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TRIANGLE J COUNCIL OF GOVERNMENTS

Kerr-Tar Regional Council Of Governments

Equitable Growth Profile of the

Research Triangle Region

Summary

The Research Triangle Region is undergoing a profound demographic transformation. How the region responds will significantly influence future prosperity. People of color increasingly drive the region's population growth. Today, a quarter of the region's seniors are people of color, as compared to nearly half of the region's youth.

Ensuring that communities of color are full and active participants in the region's economy is critical to the next generation of growth and economic development. The region's economy could have been about $21.8 billion stronger in 2012 if there were no economic differences by race. By developing good jobs and paths to financial security for all, creating opportunity across the region and strengthening education from cradle to career, Research Triangle leaders can put all residents on the path toward reaching their full potential, securing a brighter future for the entire region.

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Introduction
Foreword

The Research Triangle Region has a long tradition of growth and change, as its research universities and technologically sophisticated businesses have served markets and attracted people from across the United States and around the world. From the city cores of Raleigh and Durham to small towns and rural areas throughout the region, the communities that make up the Research Triangle have a common goal of seeing that all its people have pathways to success.

Over the past two years, both the Triangle J Council of Governments and the Kerr-Tar Council of Governments – the regional councils serving the greater Triangle region – have worked with diverse groups of stakeholders to identify and prioritize strategies we can purse to sustain the region's prosperity and address its economic challenges. These Comprehensive Economic Development Strategies (CEDS) are blueprints for cooperative action to improve economic outcomes for all of our citizens.

For these strategies to succeed, we know we need to prepare for the region we will be, not the region we are today. That is why we partnered with PolicyLink and the USC Program for Environmental and Regional Equity (PERE) to produce this Equitable Growth Profile. It provides an excellent evidence-based foundation for understanding the challenges and opportunities of our region's shifting demographics. It can help our region's diverse communities focus on the resources and opportunities they need to participate and prosper. We hope that this profile is widely used by business, government, academic, philanthropic and civic leaders working to create a stronger, more engaged, and more resilient region.

Jennifer Robinson
Chair
Triangle J Council of Governments

Alec Senter
Chair
Kerr-Tar Council of Governments

Introduction
Overview

Across the country, regional planning organizations, local governments, community organizations and residents, funders, and policymakers are striving to put plans, policies, and programs in place that build healthier, more vibrant, more sustainable, and more prosperous regions.

Equity – ensuring full inclusion of the entire region's residents in the economic, social, and political life of the region, regardless of race, ethnicity, age, gender, neighborhood of residence, or other characteristic – is an essential element of the plans.

Knowing how a region stands in terms of equity is a critical first step in planning for equitable growth. To assist communities with that process, PolicyLink and the Program for Environmental and Regional Equity (PERE) developed a framework to understand and track how regions perform on a series of indicators of equitable growth.

This profile presents an analysis of equitable growth in the Research Triangle Region of North Carolina. It was developed in collaboration with the Kerr-Tar and Triangle J Council of Governments along with an advisory group of local organizations. We hope that it is broadly used by advocacy groups, elected officials, planners, business leaders, philanthropy, and others working to build a stronger and more equitable Research Triangle Region.

The data in this profile are drawn from a regional equity database that includes data for the largest 150 regions in the United States. This database incorporates hundreds of data points from public and private data sources including the U.S. Census Bureau, the U.S. Bureau of Labor Statistics, the Behavioral Risk Factor Surveillance System, and Woods & Poole Economics, Inc. See the "Data and methods" section for a more detailed list of data sources.

Defining the region

For the purposes of the equitable growth profile and data analysis, we define the Research Triangle Region as the 13-county area depicted in the map to the left. This includes the seven counties served by the Triangle J Council of Governments, the five counties served by the Kerr-Tar Council of Governments and one other county that is integrally connected to them. All data presented in the profile use this regional boundary. Minor exceptions due to lack of data availability are noted in the "Data and methods" section beginning on page 63.

Introduction
Why equity matters now

The face of America is changing.

Our country's population is rapidly diversifying. Already, more than half of all babies born in the United States are people of color. By 2030, the majority of young workers will be people of color. And by 2043, the United States will be a majority people-of-color nation.

Yet racial and income inequality is high and persistent.

Over the past several decades, long standing inequities in income, wealth, health, and opportunity have reached unprecedented levels. And while most have been affected by growing inequality, communities of color have felt the greatest pains as the economy has shifted and stagnated.

Strong communities of color are necessary for the nation's economic growth and prosperity.

Equity is an economic imperative as well as a moral one. Research shows that equity and diversity are win-win propositions for nations, regions, communities, and firms. For example:

- More equitable nations and regions experience stronger, more sustained growth.[1]
- Regions with less segregation (by race and income) and lower income inequality have more upward mobility. [2]
- Companies with a diverse workforce achieve a better bottom-line.[3]
- A diverse population better connects to global markets.[4]

The way forward is an equity-driven growth model.

To secure America's prosperity, the nation must implement a new economic model based on equity, fairness, and opportunity.

Metropolitan regions are where this new growth model will be created.

Regions are the key competitive unit in the global economy. Metros are also where strategies are being incubated that foster equitable growth: growing good jobs and new businesses while ensuring that all – including low-income people and people of color – can fully participate and prosper.

[1] Manuel Pastor, "Cohesion and Competitiveness: Business Leadership for Regional Growth and Social Equity," OECD Territorial Reviews, Competitive Cities in the Global Economy, Organisation For Economic Co-Operation And Development (OECD), 2006; Manuel Pastor and Chris Benner, "Been Down So Long: Weak-Market Cities and Regional Equity" in *Retooling for Growth: Building a 21st Century Economy in America's Older Industrial Areas* (New York: American Assembly and Columbia University, 2008); Randall Eberts, George Erickcek, and Jack Kleinhenz, "Dashboard Indicators for the Northeast Ohio Economy: Prepared for the Fund for Our Economic Future" (Federal Reserve Bank of Cleveland: April 2006), http://www.clevelandfed.org/Research/workpaper/2006/wp06-05.pdf.

[2] Raj Chetty, Nathaniel Hendren, Patrick Kline, and Emmanuel Saez, "Where is the Land of Economic Opportunity? The Geography of Intergenerational Mobility in the U.S." http://obs.rc.fas.harvard.edu/chetty/website/v2/Geography%20Executive%20Summary%20and%20Memo%20January%202014.pdf

[3] Vivian Hunt, Dennis Layton, and Sara Prince, "Diversity Matters," (McKinsey & Company, 2014); Cedric Herring. "Does Diversity Pay?: Race, Gender, and the Business Case for Diversity." *American Sociological Review*, 74, no. 2 (2009): 208-22; Slater, Weigand and Zwirlein. "The Business Case for Commitment to Diversity." *Business Horizons* 51 (2008): 201-209.

[4] U.S. Census Bureau. "Ownership Characteristics of Classifiable U.S. Exporting Firms: 2007" Survey of Business Owners Special Report, June 2012, http://www.census.gov/econ/sbo/export07/index.html.

What is an equitable region?

Regions are equitable when all residents – regardless of their race/ethnicity, nativity, neighborhood of residence, or other characteristics – are fully able to participate in the region's economic vitality, contribute to the region's readiness for the future, and connect to the region's assets and resources.

Strong, equitable regions:

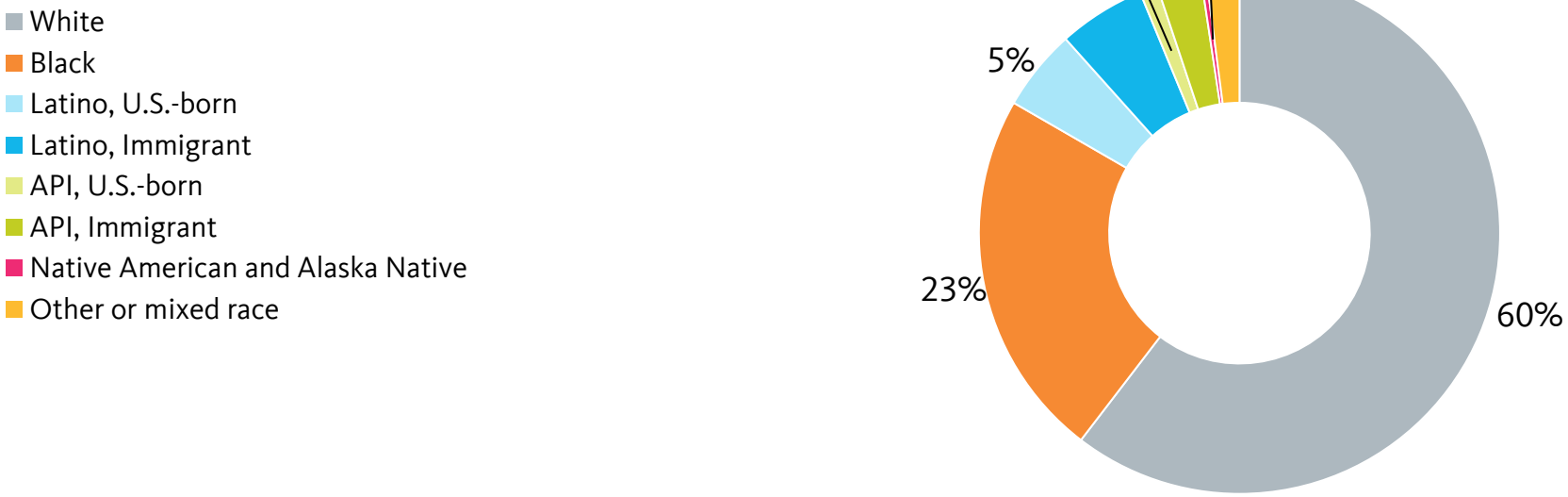
- Possess **economic vitality**, providing high-quality jobs to their residents and producing new ideas, products, businesses, and economic activity so the region remains sustainable and competitive.
- Are **ready for the future**, with a skilled, ready workforce, and a healthy population.
- Are **places of connection**, where residents can access the essential ingredients to live healthy and productive lives in their own neighborhoods, reach opportunities located throughout the region (and beyond) via transportation or technology, participate in political processes, and interact with other diverse residents.

Demographics

Who lives in the region and how is this changing?

The region is home to a diverse population. In the region, 40 percent of the residents are people of color, compared with 36 percent nationwide. The region has a large Black population and African Americans are by far the largest racial/ethnic group after Whites, followed by Latinos and Asians.

Race/Ethnicity and Nativity, 2012



Source: IPUMS.
Note: Data represent a 2008 through 2012 average.

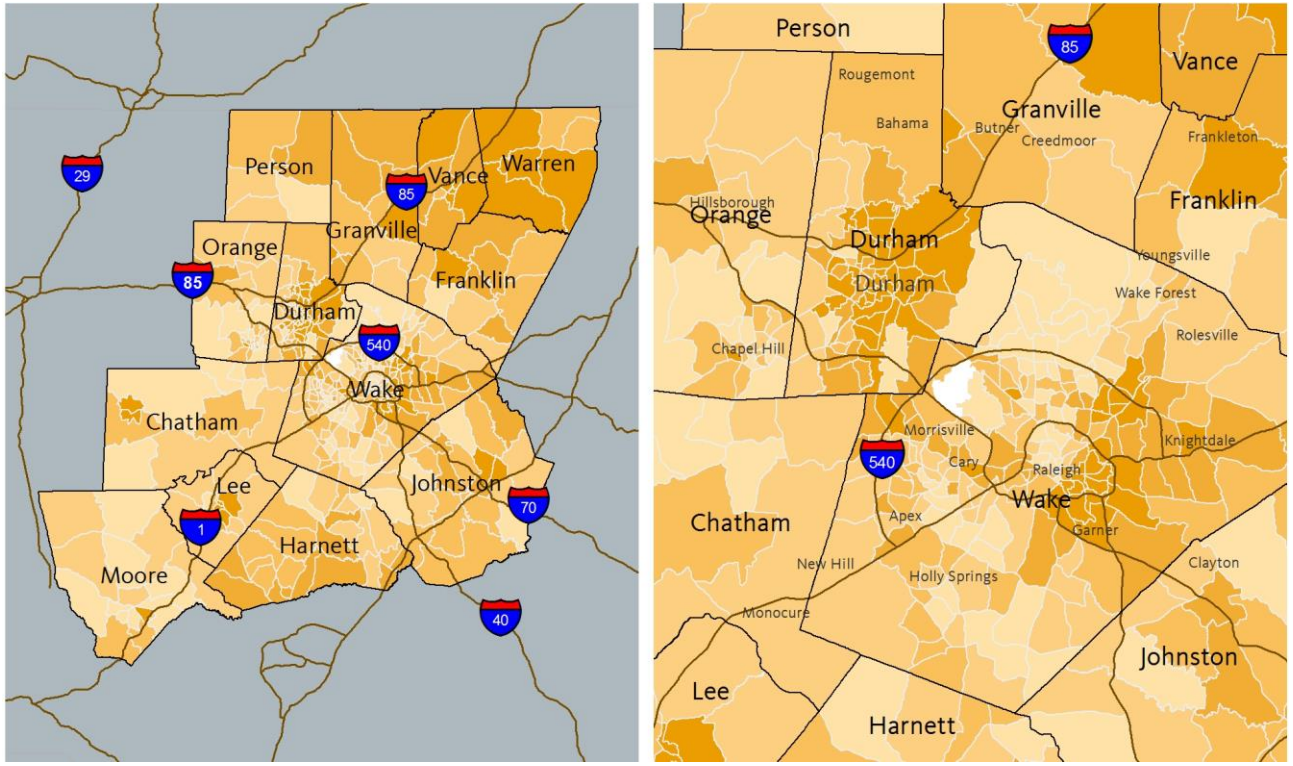
Demographics

Who lives in the region and how is this changing?

Communities of color are spread throughout the region, but are more concentrated in the north and east. The region's rural counties of the northeast and major cities are home to the most diverse populations.

Percent People of Color by Census Tract, 2012

- Less than 19%
- 19% to 28%
- 29% to 39%
- 40% to 56%
- 57% or more



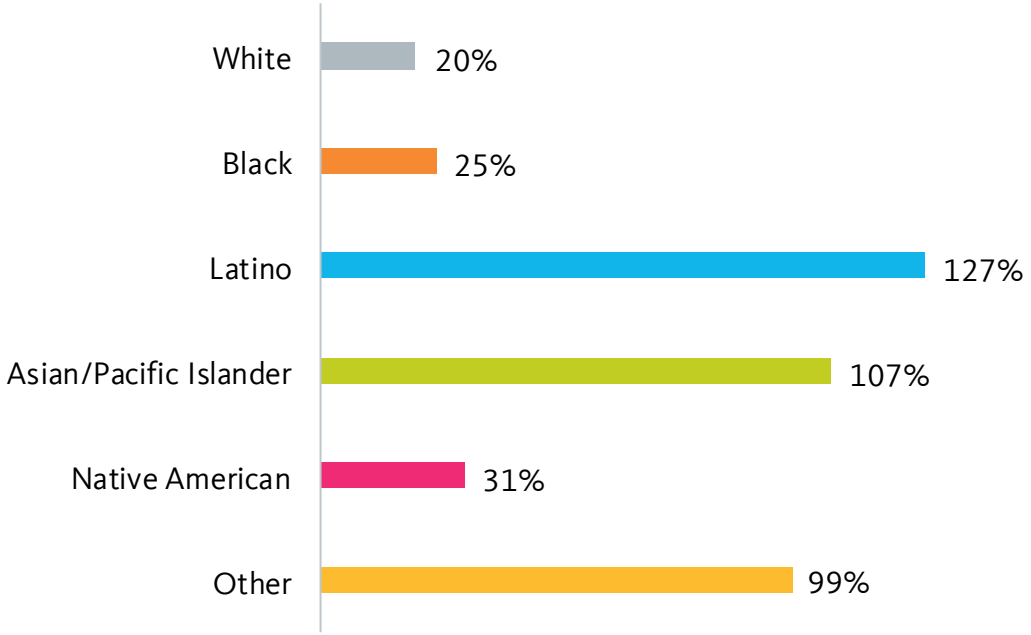
Source: U.S. Census Bureau.
Note: Data represent a 2008 through 2012 average.

Demographics

Who lives in the region and how is this changing?

The Latino and Asian populations are growing the fastest. In the past decade, the Latino population grew 127 percent, adding more than 116,000 new residents to the region. The Asian and the mixed/other race populations also experienced rapid growth (107 percent and 99 percent, respectively).

Growth Rates of Major Racial/Ethnic Groups, 2000 to 2010



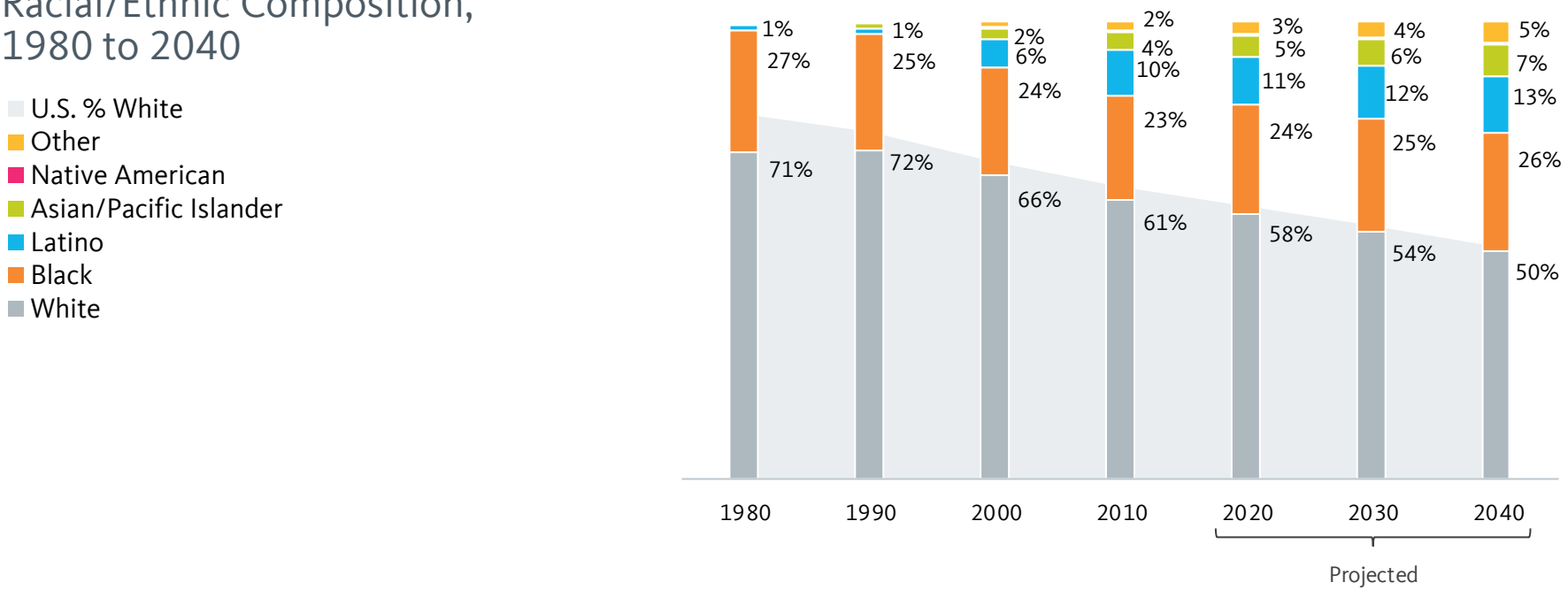
Source: U.S. Census Bureau.

Demographics

Who lives in the region and how is this changing?

The region is undergoing a major demographic shift. The region will become majority people of color around 2040, just before the nation does. Its Black, Latino, Asian, and mixed race populations will all continue to grow steadily over the next several decades.

Racial/Ethnic Composition, 1980 to 2040



Source: U.S. Census Bureau; Woods & Poole Economics, Inc.

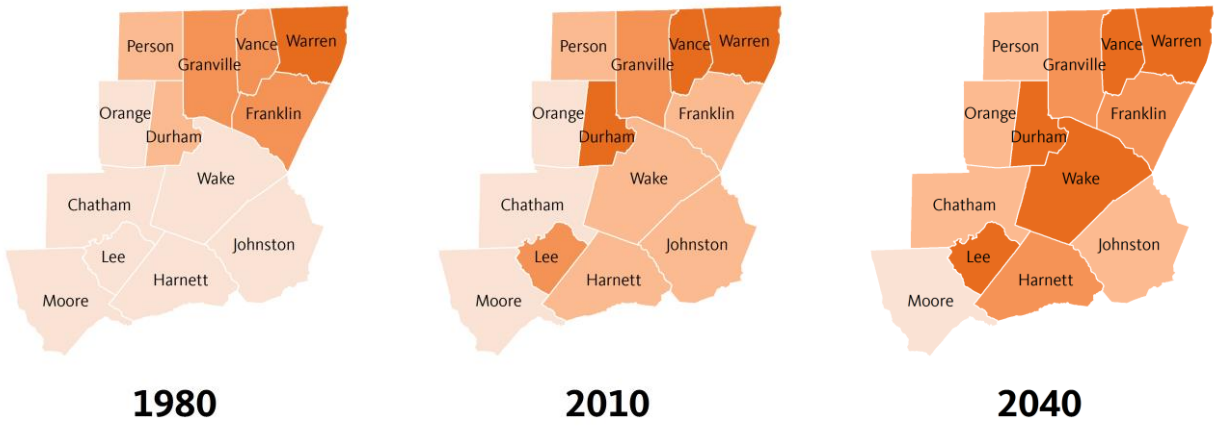
Demographics

Who lives in the region and how is this changing?

Diversity is increasing throughout the region. Between 2010 and 2040, the share of people of color is projected to rise in every county, with Lee and Wake Counties becoming majority people of color. In 2040, two-thirds of the region's population will live in majority people-of-color counties.

