

# 2009 North Carolina Economic Index

A Summary of North Carolina's  
Economic Strengths, Challenges  
and Opportunities

*includes an overview of the current economic recession*



**POLICY  
& RESEARCH**  
Strategic Planning  
A Division of  
The North Carolina Department of Commerce



**NORTH CAROLINA**  
THE STATE OF MINDS

# 2009 North Carolina Economic Index

## Economic Index Report Staff

Meihui Bodane  
Tim Cole  
Holly Crosby  
Michael Haley  
Chris Harder  
Anna Lea  
Tammy Lester  
Sara Nienow  
Allan Sandoval  
Libby Smith

## Direct questions or comments to:

Chris Harder, Senior Economist  
North Carolina Department of Commerce  
Division of Policy, Research and Strategic Planning  
301 North Wilmington Street  
4329 Mail Service Center  
Raleigh, NC 27699-4329  
Phone: (919) 715-1026  
[charder@nccommerce.com](mailto:charder@nccommerce.com)

*Special thanks to Angela Marshall, Roberta Rose and Whitney Phillips  
for the design and layout of this document.*

March 2009





**North Carolina Department of Commerce**  
*Policy, Research, and Strategic Planning Division*

**Beverly Perdue, Governor**

**J. Keith Crisco, Secretary**  
**Dale Carroll, Deputy Secretary**

March 2009

Dear Economic Development Allies:

The North Carolina Department of Commerce believes that economic development is the implementation of a set of long-term strategies to develop North Carolina's capacity for sustained economic growth. The 2009 North Carolina Economic Index is designed to support the Department's economic development mission and assist state leaders with capitalizing on North Carolina's strengths, addressing its weaknesses, and developing future economic opportunities.

The goal of the Index is to provide a detailed and objective snapshot of the state's economy based on 16 indicators and 47 specific measures. Using the most recent available data at the time of publication, the report focuses on North Carolina's performance against six comparison states (GA, MA, MI, PA, SC and VA) and the United States as a whole. In addition to specific economic data, the report provides information on how indicator results may guide state economic development planning. The report's policy implications serve as a call to action for economic development professionals and policymakers throughout North Carolina. In addition to specific indicator findings, the Index also provides an overview of key economic trends related the current economic crisis.

Handwritten signature of J. Keith Crisco in cursive.

J. Keith Crisco  
Secretary

Handwritten signature of Dale Carroll in cursive.

Dale Carroll  
Deputy Secretary

Handwritten signature of Stephanie McGarrah in cursive.

Stephanie McGarrah  
Assistant Secretary

# TABLE OF CONTENTS

EXECUTIVE SUMMARY .....	1
OVERVIEW OF THE CURRENT ECONOMIC RECESSION.....	5
Indicator 1: Population .....	9
Indicator 2: Labor Force.....	12
Indicator 3: Industry Mix.....	15
Indicator 4: Occupational Mix .....	17
Indicator 5: State Gross Domestic Product (GDP) .....	21
Indicator 6: Labor Productivity .....	24
Indicator 7: Energy .....	27
Indicator 8: Exports.....	29
Indicator 9: Foreign Direct Investment (FDI) .....	32
Indicator 10: Firm Growth.....	35
Indicator 11: Research and Development (R&D).....	37
Indicator 12: Entrepreneurial and Small Business Capital.....	41
Indicator 13: Educational Attainment.....	44
Indicator 14: Earnings .....	47
Indicator 15: Income Distribution .....	49
Indicator 16: Healthcare Access and Cost .....	52
SOURCES GUIDE .....	55

## TABLE AND FIGURES

1-1	Population Growth, 2003-2008.....	9
1-2	Population Change for NC Economic Development Regions, 2000-2007 .....	10
1-3	Percent of Population by Age Group, 2007 .....	10
2-1	Growth in Labor Force and Employment, 2003-2008 .....	12
2-2	Labor Force Participation Rates, 2003 & 2008 .....	13
2-3	Percent of Labor Force in NC by Age Group, 2000 & 2008.....	14
3-1	North Carolina Employment by Industry Sector, 2003 & 2008.....	15
3-2	Percent Change in Manufacturing Employment, 2003-2008 .....	16
4-1	Top 5 Employed Occupations in NC (with Associated Annual Earnings), 2008 .....	17
4-2	Top Earning Occupations in NC (with Associated Employment), 2008 .....	18
4-3	Management, Professional and Technical Occupations by NC Economic Development Region .....	19
4-4	Top 5 Growing Occupations by NC Economic Development Region, 2003-2008.....	20
5-1	Percent Change in Real GDP, 2002-2007 .....	21
5-2	Per Capita Real GDP, 2002 & 2007 .....	22
5-3	Top Ten Industries Contributing to North Carolina's GDP, 2007 .....	23
6-1	Labor Productivity, 2002 & 2007 .....	24
6-2	Percent Change in Labor Productivity, 2002-2007 .....	25
6-3	North Carolina Labor Productivity Growth by Select Industries, 2002-2007 .....	26
7-1	Average Industrial Price of Electricity, Cents per Kilowatt Hour, 2002-2007 .....	27
7-2	Percent of Net Electric Power Generated from Renewable Energy Sources Year to Date November 2007 & 2008 .....	28
8-1	Dollar Value of Exports, 2002 & 2007 .....	29
8-2	Top Destination Countries for NC Exports, 2002 & 2007.....	30
8-3	Top N.C. Exports by Commodity, 2002 & 2007 .....	30
9-1	Dollar Value of FDI, 2002 & 2006.....	32
9-2	Percent of FDI in N.C. by Country, 2006 .....	33
9-3	Employment in Foreign Owned Companies, 2001 & 2006 .....	34
10-1	Percent Change in Number of Firms, 2001-2002 & 2006-2007 .....	35
10-2	Percent of Jobs in Gazelle Firms, 2002 & 2008 .....	36

## TABLE AND FIGURES

11-1	R&D Expenditures as Share of State GDP by Performer, 2006 .....	37
11-2	Federal R&D Obligations in North Carolina, by Selected Agency and Performer: FY 2007 .....	38
11-3	Geographic Distribution of University R&D in North Carolina, 2006 .....	39
11-4	Percent of University & College R&D Funding from State & Local Government, 2006 .....	39
12-1	Percent of Venture Capital by Stage of Development, 2003 & 2008 .....	41
12-2	Share of National Venture Capital, 2003 & 2008 .....	42
12-3	Average SBIR/STTR Funding per Small Business, 2006 .....	43
13-1	Educational Attainment by Degree Category, 2007 .....	44
13-2	Percent Change in Educational Attainment, 2000-2007 .....	45
13-3	Science & Engineering Degrees per 10,000 Population, 2006-2007 .....	45
14-1	Median Household Income, 2002 & 2007 .....	47
14-2	Average Weekly Wage, Private Sector, 2003 & 2008 .....	48
15-1	Percent Change in Average Real Income, Bottom and Top Fifth Families, 1987-1989 to 2004-2006 .....	49
15-2	Percent of Total State Adjusted Gross Income Attributable to Income Category, 2006 .....	50
15-3	Percent of Tax Returns by Income Category, 2006 .....	50
15-4	Per capita Income in NC by County, 2008 .....	51
16-1	Percent of Persons Under 65 Years of Age Not Covered by Health Insurance, 2001-2007 .....	52
16-2	Average Family Health Insurance Premiums, 2006 .....	53
16-3	Percent of Private Sector Establishments Offering Health Insurance to Employees, 2006 .....	54

## EXECUTIVE SUMMARY

**WHAT IS THE 2009 NORTH CAROLINA ECONOMIC INDEX?**

The 2009 North Carolina Economic Index is a tool created to assist the state's economic development leaders with capitalizing on North Carolina's economic strengths and addressing its weaknesses. The Index provides a snapshot of how the state is performing, based on 16 economic indicators and 47 specific measures. Based on the most current data available at the time of publication, the indicators track North Carolina's performance over time to provide an objective, long-term evaluation of the state's economy. North Carolina is compared to six states (GA, MA, MI, PA, SC and VA) and the United States as a whole. Comparison states were selected based on the following characteristics: Georgia, South Carolina and Virginia represent Southeastern competitor states; Michigan and Pennsylvania are comparable manufacturing states; and Massachusetts is a leading technology state.

The Index also includes a special analysis section on the impact of the recession on North Carolina workers, businesses, industries and families. Key measures evaluated include: unemployment rate; industry employment; announced business closings and permanent layoffs; foreclosures; and home sales. In this section, each measure analyzes data from December 2007, the official start of the recession, to the latest month data is available, January 2009.

**SUMMARY OF INDICATOR FINDINGS**

Each of the Index's 16 economic indicators is assigned to at least one of six broad economic categories: Demographic Change; Transitioning Economy; Productivity; Global Economy; Innovation; and Shared Prosperity. In actuality, many of the indicators could easily fall into several of the categories, highlighting the complex and interrelated nature of the state's economy.<sup>1</sup> Each category plays a prominent role in North Carolina's economy and affects almost every economic outcome. Together, the indicators form a broad foundation for understanding North Carolina's economic strengths, challenges and opportunities. Following is a table outlining the 16 indicators by economic category and an overview of key findings from the Index. For a more complete and descriptive set of findings please consult each individual economic indicator analysis.

Indicators by Assigned Economic Category

	Indicators	Demographic Change	Transitioning Economy	Productivity	Global Economy	Innovation	Shared Prosperity
1	Population	X	X				
2	Labor Force	X	X				
3	Industry Mix		X	X			
4	Occupational Mix		X				X
5	State Gross Domestic Product			X	X		
6	Labor Productivity			X		X	
7	Energy			X		X	
8	Exports			X	X		
9	Foreign Direct Investment				X	X	
10	Firm Growth					X	
11	Research & Development		X			X	
12	Entrepreneurial & Small Business Capital		X			X	
13	Educational Attainment		X				X
14	Earnings		X				X
15	Income Distribution		X				X
16	Health Care Access & Cost		X				X

<sup>1</sup> The decision to limit each indicator to two categories was made to simplify analysis while still preserving the assertion that indicators affect multiple areas of the state's economy.

**Demographic Change:** Many economic indicators, such as unemployment rates or output growth, are hard to predict in the long-term. Demographic developments are different. Although demographic surprises occur, major trends tend to build slowly and are discernible in advance.<sup>2</sup> North Carolina's changing demographic landscape is no exception. As North Carolina experiences demographic change, economic development professionals will need to ensure that the state labor force has the right mix of skills, the appropriate business and social services, and the necessary infrastructure such as roads, utilities, and schools are in place.

- North Carolina currently ranks as the 10th largest state in the country with a population of approximately 9.2 million. Over the last five years, the state experienced a growth rate of 9.7 percent. A major reason for the state's population growth is the significant increase in people migrating from other regions of the United States or foreign countries.
- The state's labor force is growing faster than the national average. Sixty percent of North Carolina's population is between the ages of 20 and 64, and workers aged 55 and above constitute a growing segment of the workforce. In North Carolina, the Baby Boom Generation (ages 40-64) accounts for an estimated 2.9 million people. As this segment of the population ages, North Carolina's younger generations will be required to support a growing elderly population.

**Transitioning Economy:** North Carolina's economy is transitioning from traditional labor-intensive industries (e.g. textiles, furniture, etc.) to knowledge-based or service-related industries. While this transition is not new, the rate of change is accelerating. The transition of North Carolina's economy suggests the need to continue workforce training and redevelopment opportunities for displaced workers. Employment trends should be used to gauge which industries are growing or contracting, and to determine resource allocation for infrastructure improvements, incentives and workforce development.

- Ranked by employment size, North Carolina's four largest industries are: manufacturing; retail trade; health care and social assistance; and government. These industries account for more than 50 percent of employment in the state. Like most of the country, employment in manufacturing is significantly declining.
- The top five North Carolina occupations in terms of employment are: office and administrative support; sales; production; food preparation and serving; and transportation and materials moving. Each of these occupations earns less than \$30,000 annually. While managerial, professional and technical occupations in the state are growing significantly, the vast majority of these jobs are located in North Carolina's urban regions.
- All seven of the state's economic development regions are experiencing significant growth in community and social services occupations, health care support occupations, and personal care and service occupations.

**Productivity:** A productive labor force and an efficient energy system are two key factors in North Carolina's ability to sustain economic output and growth. State output, measured by gross domestic product (GDP), is the monetary value of all goods and services performed in a state. Productivity represents the amount of output per unit of input. In general, as labor productivity increases output grows. It also provides a direct measure of a state's competitive position over time. New economic development projects, the expansion of existing businesses and increased production are impacted by the cost, availability and reliability of energy.

- North Carolina's GDP growth rate exceeds that of the nation and all comparison states. The finance and insurance industry is the leading contributor to the state's GDP, followed closely by nondurable goods manufacturing and durable goods manufacturing.
- The state's labor productivity is growing faster than the U.S. average. North Carolina's growth in labor productivity is driven by a variety of industry sectors across different segments of the economy. Innovation and technology are key determinates of labor productivity growth.
- North Carolina produces energy more efficiently than the nation as a whole, resulting in competitive industrial electricity prices. However, to remain competitive, North Carolina must continue to invest in new, efficient energy sources. The percent of net electric power generated from renewable energy sources in the state is lower than the national average.

<sup>2</sup> Little, Jane Sneddon and Triest, Robert K. "Seismic Shifts: The Economic Impact of Demographic Change. An Overview." Federal Reserve Bank of Boston, Conference Series 46. June 2001.

## EXECUTIVE SUMMARY

**Global Economy:** An important indicator of economic health is the degree to which a state is engaged in the global economy. North Carolina's long-term economic growth depends on expanding and diversifying exported industry sectors. The state's ability to compete for national and international export markets is critical for the retention and growth of employment opportunities. Foreign direct investment (FDI) is an important indicator of a state's ability to attract foreign investors and is one of the key determinates of a region's ability to attract new technologies, capital, workforce skills, global connections and job opportunities.

- North Carolina's dollar value of exports continues to grow. Canada remains the state's top export destination, but exports to China are experiencing the most growth. The state's top two export commodities are machinery and electrical machinery.
- North Carolina ranks 14th nationally in terms of its value of FDI. The vast majority of FDI in the state comes from Europe, while Asia is the fastest growing. Approximately 5 percent of workers in North Carolina are employed by foreign owned companies.

**Innovation:** The creation and adoption of new products, services and business models is a fundamental driver of the state's economic and social prosperity in the 21st century. A vibrant entrepreneurial economy is typically characterized by a high rate of business turnover, including both firm openings and closings. Investments in research and development (R&D) increase productivity, boost economic growth, generate new products and processes, and improve the quality of people's lives. Available venture capital is a predictor of potential new products and services, job creation and revenue growth in a state.

- North Carolina's net firm creation rate and percentage of jobs in fast growing companies (gazelle firms) both exceed the U.S. average.
- The state ranks below the national average in terms of federal and industry R&D spending as a share of GDP. However, North Carolina's R&D activity at colleges and universities is a recognized competitive advantage.
- Most of the state's venture capital is for later stage companies. The percent of all venture capital in North Carolina designated as startup/seed is below the national average. The state's share of national venture capital is in decline, but the amount of SBIR and STTR awards are increasing.

**Shared Prosperity:** North Carolina's economic transformation has brought many benefits to the state—new jobs and opportunities, international recognition as a business location, and rapid population growth—but the successes have not been widely-shared. Healthy economies generate opportunities for all individuals and households to increase incomes. As North Carolina continues its economic transition, economic development leaders must continue to focus on expanding high-wage industries and dedicate resources to provide training opportunities and improve the education levels of the labor force.

