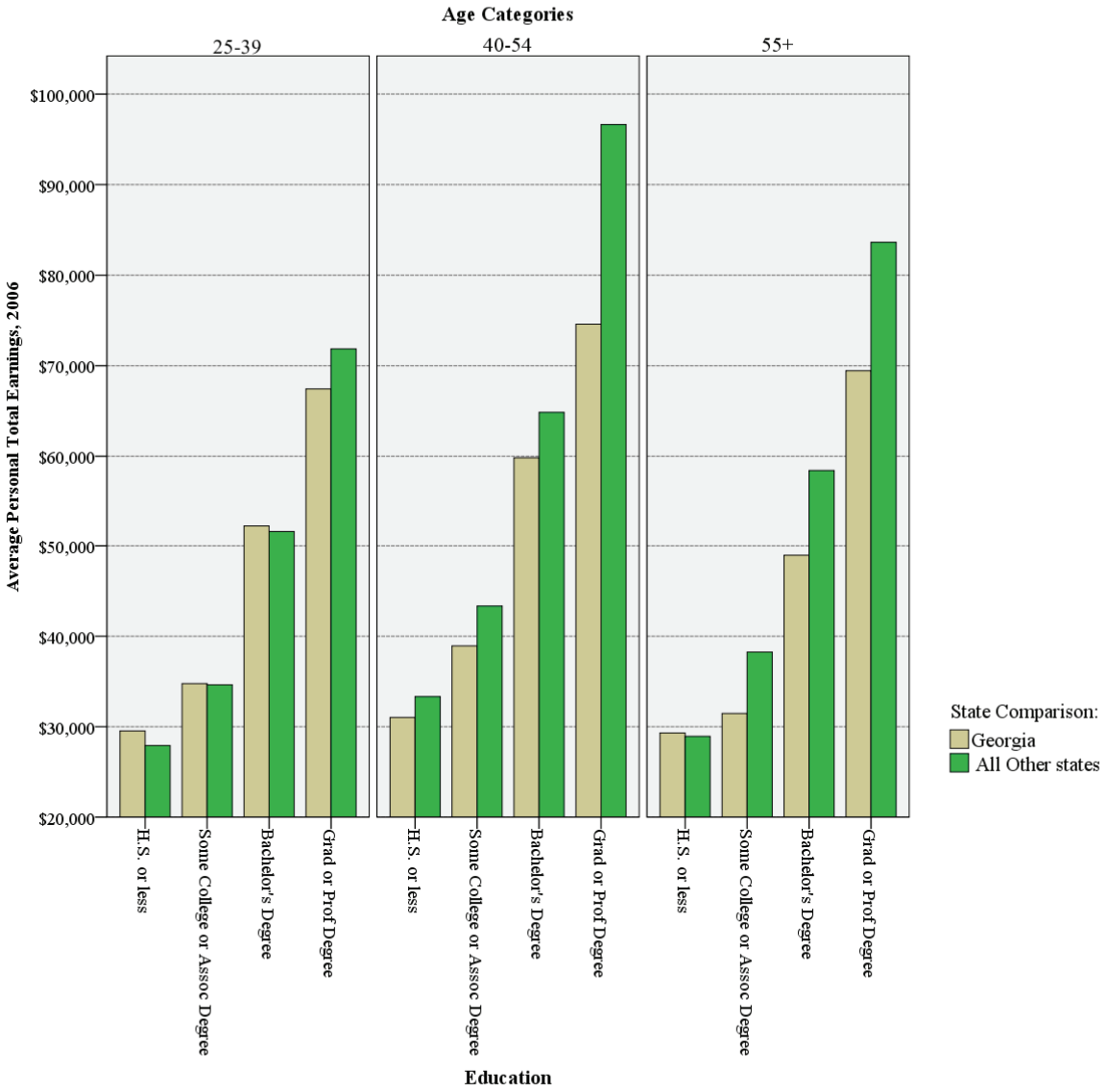
		Personal Earnings for 1999					Personal Earnings for 1999		
Destination State:	*Migration:*	Mean	S D	N	**Origin** State:	*Migration:*	Mean	S D	N
Alabama	Moved from GA	$32,518	$37,099	993	Alabama	Moved to GA	**$35,831**	$33,846	1,264
Alaska	Moved from GA	$28,347	$18,538	49	Alaska	Moved to GA	$29,690	$31,763	91
Arizona	Moved from GA	**$39,461**	$43,004	238	Arizona	Moved to GA	$31,549	$35,196	215
Arkansas	Moved from GA	$30,329	$41,414	95	Arkansas	Moved to GA	**$43,182**	$58,848	115
California	Moved from GA	**$51,394**	$59,821	831	California	Moved to GA	$33,915	$39,607	1,665
Colorado	Moved from GA	**$45,590**	$51,255	271	Colorado	Moved to GA	**$38,720**	$42,397	296
Connecticut	Moved from GA	**$57,610**	$66,831	144	Connecticut	Moved to GA	**$51,412**	$62,671	277
Delaware	Moved from GA	$27,624	$17,107	33	Delaware	Moved to GA	**$41,906**	$30,123	66
D C	Moved from GA	**$39,931**	$27,524	70	D C	Moved to GA	$35,277	$27,059	85
Florida	Moved from GA	$36,744	$45,103	2,587	Florida	Moved to GA	$35,220	$38,913	3,660
Idaho	Moved from GA	$25,817	$20,763	30	Idaho	Moved to GA	$36,051	$38,068	45
Illinois	Moved from GA	**$44,503**	$52,515	409	Illinois	Moved to GA	**$46,162**	$54,254	780
Indiana	Moved from GA	$33,728	$34,794	224	Indiana	Moved to GA	**$39,530**	$32,714	301
Iowa	Moved from GA	$28,199	$22,903	70	Iowa	Moved to GA	**$38,905**	$41,439	111
Kansas	Moved from GA	$35,820	$38,010	116	Kansas	Moved to GA	$37,047	$42,672	150
Kentucky	Moved from GA	$35,499	$34,902	311	Kentucky	Moved to GA	$36,721	$36,738	347
Louisiana	Moved from GA	$30,995	$36,574	258	Louisiana	Moved to GA	$35,777	$32,991	452
Maine	Moved from GA	$33,624	$27,943	34	Maine	Moved to GA	$32,219	$27,884	42
Maryland	Moved from GA	**$50,867**	$62,990	305	Maryland	Moved to GA	**$43,877**	$52,313	491
Massachusetts	Moved from GA	**$44,386**	$42,623	177	Massachusetts	Moved to GA	**$45,769**	$51,479	350
Michigan	Moved from GA	$35,854	$39,162	315	Michigan	Moved to GA	$37,906	$42,513	518
Minnesota	Moved from GA	**$39,389**	$43,260	118	Minnesota	Moved to GA	**$47,372**	$62,383	158
Mississippi	Moved from GA	$33,486	$45,886	233	Mississippi	Moved to GA	$33,881	$37,724	299
Missouri	Moved from GA	$33,890	$36,143	214	Missouri	Moved to GA	**$39,568**	$47,785	293
Montana	Moved from GA	$29,378	$25,460	18	Montana	Moved to GA	$31,759	$24,208	35
Nebraska	Moved from GA	**$42,877**	$42,115	25	Nebraska	Moved to GA	**$45,919**	$51,619	71
Nevada	Moved from GA	**$39,702**	$46,606	93	Nevada	Moved to GA	**$38,639**	$51,007	75
New Hampshire	Moved from GA	**$40,590**	$53,350	40	New Hampshire	Moved to GA	**$51,950**	$52,472	64
New Jersey	Moved from GA	**$48,273**	$53,758	250	New Jersey	Moved to GA	**$43,142**	$54,936	553
New Mexico	Moved from GA	**$40,930**	$60,128	63	New Mexico	Moved to GA	$30,646	$28,277	96
New York	Moved from GA	**$42,944**	$53,902	521	New York	Moved to GA	$36,353	$38,560	1,562
North Carolina	Moved from GA	**$39,846**	$46,114	1,074	North Carolina	Moved to GA	**$43,153**	$48,290	1,219