Percent People of Color by County, 1980 to 2040

- Less than 30%
- 30% to 39%
- 40% to 49%
- 50% or more



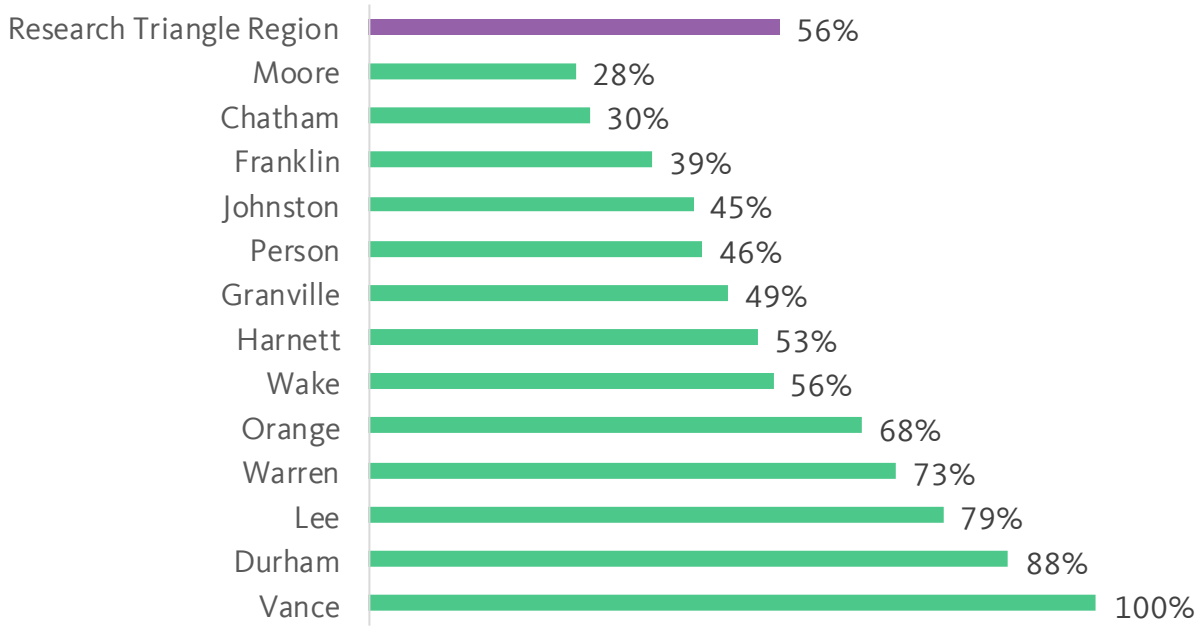
Sources: U.S. Census Bureau; Woods & Poole Economics, Inc.

Demographics

Who lives in the region and how is this changing?

In the past decade, communities of color contributed the majority of population growth (56 percent). People of color contributed the majority of net growth in Harnett, Wake, Orange, Warren, Lee, and Durham counties and all of the net growth in Vance County.

Share of Population Growth Attributable to People of Color by County, 2000 to 2010



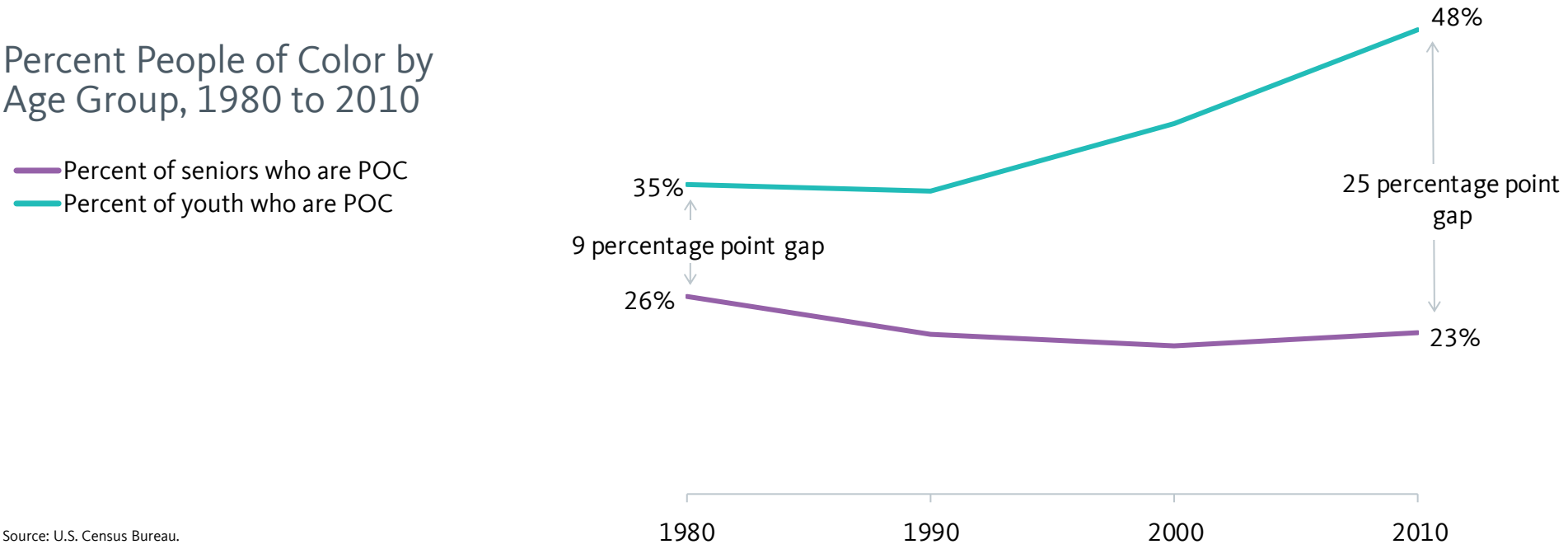
Source: U.S. Census Bureau.

Demographics

Who lives in the region and how is this changing?

There is a growing racial generation gap. Today, 48 percent of youth in the region are people of color, compared to 23 percent of seniors. This 25-percentage-point gap has more than doubled since 1980, but is similar to the national average (26 percentage points).

Percent People of Color by Age Group, 1980 to 2010



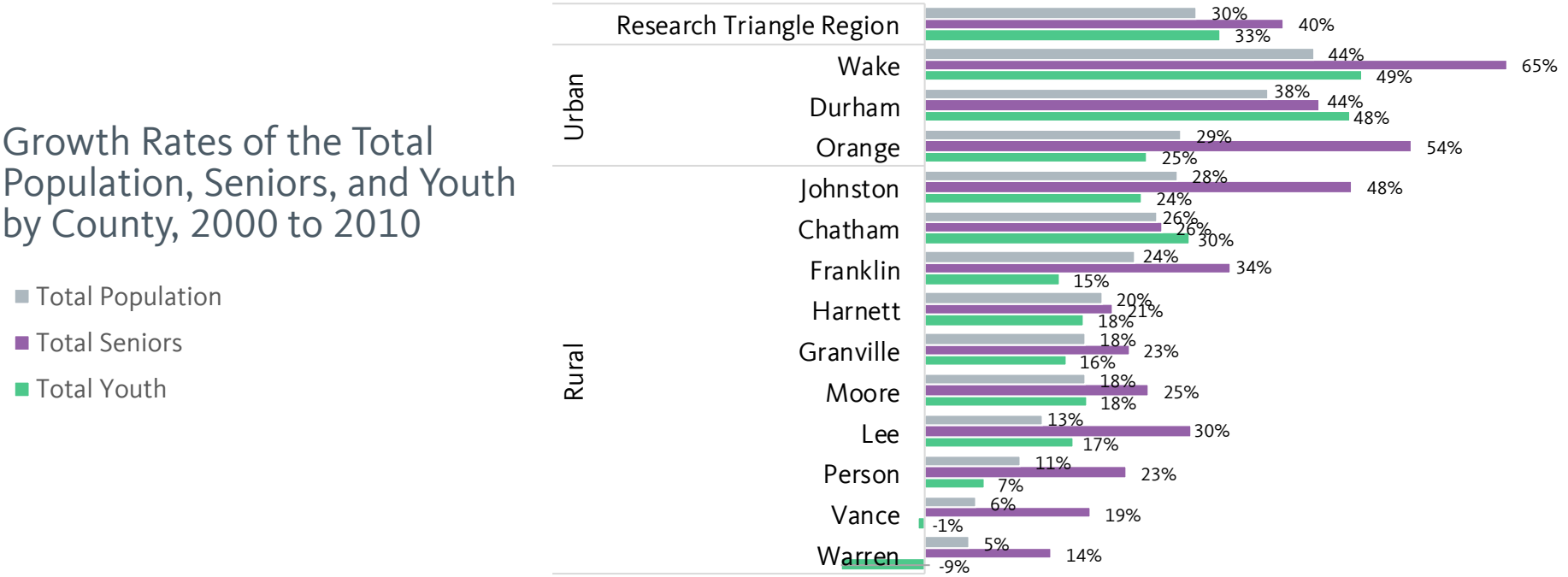
Source: U.S. Census Bureau.
Note: Youth include persons under age 18 and seniors include those age 65 or older.

Demographics

Who lives in the region and how is this changing?

The senior population is contributing to growth throughout the region. Growth in the senior population has outpaced that of the youth population in all but two counties – Orange and Chatham.

Growth Rates of the Total Population, Seniors, and Youth by County, 2000 to 2010



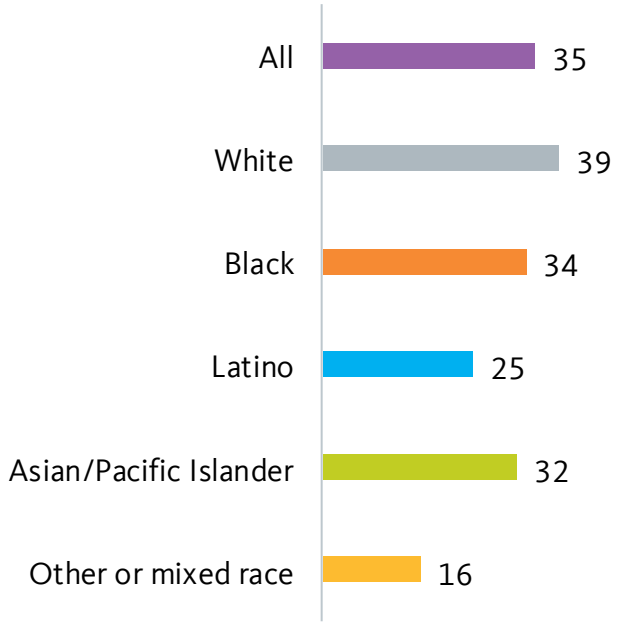
Source: U.S. Census Bureau.
Note: Youth include persons under age 18 and seniors include those age 65 or older.

Demographics

Who lives in the region and how is this changing?

The region's fastest-growing demographic groups are comparatively young. The region's Latino population has a median age of 25, and the Asian population has a median age of 32, whereas the White population has a median age of 39.

Median Age by Race/Ethnicity, 2012



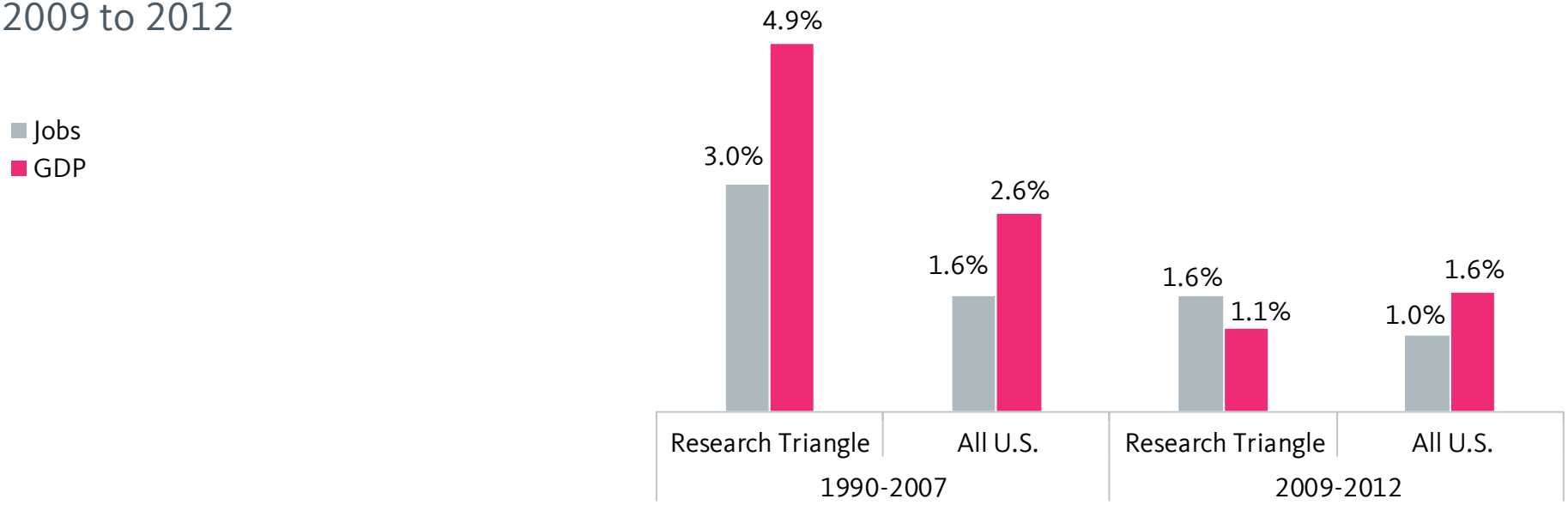
Source: IPUMS.
Note: Data represent a 2008 through 2012 median.

Inclusive growth

Is the region experiencing robust economic growth?

The region is recovering from the Great Recession. Pre-downturn, the region's economy was performing stronger than average in terms of both job and GDP growth compared with the nation. It hasn't caught up with its past growth rates. Although the region continues to have an above-average rate of job growth, GDP growth has slowed.

Annual Average Growth in Jobs and GDP, 1990 to 2007 and 2009 to 2012



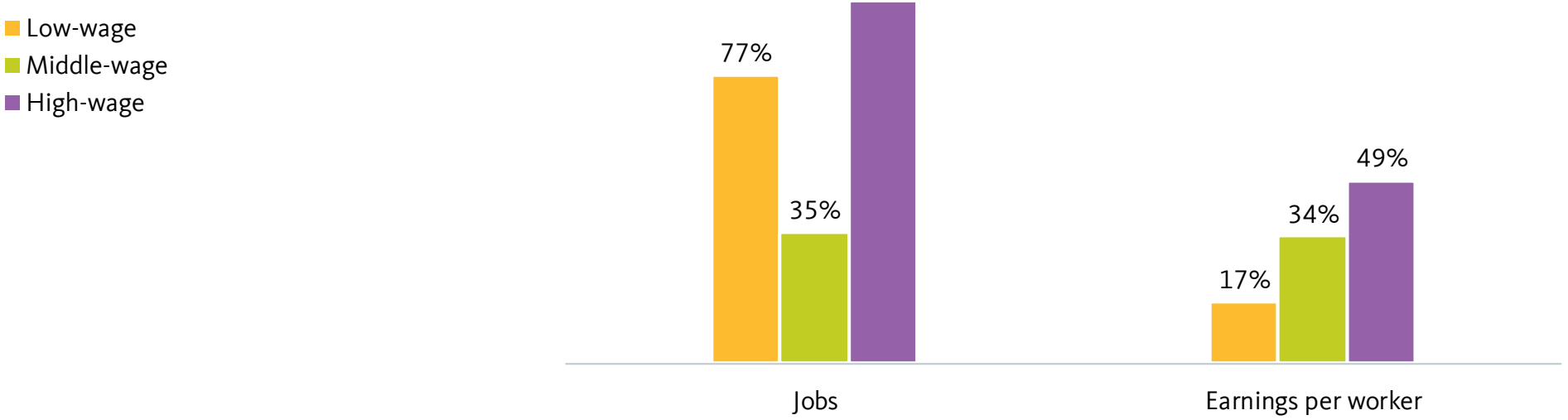
Source: U.S. Bureau of Economic Analysis.

Inclusive growth

Is the region growing good jobs?

The region is growing low- and high-wage jobs faster than middle-wage jobs. Job growth was strong overall but the region saw less growth of middle-wage jobs. High-wage workers saw the greatest wage gains, followed by middle-wage workers. Low-wage workers saw the smallest wage increases.

Growth in Jobs and Earnings by Industry Wage Level, 1990 to 2012



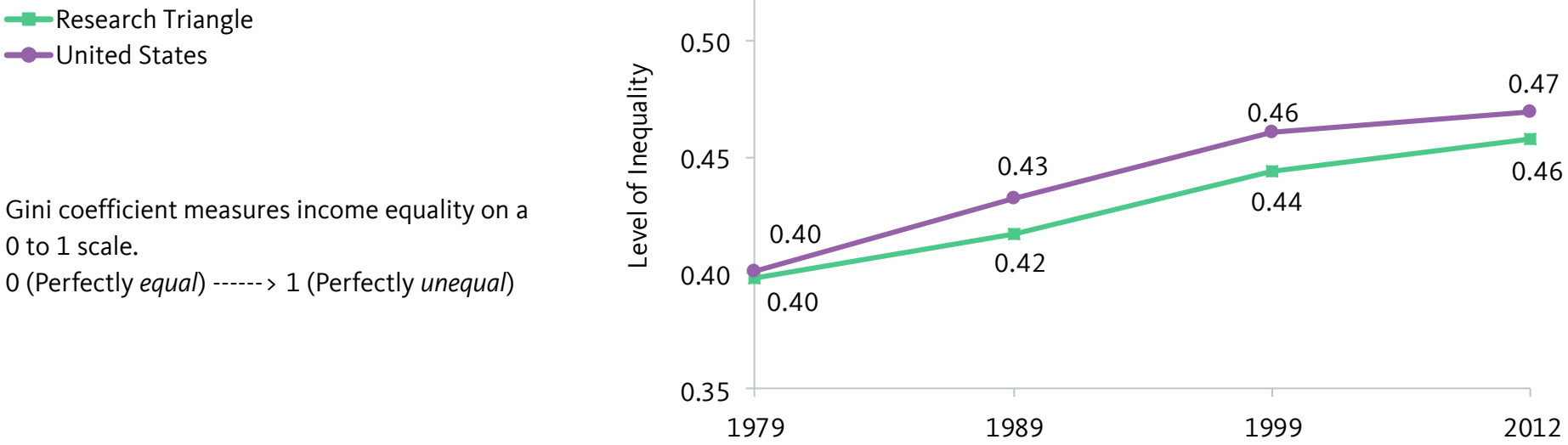
Source: U.S. Bureau of Labor Statistics; Woods & Poole Economics, Inc. Universe includes all jobs covered by the federal Unemployment Insurance (UI) program.

Inclusive growth

Is inequality low and decreasing?

Income inequality is on the rise in the region. Inequality is slightly lower than the national average, but has steadily risen over the past three decades.

Income Inequality, 1979 to 2012



Gini coefficient measures income equality on a 0 to 1 scale.
0 (Perfectly *equal*) ------> 1 (Perfectly *unequal*)

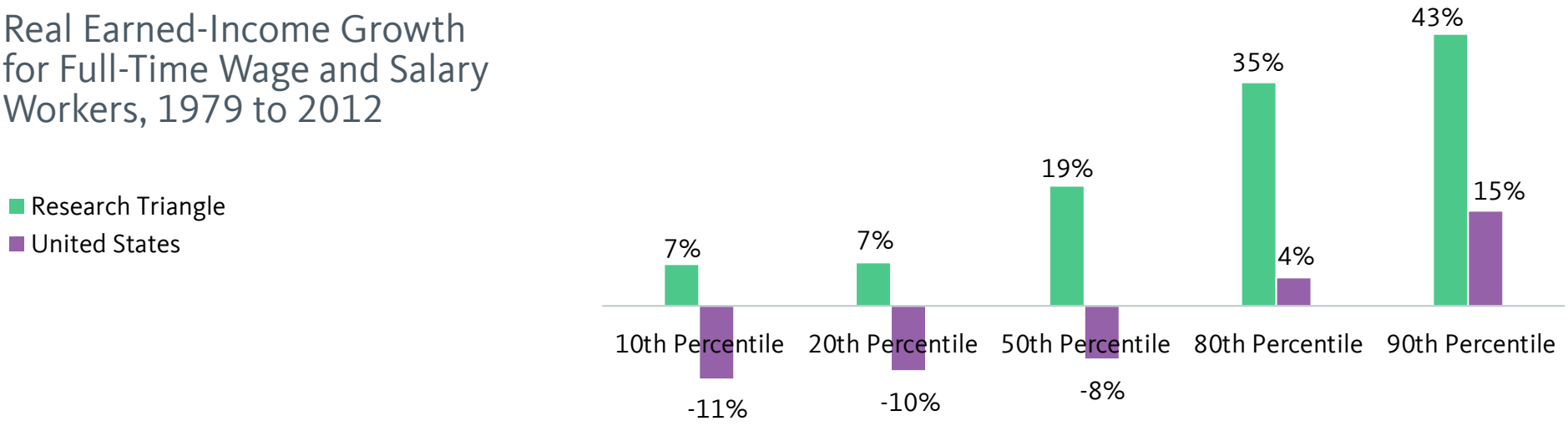
Source: IPUMS.
Note: Data for 2012 represent a 2008 through 2012 average.

Inclusive growth

Are incomes increasing for all workers?

Wages are rising unequally. Across the board, the region's workers are seeing above-average wage increases, but wage gains are much higher for top earners than for those in the lower half of the income spectrum. Workers at the 20th percentile and below have seen very modest gains (7 percent).

Real Earned-Income Growth for Full-Time Wage and Salary Workers, 1979 to 2012



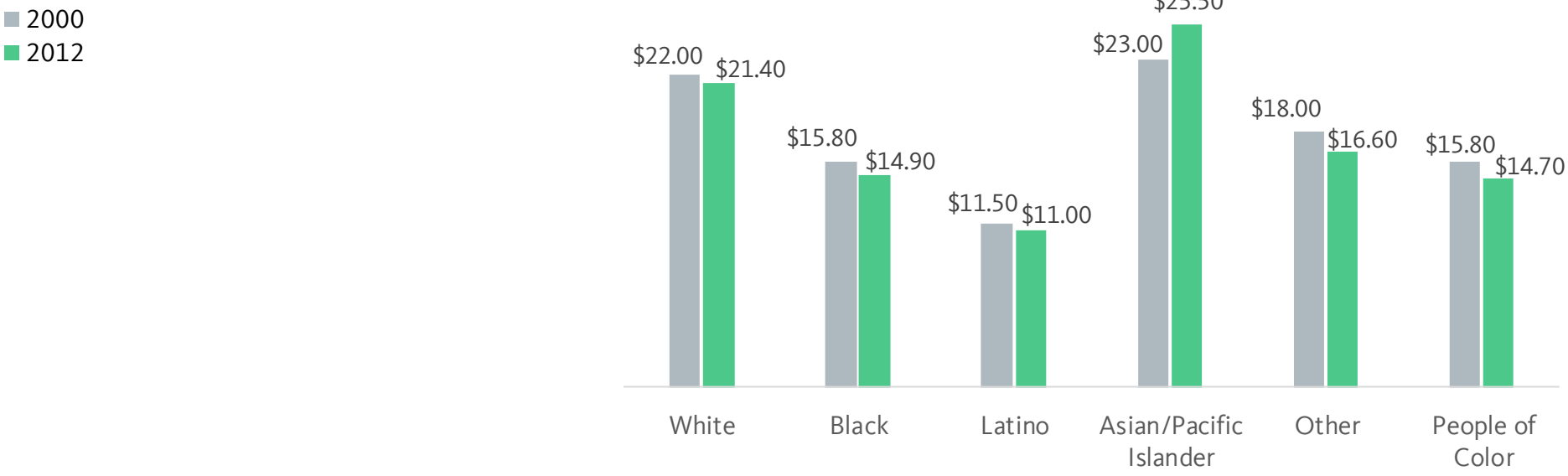
Source: IPUMS. Universe includes civilian noninstitutional full-time wage and salary workers ages 25 through 64.
Note: Data for 2012 represent a 2008 through 2012 average.

Inclusive growth

Are incomes increasing for all workers?

There is a persistent racial gap in wages. Looking over the past decade, wages have decreased slightly for all workers (except for Asians), and there has been no improvement in the racial wage gap. People of color earn about $7 less per hour than Whites in the region.