- North Carolina is below or tied with the national average in all educational attainment categories except for Associate's Degrees. However, the state is improving faster than the national average in the percent of the population 25 years of age or more (25+) having attained less than a high school graduation or equivalent, and the percent of 25+ population having attained a bachelor's degree or higher.
- North Carolina's median household income is 86.6 percent of the U.S. average and lowest among the comparison states. The state's urban economic development regions (Research Triangle, Charlotte, and Piedmont Triad) have the highest average weekly wages.
- Income of the state's wealthiest families grew at a significantly faster rate than the state's poorest families. Wealth is highly concentrated in North Carolina and comes from a relatively small number of households.
- Eighteen percent of North Carolinians less than 65 years of age are not covered by health insurance. Only 43 percent of small businesses in the state offer health insurance to their employees.

### CONCLUSION

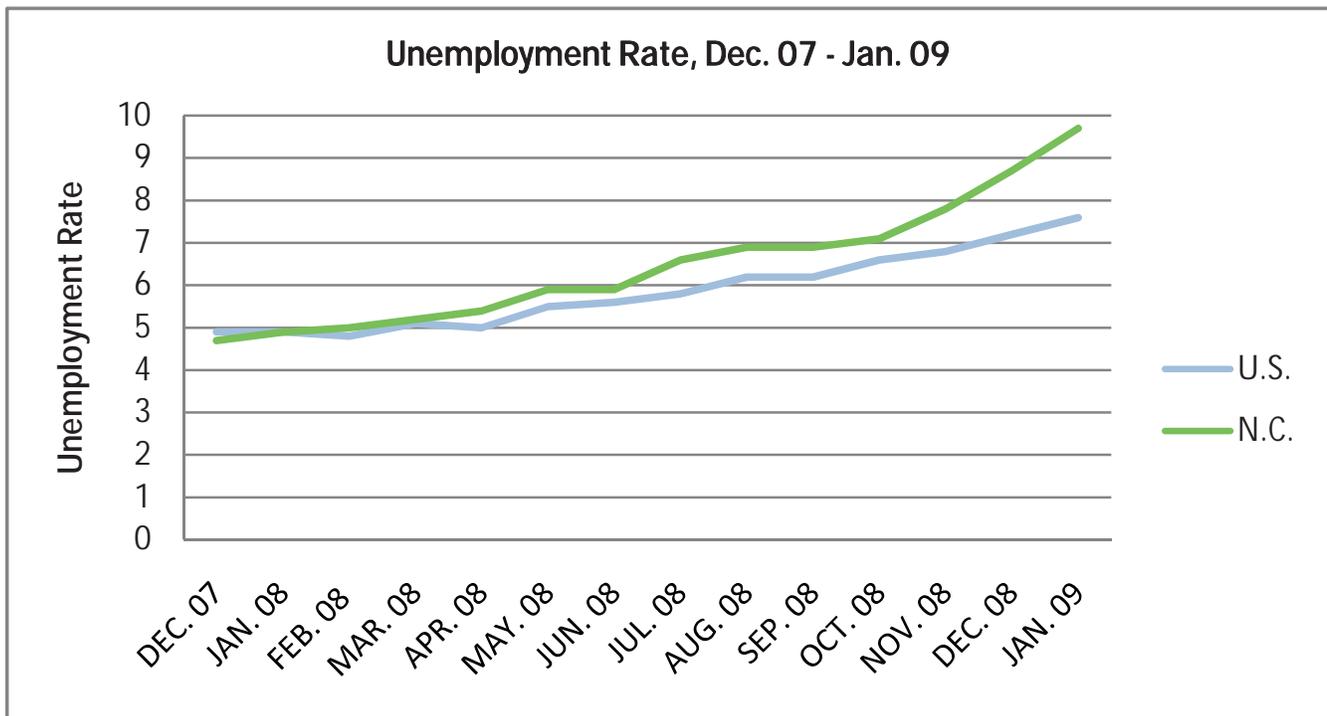
Economic development is a long term investment in the future of North Carolina. In the short-term, the state faces economic challenges that the Department of Commerce and the economic development community must move to immediately address. However, to remain competitive, North Carolina must not lose sight of its long-term strengths, challenges and opportunities. The state continues to attract people and businesses, and the productivity of its labor force continues to improve. The state's economic success is evident in the increase of the state's Gross Domestic Product, its ability to create new firms (small and large) and its expanding export market. These successes are significant, but challenges remain. Despite historical investment in education, North Carolina must continue to strengthen its "human capital" through basic education and workforce development. Also, economic opportunity for all North Carolinians, regardless of income level or geographic location, should continue to be an essential goal of the state's economic development policy. This Index can be used to help North Carolina's economic development leaders make policy and resource allocation decisions that will leverage the state's successes and mitigate challenges.

## OVERVIEW OF THE CURRENT ECONOMIC RECESSION

Similar to the global and national economies, North Carolina is in a severe recession. According to the National Bureau of Economic Research, the United States entered a recession in December 2007. The most optimistic forecasts anticipate a rise in real GDP growth in the fourth quarter of 2009, but it is likely that the recession will continue into 2010, with a slow recovery. According to several key economic indicators, the pace of the recession accelerated dramatically over the last quarter of 2008 and into 2009. The following overview analyzes the impact of the recession on unemployment rates, industry employment trends, announced business closings and permanent layoffs, household finances, and the housing market.

### UNEMPLOYMENT RATES AND INDUSTRY EMPLOYMENT TRENDS

Between December 2007 and January 2009, North Carolina's unemployment rate jumped significantly, from 4.7 to 9.7 percent. The state's unemployment rate was 6th highest in the nation. Over the same time period, the nation's unemployment rate increased from 4.9 to 7.6 percent. In North Carolina, 72 counties had an unemployment rate above 10 percent as of January 2009. Dare County's unemployment rate is the highest in the state (17.3 percent), followed by Graham (17.0 percent), Scotland (16.8 percent), and Cherokee (16.4 percent). Mecklenburg, the state's largest county, had an unemployment rate of 9.5 percent. Orange County had the lowest unemployment rate (5.8 percent), followed by Durham (7.3 percent) and Wake (7.4 percent).



*N.C. Employment Security Commission*

Employment impacts related to the current recession are not equally distributed among all industries.<sup>1</sup> However, job losses are occurring in both traditional and knowledge-based sectors. According to the following table, nonfarm employment<sup>2</sup> in North Carolina decreased 3.9 percent (-161,800 jobs) between December 2007 and January 2009. Seventy-five percent (121,700) of the 161,800 total nonfarm jobs lost since December 2007 occurred in the last four months (Sept. 08 – Jan. 09). The recent acceleration of job loss is consistent for most industry sectors.

<sup>1</sup> Industry employment data from the U.S. BLS is considered total employment (full, part time, and temporary).

<sup>2</sup> Total number of paid workers of any business, excluding the following employees: proprietors, the unincorporated self-employed, unpaid volunteer or family workers, farmworkers, and domestic workers. Government employment covers only civilian employees; military personnel are excluded. The total non-farm payroll accounts for approximately 80% of the workers who produce the entire gross domestic product of the United States. (U.S. BLS)

## North Carolina Nonfarm Employment Trends by Industry

Industry Sectors	Jan. 09 Employment	Since Start of Recession (12/07 - 01/09)		Last 4 Months (09/08 - 01/09)	
		Change	% Change	Change	% Change
Mining & Logging	6,500	(400)	-5.8%	0	0.0%
Construction	210,100	(42,800)	-16.9%	(20,300)	-8.8%
Manufacturing	479,600	(53,500)	-10.0%	(29,900)	-5.9%
Trade, Transportation, & Utilities	742,500	(37,700)	-4.8%	(21,700)	-2.8%
Information	70,100	(2,200)	-3.0%	(900)	-1.3%
Financial Activities	209,500	(2,600)	-1.2%	(1,800)	-0.9%
Professional & Business Services	478,200	(29,000)	-5.7%	(24,800)	-4.9%
Education & Health Services	535,500	2,400	0.5%	600	0.1%
Leisure & Hospitality	389,900	(9,200)	-2.3%	(7,500)	-1.9%
Other Services	173,400	(6,900)	-3.8%	(14,300)	-7.6%
Government	714,900	20,100	2.9%	(1,100)	-0.2%
Total Nonfarm Employment	4,010,200	(161,800)	-3.9%	(121,700)	-2.9%

U.S. Bureau of Labor Statistics

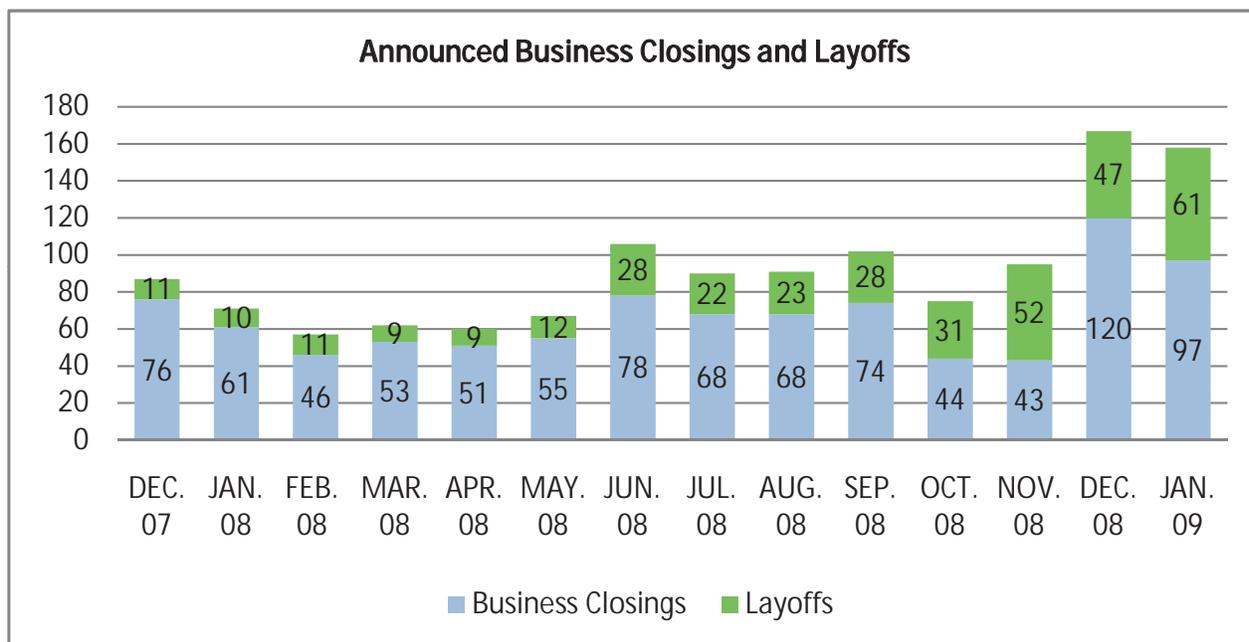
Since the start of the recession, four industry categories lost the most number of jobs in North Carolina: Manufacturing (-10.0%; -53,500); Construction (-16.9%; -42,800); Trade, Transportation and Utilities (-4.8%; -37,700); and Professional and Business Services (-5.7%; -29,000). Industries that experienced modest or very little change include Mining and Logging, Information, Financial Activities, and Leisure and Hospitality. Education and Health Services and Government both experienced slight employment growth. Other Services is unique in that the number of jobs lost between September 2008 and January 2009 exceeds total job losses since the start of the recession, indicating employment growth for part of the year.

### ANNOUNCED BUSINESS CLOSINGS AND PERMANENT LAYOFFS

From December 2007 to January 2009, there were 934 announced business closings and 354 permanent layoffs by companies in North Carolina.<sup>3</sup> The announcements affected more than 45,000 workers, of which approximately 55 percent were employed in Manufacturing. Poor economic conditions and bankruptcy were two of the most common explanations provided. The number of closings and layoffs increased significantly toward the end of 2008 and beginning of 2009. There were a total of 167 announced business closings and permanent layoffs in December 2008, and 158 reported for January 2009. Both months are approximately 200 percent higher than the same month the year before.

<sup>3</sup> These data are derived from a statewide survey of newspaper accounts of closings and layoffs, and from information supplied to the Employment Security Commission of North Carolina by the employing units experiencing the closings/layoffs

## OVERVIEW OF THE CURRENT ECONOMIC RECESSION



*N.C. Employment Security Commission*

### HOUSEHOLD FINANCES AND THE HOUSING MARKET

Not surprisingly, the recession and associated loss of jobs significantly impacts families. Household finances have been negatively impacted by the simultaneous decline in wealth and deterioration in the job market. According to the latest forecasts prepared by Dr. Michael Walden, the William Neal Reynolds Distinguished Professor of Economics at North Carolina State University, income and consumer spending declined significantly in 2008. This downward trend is expected to continue in 2009. In particular, retail sales (adjusted for inflation) are forecasted to decline 8.2 percent in 2008 and another 2.5 percent in 2009. Real wages per employee are expected to decline 3.1 percent in 2008 and 2.5 percent in 2009.<sup>4</sup>

A key driver of the current recession is the housing market. The "housing bubble" built up earlier this decade ultimately led to the "housing bust" of plummeting sales and weak prices over the past two years. According to the U.S. Foreclosure Market Report, North Carolina's 2008 foreclosure rate<sup>5</sup> of 0.84 percent ranked 27th nationally. In 2008, there were 41,750 foreclosure filings in the state, an increase of 16.2 percent from the year before. In North Carolina's metropolitan areas, Charlotte/Gastonia experienced a foreclosure rate of 1.45 in 2008, above Greensboro/Highpoint (1.29) and Raleigh/Cary (1.09).<sup>6</sup> On a positive note, home foreclosures in North Carolina fell sharply in February 2009, countering a nationwide increase. The number of home foreclosure notices in February declined 14.5 percent from January and 49.7 percent from the same month a year ago.

Recently released data from the North Carolina Association of Realtors shows home sales in January 2009 down 36 percent from the year before (4,044 units sold compared to 6,363). Between August 2008 and January 2009 the number of housing units sold has steadily declined and each month is significantly less than the previous year.

<sup>4</sup> Dr. Michael L. Walden. "The North Carolina Economic Outlook." Winter 2008-2009.

<sup>5</sup> The foreclosure rate is percent of housing units that received at least one foreclosure filing during the year.

<sup>6</sup> Realty TRAC, January 2009.

# OVERVIEW OF THE CURRENT ECONOMIC RECESSION

## Existing Home Sales in North Carolina

	AUG. 08	SEP. 08	OCT. 08	NOV. 08	DEC. 08	JAN. 09
Units Sold	8,527	7,417	6,389	4,959	5,100	4,044
% Change Prev. Month	-11%	-13%	-14%	-22%	3%	-21%
% Change Year Ago	-31%	-19%	-29%	-40%	-38%	-36%

*N.C. Association of Realtors*

The average sale price in January 2009 was \$192,537, 10 percent less than January 2008 (\$213,238). According to Dr. Walden, housing appreciation in the United States has historically been 2-4 percent (data going back to 1890s), with appreciation reaching approximately 12 percent in the middle part of this decade. For the nation as a whole, home appreciation rates entered negative territory following the "housing bust", but in North Carolina housing values are still positive despite some decline.<sup>7</sup>

### CONCLUSION

The impacts of the current recession are still undetermined and significant economic challenges confronting the state will likely increase in severity. Existing economic development efforts and programs designed to help address recession related issues, such as the accelerating unemployment rate, job losses in key state industries, and business closings and layoffs are increasingly important. To remain competitive, however, North Carolina must not lose sight of its long-term economic strengths, challenges and opportunities. The current recession may provide North Carolina with the opportunity to realign resources and programs, and allow the state to exit the economic crisis in a more competitive position, both nationally and globally.