North Dakota	Moved from GA	$17,834	$8,378	8	North Dakota	Moved to GA	$27,533	$12,754	27
Ohio	Moved from GA	**$40,142**	$49,156	437	Ohio	Moved to GA	**$42,178**	$44,579	726
Oklahoma	Moved from GA	$32,528	$39,233	88	Oklahoma	Moved to GA	$32,867	$29,002	230
Oregon	Moved from GA	$38,400	$36,709	93	Oregon	Moved to GA	**$40,506**	$58,957	94
Pennsylvania	Moved from GA	**$41,755**	$43,926	301	Pennsylvania	Moved to GA	**$40,353**	$48,056	592
Rhode Island	Moved from GA	$37,950	$26,001	42	Rhode Island	Moved to GA	**$39,812**	$49,971	43
South Carolina	Moved from GA	$33,462	$32,716	965	South Carolina	Moved to GA	$37,932	$40,039	1,090
South Dakota	Moved from GA	$29,909	$30,415	11	South Dakota	Moved to GA	$25,050	$14,313	35
Tennessee	Moved from GA	$37,569	$46,589	1,045	Tennessee	Moved to GA	$37,123	$42,351	1,084
Texas	Moved from GA	**$43,481**	$55,265	1,093	Texas	Moved to GA	**$42,208**	$51,366	1,384
Utah	Moved from GA	**$40,468**	$29,190	63	Utah	Moved to GA	$33,245	$41,772	72
Vermont	Moved from GA	$31,099	$27,381	15	Vermont	Moved to GA	$30,459	$19,293	30
Virginia	Moved from GA	**$42,608**	$46,753	659	Virginia	Moved to GA	$41,076	$39,705	947
Washington	Moved from GA	$36,012	$33,593	258	Washington	Moved to GA	$34,074	$34,498	265
West Virginia	Moved from GA	$23,518	$24,063	63	West Virginia	Moved to GA	$31,310	$26,127	103
Wisconsin	Moved from GA	$37,625	$39,735	104	Wisconsin	Moved to GA	**$44,784**	$53,358	151
Wyoming	Moved from GA	$31,812	$39,480	22	Wyoming	Moved to GA	$27,259	$20,314	19
Georgia	Same House	$35,832	$42,405	90,567	Georgia	Same House	$35,832	$42,405	90,567
	Immigrant to GA	$26,980	$33,159	4,365		Immigrant to GA	$26,980	$33,159	4,365
	Moved, Stayed in GA	$34,445	$38,787	63,303		Moved, Stayed in GA	$34,445	$38,787	63,303
	Moved to GA	$38,373	$43,052	22,815		Moved to GA	$38,373	$43,052	22,815
	Moved from GA	$39,169	$46,292	15,476		Moved from GA	$39,169	$46,292	15,476
	Total	$35,747	$41,540	196,526		Total	$35,674	$40,786	105,959

As the final phase of analysis into the earnings issue for migrants, the latest national data representing the state level from the Census Bureau are used to relate earnings to highest completed education. The Current Population Survey, Annual Social and Economic Characteristics (ASEC) Supplement for 2007 was used to construct the graph in Figure 11. These data reflect annual earnings for the 2006 employment year and compare Georgians with all other states.