Median Hourly Wage by Race/Ethnicity, 2000 and 2012



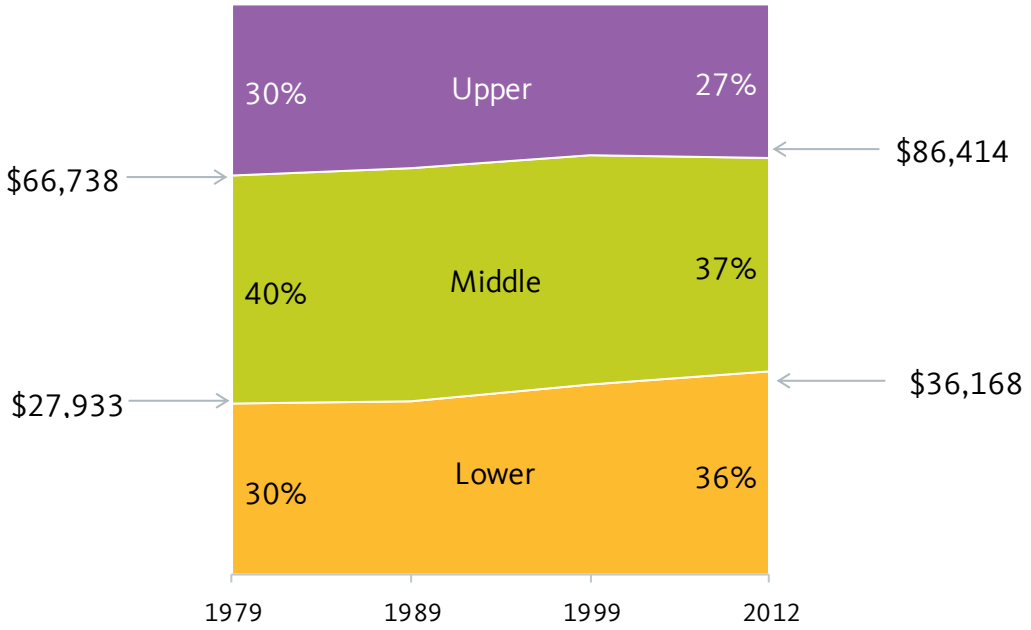
Source: IPUMS. Universe includes the civilian noninstitutional population ages 25 through 64.
Note: Data for 2012 represent a 2008 through 2012 average. Values are in 2010 dollars.

Inclusive growth

Is the middle class expanding?

The middle class is shrinking. Since 1979, the share of households with high incomes declined from 30 percent to 27 percent, while the middle class has declined from 40 percent to 37 percent of households. The share of lower-income households has increased from 30 percent to 36 percent.

Households by Income Level, 1979 and 2012



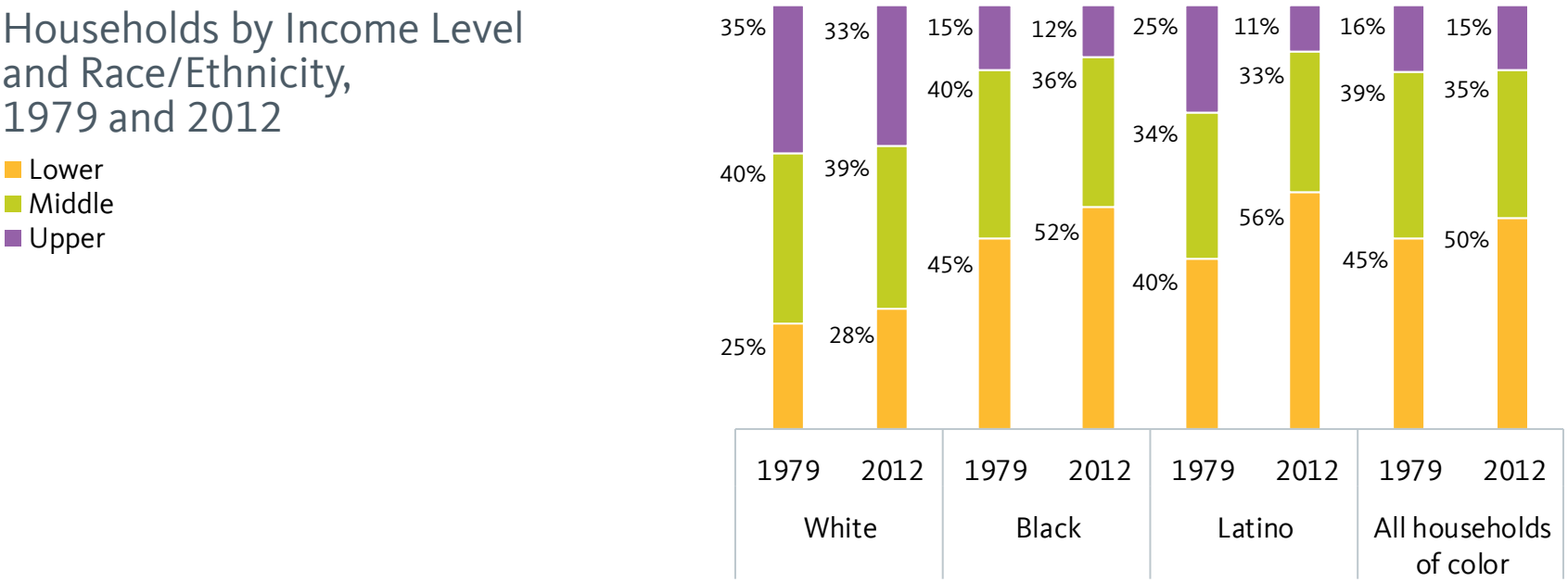
Source: IPUMS. Universe includes all households (no group quarters).
Note: Data for 2012 represent a 2008 through 2012 average. Dollar values are in 2010 dollars.

Inclusive growth

Is the middle class becoming more inclusive?

The loss of middle-class standing is more prominent among communities of color. The share of households of color that are middle class shrank 4 percentage points since 1979, versus 1 percentage point for White households. Latinos experienced the biggest losses in upper-income status and the largest growth in lower-income status.

Households by Income Level and Race/Ethnicity, 1979 and 2012



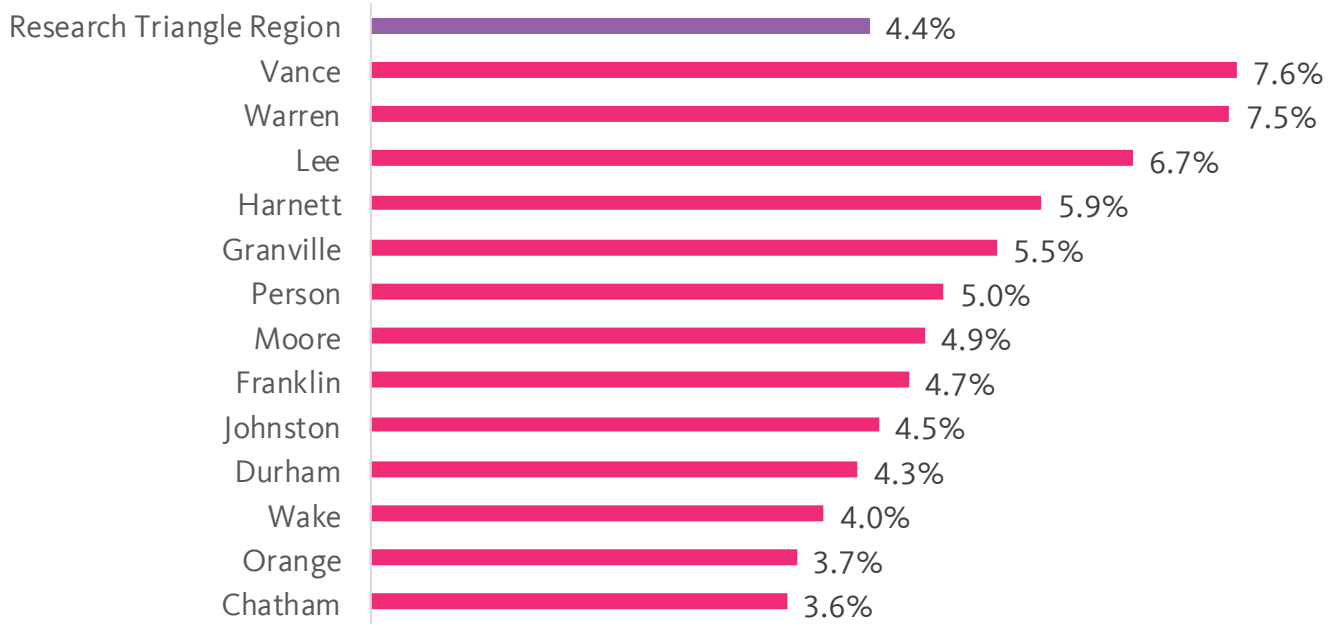
Source: IPUMS. Universe includes all households (no group quarters).
Note: Data for 2012 represent a 2008 through 2012 average.

Full employment

How close is the region to reaching full employment?

Several counties stand out for their high levels of unemployment. As of August 2014, the region's unemployment rate was 4.4 percent, lower than the U.S. rate of 5.6 percent. Vance, Warren, and Lee counties had particularly high rates of unemployment (between 6.7 and 7.6 percent).

Unemployment Rate by County, December 2014



Source: U.S. Bureau of Labor Statistics. Universe includes the civilian noninstitutional population ages 16 and older.

Full employment

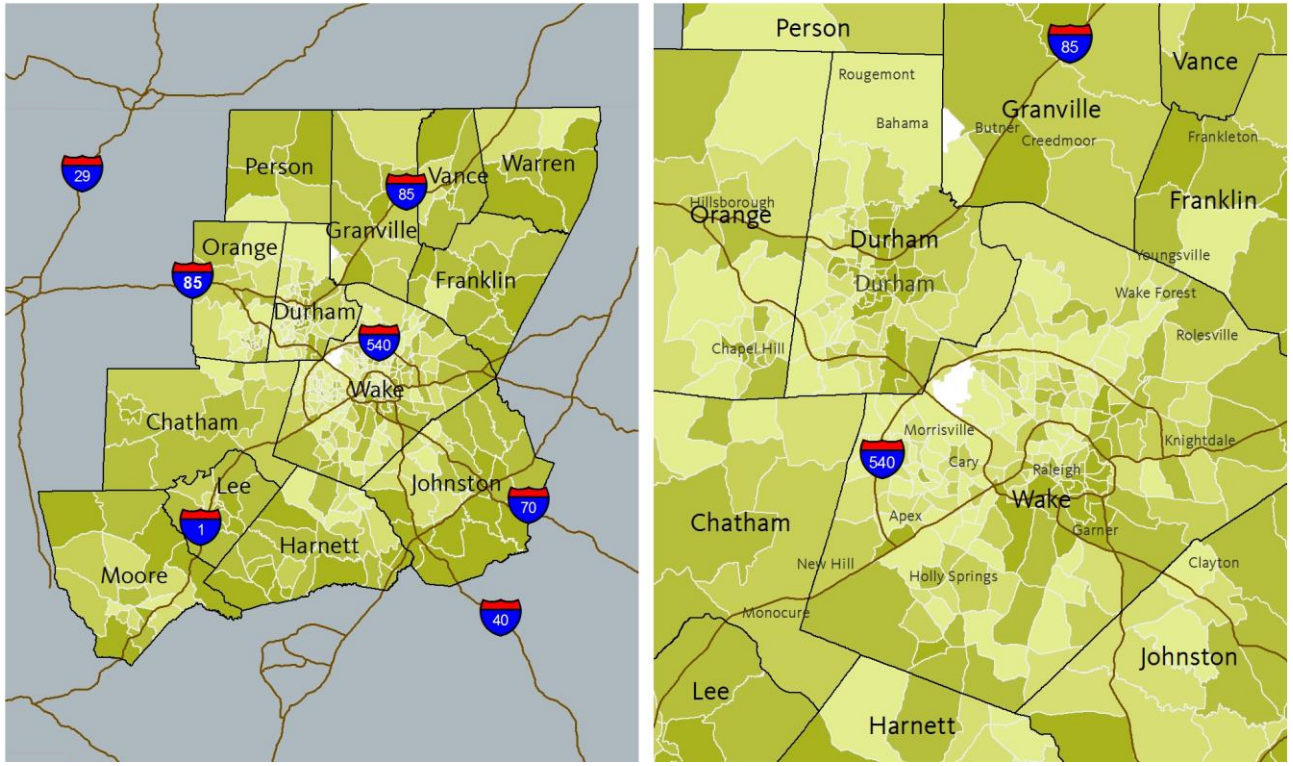
How close is the region to reaching full employment?

But every county has pockets of high unemployment.

Outlying, rural counties have pockets of high unemployment as do the urban centers in Wake, Durham, and Orange counties. Neighborhoods with high unemployment exist in the cities of Raleigh, Durham, Garner, and Chapel Hill.

Unemployment Rate by Census Tract, 2012

- Less than 5%
- 5% to 6%
- 7% to 8%
- 9% to 12%
- 13% or more



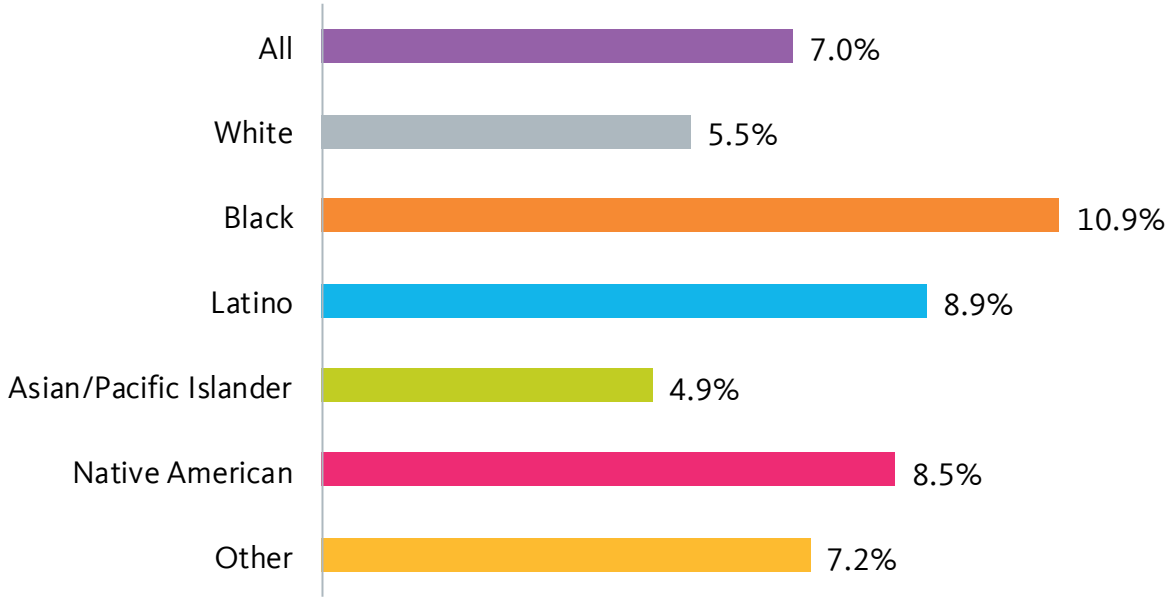
Source: U.S. Census Bureau. Universe includes the civilian noninstitutional population ages 16 and older.
Note: Data represent a 2008 through 2012 average. Areas in White are missing data.

Full employment

How close is the region to reaching full employment?

African Americans and Latinos face comparatively higher rates of joblessness. In 2012, nearly 11 percent of Blacks and 9 percent of Latinos and Native Americans were unemployed compared to only 5.5 percent of Whites.

Unemployment Rate by Race/Ethnicity, 2012



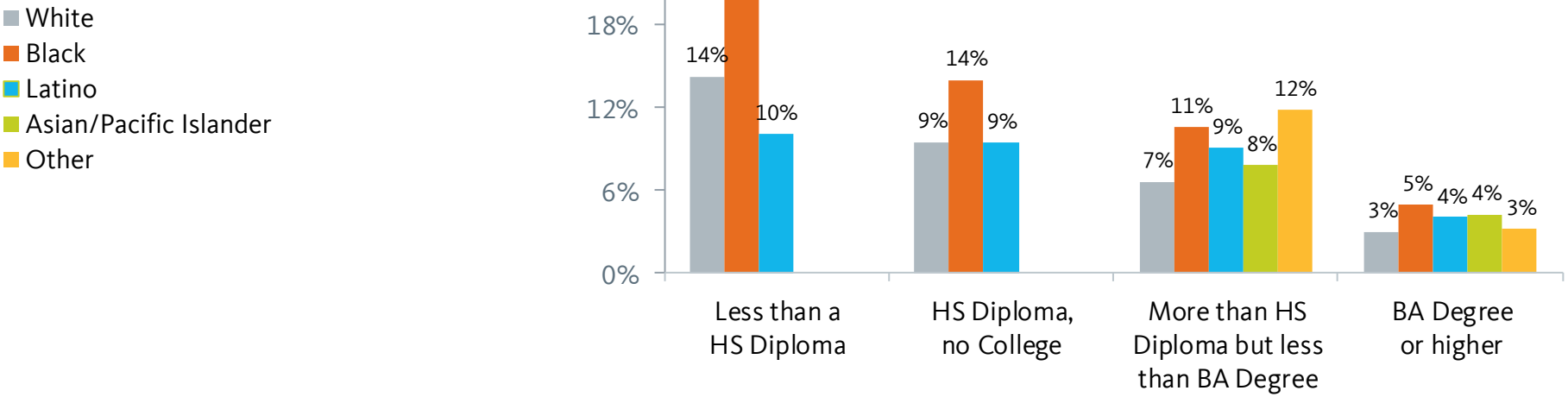
Source: IPUMS. Universe includes the civilian non-institutional population ages 25 through 64.
Note: The full impact of the Great Recession is not reflected in the data shown, which is averaged over 2008 through 2012. These trends may change as new data become available.

Full employment

How close is the region to reaching full employment?

Unemployment decreases as educational levels rise, but racial gaps remain. Blacks have the highest unemployment rates across levels of education. Less-educated Latinos do well on unemployment compared with their White counterparts at lower levels of education, but fare worse at higher levels.

Unemployment Rate by Educational Attainment and Race/Ethnicity, 2012



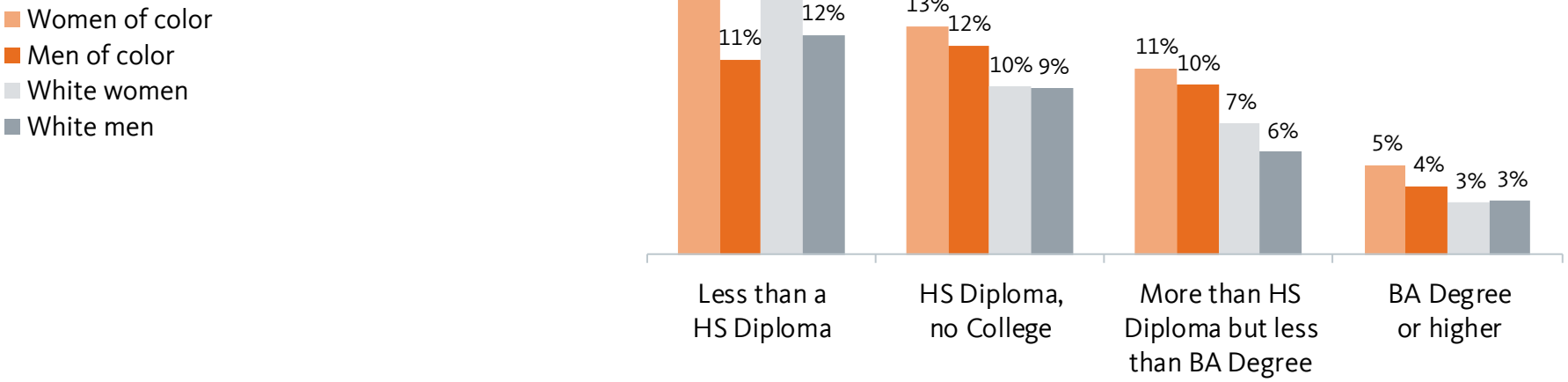
Source: IPUMS. Universe includes the civilian noninstitutional population ages 25 through 64.
Note: Unemployment for Asians and Others with a HS diploma or less is excluded due to small sample size. Data represent a 2008 through 2012 average.

Full employment

How close is the region to reaching full employment?

Women of color have the highest rates of unemployment at every level of education. Both White women and women of color have higher unemployment than their male counterparts. For White women, the employment gap closes completely with higher education; for women of color, it does not.

Unemployment Rate by Educational Attainment, Race/Ethnicity, and Gender, 2012



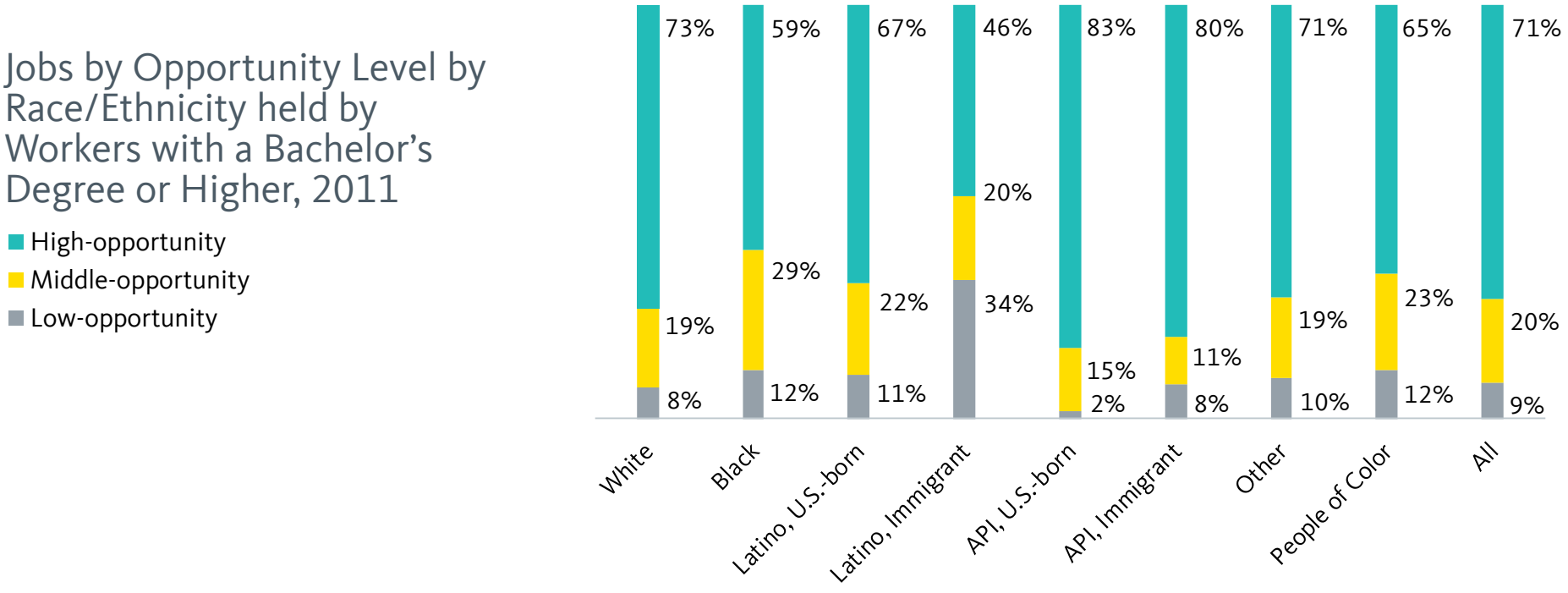
Source: IPUMS. Universe includes the civilian noninstitutional population ages 25 through 64.
Note: Data represent a 2008 through 2012 average.