<sup>7</sup> Dr. Michael L. Walden. "Economic Outlook: Panic or Recovery?" Presentation at the North Carolina Economic Developers Associated 2009 Midwinter Conference.

**Key Findings**

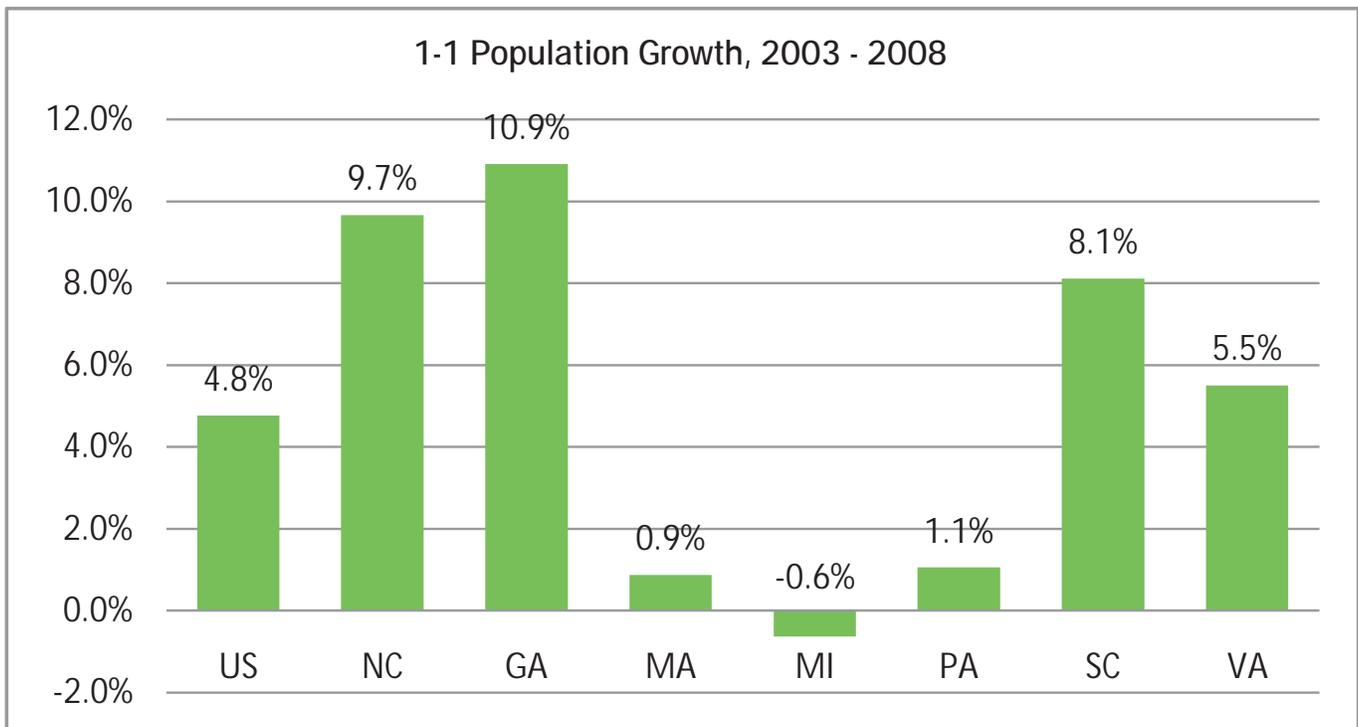
- N.C. ranks as the 10th largest state in the U.S. with a population of 9,222,414. Since 2003, the state experienced the second-highest growth rate (9.7 percent) among comparison states.
- From 2000 and 2007, N.C. experienced a significant increase in people migrating from other regions of the U.S.
- Sixty percent of N.C.'s population is between the ages of 20 and 64, suggesting that the state's potential workforce should remain a robust size for the next several decades.

**Indicator Overview**

Changes in population have social and economic implications that influence business-location decisions, infrastructure demands and service requirements. North Carolina's population experienced substantial growth over the past decade due to people moving to the state from other states or countries (positive net migration). Population growth is considered an indication of economic opportunity as people often move to regions where there are jobs.

**How Does North Carolina Perform?**

North Carolina is ranked as the 10th largest state in the country with a resident population total of 9,222,414. The state recorded the second-highest rate of growth (9.7 percent) among comparison states during the 5-year period ending in 2008 [1-1]. The state's population growth rate was more than two times the national average. Georgia, South Carolina and Virginia, all Southeastern states, experienced population growth in excess of 5 percent over the same time period.



U.S. Census Bureau

Between 2000 and 2007, North Carolina's population increased by more than 1 million [1-2]. Three components make up population growth: 1) natural growth - the excess of births over deaths; 2) in-migration - the movement of people from another state to North Carolina; and 3) immigration - the movement of people from outside the country to North Carolina.<sup>1</sup>North Carolina's population growth is due primarily (65.8 percent) to net migration, of which 18.3 percent is attributable to immigration and 47.5 attributable to in-migration.

<sup>1</sup> Walden, Michael L. North Carolina in the Connected Age: Challenges and Opportunities in a Globalizing Economy. Chapel Hill, NC: University of North Carolina Press, 2008.

Over the same time period, all seven economic development regions in North Carolina demonstrated positive population growth. The Charlotte and Research Triangle regions each experienced an increase in population of more than 340,000 people [1-2]. These two regions account for 67 percent of the of the state’s population growth (693,430 people). In the Advantage West, 92.8 percent of the region’s population change is a result of people moving from other regions in North Carolina or from other states and countries. Net migration is the leading factor contributing to population growth in all regions except for the Eastern and Southeast regions.

**1-2 Population Change for NC Economic Development Regions, 2000-2007**

Region	Population Change	% Natural Increase	% Net Migration
Advantage West	60,273	7.2%	92.8%
Charlotte Region	350,465	29.6%	70.4%
Eastern Region	47,022	91.7%	8.3%
Northeast Region	14,869	24.0%	76.0%
Southeast Region	88,712	52.7%	47.3%
Piedmont Triad Region	128,425	37.6%	62.4%
Research Triangle Region	342,965	30.1%	69.9%
North Carolina Total	1,032,731	34.2%	65.8%

U.S Census Bureau

North Carolina’s population is aging. The state’s median age increased more than 10 years, from 26.5 in 1970 to 36.8 in 2007.<sup>2</sup> North Carolina’s median age is slightly above that of the nation (36.6), but below all benchmark states except Georgia. Sixty percent of North Carolina’s population<sup>3</sup> is between the ages of 20 and 64, suggesting the potential for the state’s workforce to remain a robust size for the next several decades [1-3]. North Carolina’s population age breakdown is very similar to the United States as a whole. The percent of Georgia’s population that is older than 65 years is the lowest among comparison states and consistent with their relatively low median age of 34.7. Pennsylvania and Massachusetts have the highest percent of residents 65 years and older and the highest median ages (39.5 and 38.2 respectively). The Baby Boom Generation ranges approximately from ages 40 to 64 years of age. In North Carolina the Baby Boomers account for an estimated 2.9 million people. As this segment of the population ages, smaller, more recent generations will be required to support a growing elderly population.

**1-3 Percent of Population by Age Group, 2007**

	Up to 19 years	20 to 64 years	65 years and up
United States	27.4%	60.1%	12.4%
North Carolina	27.2%	60.6%	12.2%
Georgia	29.2%	60.9%	9.9%
Massachusetts	25.1%	61.5%	13.3%
Michigan	27.2%	60.1%	12.7%
Pennsylvania	25.4%	59.4%	15.2%
South Carolina	27.0%	60.0%	13.0%
Virginia	26.5%	61.7%	11.8%

U.S Census Bureau

<sup>2</sup> Walden, Michael L. North Carolina in the Connected Age: Challenges and Opportunities in a Globalizing Economy. Chapel Hill, NC: University of North Carolina Press, 2008.

<sup>3</sup> Civilian, non-institutionalized

**What Does this Mean for North Carolina Economic Development?**

The relationship between economic development and population growth is strong. North Carolina will experience population growth from individuals moving from other states or countries if employment opportunities continue and the state maintains a quality standard of living. To meet the needs of an expanding economy, economic development professionals will need to continue to focus on strategic workforce planning to ensure that the state has an appropriately sized workforce with the necessary skill sets. In addition, as North Carolina's population increases, policymakers will need to continue to look for innovative ways to fund infrastructure (schools, utilities, roads/transit, etc.) improvements.

**Key Findings**

- Between 2003 and 2008, N.C.'s labor force grew 7.1 percent and employment grew 5.3 percent, both exceeded the national average.
- N.C.'s 2008 labor force participation rate (64.7 percent) is lower than the state's 2003 rate of 66.8 percent.
- In 2008, workers aged 55 and above constituted a larger percent of N.C.'s labor force than in 2000.

**Indicator Overview**

A state's labor force is defined as the number of people employed plus those seeking employment. Labor force growth can signify a positive economic outlook. As the labor force expands, Gross Domestic Product (GDP) also expands due to increased production. The labor force participation rate is the ratio between a state's labor force and its total population. Historically, increases in labor force participation were the result of population increases associated with the Baby Boomer Generation and women entering the workforce. Future labor force participation rates should increase as access to education improves, leading to more job opportunities, and as the improved health of older workers allows them to stay employed longer.<sup>1</sup>

**How Does North Carolina Perform?**

North Carolina's labor force grew 7.1 percent from 2003 to 2008, a growth rate greater than the national average of 5.2 percent [2-1]. The state's labor force grew faster than state's employment (5.3 percent). South Carolina, Virginia and Georgia experienced labor force growth rates of 7.8 percent, 8.7 percent, and 11.2 percent respectively, suggesting an overall economic expansion in the Southeastern United States. Massachusetts, Michigan and Pennsylvania experienced either negative growth rates or growth rates below the national average.

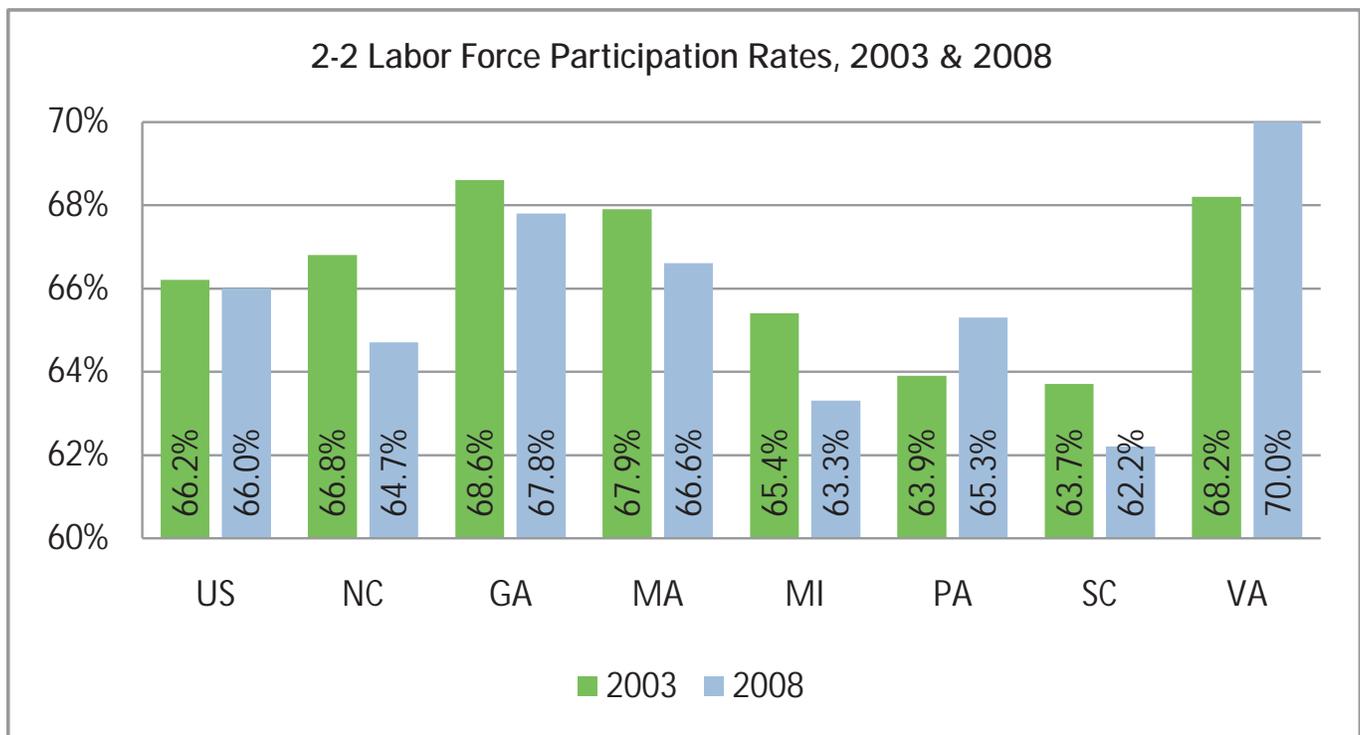


U.S. Bureau of Labor Statistics

<sup>1</sup> FRBSF Economic Letter. [Internet]. San Francisco, CA: Federal Reserve Bank of San Francisco.; c2007 [cited 2007 Nov 02]. Available from <http://www.frbsf.org/publications/economics/letter/2007/el2007-33.html#subhead2>

Over the past four decades, labor force participation rates in the United States increased, rising from less than 60 percent in the early 1960s to more than 67 percent by the late 1990s. However, after peaking in 2000, labor force participation rates have fallen steadily. There are several potential reasons for the downward trend. First, the aging of the Baby Boomers is increasing the share of population age groups for which participation rates are historically lower. Second, participation rates for adult women appear to have flattened out after more than three decades of steady rise, while participation rates among men continue to decline. Third, teenagers and young adults are remaining in school longer than in the past.<sup>2</sup>

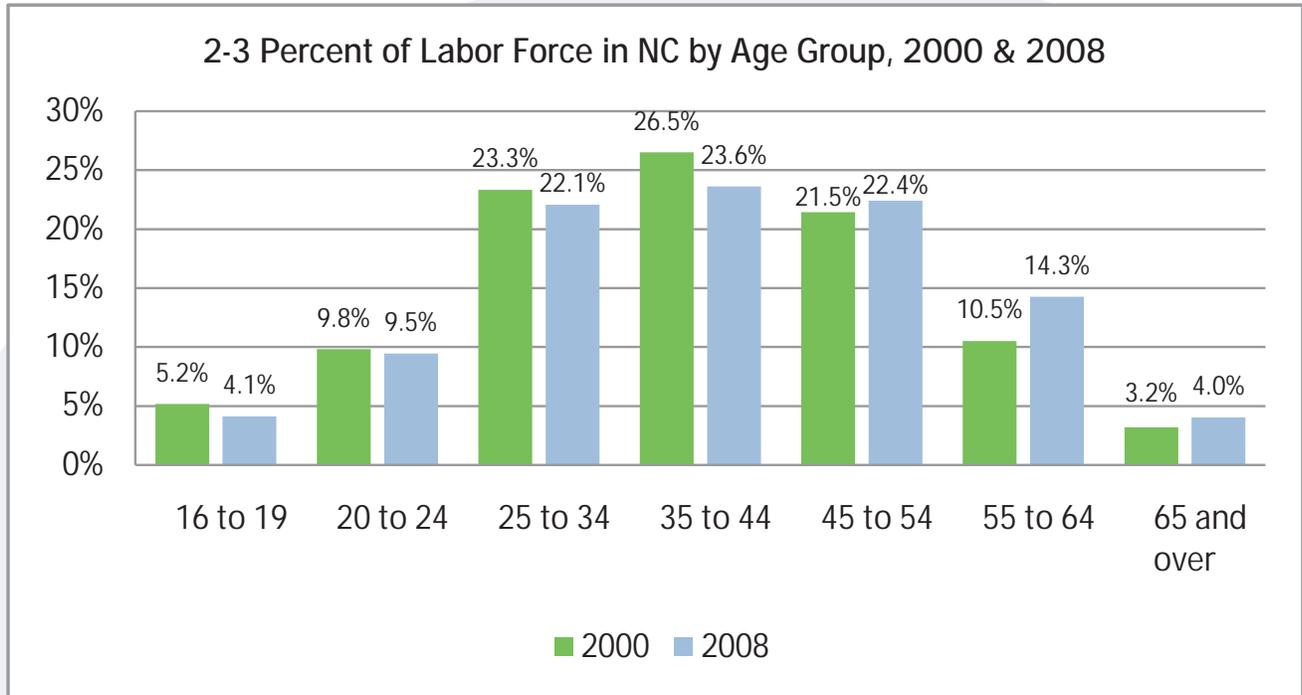
Although the overall labor force grew, participation rates have declined in the United States since 2003 [2-2]. In 2003, North Carolina's labor force participation rate was 66.8 percent; in 2008 it dropped to 64.7 percent, below the 2008 national average of 66.2 percent. North Carolina and Michigan tied for the largest percent decrease in labor force participation (-2.1 percentage points) among comparison states. Virginia and Pennsylvania experienced increases in labor force participation between 2003 and 2008.