These results show that higher education continued to pay off, in Georgia as well as elsewhere, in 2006 compared to 2000. One additional comparison provided by these data is the relative earnings by age group of Georgians versus all other states. For younger workers, aged 25-39, the state differences are not evident except for graduate or professional degree holders. As age category increases, however, there are growing differences in favor of other states. The single exception is for those who have only a high school diploma. This educational group does about as well in terms of average earnings in Georgia as elsewhere. The gap is highest for those with post-graduate degrees, greatest in the middle years but still very significant during the years beyond age 55.

Figure 11. Average Personal Earnings by Education and Age for Georgia and Other States, 2006



Source: Bureau of the Census, Current Population Survey: Annual Social and Economic Characteristics (ASEC) Supplement, 2007.

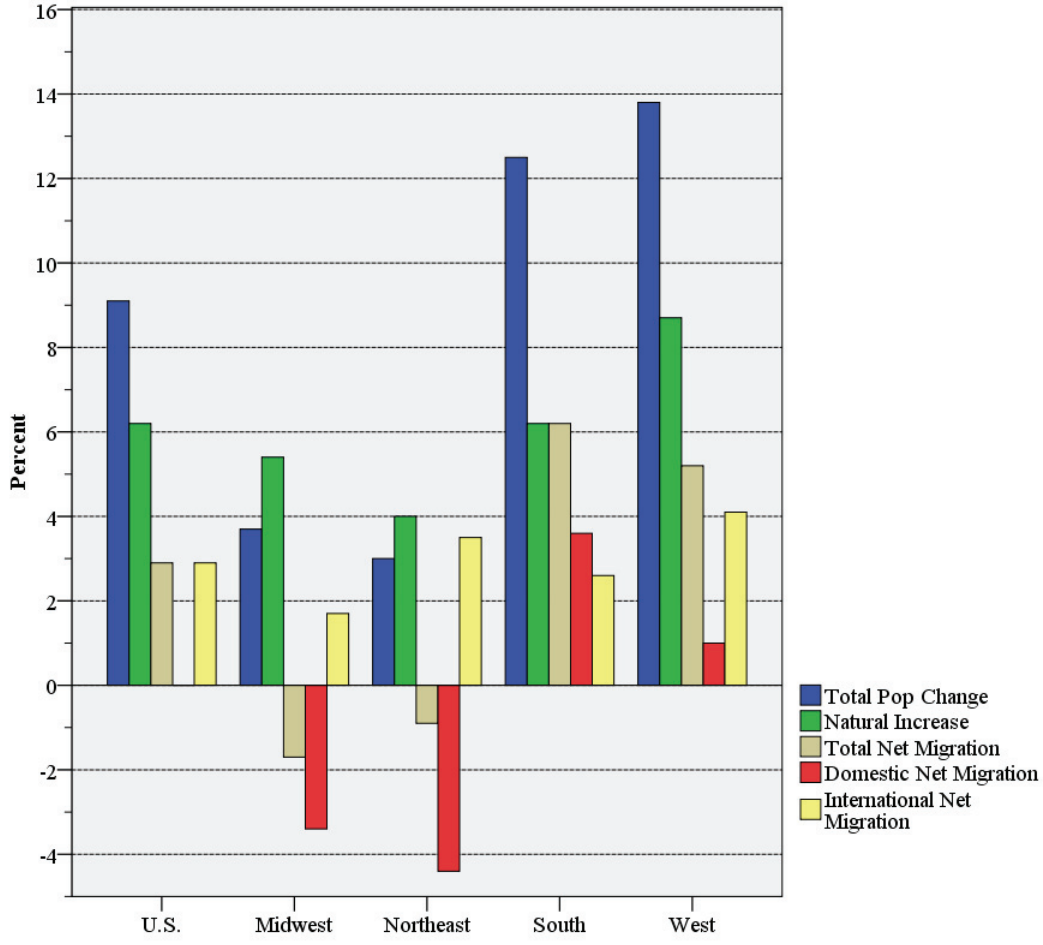
Both in Georgia and in other states, these results suggest that the payoff of higher education is fairly clear, dramatic, and enduring, with simple variation in scale across labor markets, occupations, and industries. In Georgia's economy, the low earning capacity of those with only a high school diploma is not much different than similarly experienced in other states as a whole. However, the increasing gap between Georgians with higher education degrees and those in all other states indicates that Georgia's labor market has not progressed to reward advanced degrees as much as all other states as a whole. Of course, as was seen in the migration data above, movement to one state or another could make a big difference in average earnings, so these patterns are based upon averages of a representative sample of employed adults without consideration of the concentration of certain occupations or industries or of other labor market

differences, such as the cost-of-living. Nonetheless, the differences in the average earnings capacity of post-graduate degree holders in Georgia versus other states suggest a set of potential detracting barriers in the state's economy that should be examined further.

Georgia's Migration Flow since 2000

The previous analysis has used data from the 2000 Census of Housing and Population which measured migration over the 1995 to 2000 period in relation to education, income, and age. This section is focused on population changes since 2000. Using data from the Census Bureau's Population Estimates Program, population dynamics for the U.S. and by region are shown in Figure 12. These are the rates of population change and the components underlying that change. Natural increase is the difference between the number of births and deaths. Net migration is the difference between in-migration and out-migration and is broken out by domestic and international migration.