Access to good jobs

Can workers access high-opportunity jobs?

Access to high-opportunity jobs varies significantly by race/ethnicity throughout the region, even among workers with four-year degrees. Nearly three-quarters of college-educated Whites hold high-opportunity jobs, compared with only 46 percent of Latino immigrants and 59 percent of Blacks.

Jobs by Opportunity Level by Race/Ethnicity held by Workers with a Bachelor's Degree or Higher, 2011



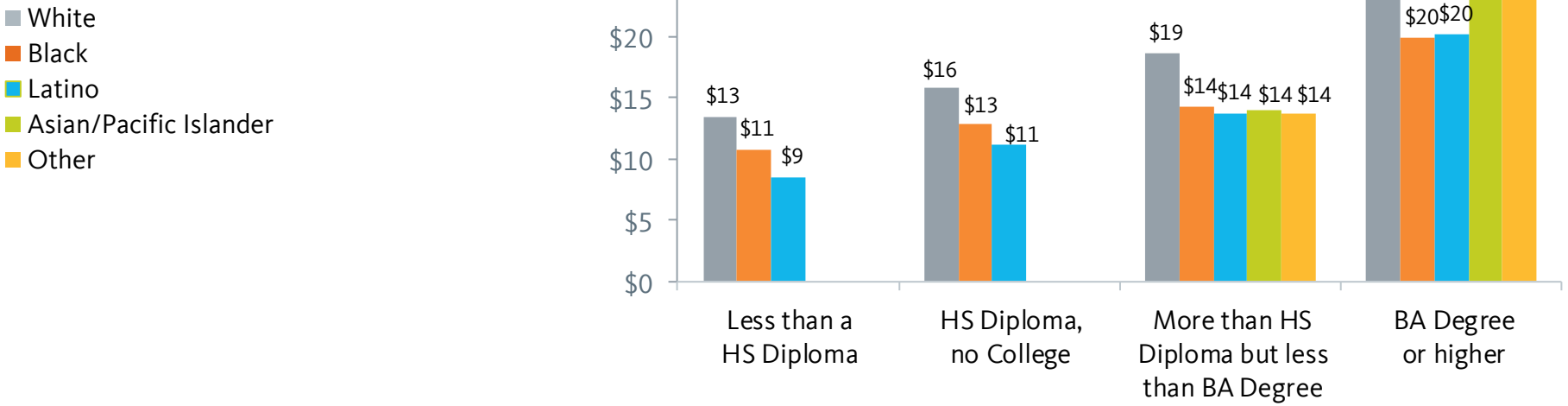
Source: U.S. Bureau of Labor Statistics; IPUMS. Universe includes the employed civilian noninstitutional population ages 25 through 64.
Note: While data on workers is from the Research Triangle Region, the opportunity ranking for each worker's occupation is based on analysis of the Raleigh-Cary and Durham Core Based Statistical Area as defined by the U.S. Office of Management and Budget. See page 77 for a description of our analysis of opportunity by occupation.

Access to good jobs

Can all workers earn a living wage?

Gaps in pay by race/ethnicity persist even as education rises.
African Americans and Latinos earn lower wages than Whites at every level of education. Even among workers with a four-year college degree, Blacks and Latinos earn $7 per hour less than their White counterparts.

Median Hourly Wage by Educational Attainment and Race/Ethnicity, 2012



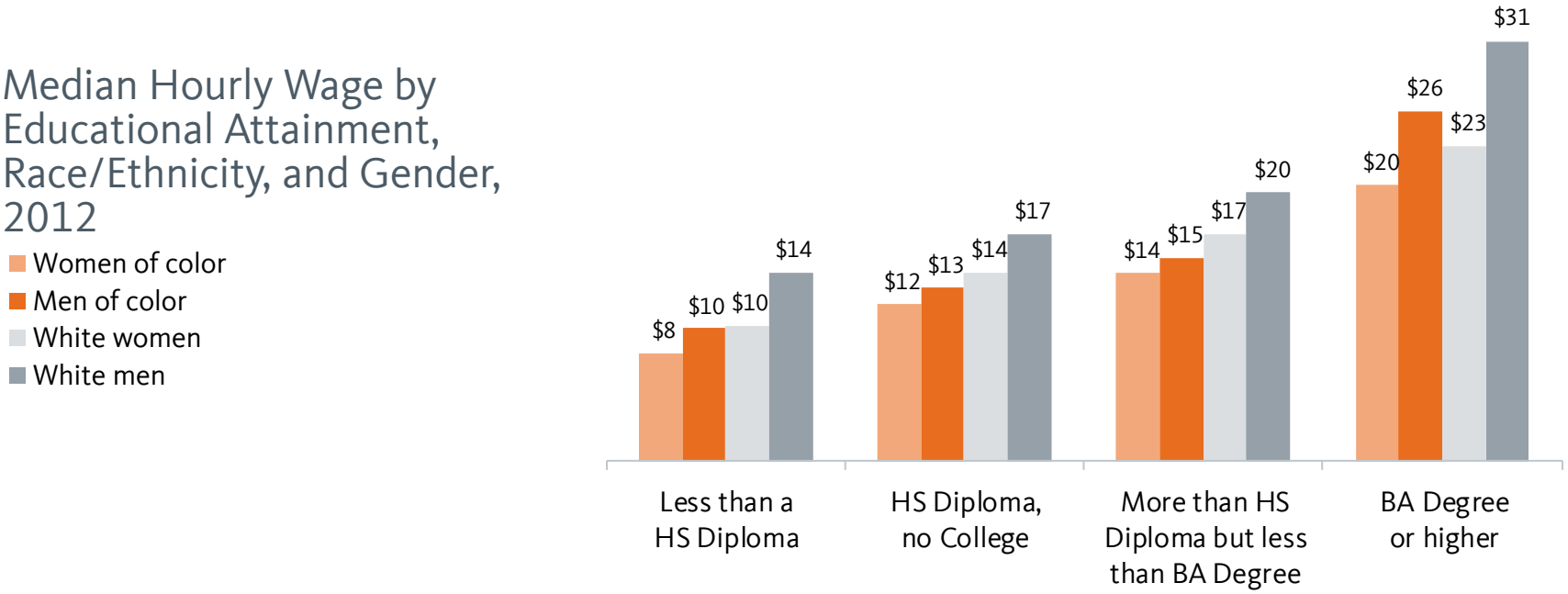
Source: IPUMS. Universe includes civilian noninstitutional full-time wage and salary workers ages 25 through 64.
Note: Wages for Asians and Others with a HS diploma or less are excluded due to small sample size. Data represent a 2008 through 2012 average. Dollar values are in 2010 dollars.

Access to good jobs

Can all workers earn a living wage?

Women of color have the lowest wages at every level of education. Both White women and women of color have lower wages than their male counterparts. Gaps in wages increase with education for both White women and women of color.

Median Hourly Wage by Educational Attainment, Race/Ethnicity, and Gender, 2012



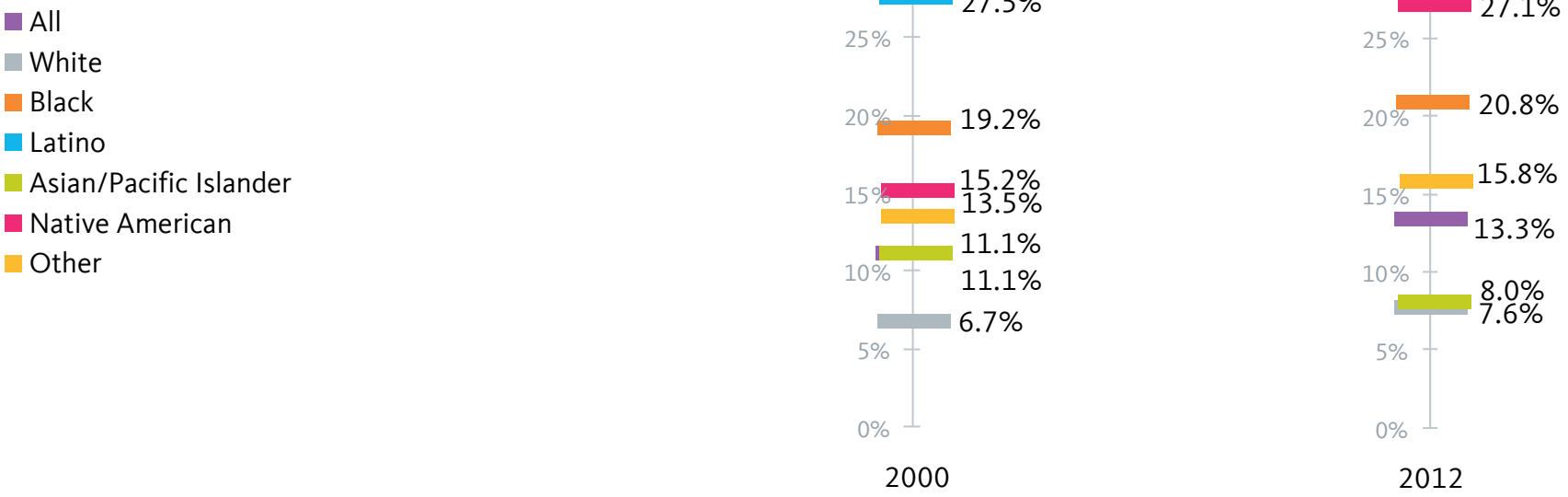
Source: IPUMS. Universe includes civilian noninstitutional full-time wage and salary workers ages 25 through 64.
Note: Data represent a 2008 through 2012 average. Dollar values are in 2010 dollars.

Economic security

Is poverty low and decreasing?

Poverty is on the rise in the region, and is higher for communities of color than Whites. Nearly one out of every three Latinos and more than one out of every five African Americans and Native Americans live in poverty, compared to less than 8 percent of Whites.

Poverty Rate by Race/Ethnicity, 2000 and 2012



Source: IPUMS. Universe includes all persons not in group quarters.
Note: Data for 2012 represent a 2008 through 2012 average.

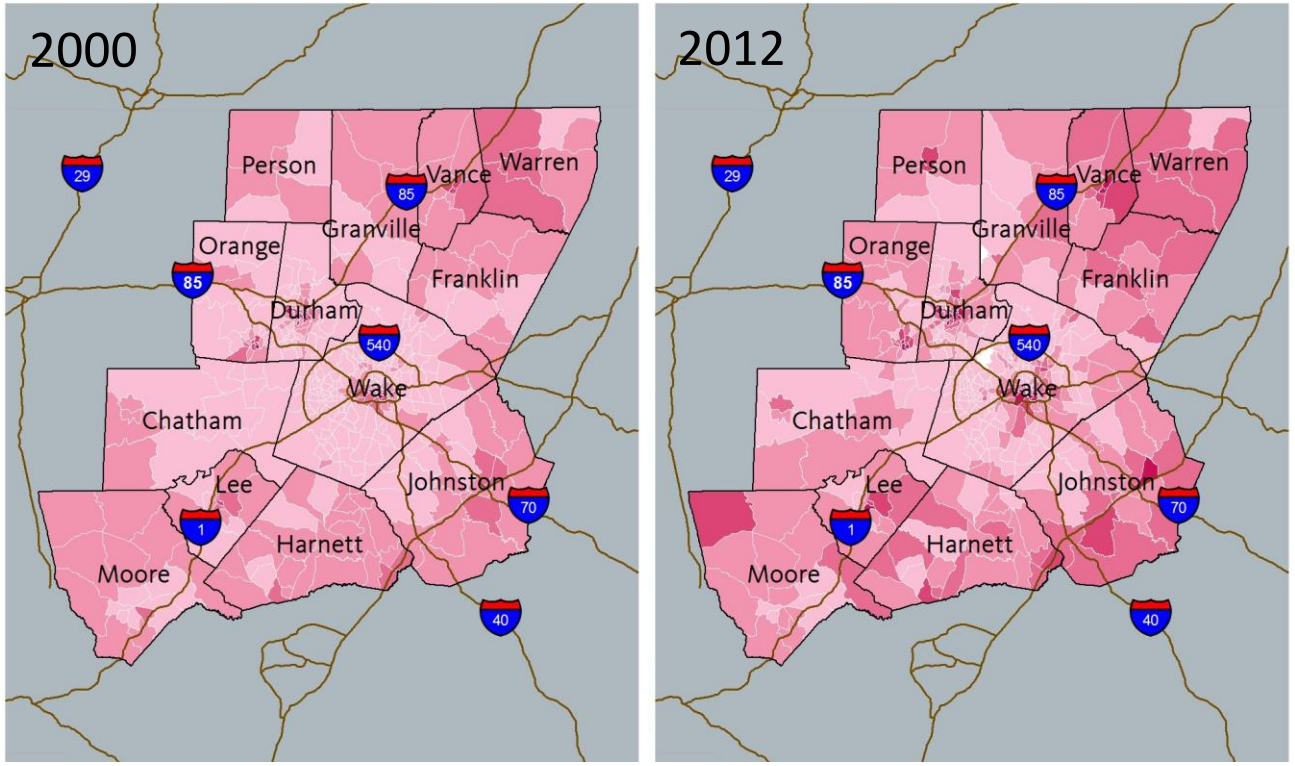
Economic security

Is poverty low and decreasing?

Rural poverty has deepened over the past decade. High-poverty neighborhoods have emerged in Person, Vance, Moore, Johnston, and Lee counties, while other counties have seen more gradual increases.

Poverty Rate by Census Tract, 2000 and 2012

- Less than 10%
- 10% to 19%
- 20% to 29%
- 30% to 39%
- 40% or more



Source: U.S. Census Bureau. Universe includes all persons not in group quarters.
Note: Data for 2012 represent a 2008 through 2012 average. Areas in White are missing data.

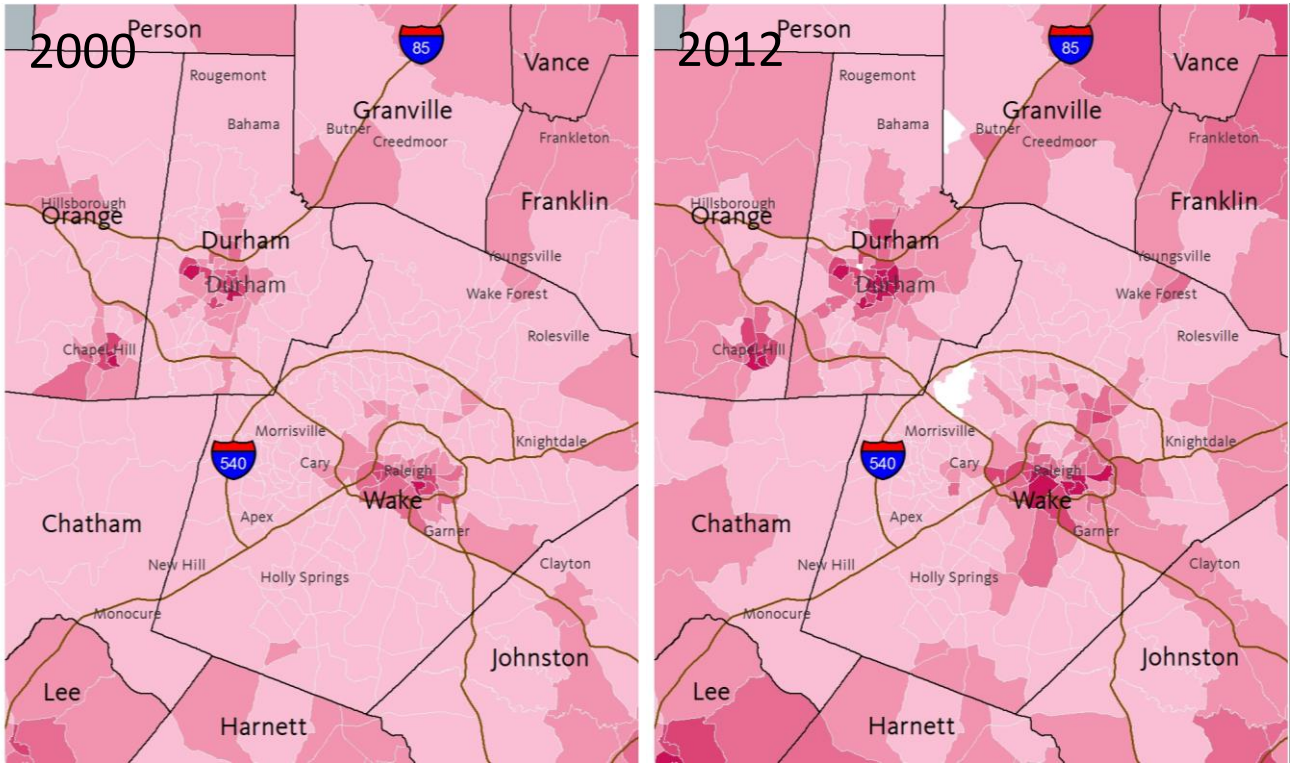
Economic security

Is poverty low and decreasing?

Neighborhood poverty has also deepened in urban counties over the past decade. High poverty-neighborhoods have emerged in north Durham and the eastern portion of Raleigh, as well as to the northeast of Raleigh.

Poverty Rate by Census Tract, 2000 and 2012 (Zoom-In)

- Less than 10%
- 10% to 19%
- 20% to 29%
- 30% to 39%
- 40% or more



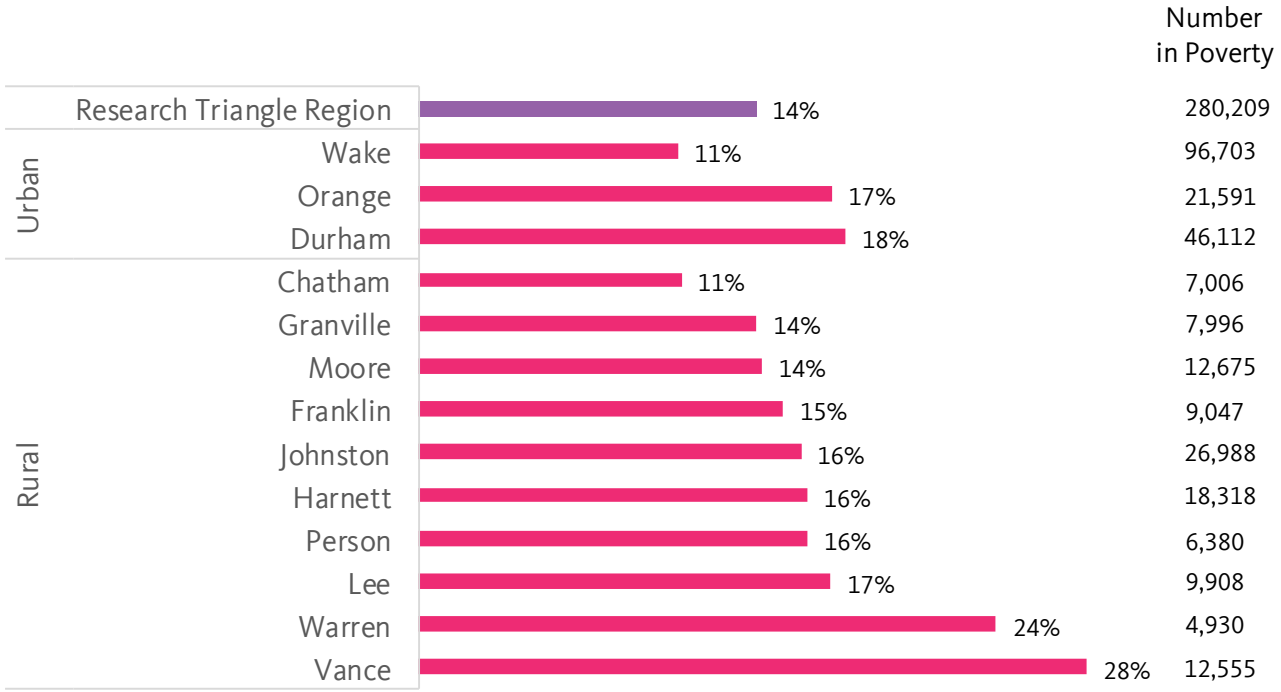
Source: U.S. Census Bureau. Universe includes all persons not in group quarters.
Note: Data for 2012 represent a 2008 through 2012 average. Areas in White are missing data.

Economic security

Is poverty low and decreasing?

Poverty is highest in the region's rural counties. At 28 percent, Vance County's poverty rate is double the regional average, and Warren is close behind with a rate of 24 percent. While Wake County has one of the lowest poverty rates (11 percent), it has the largest number of people in poverty.

Poverty Rate by County, 2012



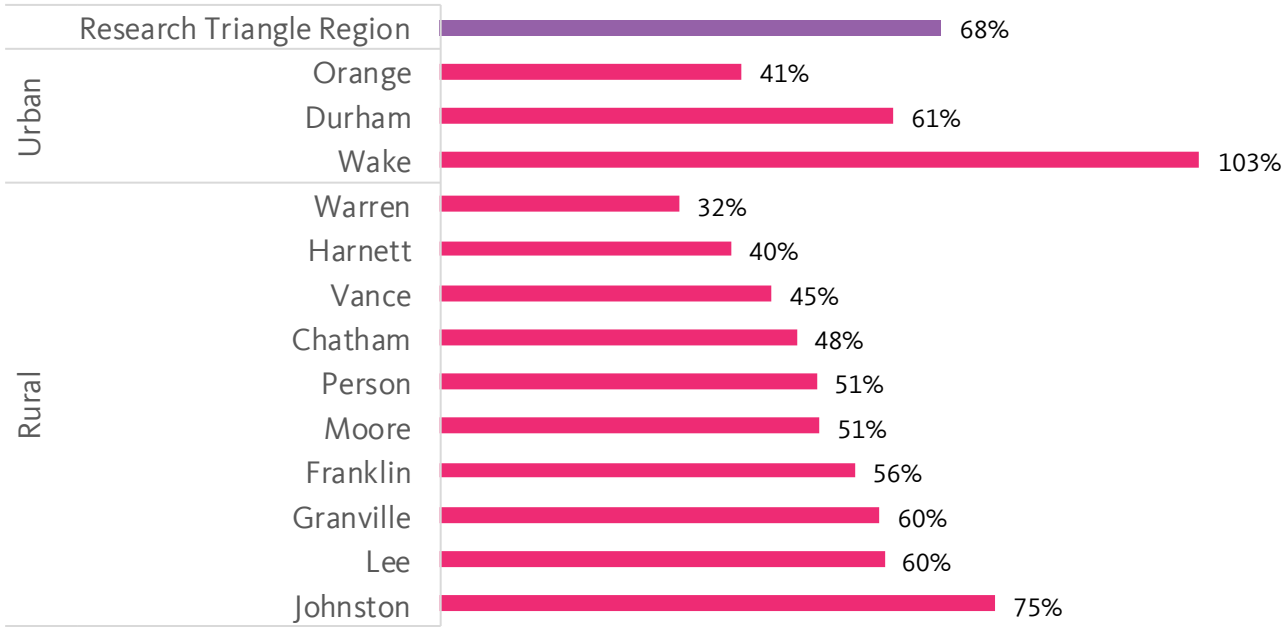
Source: U.S. Census Bureau. Universe includes all persons not in group quarters.
Note: Data represent a 2008 through 2012 average.