U.S. Bureau of Labor Statistics

The impending retirement of the Baby Boomer Generation may deprive North Carolina of the workers it needs to compete economically. If population growth or in-migration do not fill the gap, employers may become increasingly dependent on workers age 55 and above to meet the demand for skilled workers. In 2008, workers age 55 and above constituted 18.3 percent of North Carolina's labor force, up from 13.7 percent in 2000 [2-3].

<sup>2</sup> Aaronson, Stephanie et al. "The Recent Decline in Labor Force Participation and its Implications for Potential Labor Supply." Division of Research and Statistics, Board of Governors of the Federal Reserve System. March 2006.



U.S. Bureau of Labor Statistics

**What Does this Mean for North Carolina Economic Development?**

The majority of North Carolina’s labor force is currently between the ages of 25 and 54. As this population segment ages, it is predicted that many of these workers will stay in the labor force for economic reasons. Given the recent decline in job opportunities for workers in labor-intensive industries, combined with the aging workforce, occupational extension and workforce development programs will become increasingly important.

**Key Findings**

- N.C.'s largest industries include manufacturing, retail trade, health care and social assistance, and government. In 2008, these four industries accounted for more than 50 percent of employment in the state.
- Employment in manufacturing is decreasing, but some sectors (e.g., construction machinery manufacturing, plastics material and resin manufacturing, and computer storage device manufacturing) are growing.

**Indicator Overview**

Industry concentration and employment trends can help to determine an economy's overall health. Analyzing industry trends can highlight existing competitive advantages, provide insight into the existing workforce skills, and divulge whether a region's economic base is susceptible to economic downturns. More specifically, understanding a region's industry mix and related trends allows economic development professionals to target scarce resources for industrial recruitment and expansion, workforce development, or international trade.

**How Does North Carolina Perform?**

More than 50 percent of employment<sup>1</sup> in North Carolina is concentrated in the manufacturing, retail trade, health care and social assistance, and government sectors [3-1]. Of these four sectors, only manufacturing employment decreased between 2003 and 2008. Increased employment in the construction sector is a result of population growth and the increase in demand for housing. North Carolina's ageing population fostered demand in health-related services. Finally, the state's continued transition from labor-intensive industries to knowledge-based industries has fueled employment growth in the professional and technical services sector.

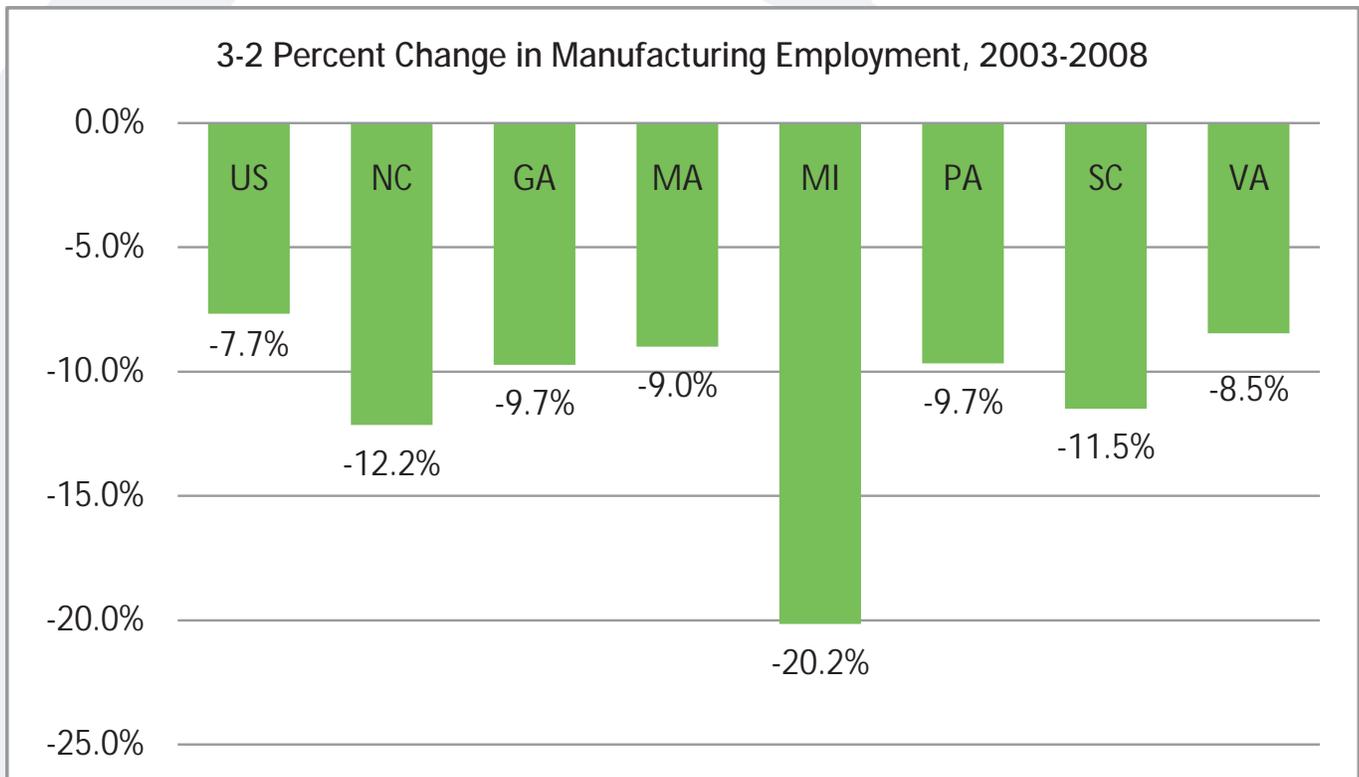
**3-1 North Carolina Employment by Industry Sector, 2003 & 2008**

Industry Sector	2003		2008		2003-2008 % Change
	Employment	% of Total	Employment	% of Total	
Agriculture, forestry, fishing and hunting	34,814	0.9%	29,672	0.7%	-14.8%
Mining	3,969	0.1%	4,134	0.1%	4.2%
Utilities	14,132	0.4%	12,349	0.3%	-12.6%
Construction	211,728	5.5%	255,419	6.0%	20.6%
Manufacturing	602,137	15.5%	527,823	12.4%	-12.3%
Wholesale trade	163,628	4.2%	185,719	4.4%	13.5%
Retail trade	432,592	11.2%	467,417	11.0%	8.1%
Transportation and warehousing	132,008	3.4%	137,177	3.2%	3.9%
Information	75,421	1.9%	72,866	1.7%	-3.4%
Finance and insurance	138,006	3.6%	152,778	3.6%	10.7%
Real estate and rental and leasing	47,280	1.2%	54,565	1.3%	15.4%
Professional and technical services	146,679	3.8%	190,852	4.5%	30.1%
Management of companies and enterprises	61,419	1.6%	71,892	1.7%	17.1%
Administrative and waste services	211,884	5.5%	242,877	5.7%	14.6%
Educational services	46,250	1.2%	60,095	1.4%	29.9%
Health care and social assistance	364,343	9.4%	452,915	10.7%	24.3%
Arts, entertainment, and recreation	45,692	1.2%	53,544	1.3%	17.2%
Accommodation and food services	292,207	7.5%	351,895	8.3%	20.4%
Other services, except public administration	96,690	2.5%	106,036	2.5%	9.7%
Government	755,162	19.5%	820,549	19.3%	8.7%
<b>Total Covered Employment</b>	<b>3,876,041</b>	<b>100.0%</b>	<b>4,250,574</b>	<b>100.0%</b>	<b>9.7%</b>

*Economic Modeling Specialists, Inc.*

<sup>1</sup> All employees covered by unemployment insurance. Covered employment is subject to the Employment Security Law on which Unemployment Insurance taxes must be paid.

Job loss in the manufacturing sector garnered significant attention in recent years. Between 2003 and 2008, manufacturing in North Carolina experienced a decline in percent of total private sector employment (15.5 percent down to 12.4 percent). The loss of manufacturing jobs is also evident in comparison states and the nation as a whole. Michigan was hit hardest with a 20.2 percent decline in manufacturing employment between 2003 and 2008 [3-2]. North Carolina's manufacturing employment decreased 12.2 percent, or approximately 71,000 jobs, over the same time period. However, not all of North Carolina's manufacturing industries experienced a decline in employment. Construction machinery manufacturing, plastics material and resin manufacturing, and computer storage device manufacturing, to name a few, experienced employment growth.



U.S. Bureau of Labor Statistics

### What Does this Mean for North Carolina Economic Development?

Recent industry employment trends can be used to gauge which industries are growing or contracting as well as to determine resource allocation for infrastructure improvements, incentives, and workforce development. The transition of North Carolina's economy from labor-intensive traditional industries to knowledge-based or service-related industries such as professional and technical services, health care, and information technology, suggests the need to continue workforce training and redevelopment opportunities for displaced workers. In addition, dedicating resources to encourage traditional manufacturing industries to take on higher value-added or more technologically advanced activities will ensure that existing businesses remain competitive in the global economy.

**Key Findings**

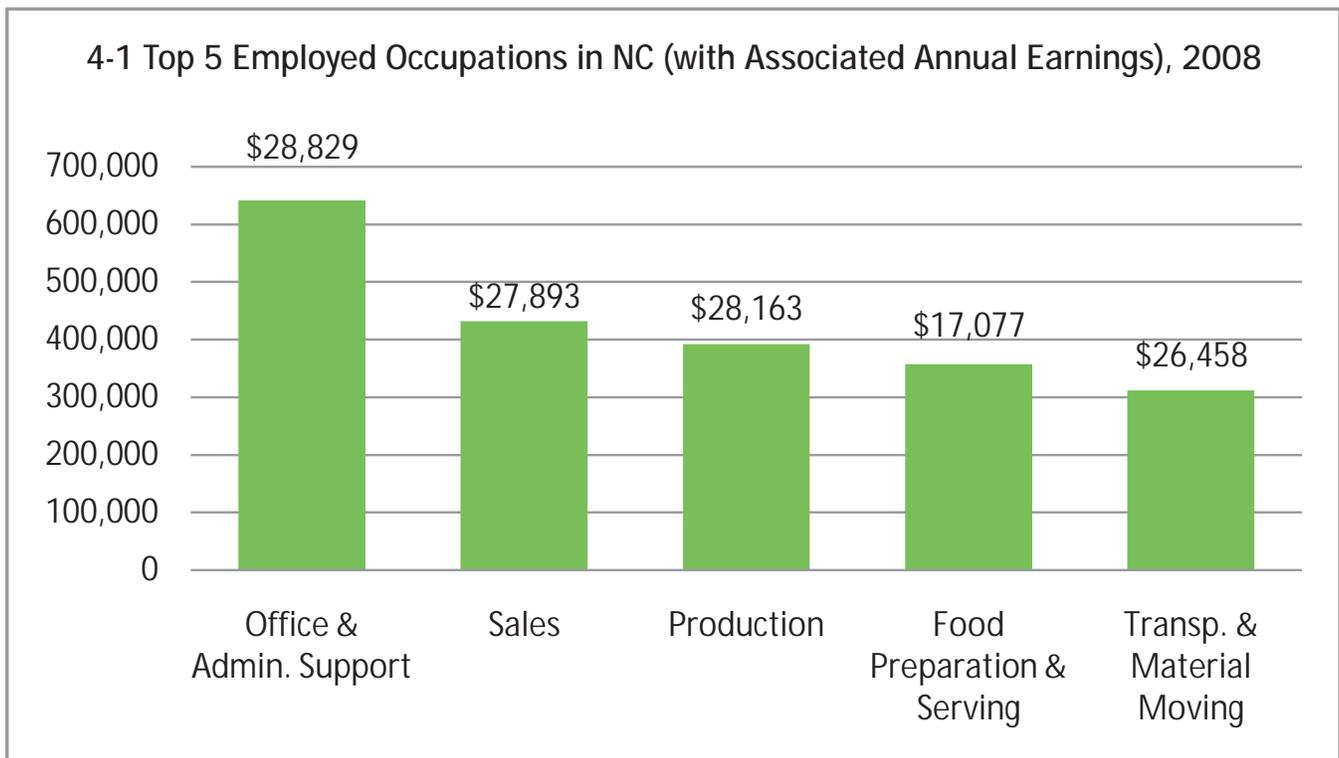
- When ranked by employment, the top five occupations in N.C. all earn less than \$30,000 annually.
- All five of the top earning occupations in N.C. have median annual earnings of \$60,000 or more.
- Between 2003 and 2008, jobs in managerial, professional and technical occupations grew 14.3 percent in N.C.
- All seven of the state’s economic development regions experienced significant growth in community and social services occupations, health care support occupations and personal care and service occupations.

**Indicator Overview**

Knowledge-based jobs sustain an economy through increases in labor productivity and wealth. These jobs can also help insulate a region from adverse business events that typically cause economic downturns. Examining a region’s occupational composition can highlight a state’s current mix of knowledge-intensive occupations (jobs associated with higher levels of educational attainment) with those occupations historically requiring less education. Occupational composition can also explain differences in wages among regions.