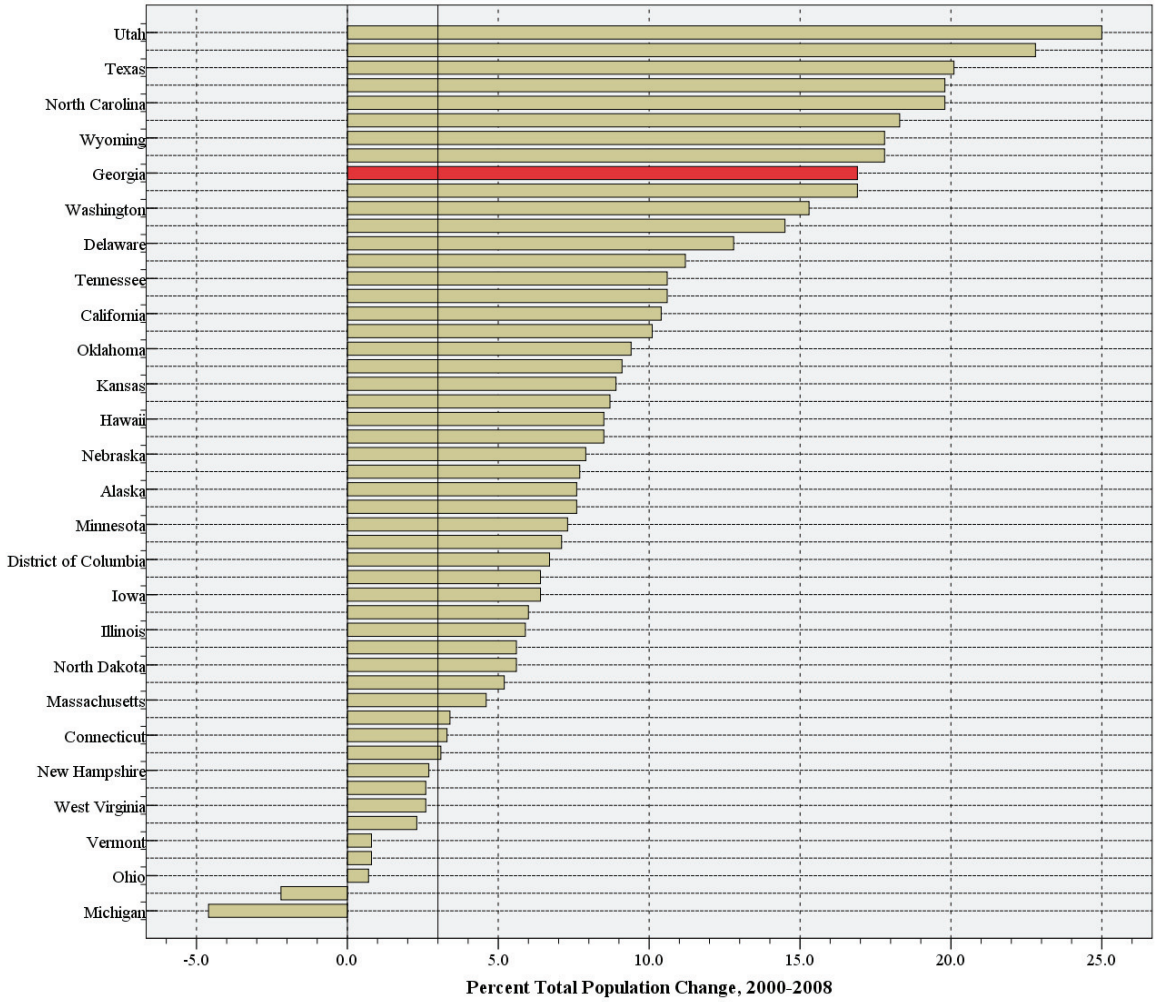
Figure 12. Components of Population Change in the U.S. and by Region, 2000-2008



Source: Bureau of the Census, Population Division (NST-EST2008-04)

While the U.S. grew about 9 percent over this period--about one percent per year--this growth differed dramatically across Census regions. The Northeast had the smallest rate of total population growth at about three percent, largely based on their natural increase offsetting the three percent of net out-migration. The Northeast's migration stream was positive for international immigrants (almost 3.5 percent) but negative for domestic migration. The Midwest faced a similar pattern. Domestic residents left more often than they arrived, but this exodus was offset by international migrants. The South and West, however, experienced radically different scenarios. They each grew at double-digit rates since 2000, outpacing the nation as a whole by three to four percent. In the South, natural increase and net migration equally contributed to growth. Net domestic migration had the strongest rate in this region (almost four percent) with international migration only slightly less. The West out-paced all other regions in total population growth rate at almost 14 percent. However, this region accomplished this growth mainly on two factors, a high natural increase (about 9 percent) and international immigration (4 percent). In short, the South's growth during this decade has been fairly unique in that natural increase *and* net migration equally fueled the second highest growth rate in the nation. Moreover, the region was almost equally attractive to domestic and international migrants.

Figure 13. Percent Population Change by State, 2000-2008



Source: Bureau of the Census, Population Division (NST-EST2008-04)

Turning to state level data, Figure 13 shows that *Georgia was the ninth fastest growing state in the U.S. during this decade*. Utah, with a 25 percent growth rate, led all states, followed by Arizona. Texas, North Carolina, Idaho, Wyoming, and Nevada all led Georgia's growth. Only one of these states is in the region of the South. Thus, Georgia has been a driving force in the South's second leading overall population growth rate during this decade.