Economic security

Is poverty low and decreasing?

Poverty is increasing throughout the region. The number of people in poverty in Wake County more than doubled between 2000 and 2012. Growth in poverty outpaced the regional rate in rural Johnston County as well.

Growth in Population Below the Poverty Level by County, 2000 to 2012



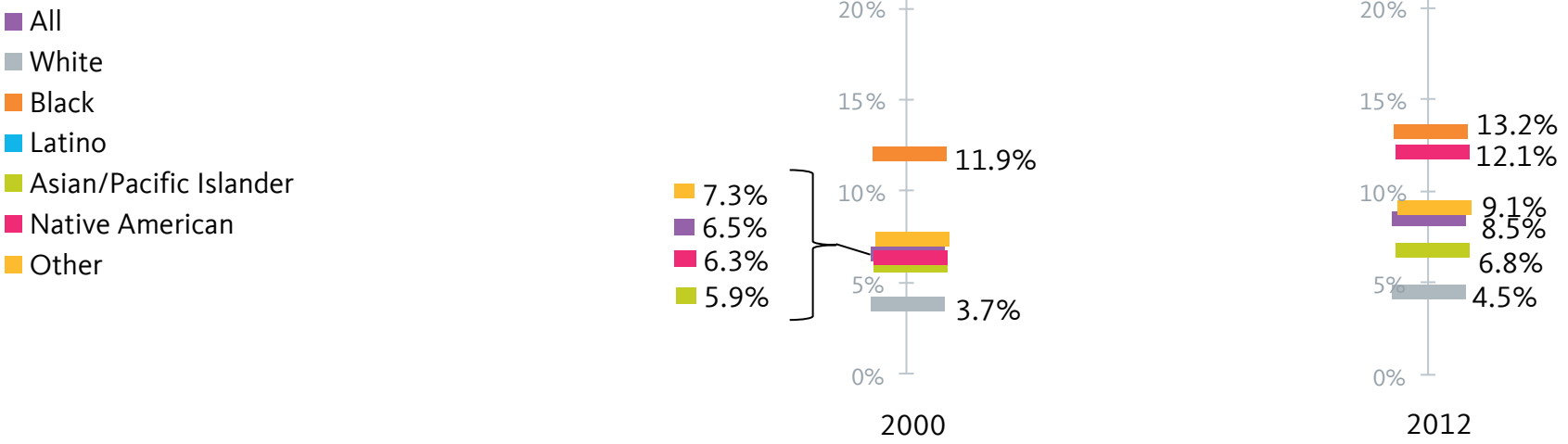
Source: U.S. Census Bureau. Universe includes all persons not in group quarters.
Note: Data for 2012 represent a 2008 through 2012 average.

Economic security

Is working poverty low and decreasing?

The working poor population is on the rise. The region's Latinos have a very high rate of working poor, defined as working full time with incomes at or below 200 percent of poverty. All communities of color experience higher rates of being working poor than Whites.

Working Poor Rate by Race/Ethnicity, 2000 and 2012



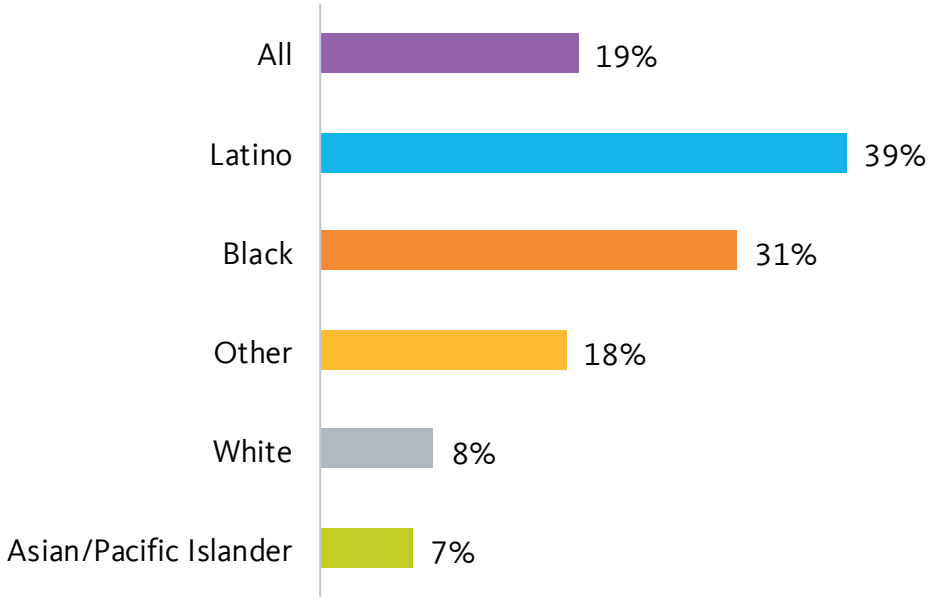
Source: IPUMS. Universe includes the civilian noninstitutional population ages 25 through 64 not in group quarters.
Note: Data for 2012 represent a 2008 through 2012 average.

Economic Security

Is poverty low for vulnerable populations?

Latino and African American children have the highest poverty rates. In 2012, nearly two out of every five Latino children and about three out of every 10 Black children lived in poverty, rates exceeding the average (about one in five). Whites and Asians have the lowest child poverty rates (8 percent and 7 percent).

Child Poverty Rate by Race/Ethnicity, 2012



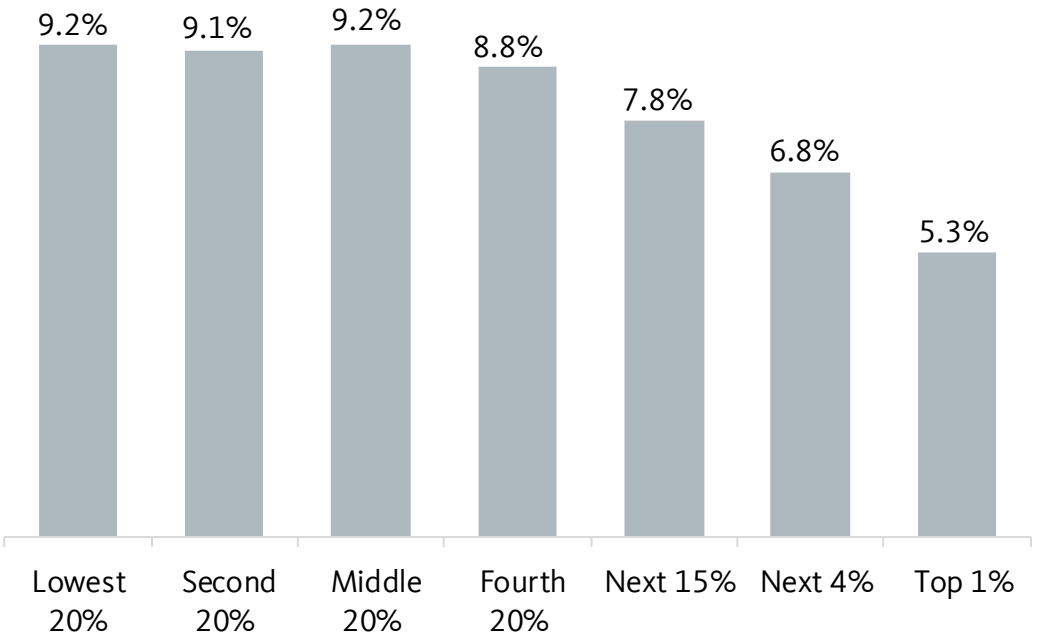
Source: IPUMS. Universe includes the civilian non-institutional population under age 18.
Note: Data represent a 2008 through 2012 average.

Economic security

Is the tax structure equitable?

State and local taxes in North Carolina pose greater burdens on low- and middle-income families. Low-income families in North Carolina spend a greater share of their household income on state and local taxes than high-income families.

State and Local Taxes as a Share of Family Income, 2015



Source: Institute on Taxation & Economic Policy. Universe includes singles and couples, with and without children, under the age of 65.
Note: Figures show permanent law in North Carolina enacted through January 2, 2015 at 2012 income levels. Top figure represents total state and local taxes as a share of income, post-federal offset.

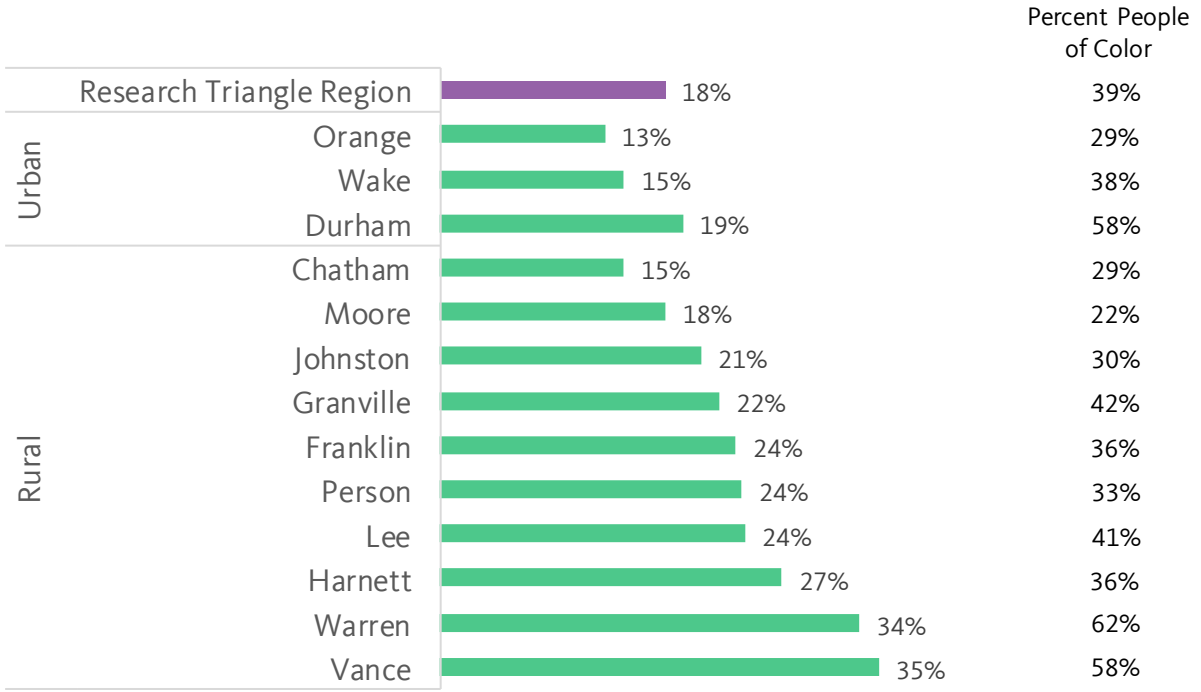
Economic security

Is the tax structure equitable?

Counties with higher shares of people of color also have higher share of Earned Income Tax Credit (EITC) recipients.

Over a third of taxpayers in Vance and Warren Counties receive the EITC. The majority of rural counties have higher than average shares of EITC recipients.

Earned Income Tax Credit Recipients as a Share of Taxpayers by County, 2012



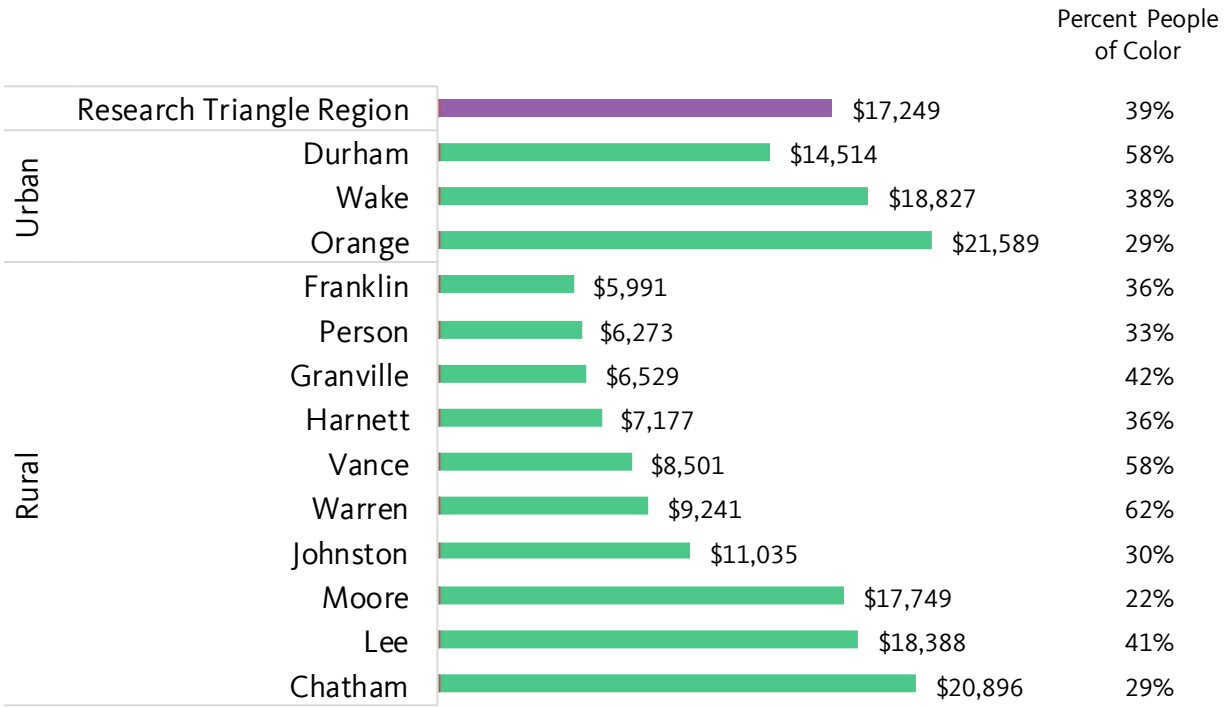
Source: IRS Statistics of Income.

Economic security

Can residents build wealth?

Average net capital gains are generally higher in the region's urban counties. Among urban counties Wake and Orange have the highest average net capital gains. Gains are highest in Moore, Lee, and Chatham among the region's rural counties.

Average Net Capital Gains by County, 2012



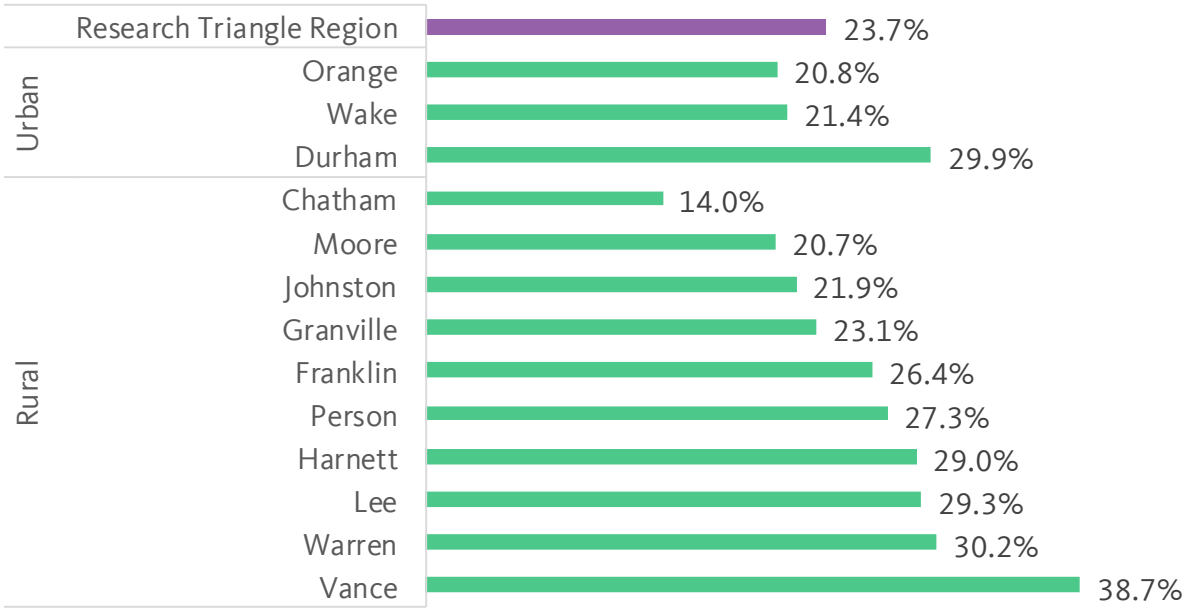
Source: IRS Statistics of Income.

Economic security

Can residents build wealth?

Asset poverty is highest in rural counties but widespread across the region. Statewide, people of color are more likely to be asset poor.[5] Asset poverty is defined as the percentage of households without sufficient net worth to subsist at the poverty level for three months in the absence of income.

Asset Poverty by County, 2012



Source: Corporation for Enterprise Development.

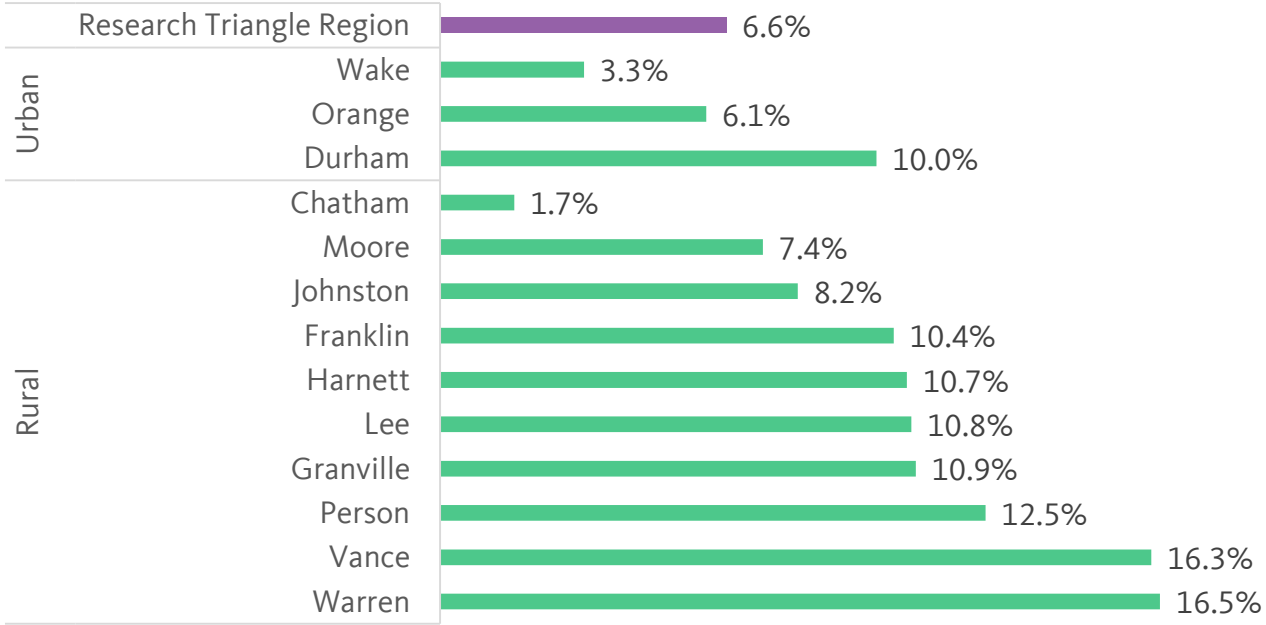
[5]Corporation for Enterprise Development. "City of Durham: Assets & Community Profile," March 2012.

Economic security

Can residents build wealth?

The region's rural counties have some of the largest shares of unbanked households. Unbanked households are those with neither a checking nor a savings about. About one in six households in Vance and Warren Counties are unbanked.

Share of Unbanked Households by County, 2012



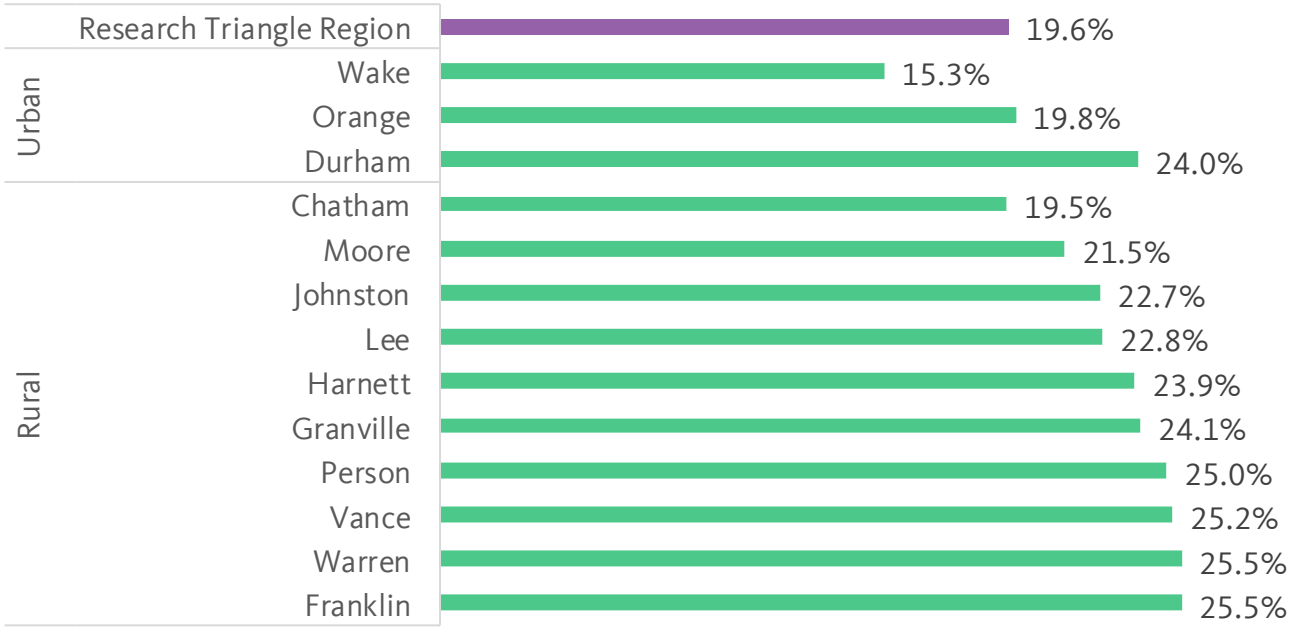
Source: Corporation for Enterprise Development.

Economic security

Can residents build wealth?

Underbanked households are prevalent across the region.
Underbanked households are those that have a checking and/or savings account and have used alternative financial services in the past year.