**How Does North Carolina Perform?**

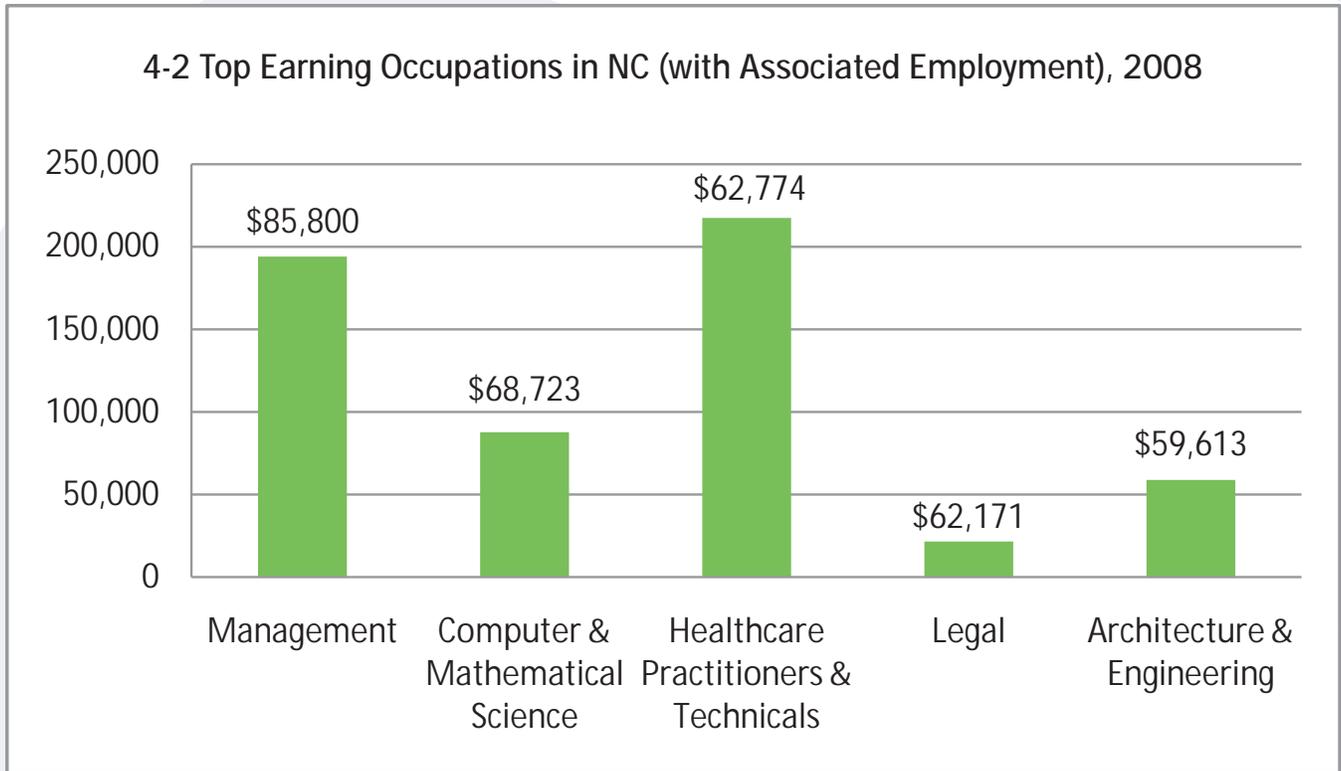
When ranked by employment, the top five occupations in North Carolina all earn less than \$30,000 annually (office and administrative support, sales, production, food preparation, and transportation and material moving) [4-1].<sup>1</sup> Each of these, excluding production occupations, experienced employment growth between 2003 and 2008. Production employment declined in every region of the state, resulting in a loss of 46,852 jobs (-10.7 percent).



*Economic Modeling Specialists, Inc.*

<sup>1</sup> Top five North Carolina Occupations [2008 employment]: 1) Office and administrative support [641,417], 2) Sales [431,958], 3) Production [392,497], 4) Food preparation [357,263] and 5) Transportation and Material Moving [311,934].

On average, management occupations pay the highest wages in the North Carolina, followed by computer and mathematical science occupations, and health care practitioners [4-2]. All five of the top earning occupations in the state have median annual earnings of approximately \$60,000 or more. However, there are far less North Carolinians working in the top five earning occupations than those working in occupations discussed in graph 4-1.

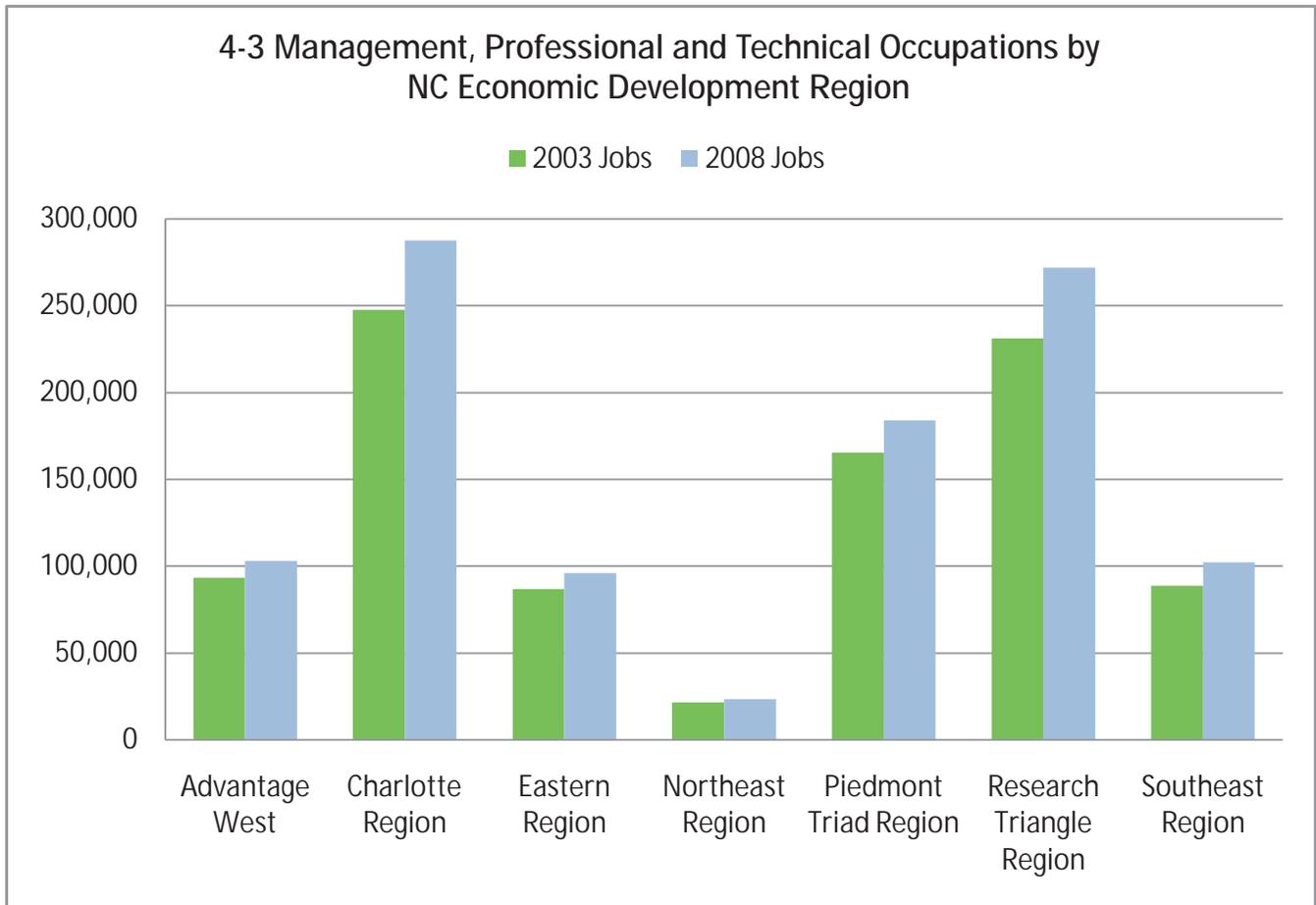


*Economic Modeling Specialists, Inc.*

Growth in management, professional and technical occupations<sup>2</sup> often indicates a state’s transition into a knowledge-based economy.<sup>3</sup> These occupations are generally associated with higher educational attainment levels (bachelor’s degree or higher) and corresponding high wages. Between 2003 and 2008, jobs in managerial, professional and technical occupations grew by 14.3 percent in North Carolina. All seven economic development regions in the state added knowledge-based jobs over the five-year period. However, most were concentrated in the state’s more urban regions [4-3].

<sup>2</sup> Occupations categories include: management; business and financial operations; computer and mathematical science; architecture and engineering; life, physical and social science; community and social service; legal; education, training and library; and arts, design, entertainment, sports, and media.

<sup>3</sup> The New Economy Index: Understanding America’s Economic Transformation, published by Progressive Policy Institute’s, measures the Country’s transformation towards an economy focused on sustainable economic prosperity. <http://www.neweconomyindex.org/metro/introduction.html>



*Economic Modeling Specialists, Inc.*

From 2003 to 2008, all seven of the state’s economic development regions experienced significant growth in community and social services, health care support, and personal care and service occupations [4-4]. Of these three, only community and social services occupations earned wages above the 2007 state median of \$35,880. Computer and mathematical science, key knowledge-based occupations with high annual wages, also experienced growth in multiple regions across the state. The following table presents the fastest growing occupational groups in each of the state’s seven economic development regions.

## 4-4 Top 5 Growing Occupations by NC Economic Development Region, 2003-2008

	Advantage West	Charlotte	Eastern	Piedmont Triad	NorthEast	Research Triangle	SouthEast
Community and social services	23%	30%	31%	26%	27%	25%	33%
Computer and mathematical science	32%		22%		20%		28%
Food preparation and serving related		29%	15%				
Health care practitioners and technical				17%	20%		
Health care support	24%	24%	22%	26%	22%	29%	31%
Life, physical, and social science							28%
Personal care and service	19%	22%	19%	16%	20%	22%	33%
Construction and Extraction	20%	22%				24%	
Architecture and engineering occupations				16%			
Building, grounds cleaning and maintenance occupations						22%	

*Economic Modeling Specialists, Inc.*

### What Does this Mean for North Carolina Economic Development?

As North Carolina transforms into a knowledge-based economy, the state will need to continue to create opportunities for citizens to move into knowledge-intensive occupations. Strategies to accomplish this may include increased science, math and technology curriculum offerings, and continued investment in targeted workforce development programs to retrain displaced workers. In addition, community development efforts and improved access to basic services, such as health care, are increasingly important. Individuals who seek managerial, professional, and technical jobs tend to be highly mobile and willing to move, resulting in quality of life playing an important role in recruiting and retaining talent.

## Key Findings

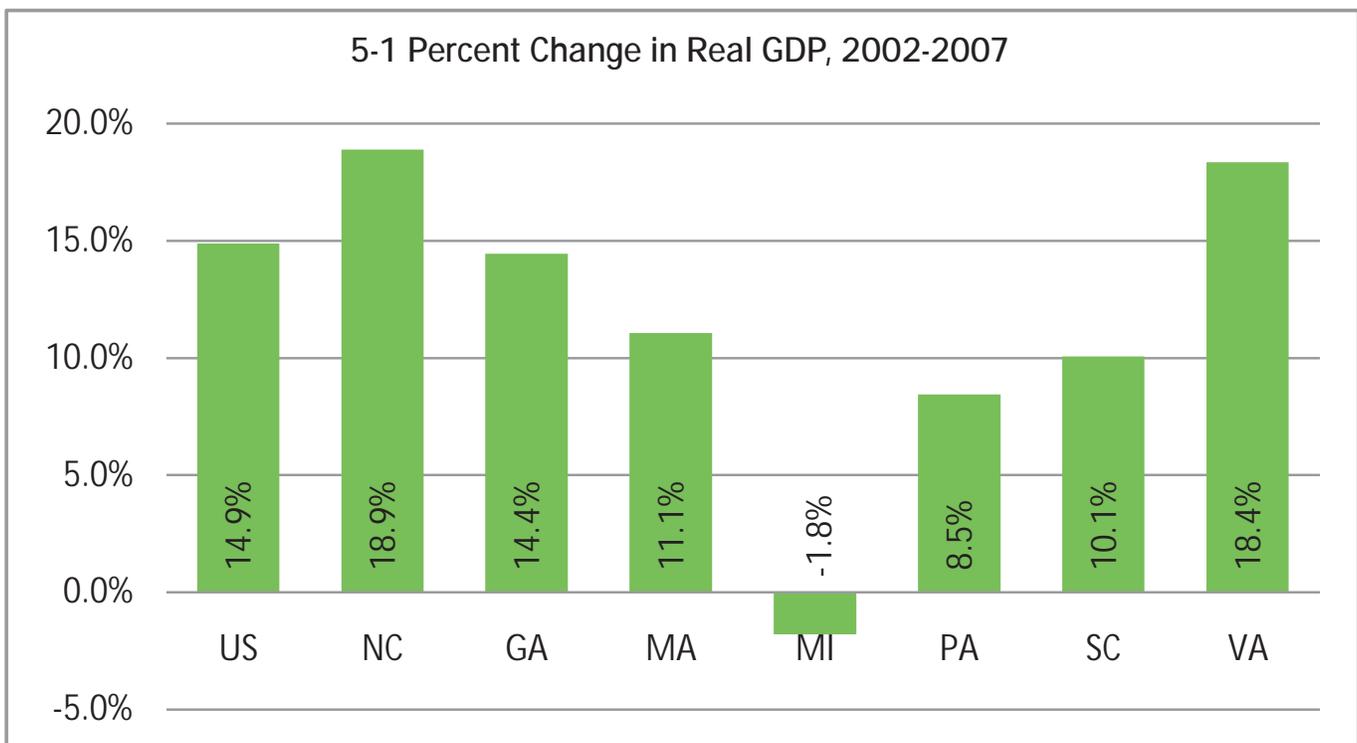
- Between 2002 and 2007, N.C.'s Real GDP grew 18.9 percent, greater than the U.S. average and all comparison states.
- In 2007, N.C.'s per capita real GDP was \$44,179, slightly below the national per capita real GDP.
- In 2007, the finance and insurance industry was the leading contributor to the state's GDP.

## Indicator Overview

One of the most common ways to measure a state's overall economic performance or strength is to look at state gross domestic product (State GDP). The U.S. Bureau of Economic Analysis defines GDP as a measurement of a state's output – the value added in production by the labor and property located in the state. State GDP is the monetary value of all goods and services performed in a state in one year.

## How Does North Carolina Perform?

Over the last several years the state has experienced significant economic growth. In 2007, North Carolina's Nominal GDP<sup>1</sup> was \$399.4 billion and between 2002 and 2007, the state's Real GDP<sup>2</sup> grew by 18.9 percent, greater than the U.S. average of 14.9 percent and faster than all comparison states [5-1]. Between 2006 and 2007, North Carolina's Real GDP increased by 2.2 percent, greater than the nation as a whole (2.0 percent), the Southeast (1.5 percent), and all comparison states except Georgia (2.8 percent) and Massachusetts (2.5 percent).