These demographic patterns involving Georgia beg the question of the sources of migration along with the characteristics of the migrants who have fueled Georgia's prominent growth since 2000. I turn to data from the Internal Revenue Service (IRS) which produces summaries of state to state and county-to-county migration patterns by median adjusted income for those filing tax returns between two adjacent years. In this analysis, three elements of the IRS data are visualized using maps: (a) the *number* of migrants moving to Georgia and the median incomes of those (b) moving *to* and (c) *from* Georgia. While this is a complex presentation, a careful study of the legends in Figures 12 and 13 will greatly facilitate the reader's understanding of the results.

Figure 14. Map of Migration Flows to and from Georgia
by Median Adjusted Income, 2000-2001

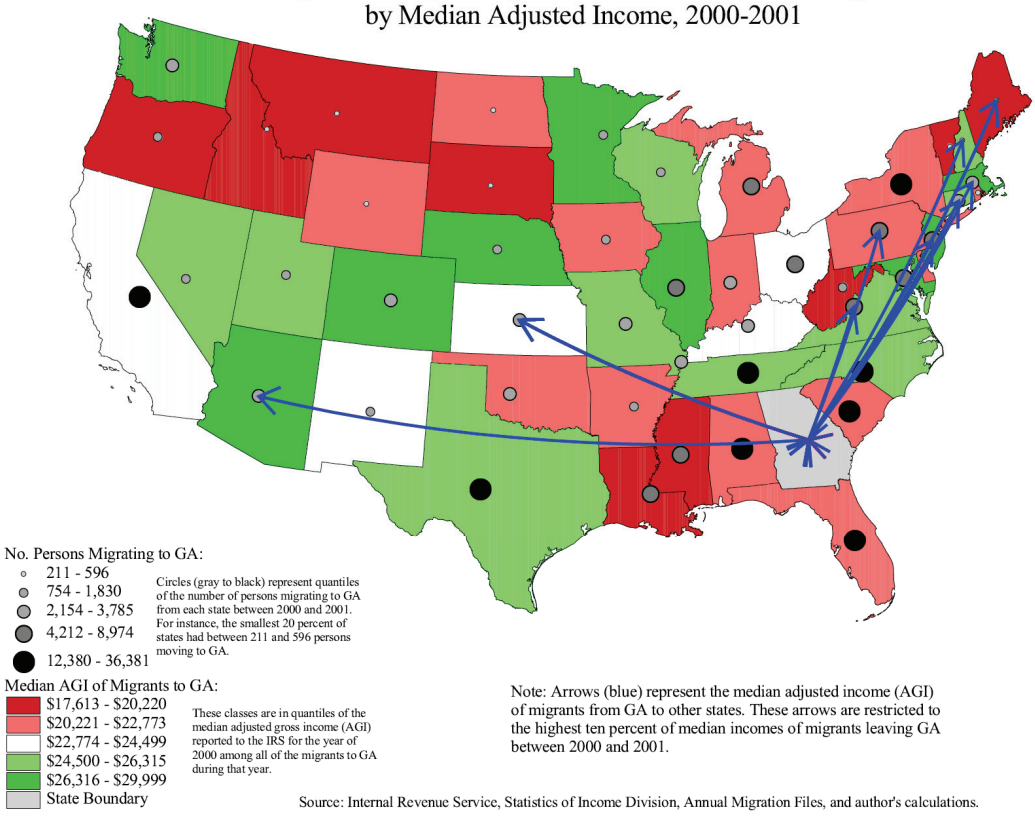
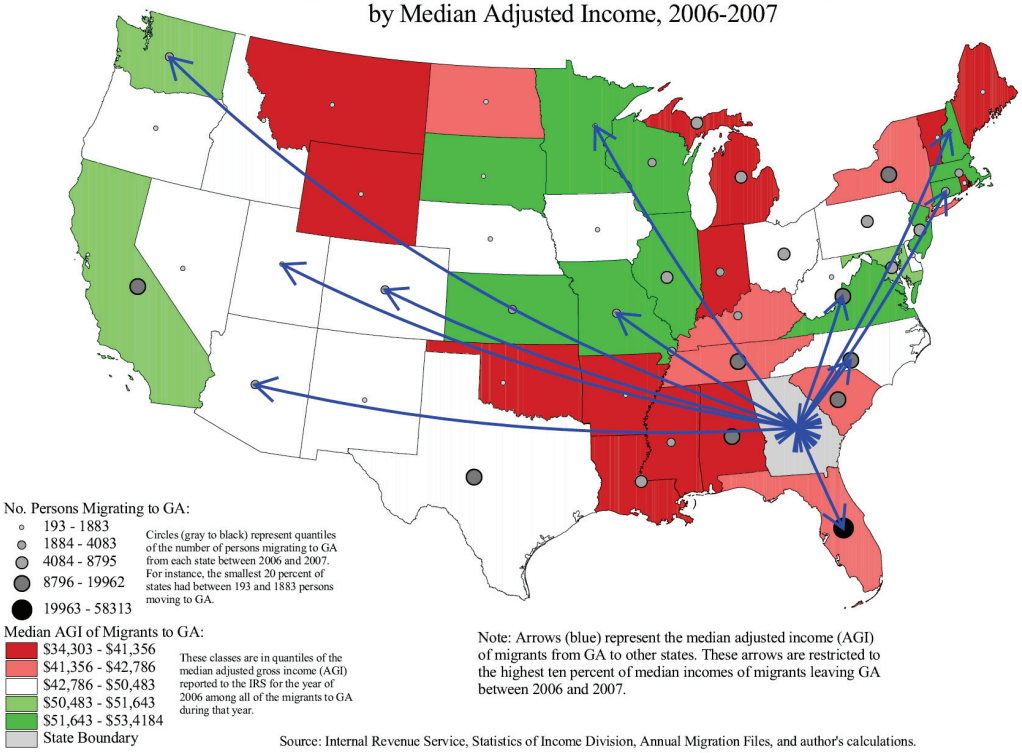