Share of Underbanked Households by County, 2012



Source: Corporation for Enterprise Development.

Strong industries and occupations

What are the region's strongest industries?

Health care, professional services, and wholesale trade are strong sectors experiencing growth in jobs and wages. The region's sizable manufacturing sector continues to experience significant job losses, and wage decline is a major challenge within the region's growing retail and food services sectors.

	Size	Concentration	Job Quality	Growth		
	Total Employment	Location Quotient	Average Annual Wage	Change in Employment	% Change in Employment	Real Wage Growth
Industry	(2010)	(2010)	(2010)	(2000-10)	(2000-10)	(2000-10)
Health Care and Social Assistance	109,965	1.0	$44,303	38,003	53%	10%
Retail Trade	92,453	0.9	$25,394	1,061	1%	-8%
Manufacturing	80,491	1.0	$76,275	-41,403	-34%	11%
Accommodation and Food Services	71,018	0.9	$15,378	14,602	26%	-6%
Professional, Scientific, and Technical Services	63,714	1.3	$74,872	13,231	26%	12%
Administrative and Support and Waste Management and Remediation Services	52,428	1.1	$32,705	-796	-1%	13%
Construction	39,747	1.1	$41,934	-7,625	-16%	4%
Wholesale Trade	31,748	0.9	$72,498	3,732	13%	20%
Finance and Insurance	29,073	0.8	$70,066	5,828	25%	21%
Other Services (except Public Administration)	22,787	0.8	$32,230	999	5%	6%
Information	21,404	1.2	$72,495	-3,610	-14%	10%
Education Services	20,263	1.2	$45,082	7,025	53%	6%
Transportation and Warehousing	13,828	0.5	$37,975	-2,302	-14%	1%
Arts, Entertainment, and Recreation	12,988	1.0	$20,019	3,441	36%	-12%
Management of Companies and Enterprises	12,632	1.0	$87,935	3,554	39%	33%
Real Estate and Rental and Leasing	11,684	0.9	$39,845	526	5%	6%
Agriculture, Forestry, Fishing and Hunting	3,828	0.5	$33,909	-923	-19%	-7%
Utilities	2,835	0.8	$83,001	-1,421	-33%	5%
Mining	629	0.1	$44,817	-748	-54%	-33%

Source: U.S. Bureau of Labor Statistics; Woods & Poole Economics., Inc. Universe includes all jobs covered by the federal Unemployment Insurance (UI) program.

Strong industries and occupations

What are the region's strongest occupations?

Management occupations, computer operations, and teaching are strong and growing occupations in the region.

These job categories all pay good wages, employ many people, and have exhibited gains in recent years.

	Employment	Job Quality	Growth			
		Median Annual Wage	Real Wage Growth	Change in Employment	% Change in Employment	Median Age
Occupation	(2011)	(2011)	(2011)	(2005-11)	(2005-11)	(2010)
Computer Occupations	35,740	$76,221	2%	8,890	33%	39
Health Diagnosing and Treating Practitioners	31,940	$72,950	6%	9,610	43%	42
Business Operations Specialists	27,290	$62,905	5%	8,360	44%	42
Preschool, Primary, Secondary, and Special Education School Teachers	23,500	$41,848	9%	8,690	59%	39
Financial Specialists	15,570	$62,029	4%	3,890	33%	42
Other Management Occupations	15,150	$93,345	13%	1,150	8%	44
Sales Representatives, Wholesale and Manufacturing	12,570	$57,548	-3%	1,270	11%	42
Top Executives	12,240	$117,129	9%	-90	-1%	46
Postsecondary Teachers	11,000	$89,799	1%	1,120	11%	36
Operations Specialties Managers	10,600	$111,884	14%	1,340	14%	42
Engineers	8,780	$79,766	1%	740	9%	42
Sales Representatives, Services	7,480	$58,965	14%	2,350	46%	40
Life Scientists	6,250	$75,895	9%	4,230	209%	39
Physical Scientists	4,140	$69,550	6%	420	11%	39
Advertising, Marketing, Promotions, Public Relations, and Sales Managers	3,990	$112,666	20%	-550	-12%	41
Supervisors of Construction and Extraction Workers	3,620	$52,563	2%	-1,120	-24%	43
Lawyers, Judges, and Related Workers	3,330	$96,245	18%	450	16%	45
Supervisors of Installation, Maintenance, and Repair Workers	2,870	$54,614	-3%	-70	-2%	43
Supervisors of Production Workers	2,420	$54,835	2%	-1,160	-32%	44
Supervisors of Protective Service Workers	1,680	$60,176	5%	1,000	147%	44

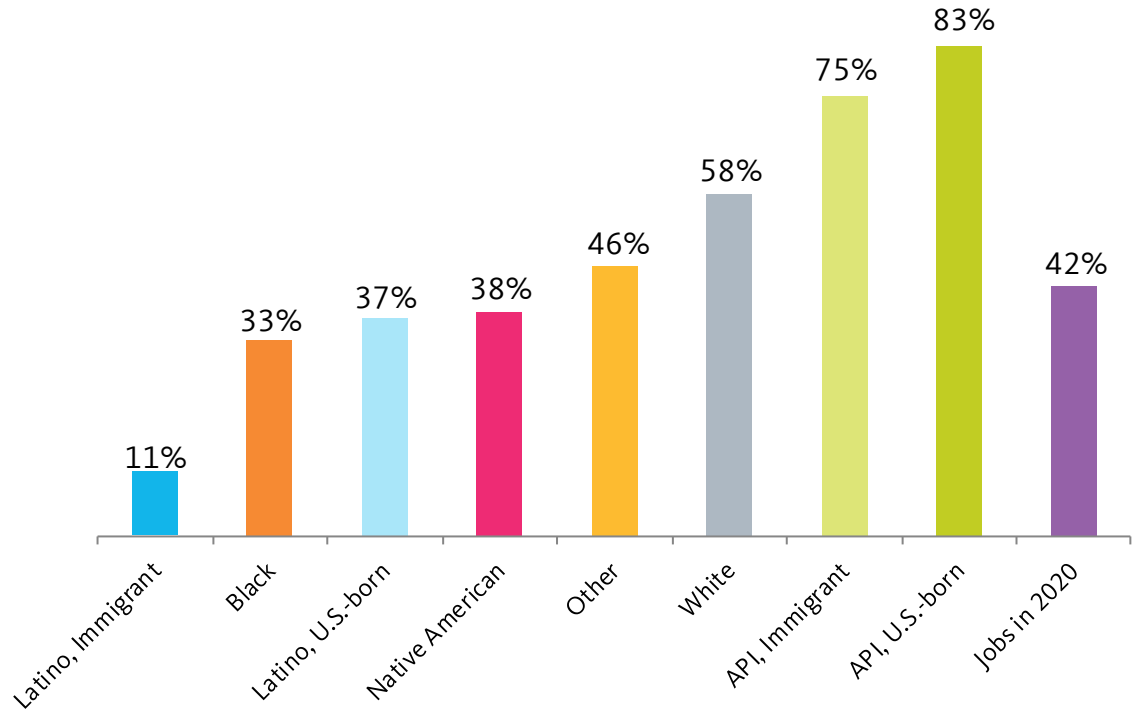
Source: U.S. Bureau of Labor Statistics; IPUMS. Universe includes all nonfarm wage and salary jobs. Analysis reflects the Raleigh-Cary and Durham Core Based Statistical Areas as defined by the U.S. Office of Management and Budget.
Note: See page 77 for a description of our analysis of opportunity by occupation.

Skilled workforce

Do workers have the education and skills needed for the jobs of the future?

The education levels of the region's African American and Latinos (especially immigrants) aren't keeping up with employers' educational demands. By 2020, 42 percent of jobs in North Carolina will require at least an associate's degree, yet most workers of color do not have that level of education.

Share of Working-Age Population with an Associate's Degree or Higher by Race/Ethnicity, 2012, and Projected Share of Jobs that Require an Associate's Degree or Higher, 2020



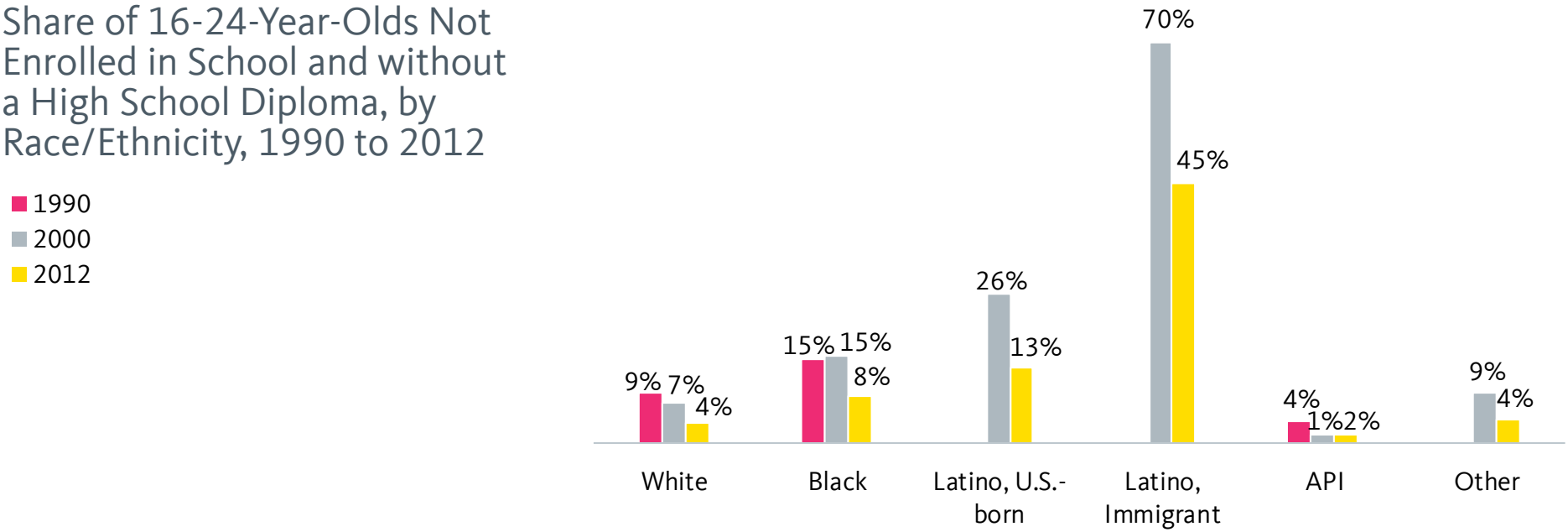
Source: Georgetown Center for Education and the Workforce; IPUMS. Universe for education levels of workers includes all persons ages 25 through 64.
Note: Data for 2012 by race/ethnicity/nativity represent a 2008 through 2012 average and is at the regional level; data on jobs in 2020 represent state-level projection for North Carolina.

Prepared youth

Are youth ready to enter the workforce?

More of the region's youth are getting high school degrees today than in the past, but racial gaps remain. Although dropout and non-enrollment rates have decreased for Latinos, 45 percent of Latino immigrants and 13 percent of U.S.-born Latinos lack a high school education.

Share of 16-24-Year-Olds Not Enrolled in School and without a High School Diploma, by Race/Ethnicity, 1990 to 2012



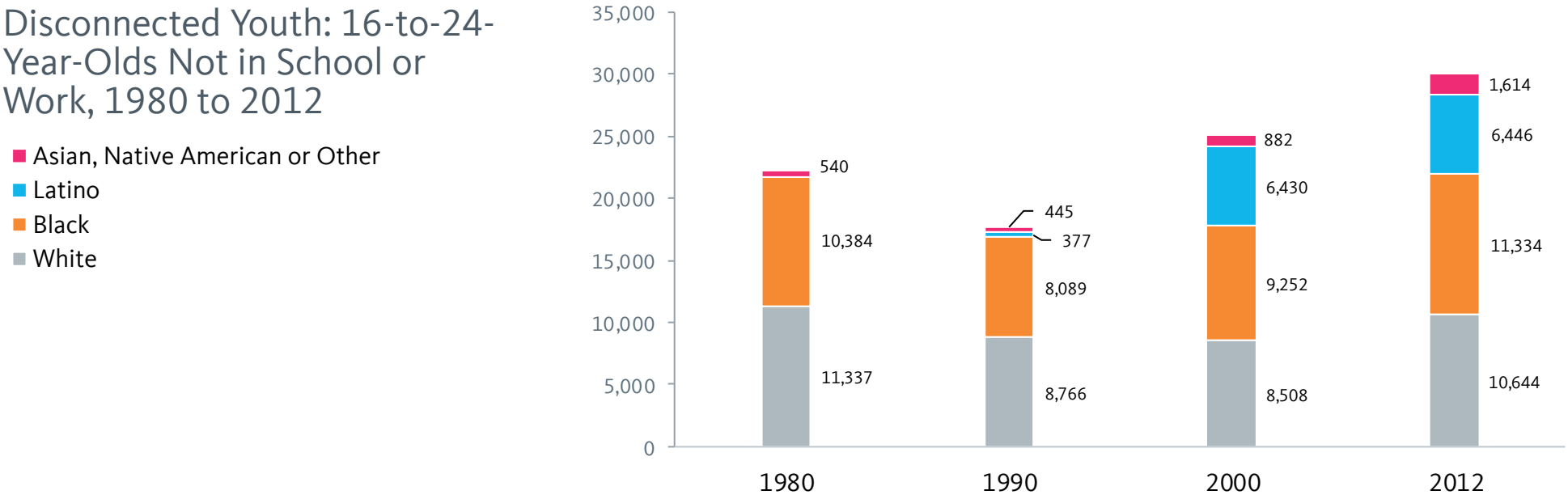
Source: IPUMS.
Note: Data for Others and US-born and immigrant Latinos in 1990 is excluded due to small sample size. Data for 2012 represent a 2008 through 2012 average.

Prepared youth

Are youth ready to enter the workforce?

A growing number of the region's youth are disconnected from work and school. More than 30,000 youth are disconnected today, up from 25,000 in 2000. Youth of color are disproportionately disconnected (65 percent of the disconnected and only 46 percent of all 16-to-24-year-olds) but this is a growing challenge for youth of all races/ethnicities.

Disconnected Youth: 16-to-24-Year-Olds Not in School or Work, 1980 to 2012



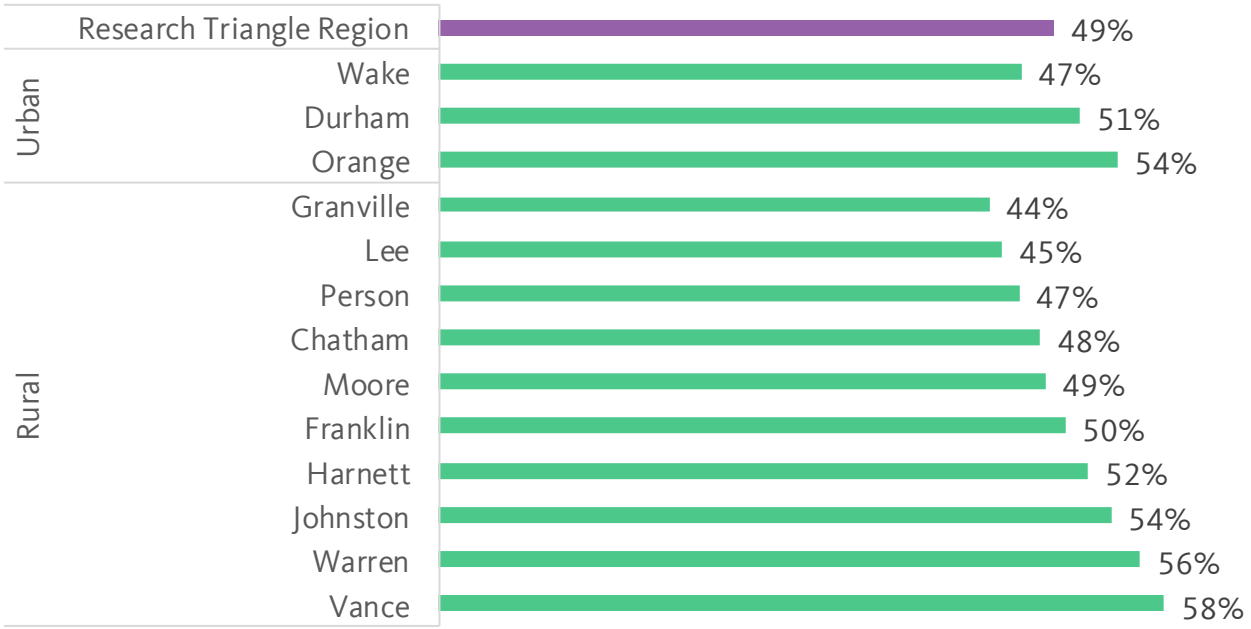
Source: IPUMS.
Note: In 1980 Latino youth are included with Asian/Pacific Islander, Native American, and Other. Data for 2012 represent a 2008 through 2012 average.

Connectedness

Can all residents access affordable housing?

Higher rent burdens in several counties. Just under half of the region's households are housing burdened (paying more than 30 percent of income on rent). More renters in rural Johnston, Warren, and Vance counties pay too much for housing, as well as urban Orange County.

Percent Rent-Burdened Households by County, 2012



Source: U.S. Census Bureau. Universe includes all renter-occupied households with cash rent.
Note: Data represent a 2008 through 2012 average.

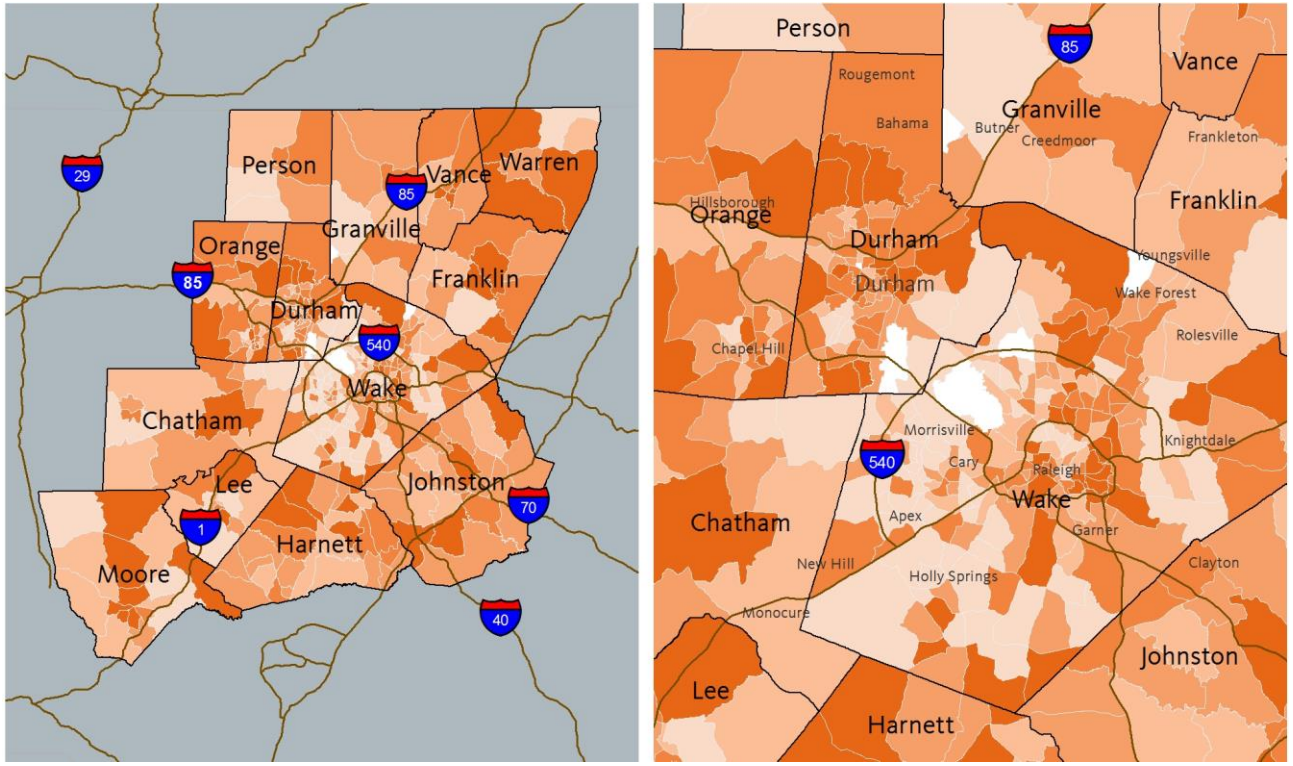
Connectedness

Can all residents access affordable housing?

High rent burden is evident in the urban core and outer suburbs. While urban Wake County has a below-average renter burden (47 percent), rents are much higher in some of its urban core and suburban neighborhoods.

Percent Rent-Burdened Households by Census Tract, 2012

- Less than 35%
- 35% to 44%
- 45% to 52%
- 53% to 61%
- 62% or more



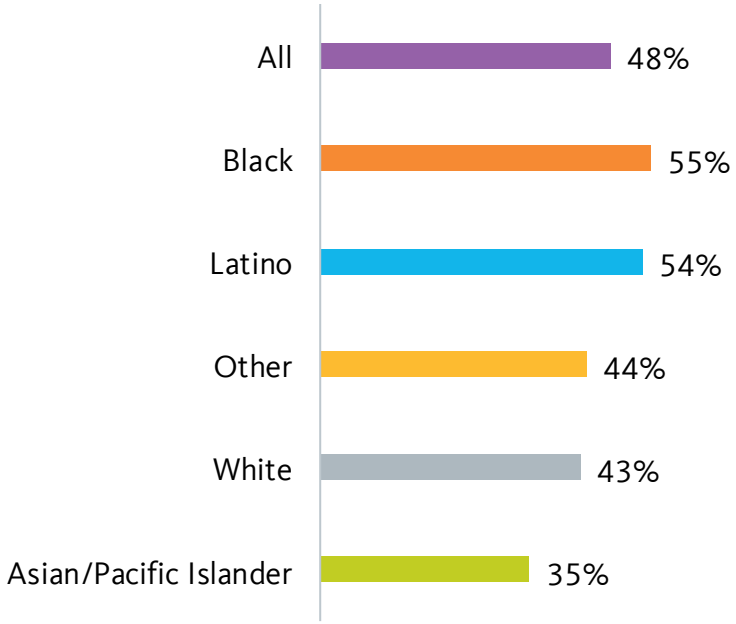
Source: U.S. Census Bureau. Universe includes all renter-occupied households with cash rent.
Note: Data represent a 2008 through 2012 average. Areas in White are missing data.

Connectedness

Can all residents access affordable housing?

The region's renter housing burden rates vary across race and ethnicity. More than half of Black and Latino renter households are housing burdened (paying more than 30 percent of income on rent). Asian renter households have rates of housing burden lower than Whites.