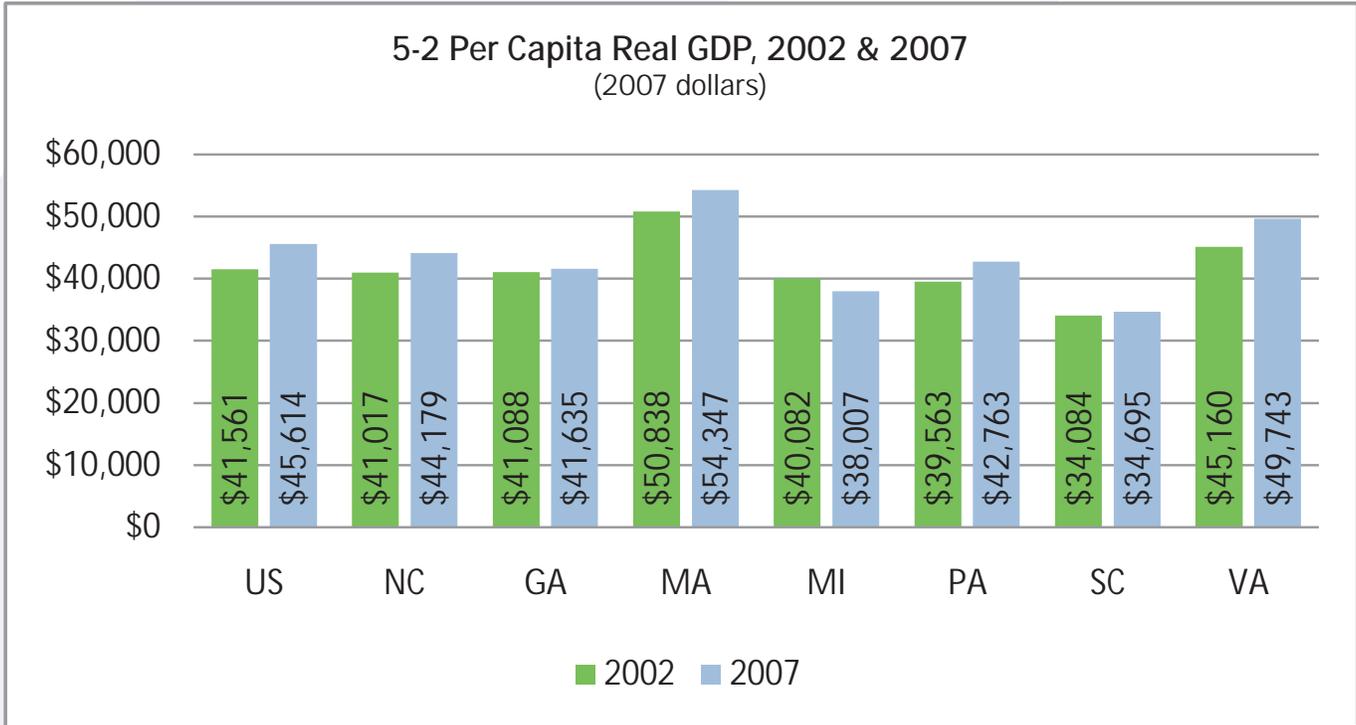


U.S. Bureau of Economic Analysis

<sup>1</sup> "Nominal" GDP is Gross Domestic Product in current year (2007) dollars. Not adjusted for inflation.

<sup>2</sup> "Real" GDP is Gross Domestic Product adjusted for inflation.

In 2007, North Carolina's per capita Real GDP was \$44,179, up from \$41,017 in 2002 [5-2]. The state's per capita Real GDP was slightly less than the United States (\$45,614) and significantly less than Massachusetts (\$54,347) and Virginia (\$49,743). During the same period, North Carolina's per capita Real GDP growth rate was 7.7 percent, behind the national average of 9.8 percent, but above all comparison states except Virginia (10.1 percent).



U.S. Bureau of Economic Analysis

In 2007, the finance and insurance industry was the largest contributor to state GDP at 12.4 percent, up from 9.8 percent in 2002 [5-3]. However, the manufacturing industry in North Carolina remains a major contributor to GDP despite continued restructuring of the state's economy. Non-durable goods manufacturing (e.g., food products, textiles/apparel, chemicals) was the second leading contributor at 11.1 percent, and durable goods manufacturing ranked third at 10.1 percent. However, since 2002, manufacturing's contribution to state GDP has decreased nearly 2 percentage points, from 23.0 to 21.2 percent.

## 5-3 Top Ten Industries Contributing to North Carolina's GDP, 2007

2-Digit NAICS Industry	% of State GDP	Trend Since 2002
Finance and Insurance	12.4%	Increase
Nondurable goods manufacturing	11.1%	Decrease
Durable goods manufacturing	10.1%	Increase
Real estate and rental and leasing	9.2%	Decrease
Retail trade	7.6%	Increase
Health care and social assistance	5.9%	Increase
Wholesale trade	5.5%	Decrease
Professional and technical services	5.2%	Increase
Information	4.3%	Increase
Construction	3.2%	Decrease

*U.S. Bureau of Economic Analysis*

### What Does this Mean for North Carolina Economic Development?

With respect to GDP, North Carolina's economy continues to perform well. Over the last decade, the state experienced significant economic growth despite certain industry-specific difficulties associated with a transitioning economy. The current economic recession may have a particularly detrimental impact on North Carolina in part because of the difficulties in the finance and insurance industry, which contributed the greatest percentage of state GDP in 2007. North Carolina must maintain its commitment to economic development activities that help existing companies expand and bring new companies to the state. Activities include the support of entrepreneurship, enhancing research and development, encouraging investment in new technologies, and investing in workforce development programs that transition workers to knowledge-based industries.

## Key Findings

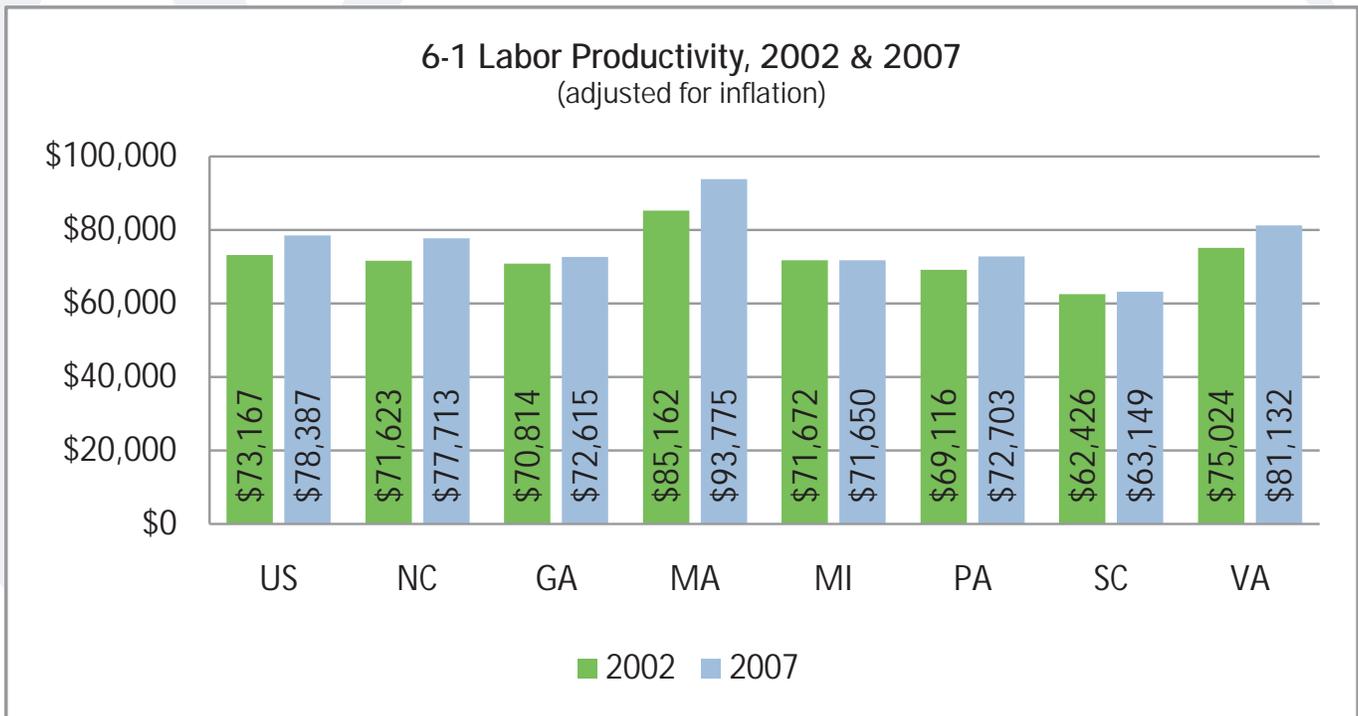
- N.C.'s labor productivity (\$77,713) remains below the national average (\$78,387) and behind two comparison states, Massachusetts (\$93,775) and Virginia (\$81,132).
- Between 2002 and 2007, labor productivity in N.C. grew 8.5 percent, better than the U.S average of 7.1 percent, and behind only Massachusetts (10.1 percent) among comparison states.
- N.C.'s growth in labor productivity is driven by a variety of industry sectors across different segments of the economy.

## Indicator Overview

It is important to understanding the dynamics of labor productivity in order to strategically formulate policies to support economic growth. Productivity represents the amount of output per unit of input. For state comparison purposes, output is measured in terms of gross domestic product (GDP), and input is measured in terms of employment. Labor productivity growth can be divided into several components: 1) an increase in the amount of capital per worker; 2) an increase in the skills and education of the average worker; and 3) technological advances. Not only is labor productivity growth tied to earnings growth and standard of living, it also provides a direct measure of a state's competitive position over time.<sup>1</sup>

## How Does North Carolina Perform?

In 2007, North Carolina's labor productivity was \$77,713, up from \$71,623 in 2002 [6-1]. However, North Carolina's labor productivity is below the national average (\$78,387) and behind two comparison states: Massachusetts (\$93,775) and Virginia (\$81,132). North Carolina's lower than average labor productivity is likely the result of the state's historic concentration in labor-intensive and less technologically-driven industries. In general, industries that utilize advanced technology are able to produce more output per worker than labor intensive industries.



U.S. Bureau of Labor Statistics; Bureau of Economic Analysis, U.S. Department of Commerce

<sup>1</sup> Bauer, Paul and Yoonsoo Lee. "Labor Productivity Growth Across States." Economic Commentary, Federal Reserve Bank of Cleveland, September 6, 2005.

Despite labor productivity that is less than the national average, the state experienced above average labor productivity growth. Between 2002 and 2007, North Carolina’s labor productivity increased 8.5 percent, better than the U.S average increase of 7.1 percent, but below the growth recorded in Massachusetts (10.1 percent) [6-2]. Of the remaining comparison states, only Virginia (8.1 percent) experienced labor productivity growth in excess of 8 percent.



U.S. Bureau of Labor Statistics; Bureau of Economic Analysis, U.S. Department of Commerce

Several North Carolina industries experienced significant labor productivity growth from 2002 to 2007. Figure 6-3 outlines changes in industry productivity along with its component measures, output and employment. The agriculture (90.7 percent), manufacturing (28.9 percent), and information (66.5 percent) sectors each experienced increased productivity, while employment declined, suggesting an increase in automation or the use of technology to remain competitive. Other sectors such as finance and insurance (34.5 percent), professional and technical services (9.2 percent), and retail (22.2 percent) experienced significant growth in productivity along with employment growth.

## 6-3 North Carolina Labor Productivity Growth by Select Industries, 2002 - 2007

	% Productivity Growth	% Output Growth	% Employment Growth
Total Private Industries	10.8%	19.8%	8.2%
<i>Traditional Industries</i>			
Agriculture	90.7%	79.5%	-5.9%
Construction	-25.5%	-13.5%	16.2%
Manufacturing	28.9%	7.7%	-16.5%
<i>New Economy Industries</i>			
Information	66.5%	53.7%	-7.7%
Finance and Insurance	34.5%	50.4%	11.8%
Professional and Technical Services	9.2%	36.8%	25.2%
<i>Local (Non-traded) Industries</i>			
Retail	22.2%	29.6%	6.1%
Real Estate	0.6%	14.9%	14.2%
Healthcare	2.8%	24.4%	21.0%

U.S. Bureau of Economic Analysis; North Carolina Employment Security Commission

### What Does this Mean for North Carolina Economic Development?

One explanation for North Carolina's below-average labor productivity is the state's historic reliance on labor-intensive traditional industries such as manufacturing. The state's recent increase in labor productivity can be attributed to two major industry trends. First, North Carolina's economy is transitioning to more technology- and knowledge-intensive industries. Second, the state's traditional industries are taking advantage of technological advances. To expedite these trends, North Carolina's industries must continue to upgrade their technology and take advantage of new innovations. Also, the state should continue to focus on training and educating the state's workforce to prepare workers for employment in technology-intensive industries.

**Key Findings**

- In 2007, the average industrial price of electricity in N.C. was lower than the national average, but behind South Carolina and Virginia.
- Between 2002 and 2007, N.C.'s increase in industrial electricity prices (1.2 percent) was well below the U.S. average (13.9 percent).
- In 2008, the percent of net electric power generated in N.C. from renewable energy sources was lower than the national average and all but one comparison state.

**Indicator Overview**

Energy is critical to economic development, particularly in the manufacturing sector. Most energy is produced by state-overseen utilities due to the substantial amount of capital that must be invested in energy systems and the liability issues that arise from certain sources such as nuclear power generation. The cost of providing energy varies by a state's natural resources, transportation and electric infrastructure, types of power generation facilities, and the age of these facilities. For economic development purposes, energy costs are often reported in terms of cents per kilowatt hour of electricity.

**How Does North Carolina Perform?**

In 2007, the average industrial price of electricity in North Carolina was 5.47 cents per kilowatt hour, lower than the U.S. average (6.39) and all but two benchmark states (South Carolina and Virginia) [7-1]. Since 2002, Massachusetts has reported significantly higher electricity prices than the national average and other comparison states.

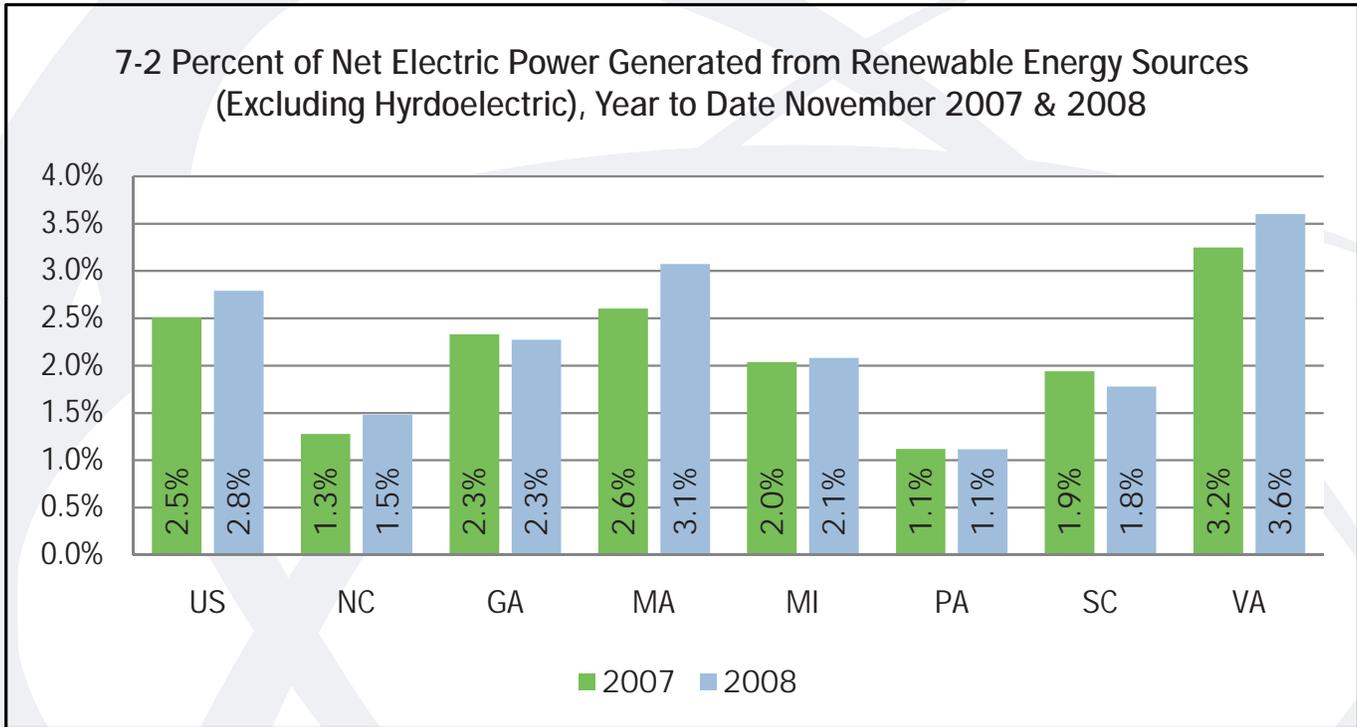
North Carolina electricity prices have remained nearly constant since 2002. Between 2002 and 2007, industrial electricity prices (adjusted for inflation) in North Carolina increased only 1.2 percent, better than the U.S. average of 13.9 percent and all comparison states except Pennsylvania [7-1]. The modest price increase in North Carolina may have to do with the state's significant capital investment in nuclear power generation. Nuclear reactors are expensive to build, but relatively inexpensive to operate. In 2008, South Carolina generated more of its power from nuclear sources (50.3 percent) than any other benchmark state and the U.S. average (19.4 percent). North Carolina, Pennsylvania, and Virginia each generate more than 30 percent of power from nuclear sources.