Figure 14 contains the analysis of IRS data for 2000-2001. The legend covers these three data representations. First, the gray-to-black circles of varying sizes on each state reflect the number of Georgia in-migrants coming from each state. The larger the circle, and the darker its coloring, the higher number of in-migrants according to the legend categories. For instance, Florida had between 12,000 and 36,000 migrants to Georgia during the 2000 to 2001 period. Second, the color base map shows the median income of those in-migrants to Georgia, with green indicating the highest incomes. For instance, Floridians moving to Georgia had a median income of

between 20,000 and 22,000 dollars according to the legend. Third, to illustrate the outflow of Georgians elsewhere, the arrows (blue) depict the destinations of the top ten percent of median incomes of migrants leaving Georgia during this period. For instance, in this case, Florida was not the destination of the highest ten percent median incomes among Georgia's out-migrants.

This map shows that the patterns observed in the Census PUMS data for the 1995 to 2000 period were still evident in the 2000 to 2001 period which the IRS data covers in Figure 14. This is reassuring in that it suggests that both data sources reaffirm one another's results. In other words, the use of income tax filers by the IRS produces similar results to a complete count by the Census Bureau. The largest sources of in-migrants to Georgia include neighboring states and more distant large states of New York, Texas, and California. Between 12,000 and 36,000 tax filers moved from each of these three states to Georgia over a one year time period alone. However, the highest median income migrants come from North Carolina, Tennessee, and Texas among those highest volume sources of movers to the state. Conversely, the lowest incomes among states sending the highest numbers of movers come from Florida, Alabama, and South Carolina. States sending smaller numbers of movers but with highest incomes include Nevada, Colorado, Maryland, Nebraska, Washington, Illinois, Minnesota, and Massachusetts. These states did not send the numbers of in-migrants to Georgia but those that did move were of higher incomes than those coming from the higher volume stream states. The out-bound flows of highest income out-migrants, depicted through the blue arrows, are largely to the Northeastern states. Kansas and Nevada were the other two recipients of higher income out-migrants from Georgia.

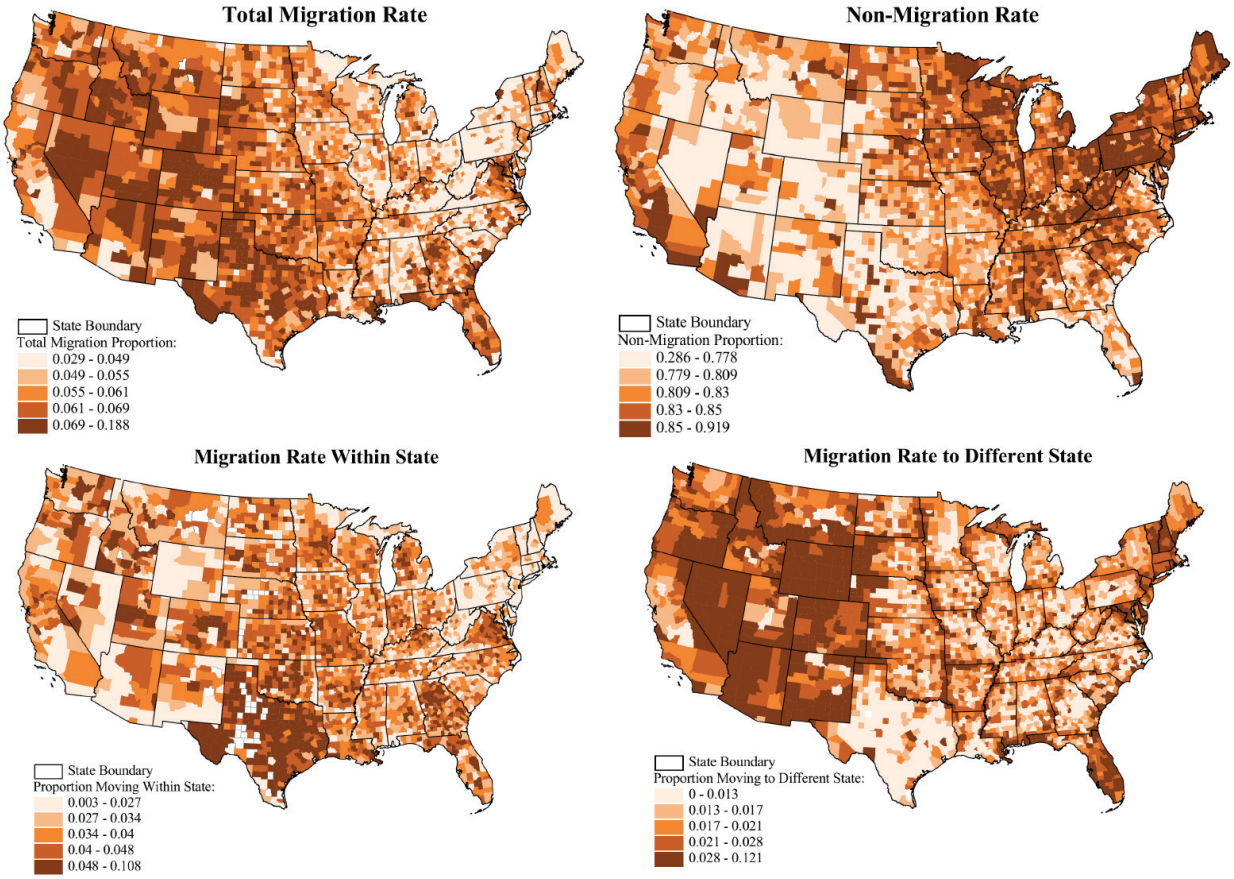
Figure 15. Map of Migration Flows to and from Georgia
by Median Adjusted Income, 2006-2007



Source: Internal Revenue Service, Statistics of Income Division, Annual Migration Files, and author's calculations.