Percent Rent-Burdened Households by Race/Ethnicity, 2012



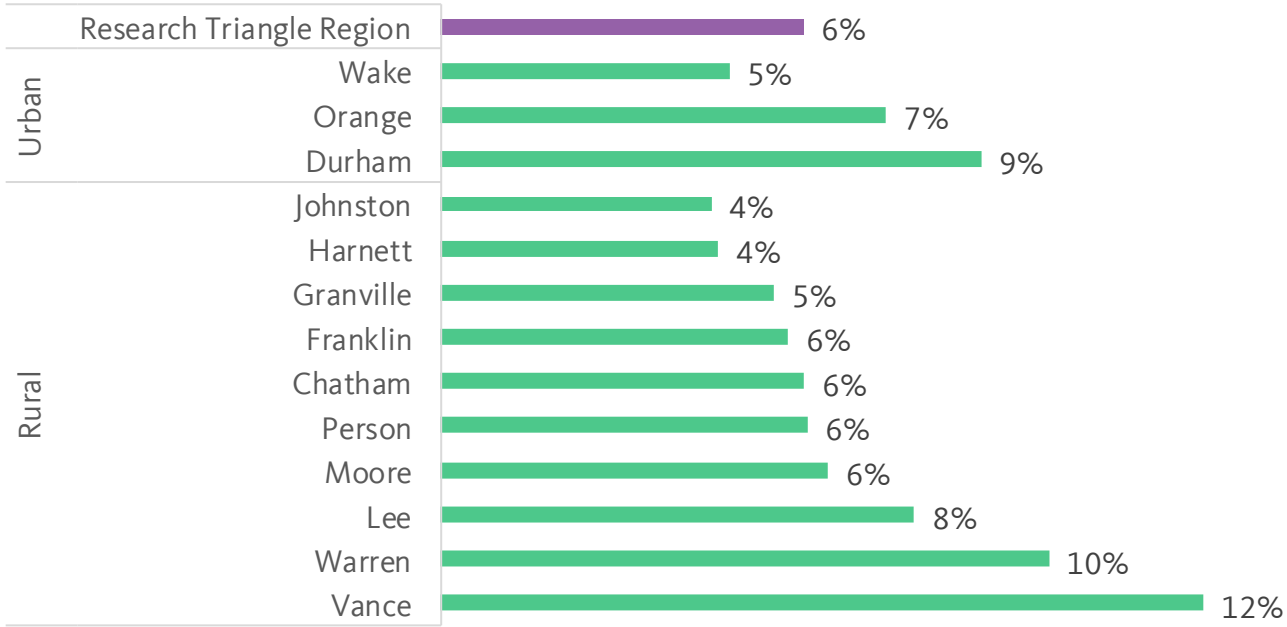
Source: IPUMS. Universe includes all renter-occupied households with cash rent.
Note: Data represent a 2008 through 2012 average.

Connectedness

Can all residents access transportation?

A few counties stand out for having less access to cars.
Residents of rural Warren and Vance counties have well-above-average rates of carlessness (10 and 12 percent), as do residents of urban Orange and Durham counties, where the transit system is more robust.

Percent Households without a Vehicle by County, 2012



Source: U.S. Census Bureau. Universe includes all households (excludes group quarters).
Note: Data represent a 2008 through 2012 average.

Connectedness

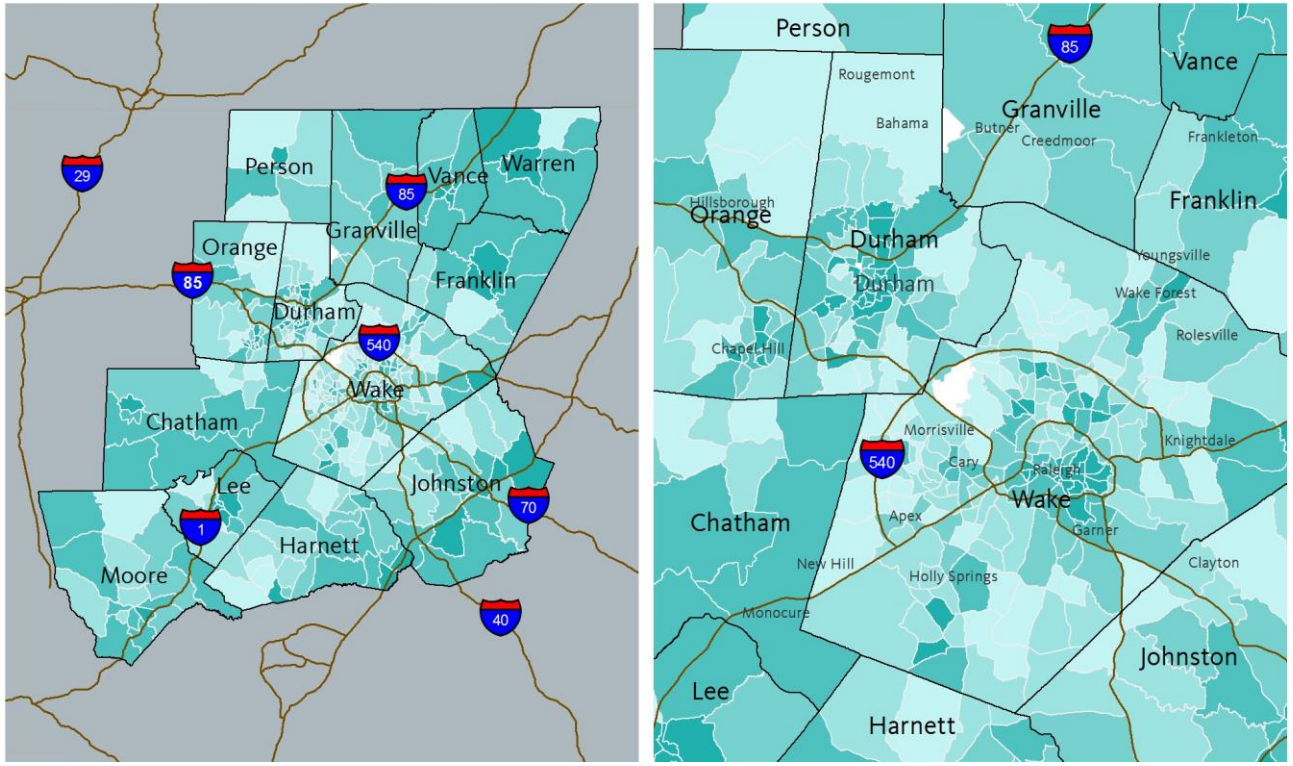
Can all residents access transportation?

Car access varies by neighborhood in some counties.

The vast majority of households in the region have access to at least one vehicle, but rates of carlessness are high in rural areas at the outer edges of the region, as well as in some urban centers in Wake County.

Percent Households without a Vehicle by Census Tract, 2012

- Less than 1%
- 1% to 2%
- 3% to 5%
- 6% to 10%
- 11% or more



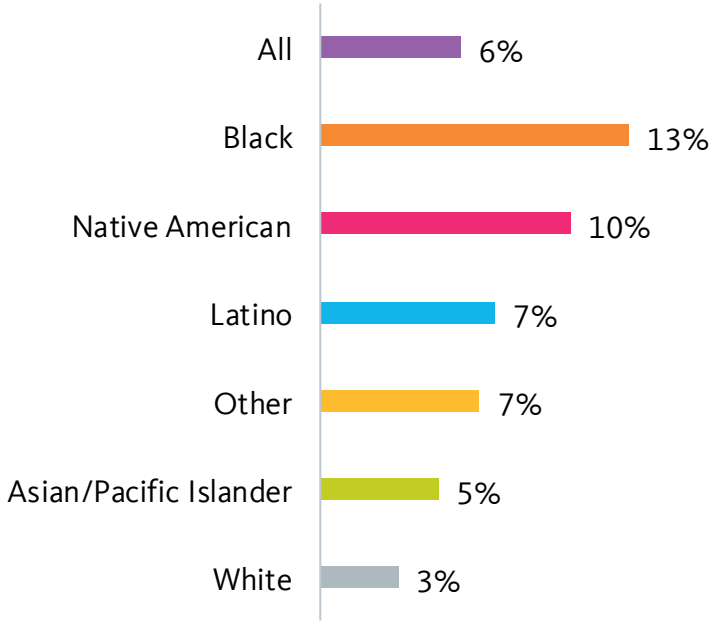
Source: U.S. Census Bureau. Universe includes all households (excludes group quarters).
Note: Data represent a 2008 through 2012 average. Areas in White are missing data.

Connectedness

Can all residents access transportation?

Blacks have the least access to cars in the region. Black and Native American communities have the highest rates of carlessness (13 percent and 10 percent). Whites are the less likely than all communities of color to be carless (3 percent).

Percent Households without a Vehicle by Race/Ethnicity, 2012



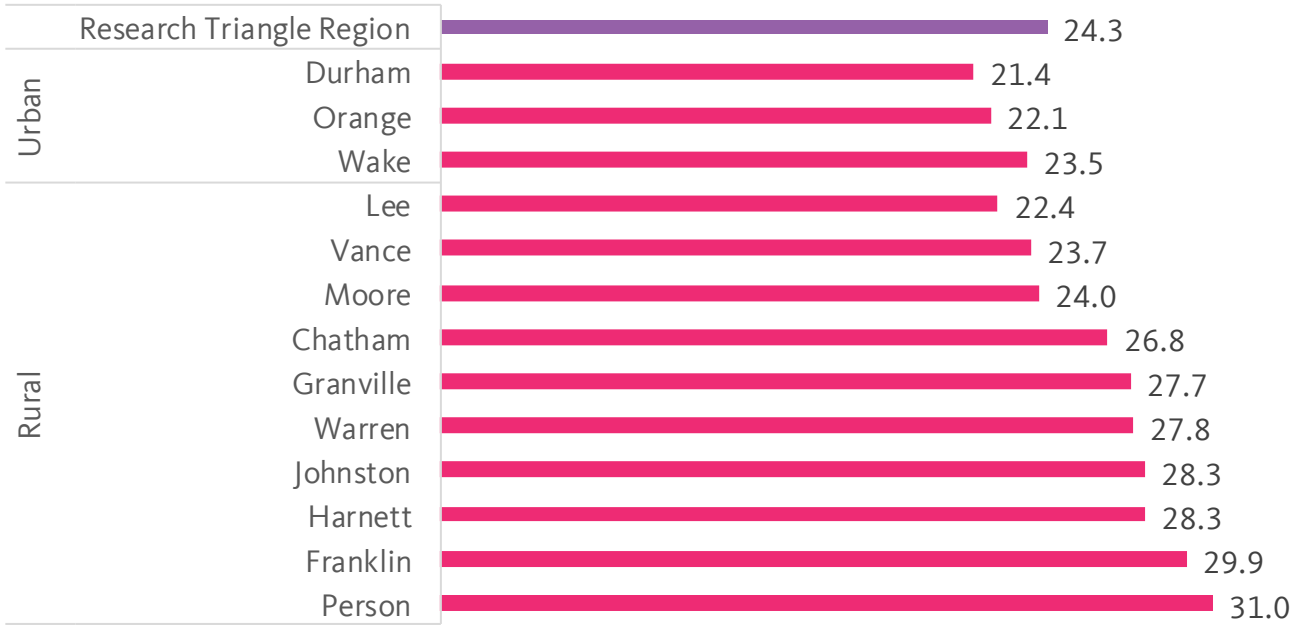
Source: IPUMS. Universe includes all households (excludes group quarters).
Note: Data represent a 2008 through 2012 average.

Connectedness

Do residents have reasonable travel times to work?

Rural residents face longer commutes on average. Commute times in the region are lowest in urban counties: in Durham County the average travel time to work is 21 minutes, while in rural Person County it is 31 minutes.

Average Travel Time to Work in Minutes by County, 2012



Source: U.S. Census Bureau. Universe includes all persons ages 16 or older who work outside of home.
Note: Data represent a 2008 through 2012 average.

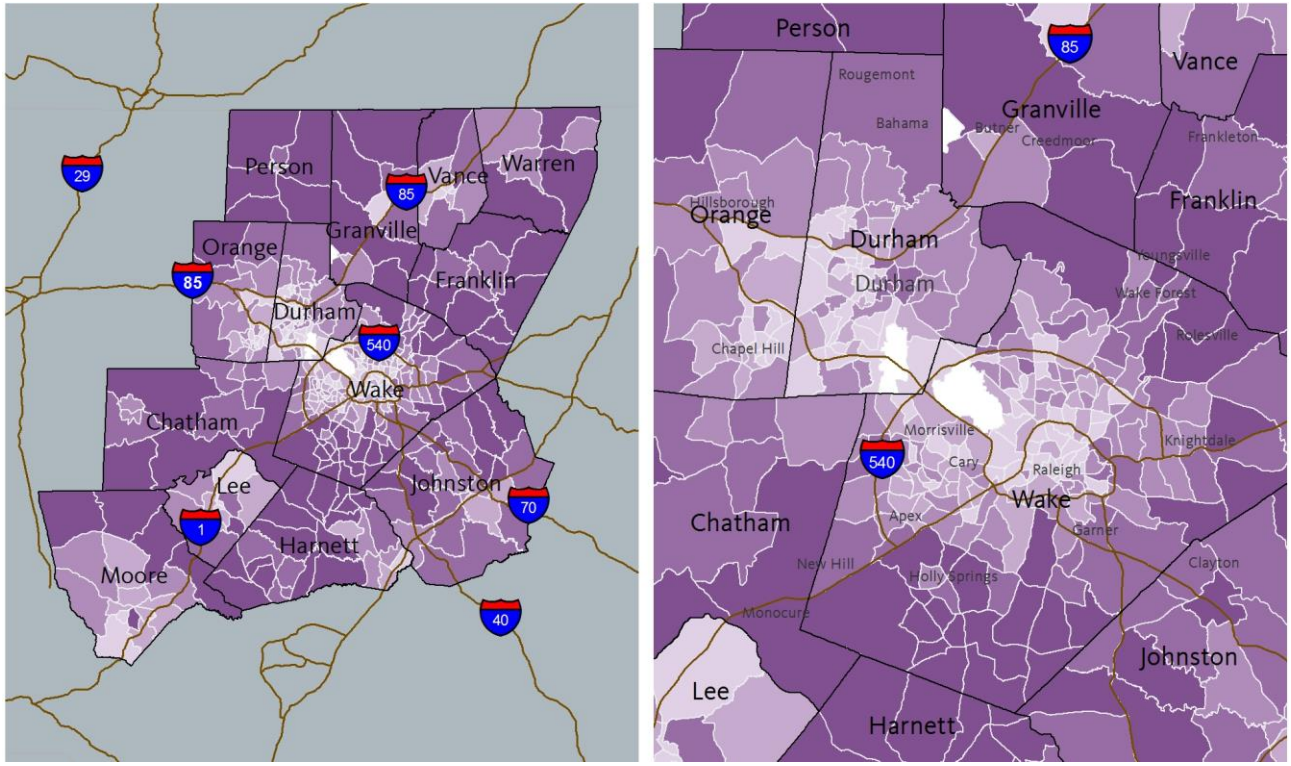
Connectedness

Do residents have reasonable travel times to work?

Commute times are highly spatially clustered. Commute times are highest for workers living in the northwestern and eastern parts of the region. Workers living near the region's largest cities – Raleigh and Durham – have the shortest commutes.

Average Travel Time to Work in Minutes by Census Tract, 2012

- Less than 20 minutes
- 20 to 21 minutes
- 22 to 24 minutes
- 25 to 27 minutes
- 28 minutes or more



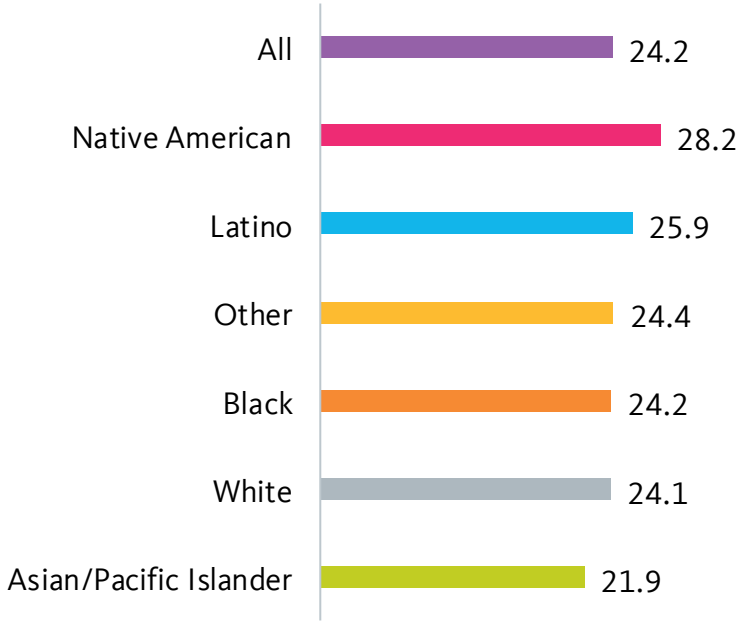
Source: U.S. Census Bureau. Universe includes all persons ages 16 or older who work outside of home.
Note: Data represent a 2008 through 2012 average. Areas in White are missing data.

Connectedness

Do residents have reasonable travel times to work?

Native Americans face the longest commutes on average. Average commute times for Native Americans and Latinos exceed the average (28 and 26 minutes). On the other hand, Asians have the shortest average commute time at just under 22 minutes.

Average Travel Time to Work in Minutes by Race/Ethnicity, 2012



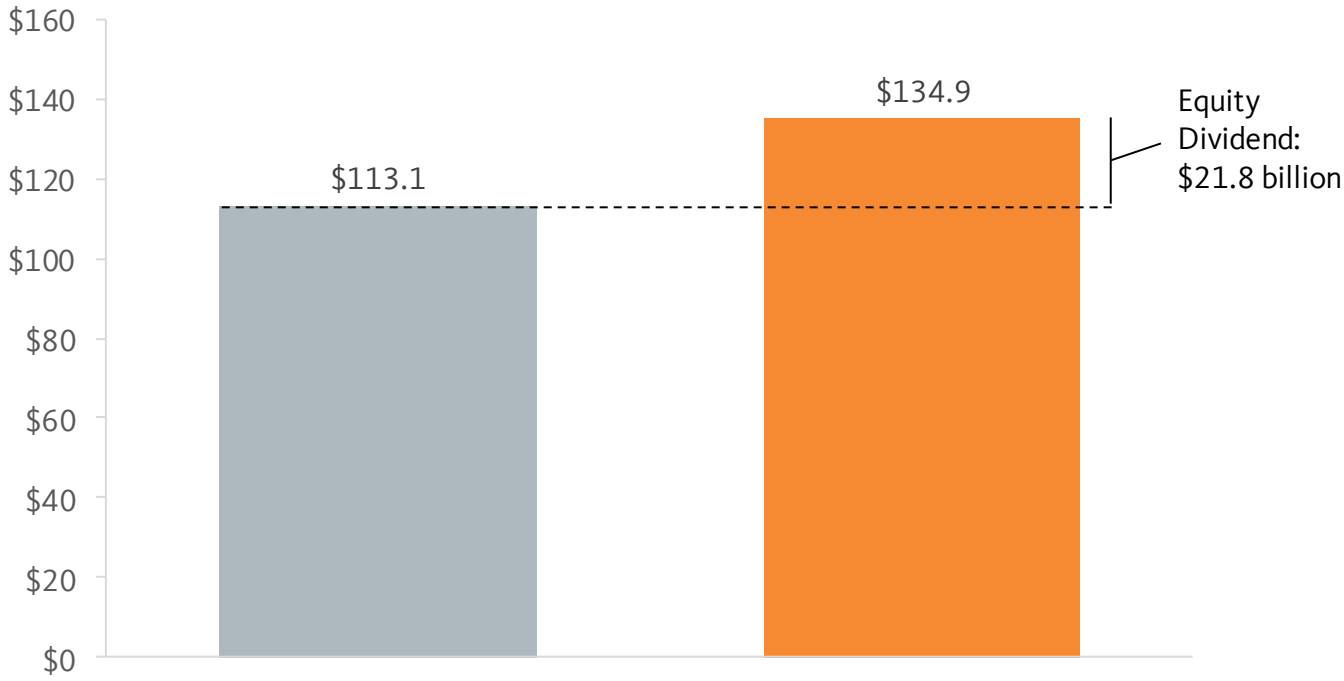
Source: IPUMS. Universe includes all persons ages 16 or older who work outside of home.
Note: Data represent a 2008 through 2012 average.

Economic benefits of equity

How much higher would GDP be without racial economic inequities?

The Research Triangle Region's GDP would have been $21.8 billion higher in 2012 if there were no racial disparities in income. If each racial/ethnic group had same average income and work hours as Whites, the region's GDP would increase by 19 percent.

Actual GDP and Estimated GDP without Racial Gaps in Income (Billions), 2012



Source: Bureau of Economic Analysis; IPUMS.
Note: Data for 2012 represent a 2008 through 2012 average.

Data and methods

Data source summary and regional geography

Selected terms and general notes

- Broad racial/ethnic origin
- Nativity
- Other selected terms
- General notes on analyses

Summary measures from IPUMS microdata

Adjustments made to census summary data on race/ethnicity by age

Adjustments made to demographic projections

- National projections
- County and regional projections

Estimates and adjustments made to BEA data on GDP

- Adjustments at the state and national levels
- County and metropolitan area estimates

Middle class analysis

Assembling a complete dataset on employment and wages by industry

Growth in jobs and earnings by industry wage level, 1990 to 2010

Analysis of occupations by opportunity level

Estimates of GDP without racial gaps in income

Data and methods

Data source summary and regional geography

Unless otherwise noted, all of the data and analyses presented in this equity profile are the product of PolicyLink and the USC Program for Environmental and Regional Equity (PERE).

The specific data sources are listed in the table on the right. Unless otherwise noted, the data used to represent the region were assembled to match the 13-county Research Triangle Region.

While much of the data and analyses presented in this equitable growth profile are fairly intuitive, in the following pages we describe some of the estimation techniques and adjustments made in creating the underlying database, and provide more detail on terms and methodology used. Finally, the reader should bear in mind that while only a single region is profiled here, many of the analytical choices in generating the underlying data and analyses were made with an eye toward replicating the analyses in other regions and the ability to update them over time. Thus, while more regionally specific

Source	Dataset
Integrated Public Use Microdata Series (IPUMS)	1980 5% State Sample
	1990 5% Sample
	2000 5% Sample
	2010 American Community Survey, 5-year microdata sample
	2012 American Community Survey, 5-year microdata sample
U.S. Census Bureau	1980 Summary Tape File 1 (STF1)
	1980 Summary Tape File 2 (STF2)
	1980 Summary Tape File 3 (STF3)
	1990 Summary Tape File 2A (STF2A)
	1990 Modified Age/Race, Sex and Hispanic Origin File (MARS)
	1990 Summary Tape File 4 (STF4)
	2000 Summary File 1 (SF1)
	2010 Summary File 1 (SF1)
	2012 National Population Projections, Middle Series
	2010 TIGER/Line Shapefiles, 2010 Counties
Woods & Poole Economics	2014 Complete Economic and Demographic Data Source
U.S. Bureau of Economic Analysis	Gross Domestic Product by State
	Gross Domestic Product by Metropolitan Area
	Local Area Personal Income Accounts, CA30: regional economic profile
U.S. Bureau of Labor Statistics	Quarterly Census of Employment and Wages
	Local Area Unemployment Statistics
	Occupational Employment Statistics
Georgetown University Center on Education and the Workforce	Recovery: Job Growth And Education Requirements Through 2020; State Report
Institute on Taxation and Economic Policy (ITEP)	Who Pays? A Distributional Analysis of the Tax Systems in All 50 States (Fourth Edition)
Internal Revenue Service (IRS)	Statistics of Income (SOI) – 2012 County Data
Corporation for Enterprise Development	Asset & Opportunity Local Data Center Mapping Tool

Data and methods

Data source summary and regional geography

(continued)

Data may be available for some indicators, the data in this profile draw from our regional equity indicators database that provides data that are comparable and replicable over time. At times, we cite local data sources in the Summary document.