### 7-1 Average Industrial Price of Electricity, Cents per Kilowatt Hour, 2002-2007 (Prices adjusted for inflation)

	US	NC	GA	MA	MI	PA	SC	VA
2002	5.61	5.41	4.54	10.09	5.69	6.97	4.43	4.75
2003	5.80	5.41	4.54	10.29	5.60	6.94	4.52	4.78
2004	5.80	5.37	4.87	9.33	5.41	6.46	4.54	4.70
2005	6.07	5.34	5.60	9.77	5.64	6.67	4.82	4.73
2006	6.34	5.39	5.54	13.43	6.23	6.83	4.85	4.83
2007	6.39	5.47	5.53	13.03	6.47	6.87	4.83	5.07
% Change 02-07	13.9%	1.2%	21.7%	29.2%	13.7%	-1.4%	9.1%	6.7%

*United States Energy Information Association, 2008*

Renewable energy<sup>1</sup> is at the forefront of national policy due to rising energy prices, limited supplies of traditional energy sources (petroleum and natural gas), and national security concerns. In 2008, 1.5 percent of net electric power in North Carolina was generated from renewable energy sources (excluding hydroelectric), lower than the national average (2.8 percent) and less than all but one comparison state (Pennsylvania, 1.1 percent)[7-2]. In 2007, the North Carolina General Assembly enacted a mandatory Renewable Portfolio Standard (RPS). This legislation requires that 12.5 percent of retail energy sales come from renewable sources by 2020. No other state in the Southeast has implemented a mandatory RPS, but Massachusetts, Michigan and Pennsylvania have similar programs.



United States Energy Information Association, 2009

### What Does this Mean for North Carolina Economic Development?

New economic development projects and the expansion of existing businesses are impacted by the cost, availability, and reliability of energy. North Carolina's inexpensive and reliable electricity is a significant competitive advantage for current and future economic development prospects. However, the state's competitive advantage should not be taken for granted. Two neighboring states currently have lower-priced energy than North Carolina. To remain competitive for industrial projects, the state must not only invest in new energy infrastructure, but also expand initiatives designed to assist companies with energy efficiency, such as the state's Industrial Extension Service. In addition, North Carolina should strive to increase the efficiency of current power generation facilities, implement existing efficiency standards for state buildings, and encourage increased energy and power research. With two of the nation's largest energy providers headquartered in North Carolina, and significant research capacity at its universities, research institutes and private sector firms, the state has the ability to lead the country in developing affordable power sources, conservation programs and renewable energy programs.

<sup>1</sup> According to the U.S. Energy Information Association, "renewable energy resources are naturally replenishing but flow-limited. They are virtually inexhaustible in duration but limited in the amount of energy that is available per unit of time. Renewable energy resources include: biomass, hydro, geothermal, solar, wind, ocean thermal, wave action, and tidal action."

**Key Findings**

- In 2007, N.C.'s dollar value of exports ranked 4th among comparison states and tied with Georgia.
- Canada remained the state's top export destination (\$5.7 billion), but exports to China experienced the most growth (320.5 percent) between 2002 and 2007.
- In both 2002 and 2007, N.C.'s top two export commodities were Machinery and Electrical Machinery.

**Indicator Overview**

An important indicator of a state's successful involvement in the global economy is the amount of goods and services it exports to foreign markets. The value of a state's exports is a key driver of its gross domestic product (GDP). North Carolina's long-term economic growth depends on expanding and diversifying exported industry sectors.

**How Does North Carolina Perform?**

In 2007, the total value of exports from North Carolina was \$23.4 billion, while the U.S. exported more than \$1.1 trillion [8-1]. Assuming the continuation of the average annual growth between 2002 and 2007 (6.7 percent), North Carolina exports should reach \$24.9 billion by the end of 2008 and \$26.6 billion in 2009. North Carolina and Georgia both ranked higher than South Carolina and Virginia, but were behind Pennsylvania and Michigan. The major reason for Michigan's large export value is its concentration of automobile manufacturers.



Global Trade Information Services

North Carolina continues to expand its reach into new global markets. Between 2002 and 2007, North Carolina exports to China represented the largest destination country increase, at 320.5 percent, followed by France at 253.3 percent [8-2]. In terms of dollar value, Canada remained North Carolina's largest export destination. Japan and China ranked second and third for North Carolina export markets, totaling \$1.77 billion and \$1.76 billion, respectively. In 2007, France emerged as a top five destination country for North Carolina exports. In 2006, France ranked eighth, behind the United Kingdom, Germany and Honduras.

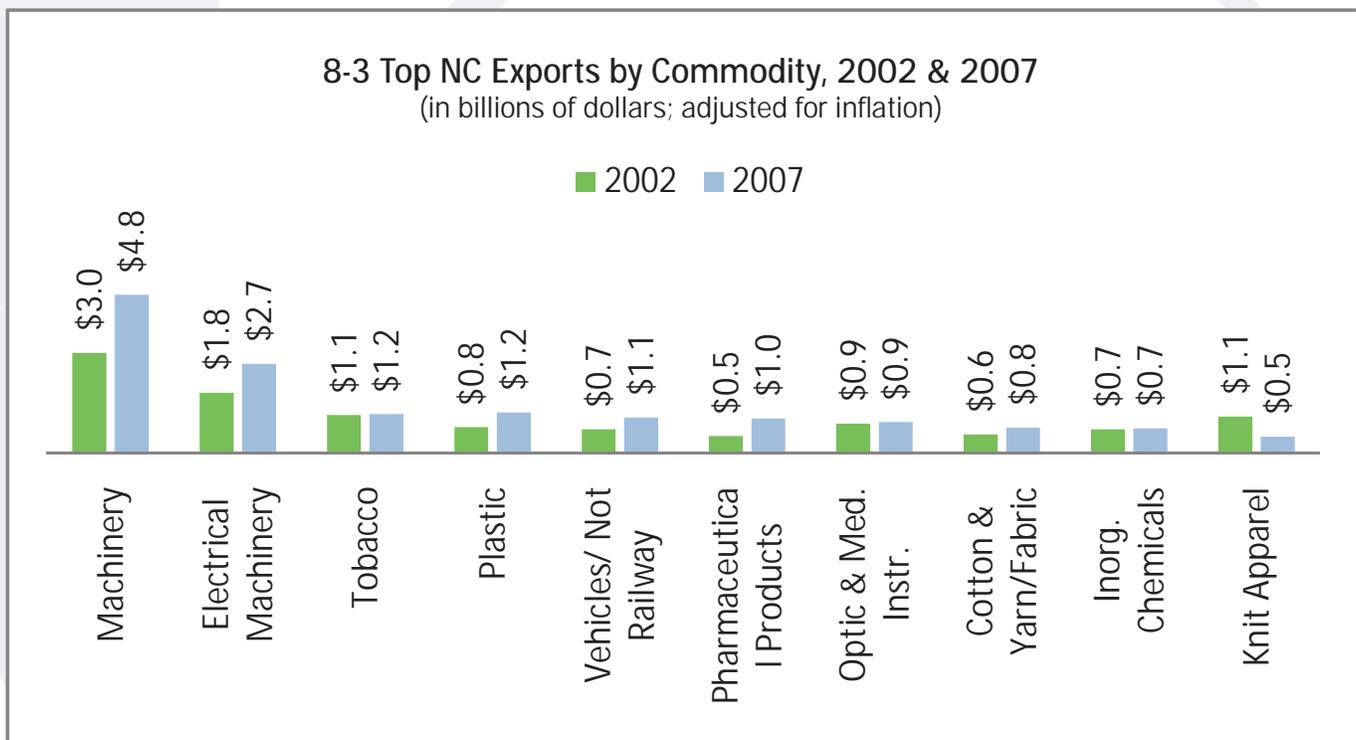
8-2 Top Destination Countries for NC Exports, 2002 and 2007  
(in millions of dollars; adjusted for inflation)

Country	2002	2007	% Change
CANADA	\$4,299	\$5,699	32.6%
JAPAN	\$1,630	\$1,772	8.7%
CHINA	\$421	\$1,769	320.5%
MEXICO	\$1,529	\$1,728	13.0%
FRANCE	\$290	\$971	235.3%

Global Trade Information Services

In 2007, North Carolina's top two export commodities were Machinery and Electrical Machinery at \$4.8 billion and \$2.7 billion, respectively [8-3].<sup>1</sup> Machinery exports grew 57.9 percent between 2002 and 2007, whereas Electrical Machinery experienced a growth rate of 48.0 percent. Among North Carolina's top export commodities, Knit Apparel experienced the largest decline in export value. Ranking fourth in 2002, the commodity declined to 10th (\$494 million) by 2007, a 54.7 percent decrease in value. Pharmaceutical Products experienced a growth rate of 104.5 percent between 2002 and 2007.

8-3 Top NC Exports by Commodity, 2002 & 2007  
(in billions of dollars; adjusted for inflation)



Global Trade Information Services

<sup>1</sup> Machinery includes various parts for turbo jets, turbo propellers and other gas turbine parts. It also includes automatic data process machines, self-propelling dozers and plows, office machine parts and air related pumps and compressors. Electrical machinery includes integrated circuits, telephone lines and parts, semiconductor devices, electrical apparatus for switching and insulated wire and cable.

**What Does this Mean for North Carolina Economic Development?**

The economic growth of a region ultimately depends on the demand for its products and services. If demand for exports from a state increases, then its economy will expand and supporting (non-export related) economic activities will expand through what is known as a multiplier effect.<sup>2</sup> For North Carolina to remain competitive, it must continue to expand existing export relationships as well as tap into new export markets. Such an effort will require enhanced relations with foreign countries, a better understanding of global markets, and insight into how North Carolina industries fit within global commodity value chains. Transportation infrastructure is also needed for businesses to export goods around the world. North Carolina should continue to invest in high-quality infrastructure such as highways, high-speed internet connectivity, in-land terminals, airports, and container port facilities.

---

<sup>2</sup> Bendavid-Val, Avrom. *Regional and Local Economic Analysis for Practitioners*. Fourth Edition. Westport, CT: Praeger Publishers, 1991.

**Key Findings**

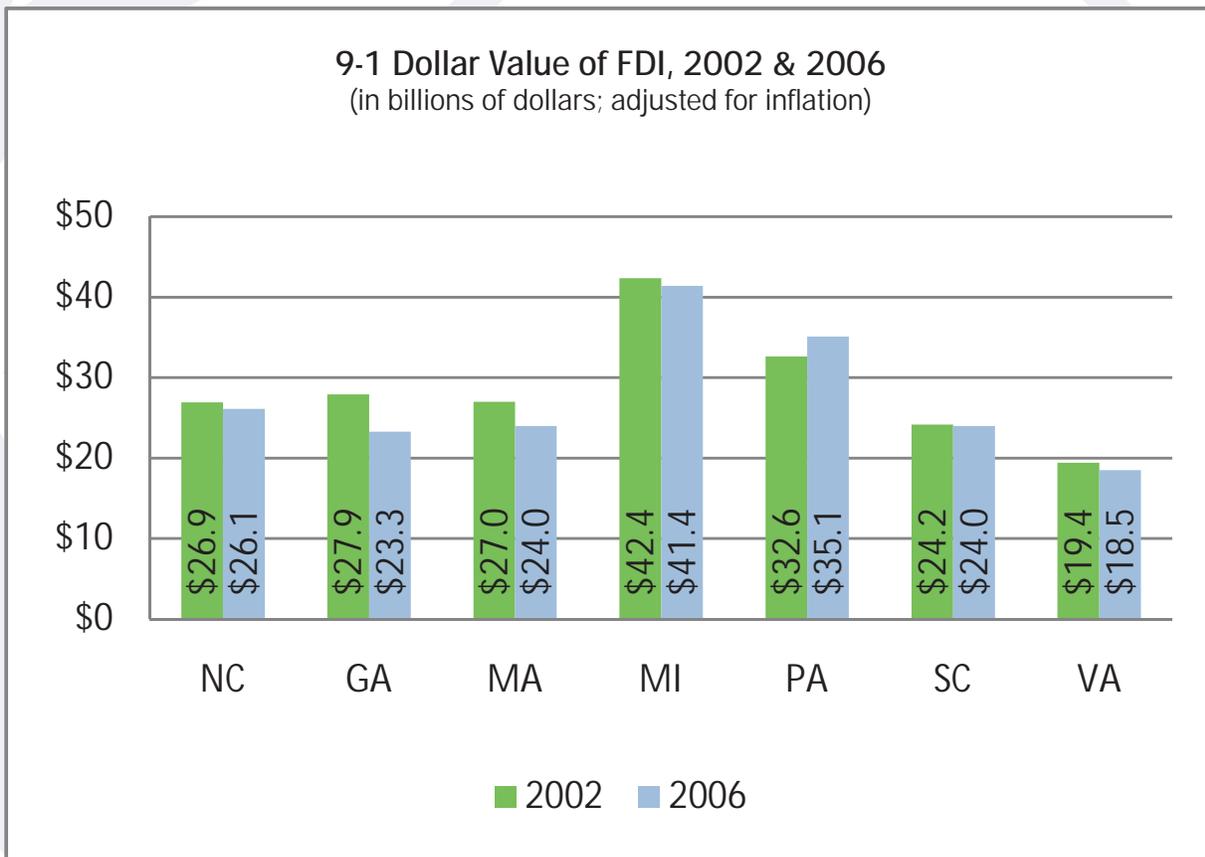
- In 2006, N.C. ranked 14th nationally and third among the benchmark states in terms of the value of FDI.
- While most of N.C.'s FDI comes from Europe, FDI from Asia and the Pacific is growing the fastest.
- In 2006, approximately 5.3% of workers in North Carolina were employed by foreign owned companies.