The map shown in Figure 15 contains the same data for the period 2006 to 2007, the latest available data. It is clear from even a casual inspection of this map that the migration streams to and from Georgia has shifted since the beginning of the decade. Only Florida has a large in-migrant stream to Georgia, but the state has become an attractive venue of the significant higher income out-migration from the Midwest. States like Illinois, Wisconsin, Minnesota, Missouri, and Kansas all had the highest quintile of median incomes departing for Georgia in 2006 to 2007. There has also been a continuation of the exchange relationship between Georgia and certain states in the Northeast. This strand of states runs from North Carolina to New Hampshire along the coast. On the flip side of Georgia's highest income migrants, these states on the Atlanta seaboard are also recipients, representing this "exchange" relationship I noted. Florida also received some of Georgia's highest income households as does Washington, North Dakota, Missouri, Colorado, and Nevada.

Figure 16. County Migration Patterns, IRS Data on Tax Returns, 2006-2007



Note: Migration rates are the proportion of tax filings moving as stated between 2006 and 2007. *Source:* Internal Revenue Service, Statics of Income Division, and author's calculations.

I now focus on the overall patterns of recent migration among tax filers in the IRS migration data. The sub-state patterns of migration from the 2006 to 2007 data are illustrated in Figure 16. This composite of four maps for four different migration scenarios illustrates several important demographic patterns affecting Georgia. First, total migration rates are highest in the West, but pockets of total migration rates in Georgia are noteworthy, as illustrated by the darkest polygons visible to the reader. Atlanta and the Coastal counties in Georgia had high rates of total

migration. Since Florida has a strong exchange migration relationship with Georgia, it is instructive to observe that central and south Florida also have high rates, part of which is involved in this inter-state exchange. Second, and by contrast, the *non*-migration rate (or rate of "stayers") is the proportion of persons who did not leave the county during the observation year (2006-2007) illustrates how many Rust Belt counties maintained relatively higher shares of their populations. However, Georgia has a distinctively different pattern in that lower shares of county populations stayed in place (same house). Why this occurred becomes evident in the next panel, the one involving in-state migration. Georgia only trails Texas in the share of counties with higher migration rates where moves are from one county to another but all within the same state. Georgia's northern region, mainly the greater Atlanta area, as well as pockets scattered through south Georgia, had between five and ten percent of its population moving to somewhere else in the state. Third, contrast this pattern with the results in the final panel in Figure 16 which contains migration rates to other states. Georgia has only a small number of highest out-migration counties. Compare these results with those of Florida or many of the states in the West, and they stand in stark contrast. Thus, Georgia's current migration patterns for residents seem to be dominated by within-state moves rather than moves to another state. This suggests a cumulative effect of population growth should this pattern continue into the future. Recall that the region's natural increase patterns---long a demographic pattern in the South but with increased health care it should only get larger---will couple with in-migration and this tendency for residents to stay "put" to shape Georgia's population growth well into the future.

Discussion

Georgia is in a high growth period in its history, the ninth-fastest growing state nationally since the year 2000. Migration has been an important part of this population growth. The question of how does its college-educated human capital behave in terms of in- and out-migration is important for the state's future. There is a significant loss (or out-flow) of college-educated talent out of the state. However, Georgia enjoys a significant in-flow of college-educated persons, resulting in a positive net flow of college-educated human capital into the state. Moreover, Georgia similarly has a positive net flow of higher income migrants, adding to the benefits enjoyed by the state in terms of patterns of migration. These patterns have continued throughout the decade since the year 2000.

The movement of college-educated talent varies by age and pattern of movement. The highest rates of movement occurred among 25-39 year olds. Migration tends to successively decline as age increases. At all ages, the highest rates are for moves *within* the state rather than for migration outside of Georgia.

Further analysis of migration rates by occupational and industrial groups shows that Georgia also has a net gain of in-migrants within virtually all of them. The percentage of persons leaving Georgia was lower than the percentage of persons moving to Georgia in every occupational group or industrial category with the sole exception of the military. Thus, Georgia does not in the aggregate lose human capital in any specific labor force group but, rather, has a higher rate of specific classifications of workers moving into Georgia than leaving it.

The greatest flow of college-educated adults to Georgia is from Florida, where Georgia reciprocates in sending baccalaureates to a significant degree. Other states sending the highest numbers of their college-educated are Alabama, North Carolina, and New York. Georgia also reciprocates with college-educated migration flows to Alabama, North Carolina, and New York. Georgia also sends college-educated adults to Tennessee, Virginia, California, and Texas. However, the net difference between the college-educated out-migration and in-migration is positive, meaning that Georgia gains in the destination venue for college-educated and higher average earnings adults.