Data and methods

Selected terms and general notes

Broad racial/ethnic origin

In all of the analyses presented, all categorization of people by race/ethnicity and nativity is based on individual responses to various census surveys. All people included in our analysis were first assigned to one of six mutually exclusive racial/ethnic categories, depending on their responses to two separate questions on race and Hispanic origin as follows:

- "White" and "non-Hispanic White" are used to refer to all people who identify as White alone and do not identify as being of Hispanic origin.
- "Black" and "African American" are used to refer to all people who identify as Black or African American alone and do not identify as being of Hispanic origin.
- "Latino" refers to all people who identify as being of Hispanic origin, regardless of racial identification.
- "Asian," "Asian/Pacific Islander," and "API" are used to refer to all people who identify as Asian or Pacific Islander alone and do not identify as being of Hispanic origin.
- "Native American" and "Native American and Alaska Native" are used to refer to all people who identify as Native American or Alaskan Native alone and do not identify as being of Hispanic origin.
- "Other" and "other or mixed race" are used to refer to all people who identify with a single racial category not included above, or identify with multiple racial categories, and do not identify as being of Hispanic origin.
- "People of color" or "POC" is used to refer to all people who do not identify as non-Hispanic White.

Nativity

The term "U.S.-born" refers to all people who identify as being born in the United States (including U.S. territories and outlying areas), or born abroad of American parents. The term "immigrant" refers to all people who identify as being born abroad, outside of the United States, of non-American parents.

Other selected terms

Below we provide some definitions and clarification around some of the terms used in the equity profile:

- The terms "region," "metropolitan area," "metro area," and "metro," are used interchangeably to refer to the geographic areas defined as Metropolitan Statistical Areas by the U.S. Office of Management and Budget, as well as to the region that is the subject of this profile as defined previously.
- The term "communities of color" generally refers to distinct groups defined by race/ethnicity among people of color.
- The term "full-time" workers refers to all persons in the IPUMS microdata who reported working at least 45 or 50 weeks (depending on the year of the data) and usually worked at least 35 hours per week during the year prior to the survey. A change in the "weeks worked" question in the 2008 American Community Survey (ACS), as compared with prior years of the ACS and the long form of the decennial census, caused a dramatic rise in the share of respondents indicating that they worked at

Data and methods

Selected terms and general notes

(continued)

least 50 weeks during the year prior to the survey. To make our data on full-time workers more comparable over time, we applied a slightly different definition in 2008 and later than in earlier years: in 2008 and later, the "weeks worked" cutoff is at least 50 weeks while in 2007 and earlier it is 45 weeks. The 45-week cutoff was found to produce a national trend in the incidence of full-time work over the 2005-2010 period that was most consistent with that found using data from the March Supplement of the Current Population Survey, which did not experience a change to the relevant survey questions. For more information, see http://www.census.gov/acs/www/Downloads/methodology/content_test/P6b_Weeks_Worked_Final_Report.pdf.

General notes on analyses

Below we provide some general notes about the analyses conducted:

- In the summary document that accompanies this profile, we may discuss rankings comparing the profiled region to the largest 150 metros. In all such instances, we are referring to the largest 150 metropolitan statistical areas in terms of 2010 population.
- In regard to monetary measures (income, earnings, wages, etc.) the term "real" indicates the data have been adjusted for inflation, and, unless otherwise noted, all dollar values are in 2010 dollars. All inflation adjustments are based on the Consumer Price Index for all Urban Consumers (CPI-U) from the U.S. Bureau of Labor Statistics, available at ftp://ftp.bls.gov/pub/special.requests/cpi/cpiai.txt.
- Note that income information in the decennial censuses for 1980, 1990, and 2000 is reported for the year prior to the survey.

Data and methods

Summary measures from IPUMS microdata

Although a variety of data sources were used, much of our analysis is based on a unique dataset created using microdata samples (i.e., "individual-level" data) from the Integrated Public Use Microdata Series (IPUMS), for four points in time: 1980, 1990, 2000, and 2008 through 2012 pooled together. While the 1980 through 2000 files are based on the decennial census and cover about 5 percent of the U.S. population each, the 2008 through 2012 files are from the American Community Survey (ACS) and cover only about 1 percent of the U.S. population each. Five years of ACS data were pooled together to improve the statistical reliability and to achieve a sample size that is comparable to that available in previous years. Survey weights were adjusted as necessary to produce estimates that represent an average over the 2008 through 2012 period.

Compared with the more commonly used census "summary files," which include a limited set of summary tabulations of population and housing characteristics, use of the microdata samples allows for the flexibility to create more illuminating metrics of equity and inclusion, and provides a more nuanced view of groups defined by age, race/ethnicity, and nativity in each region of the United States.

The IPUMS microdata allows for the tabulation of detailed population characteristics, but because such tabulations are based on samples, they are subject to a margin of error and should be regarded as estimates – particularly in smaller regions and for smaller demographic subgroups. In an effort to avoid reporting highly unreliable estimates, we do not report any estimates that are based on a universe of fewer than 100 individual survey respondents.

A key limitation of the IPUMS microdata is geographic detail: each year of the data has a particular "lowest level" of geography associated with the individuals included, known as the Public Use Microdata Area (PUMA) or "County Groups." PUMAs are drawn to contain a population of about 100,000, and vary greatly in size from being fairly small in densely populated urban areas, to very large in rural areas, often with one or more counties contained in a single PUMA.

Because PUMAs do not neatly align with the boundaries of metropolitan areas, we created a geographic crosswalk between PUMAs and the region for the 1980, 1990, 2000, and 2008-2012 microdata. This involved estimating the share of each PUMA's population that falls inside the region using population information from Geolytics for 2000 census block groups (2010 population information was used for the 2008-2012 geographic crosswalk). If the share was at least 50 percent, the PUMAs were assigned to the region and included in generating regional summary measures. For the remaining PUMAs, the share was somewhere between 50 and 100 percent, and this share was used as the "PUMA adjustment factor" to adjust downward the survey weights for individuals included in such PUMAs in the microdata when estimating regional summary measures.

Data and methods

Adjustments made to census summary data on race/ethnicity by age

For the racial generation gap indicator, we generated consistent estimates of populations by race/ethnicity and age group (under 18, 18-64, and over 64 years of age) for the years 1980, 1990, 2000, and 2010, at the county level, which was then aggregated to the regional level and higher. The racial/ethnic groups include non-Hispanic White, non-Hispanic Black, Hispanic/Latino, non-Hispanic Asian and Pacific Islander, non-Hispanic Native American/Alaskan Native, and non-Hispanic other (including other single race alone and those identifying as multiracial). While for 2000 and 2010, this information is readily available in SF1 of each year, for 1980 and 1990, estimates had to be made to ensure consistency over time, drawing on two different summary files for each year.

For 1980, while information on total population by race/ethnicity for all ages combined was available at the county level for all the requisite groups in STF1, for race/ethnicity by age group we had to look to STF2, where it was only available for non-Hispanic White, non-Hispanic Black, Hispanic, and the remainder of the population. To estimate the number of non-Hispanic Asian and Pacific Islanders, non-Hispanic Native Americans/Alaskan Natives, and non-Hispanic others among the remainder for each age group, we applied the distribution of these three groups from the overall county population (of all ages) from STF1.

For 1990, population by race/ethnicity at the county level was taken from STF2A, while population by race/ethnicity by age group was taken from the 1990 Modified Age Race Sex (MARS) file – special tabulation of people by age, race, sex, and Hispanic origin. However, to be consistent with the way race is categorized by the Office of Management and Budget's (OMB) Directive 15, the MARS file allocates all persons identifying as "Other race" or multiracial to a specific race. After confirming that population totals by county were consistent between the MARS file and STF2A,we calculated the number of "Other race" or multiracial that had been added to each racial/ethnic group in each county (for all ages combined) by subtracting the number that is reported in STF2A for the corresponding group. We then derived the share of each racial/ethnic group in the MARS file that was made up of "Other race" or multiracial people and applied this share to estimate the number of people by race/ethnicity and age group exclusive of the "Other race" and multiracial, and finally the number of the "Other race" and multiracial by age group.

Data and methods
Adjustments made to demographic projections

National projections
National projections of the non-Hispanic White share of the population are based on the U.S. Census Bureau's 2012 National Population Projections, Middle Series. However, because these projections follow the OMB 1997 guidelines on racial classification and essentially distribute the other single-race alone group across the other defined racial/ethnic categories, adjustments were made to be consistent with the six broad racial/ethnic groups used in our analysis.

Specifically, we compared the percentage of the total population composed of each racial/ethnic group in the projected data for 2010 to the actual percentage reported in SF1 of the 2010 Census. We subtracted the projected percentage from the actual percentage for each group to derive an adjustment factor, and carried this adjustment factor forward by adding it to the projected percentage for each group in each projection year. Finally, we applied the adjusted population distribution by race/ethnicity to the total projected population from 2012 National Population Projections to get the projected number of people by race/ethnicity.

County and regional projections
Similar adjustments were made in generating county and regional projections of the population by race/ethnicity. Initial county-level projections were taken from Woods & Poole Economics, Inc. Like the 1990 MARS file described above, the Woods & Poole projections follow the OMB Directive 15-race categorization, assigning all persons identifying as other or multiracial to one of five mutually exclusive race categories: White, Black, Latino, Asian/Pacific Islander, or Native American. Thus, we first generated an adjusted version of the county-level Woods & Poole projections that removed the other or multiracial group from each of these five categories. This was done by comparing the Woods & Poole projections for 2010 to the actual results from SF1 of the 2010 Census, figuring out the share of each racial/ethnic group in the Woods & Poole data that was composed of other or multiracial persons in 2010, and applying it forward to later projection years. From these projections, we calculated the county-level distribution by race/ethnicity in each projection year for five groups (White, Black, Latino, Asian/Pacific Islander, and Native American), exclusive of others or multiracials.

To estimate the county-level share of population for those classified as other or multiracial in each projection year, we then generated a simple straight-line projection of this share using information from SF1 of the 2000 and 2010 Census. Keeping the projected other or multiracial share fixed, we allocated the remaining population share to each of the other five racial/ethnic groups by applying the racial/ethnic distribution implied by our adjusted Woods & Poole projections for each county and projection year.

The result was a set of adjusted projections at the county level for the six broad racial/ethnic groups included in the profile, which were then applied to projections of the total population by county from Woods & Poole to

Data and methods

Adjustments made to demographic projections

(continued)

get projections of the number of people for each of the six racial/ethnic groups.

Finally, an Iterative Proportional Fitting (IPF) procedure was applied to bring the county-level results into alignment with our adjusted national projections by race/ethnicity described above. The final adjusted county results were then aggregated to produce a final set of projections at the metro area and state levels.

Data and methods

Estimates and adjustments made to BEA data on GDP

The data on national Gross Domestic Product (GDP) and its analogous regional measure, Gross Regional Product (GRP) – both referred to as GDP in the text – are based on data from the U.S. Bureau of Economic Analysis (BEA). However, due to changes in the estimation procedure used for the national (and state-level) data in 1997, a lack of metropolitan area estimates prior to 2001, a variety of adjustments and estimates were made to produce a consistent series at the national, state, metropolitan area, and county levels from 1969 to 2012.

Adjustments at the state and national levels

While data on Gross State Product (GSP) are not reported directly in the equitable growth profile, they were used in making estimates of gross product at the county level for all years and at the regional level prior to 2001, so we applied the same adjustments to the data that were applied to the national GDP data. Given a change in BEA's estimation of gross product at the state and national levels from a Standard Industrial Classification (SIC) basis to a North American Industry Classification System (NAICS) basis in 1997, data prior to 1997 were adjusted to avoid any erratic shifts in gross product in that year. While the change to a NAICS basis occurred in 1997, BEA also provides estimates under an SIC basis in that year. Our adjustment involved figuring the 1997 ratio of NAICS-based gross product to SIC-based gross product for each state and the nation, and multiplying it by the SIC-based gross product in all years prior to 1997 to get our final estimate of gross product at the state and national levels.

County and metropolitan area estimates

To generate county-level estimates for all years, and metropolitan-area estimates prior to 2001, a more complicated estimation procedure was followed. First, an initial set of county estimates for each year was generated by taking our final state-level estimates and allocating gross product to the counties in each state in proportion to total earnings of employees working in each county – a BEA variable that is available for all counties and years. Next, the initial county estimates were aggregated to metropolitan area level, and were compared with BEA's official metropolitan area estimates for 2001 and later. They were found to be very close, with a correlation coefficient very close to one (0.9997). Despite the near-perfect correlation, we still used the official BEA estimates in our final data series for 2001 and later. However, to avoid any erratic shifts in gross product during the years up until 2001, we made the same sort of adjustment to our estimates of gross product at the metropolitan-area level that was made to the state and national data – we figured the 2001 ratio of the official BEA estimate to our initial estimate, and multiplied it by our initial estimates for 2000 and earlier to get our final estimate of gross product at the metropolitan area level.

We then generated a second iteration of county-level estimates – just for counties included in metropolitan areas – by taking the final metropolitan-area-level estimates and allocating gross product to the counties in each metropolitan area in proportion to total earnings of employees working in each

Data and methods

Estimates and adjustments made to BEA data on GDP (continued)

county. Next, we calculated the difference between our final estimate of gross product for each state and the sum of our second-iteration county-level gross product estimates for metropolitan counties contained in the state (that is, counties contained in metropolitan areas). This difference, total nonmetropolitan gross product by state, was then allocated to the nonmetropolitan counties in each state, once again using total earnings of employees working in each county as the basis for allocation. Finally, one last set of adjustments was made to the county-level estimates to ensure that the sum of gross product across the counties contained in each metropolitan area agreed with our final estimate of gross product by metropolitan area, and that the sum of gross product across the counties contained in state agreed with our final estimate of gross product by state. This was done using a simple IPF procedure.

Data and methods
Middle class analysis

To analyze middle-class decline over the past four decades, we began with the regional household income distribution in 1979 – the year for which income is reported in the 1980 Census (and the 1980 IPUMS microdata). The middle 40 percent of households were defined as "middle class," and the upper and lower bounds in terms of household income (adjusted for inflation to be in 2010 dollars) that contained the middle 40 percent of households were identified. We then adjusted these bounds over time to increase (or decrease) at the same rate as real average household income growth, identifying the share of households falling above, below, and in between the adjusted bounds as the upper, lower, and middle class, respectively, for each year shown. Thus, the analysis of the size of the middle class examined the share of households enjoying the same relative standard of living in each year as the middle 40 percent of households did in 1979.

Data and methods

Assembling a complete dataset on employment and wages by industry

Analysis of jobs and wages by industry, reported on pages 21 and 48, is based on an industry-level dataset constructed using two-digit NAICS industries from the Bureau of Labor Statistics' Quarterly Census of Employment and Wages (QCEW). Due to some missing (or nondisclosed) data at the county and regional levels, we supplemented our dataset using information from Woods & Poole Economics, Inc., which contains complete jobs and wages data for broad, two-digit NAICS industries at multiple geographic levels. (Proprietary issues barred us from using Woods & Poole data directly, so we instead used it to complete the QCEW dataset.) While we refer to counties in describing the process for "filling in" missing QCEW data below, the same process was used for the regional and state levels of geography.

Given differences in the methodology underlying the two data sources (in addition to the proprietary issue), it would not be appropriate to simply "plug in" corresponding Woods & Poole data directly to fill in the QCEW data for nondisclosed industries. Therefore, our approach was to first calculate the number of jobs and total wages from nondisclosed industries in each county, and then distribute those amounts across the nondisclosed industries in proportion to their reported numbers in the Woods & Poole data.

To make for a more accurate application of the Woods & Poole data, we made some adjustments to it to better align it with the QCEW. One of the challenges of using Woods & Poole data as a "filler dataset" is that it includes all workers, while QCEW includes only wage and salary workers. To normalize the Woods & Poole data universe, we applied both a national and regional wage and salary adjustment factor; given the strong regional variation in the share of workers who are wage and salary, both adjustments were necessary. Second, while the QCEW data are available on an annual basis, the Woods & Poole data are available on a decadal basis until 1995, at which point they become available on an annual basis. For the 1990-1995 period, we estimated the Woods & Poole annual jobs and wages figures using a straight-line approach. Finally, we standardized the CEDDS industry codes to match the NAICS codes used in the QCEW.

It is important to note that not all counties and regions were missing data at the two-digit NAICS level in the QCEW, and the majority of larger counties and regions with missing data were only missing data for a small number of industries and only in certain years. Moreover, when data are missing it is often for smaller industries. Thus, the estimation procedure described is not likely to greatly affect our analysis of industries, particularly for larger counties and regions.

Data and methods

Growth in jobs and earnings by industry wage level, 1990 to 2010

The analysis on page 21 uses our filled-in QCEW dataset (see the previous page) and seeks to track shifts in regional job composition and wage growth by industry wage level.

Using 1990 as the base year, we classified broad industries (at the two-digit NAICS level) into three wage categories: low, middle, and high wage. An industry's wage category was based on its average annual wage, and each of the three categories contained approximately one-third of all private industries in the region.

We applied the 1990 industry wage category classification across all the years in the dataset, so that the industries within each category remained the same over time. This way, we could track the broad trajectory of jobs and wages in low-, middle-, and high-wage industries.

This approach was adapted from a method used in a Brookings Institution report, *Building From Strength: Creating Opportunity in Greater Baltimore's Next Economy*. For more information, see: http://www.brookings.edu/~/media/research/files/reports/2012/4/26%20baltimore%20economy%20vey/0426_baltimore_economy_vey.pdf.

While we initially sought to conduct the analysis at a more detailed NAICS level, the large amount of missing data at the three-to six-digit NAICS levels (which could not be resolved with the method that was applied to generate our filled-in two-digit QCEW dataset) prevented us from doing so.

Data and methods

Analysis of occupations by opportunity level

The analysis of strong occupations on page 49 and jobs by opportunity level on page 32 are related and based on an analysis that seeks to classify occupations in the region by opportunity level. Industries and occupations with high concentrations in the region, strong growth potential, and decent and growing wages are considered strong.

To identify "high-opportunity" occupations in the region, we developed an "Occupation Opportunity Index" based on measures of job quality and growth, including median annual wage, wage growth, job growth (in number and share), and median age of workers (which represents potential job openings due to retirements).

Once the "Occupation Opportunity Index" score was calculated for each occupation, occupations were sorted into three categories (high, middle, and low opportunity). Occupations were evenly distributed into the categories based on employment. The strong occupations shown on page 49 are restricted to the top high-opportunity occupations above a cutoff drawn at a natural break in the "Occupation Opportunity Index" score.

There are some aspects of this analysis that warrant further clarification. First, the "Occupation Opportunity Index" that is constructed is based on a measure of job quality and set of growth measures, with the job-quality measure weighted twice as much as all of the growth measures combined. This weighting scheme was applied both because we believe pay is a more direct measure of "opportunity" than the other available measures, and because it is more stable than most of the other growth measures, which are calculated over a relatively short period (2005-2011). For example, an increase from $6 per hour to $12 per hour is fantastic wage growth (100 percent), but most would not consider a $12-per-hour job as a "high-opportunity" occupation.

Second, all measures used to calculate the "Occupation Opportunity Index" are based on data for Metropolitan Statistical Areas from the Occupational Employment Statistics (OES) program of the U.S. Bureau of Labor Statistics (BLS), with one exception: median age by occupation. This measure, included among the growth metrics because it indicates the potential for job openings due to replacements as older workers retire, is estimated for each occupation from the same 2010 5-year IPUMS American Community Survey microdata file that is used for many other analyses (for the employed civilian noninstitutional population ages 16 and older). The median age measure is also based on data for Metropolitan Statistical Areas (to be consistent with the geography of the OES data), except in cases for which there were fewer than 30 individual survey respondents in an occupation; in these cases, the median age estimate is based on national data.

Third, the level of occupational detail at which the analysis was conducted, and at which the lists of occupations are reported, is the three-digit Standard Occupational Classification (SOC) level. While considerably more detailed data is available in the OES, it was necessary to aggregate to the three-digit SOC level in

Data and methods

Analysis of occupations by opportunity level (continued)

order to align closely with the occupation codes reported for workers in the American Community Survey microdata, making the analysis reported on page 32 possible.

Data and methods

Estimates of GDP without racial gaps in income

Estimates of the gains in average annual income and GDP under a hypothetical scenario in which there is no income inequality by race/ethnicity are based on the IPUMS 2012 5-Year American Community Survey (ACS) microdata. We applied a methodology similar to that used by Robert Lynch and Patrick Oakford in Chapter Two of *All-in Nation: An America that Works for All* with some modification to include income gains from increased employment (rather than only those from increased wages).

We first organized individuals aged 16 or older in the IPUMS ACS into six mutually exclusive racial/ethnic groups: non-Hispanic White, non-Hispanic Black, Latino, non-Hispanic Asian/Pacific Islander, non-Hispanic Native American, and non-Hispanic other or multiracial. Following the approach of Lynch and Oakford in *All-In Nation*, we excluded from the non-Hispanic Asian/Pacific Islander category subgroups whose average incomes were higher than the average for non-Hispanic Whites. Also, to avoid excluding subgroups based on unreliable average income estimates due to small sample sizes, we added the restriction that a subgroup had to have at least 100 individual survey respondents in order to be included.

We then assumed that all racial/ethnic groups had the same average annual income and hours of work, by income percentile and age group, as non-Hispanic Whites, and took those values as the new "projected" income and hours of work for each individual. For example, a 54-year-old non-Hispanic Black person falling between the 85th and 86th percentiles of the non-Hispanic Black income distribution was assigned the average annual income and hours of work values found for non-Hispanic White persons in the corresponding age bracket (51 to 55 years old) and "slice" of the non-Hispanic White income distribution (between the 85th and 86th percentiles), regardless of whether that individual was working or not. The projected individual annual incomes and work hours were then averaged for each racial/ethnic group (other than non-Hispanic Whites) to get projected average incomes and work hours for each group as a whole, and for all groups combined.

The key difference between our approach and that of Lynch and Oakford is that we include in our sample all individuals ages 16 years and older, rather than just those with positive income values. Those with income values of zero are largely non-working, and they were included so that income gains attributable to increases in average annual hours of work would reflect both an expansion of work hours for those currently working and an increase in the share of workers – an important factor to consider given measurable differences in employment rates by race/ethnicity. One result of this choice is that the average annual income values we estimate are analogous to measures of per capita income for the age 16 and older population and are notably lower than those reported in Lynch and Oakford; another is that our estimated income gains are relatively larger as they presume increased employment rates.

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