The further analysis of "creative talent"---young, single, college-educated adults---reveals a significant and positive pattern for Georgia and its role in the South. This bodes well in terms of potential opportunities for Georgia's economy and quality of living. The West region led the nation in attracting these individuals with net gains of 86 per 1,000, while the South was the only other region with a positive net flow, at 17 per 1,000. With a net migration of over 150 such migrants per 1,000, Georgia dominates the South, as the only other state with a positive net flow is North Carolina with 50 per 1,000. This is a very positive finding for Georgia's human capital flow. A further analysis at the metropolitan area level shows distinctly that it is Atlanta that drives Georgia's leadership position as an attractive destination for the "best and brightest" creative human capital.

This pattern puts Atlanta as one of those cities that Richard Florida described (2009) as having the "right stuff" to attract concentrations of creative talent. The recovery of the Georgia economy, long driven by Atlanta's collection of regional corporate centers and local entrepreneurship, will depend largely on the state's policies to capitalize on this strategic asset. The "spatial fix" for Georgia's economy centers on building out Atlanta as a hub but with growing the other metropolitan centers, too. While these data show that the "right place" to attract young, creative talent in the entire region is Atlanta, the increased investments in educational, communication, and transportation infrastructure in the state toward spatially connected communities is the right direction, if Richard Florida is correct. The "creative change" afforded by the current economic recession is an opportunity to focus on such patterns of growth, leveraging the clear demographic patterns for young, college-educated human capital concentrating in the greater Atlanta area, which themselves tend to produce even concentrations of such talent (see Florida 2009).

While it is common knowledge that the college-educated tend to earn more than those without higher education credentials, this study was able to document the magnitude of the recent pattern for Georgians. I was also able to examine whether it pays off in higher earnings to move, whether that is to Georgia from another state, from Georgia to another state, move around Georgia, or immigrate to Georgia from abroad.

The average pay-off in earnings for acquiring higher education in Georgia is substantial but does vary by age, which conforms to a general labor force pattern. The overall amount in 2006 was about $15,000 for bachelor's degrees versus high school or some college only during the early career (ages 25-39). This increases to about $25,000 by mid-career (ages 40-54) and remains at least $20,000 for older employees (ages 55+). The gap for post-graduate vs. bachelor's degree-holders is almost as large, ranging from $5,000 during the early career (ages 25-39) to $21,000

during the mid-career, and around $14,000. These differences are substantial. They represent an important difference in the lifestyle and opportunities afforded households with one, and especially two, employed adults with a college education or beyond.

Women, however, face a different experience in regards to the relationship of higher education credentials and earnings. At every level of completed education and age group, women earn less than comparable men in the year 2000 data. Gains at each educational level for men moving to Georgia were not present for women and, in the case of post-graduate degrees, are reversed. What these results tell us is that the social realities faced by women versus men are more complex for women. A more complete analysis of factors shaping earnings for men and women is beyond the scope of this study but is needed so that policy-makers and private sector companies understand the labor force and the prospective employment pool.

There are significant gains in the pay-off of higher education for Georgians moving to certain states outside of Georgia. The same was found for in-migrants to Georgia coming from certain states. These results place a context around the fabric of Georgia's economy, suggesting that Georgia's economy is still transitioning to one that values the talents that higher education brings to the labor market. With the rather dramatic transition of the U.S. economy from manufacturing to service-oriented and technology sectors, Georgia faces a development period that is crucial to where it will be positioned nationally in the future. *How it leverages college educated talent will likely make a substantial difference in that ranking* (Glaeser and Saiz 2003; Florida 2002, 2009).

As a migration destination, Georgia also benefits from receiving higher income new residents. Internal Revenue Service data show that the Midwest and Northeast have sent higher income residents to Georgia in high numbers since 2000. Georgia, on the other hand, has had reciprocal higher income streams to states in these two regions as well as in the Southwest. The patterns of where Georgia's higher income migrants originate have shifted somewhat during the decade, with the New England region continuing to include significant origin states but the Midwest providing a higher number of states with higher income migrants to Georgia. Part of the benefits of Georgia being the recipient to both college-educated and higher income migrants lies in their consumer spending behavior, resulting in greater private business support and higher tax revenues on the public side.

As a state, Georgia's recent migration patterns occur mostly *within* the state. This pattern is somewhat like that of Texas. The rates of out-migration in Georgia are highest in metropolitan areas. The higher rates of non-migration (remaining in the same county) are in more rural areas of Georgia. This pattern will continue to separate northern Georgia, dominated by the greater Atlanta metropolitan area, from southern Georgia, populated by some metropolitan areas but mostly rural localities. As Florida (2009) suggests, making the transportation and communication linkages between the greater Atlanta area and other urban centers around the state (and in surrounding cities, such as Chattanooga, Greenville, Montgomery, Myrtle Beach, Jacksonville) will yield great rewards in facilitating talented workers matching up their residential (lifestyle) preferences and their work opportunities in a way that eases the burden on the environment but maximizes the access and participation in the regional amenities which attracted (or kept) them here.

Georgia's overall population growth over the decade makes it the ninth fastest-growing state in the U.S. With the present demographic conditions in play, it is reasonable to expect Georgia to continue to be the main attractor for young creative human capital in the region. How the state capitalizes on this human capital to enhance local economies is a key policy question resulting from this study. Like the rest of the South, Georgia's population growth is fueled by natural increase---the greater number of births than deaths---but topped off by a positive net migration. The positive net flow of college-education adults reflects a modest "brain gain," at least in the Atlanta area, rather than "brain drain" that is the bane of many rural areas, especially those in the Midwest region. The recognition by state leaders, both in the public and private sectors, of the opportunities that the flow of college-educated human capital into and out of the state represents is a first step in capitalizing on it. Catching a ride on the high-growth, high-demand economic sectors identified by the Department of Labor in 2003 would be a wise strategy for state policy-makers to seriously consider.

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