**Indicator Overview**

Foreign direct investment (FDI) is a benchmark for measuring the presence of foreign-owned businesses in a state. FDI is an important indicator of a state's ability to attract foreign investors and is a key determinate of a region's ability to attract new technologies, capital, workforce skills, global connections, and job opportunities.

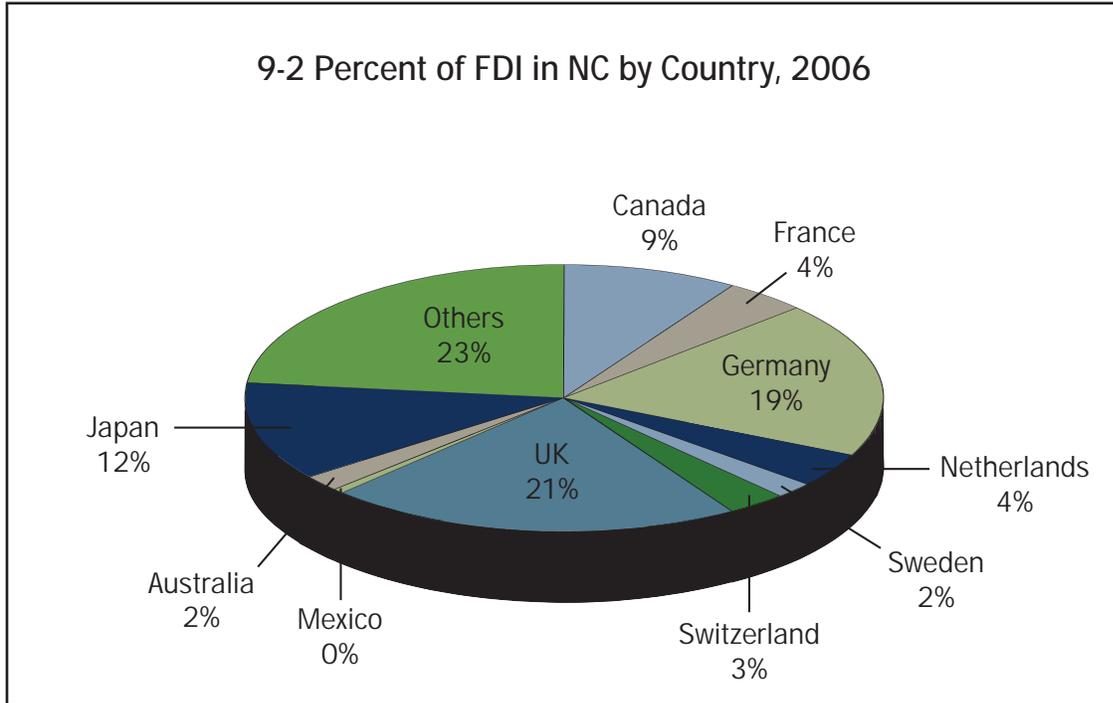
**How Does North Carolina Perform?**

In 2006, North Carolina's value of foreign direct investment (FDI) totaled \$26.1 billion [9-1], representing 2.2 percent of the U.S. total (\$1.2 trillion). North Carolina ranked 14th nationally and third among benchmark states, behind Michigan (\$41.4 billion) and Pennsylvania (35.1 billion). From 2002 to 2005, FDI in the state decreased from \$26.9 billion to \$23.9 billion, but bounced back to \$26.1 billion in 2006.



U.S. Bureau of Economic Analysis

In 2006, 68.1 percent (\$17.8 billion) of FDI in North Carolina came from Europe. Asian and Pacific countries increased their FDI in the state by 23.8 percent between 2002 and 2006, the largest increase among world regions. The United Kingdom is North Carolina’s largest foreign investor with 20.8 percent (\$5.4 billion) of the state’s total FDI [9-2]. Germany and Japan were second and third with 19.1 percent (\$4.8 billion) and 11.8 percent (\$3.1 billion) respectively. Canada ranked fourth (9.1 percent; \$2.4 billion). Besides Japan, two other non-European countries made the top ten: Mexico (0.5 percent; \$128 million) and Australia (2.3 percent; \$602 million).



U.S. Bureau of Economic Analysis

In 2006, North Carolina ranked ninth nationally in terms of employment by majority-owned U.S. affiliates (“foreign owned companies”).<sup>1</sup> These businesses represented 5.3 percent of total employment in the state, third highest among comparison states, behind South Carolina and Massachusetts [9-3]. Since 2001, employment in foreign-owned firms decreased nationally due to slow economic growth in most of the parts of the world. North Carolina experienced a net loss of 13,600 jobs in foreign owned firms between 2001 and 2006. Only Pennsylvania showed positive job growth over the same period.

<sup>1</sup> Majority-owned U.S. affiliates are businesses where a foreign investor or company hold at least a 50 percent stake.



U.S. Bureau of Economic Analysis

**What Does this Mean for North Carolina Economic Development?**

Foreign direct investment encourages the adoption of new technologies, ideas, management strategies, and workforce practices. FDI is vital to North Carolina, as it contributes to the state’s productivity growth, generates export opportunities, and provides high-paying jobs for workers. In order to meet the growing demands and expectations of foreign investors, North Carolina must continue to provide an investment-friendly climate (tax structure, business regulations, legal system, and labor market), devote resources to high-quality infrastructure, and improve worker skills so that our workforce is attractive to foreign firms.

**Key Findings**

- Between 2006 and 2007, North Carolina’s net firm creation rate (4.0 percent) ranked above the U.S. average (1.3 percent) and all comparison states.
- In 2008, the percentage of North Carolina jobs in “gazelle” firms (8.5 percent) exceeded the U.S average (8 percent) and tied for first among comparison states

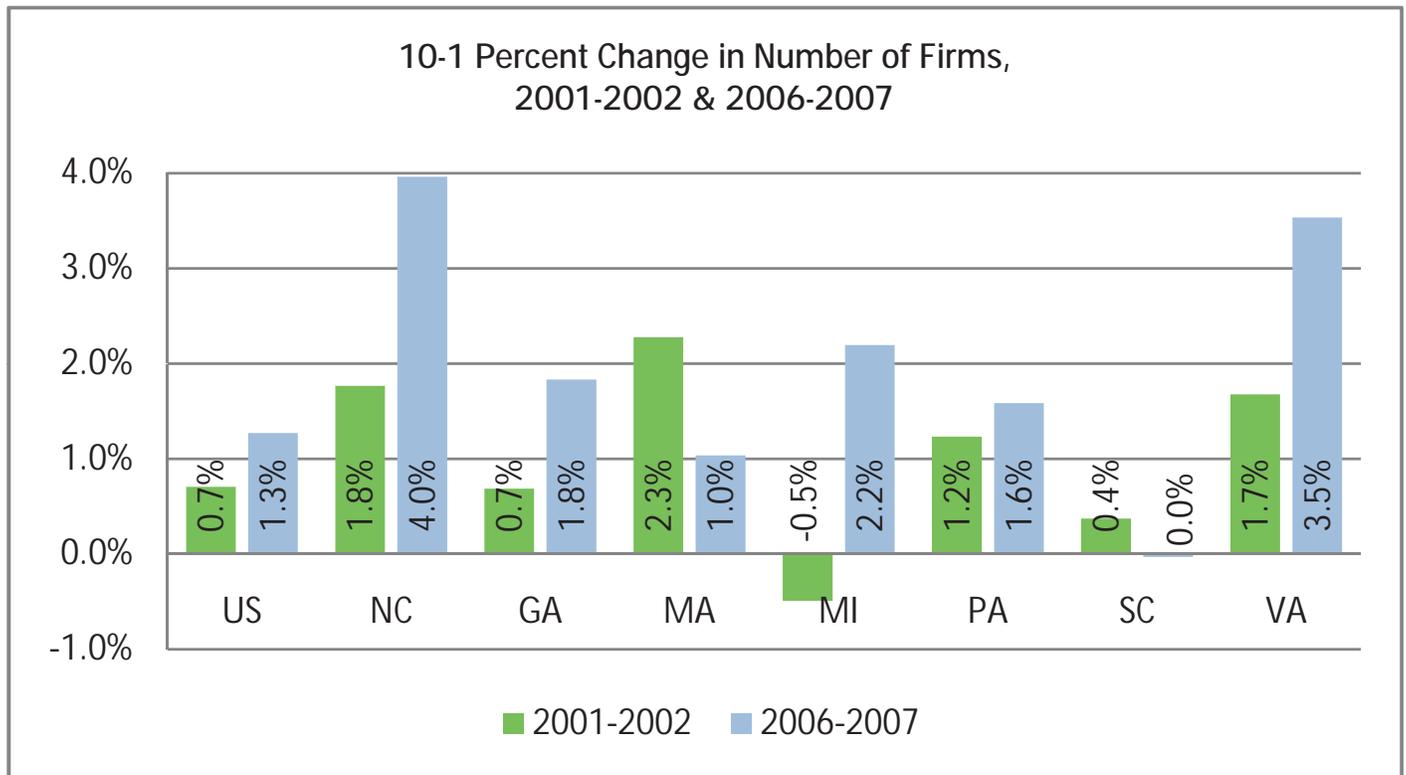
**Indicator Overview**

A vibrant entrepreneurial economy is typically characterized by a high rate of business turnover, including both firm openings and closings. Net firm creation is the overall change in number of firms from one year to the next.<sup>1</sup> Positive net firm growth generally reflects a healthy economy in which new business locations and start-ups outpace firm closings and relocations out-of-state.

While many entrepreneurial ventures fail within the first few years, others experience significant growth. “Gazelle” firms are defined as “companies with annual sales revenue that has grown 20 percent or more for four straight years.”<sup>2</sup> The prevalence of new, rapidly growing firms is the sign of a dynamic and adaptive state economy. States that foster entrepreneurial environments that result in gazelle firms reap the benefit of robust job creation.<sup>3</sup> One study estimates that gazelles are responsible for 80 percent of the jobs created by entrepreneurs.<sup>4</sup>

**How Does North Carolina Perform?**

Between 2006 and 2007, North Carolina ranked first among comparison states and 5th among all states and District of Columbia in terms of percentage change in number of firms (4.0 percent) [10-1]. The U.S. average was 1.3 percent over the same period. Compared to the 2001-2002 period, the number of firms increased overall, a reflection of the economic recession in the early 2000s and subsequent economic growth thereafter.



U.S. Small Business Administration, Office of Advocacy

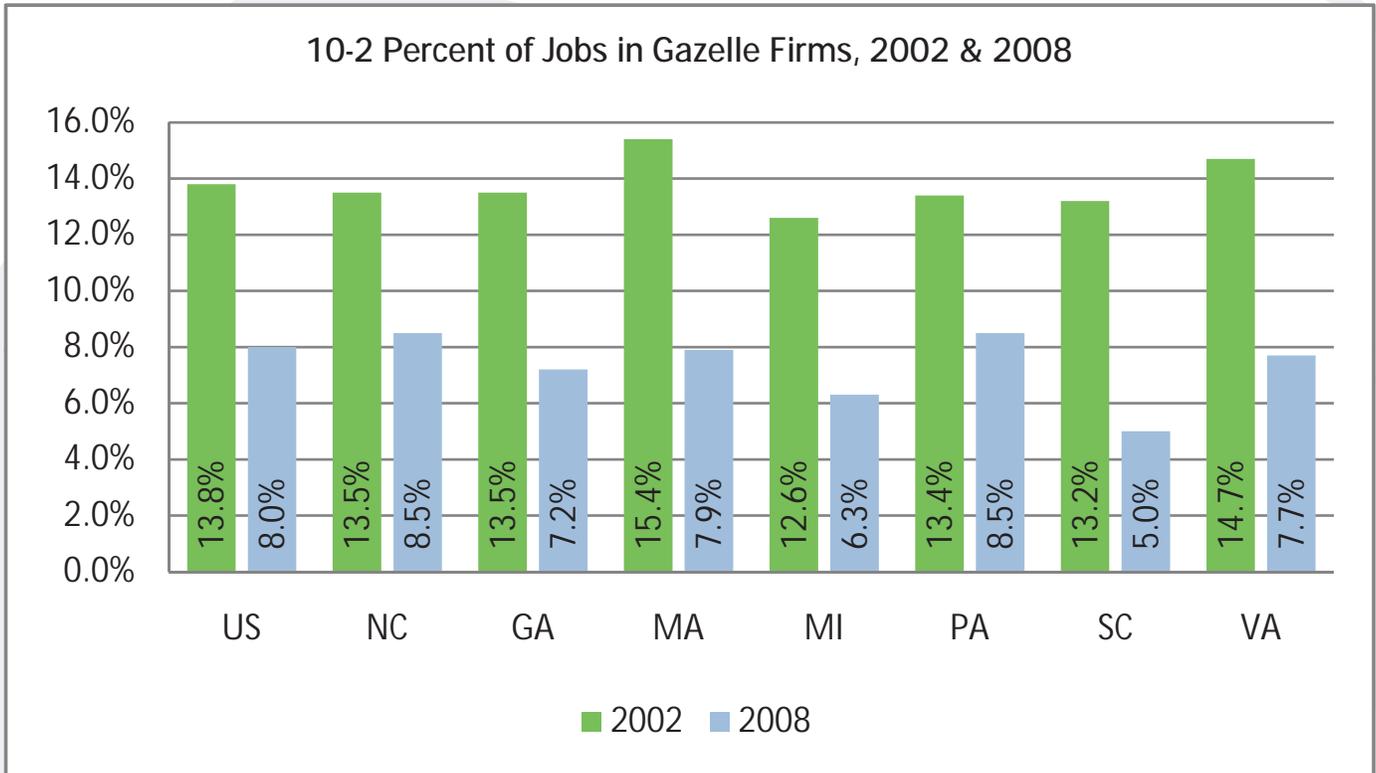
<sup>1</sup> Accounts for start-ups, firm closings, locations and relocations, and reorganizations.

<sup>2</sup> Definition provided by the Kauffman Foundation.

<sup>3</sup> The Information Technology & Innovation Foundation/The Kauffman Foundation. “2008 State of New Economy Index,” November 2008. [http://www.itif.org/files/2008\\_State\\_New\\_Economy\\_Index.pdf](http://www.itif.org/files/2008_State_New_Economy_Index.pdf)

<sup>4</sup> Erkkö Autio, “High-Expectation Entrepreneurship 2005,” Global Entrepreneurship Monitor, 2005. [http://www.gemconsortium.org/files.aspx?Ca\\_ID=225](http://www.gemconsortium.org/files.aspx?Ca_ID=225)

With respect to the percent of jobs in gazelle firms, North Carolina (8.5 percent) performed slightly better than the national average (8.0 percent) and tied for first with Pennsylvania among comparison states [10-2]. From 2002 to 2008, the nation as a whole and all benchmark states experienced a significant decline in the percent of jobs in gazelle firms.



Kauffman Foundation, State of New Economy Index

**What Does this Mean for North Carolina Economic Development?**

North Carolina remained very competitive in terms of net firm growth, suggesting the potential for a dynamic and healthy economy. This growth is particularly impressive considering continued global pressures on traditional industries in the state. The New Economy is epitomized by fast-growing, entrepreneurial companies. Innovation is increasingly becoming an important determinant of competitive advantage, and the ability of North Carolina to rejuvenate itself through the formation of new, innovative companies is critical to its economic vitality.<sup>5</sup> Additional early-stage capital, more advanced entrepreneurial networks, and improved technology transfer are areas where resources, whether private sector, government or university should be directed.

<sup>5</sup> The Information Technology & Innovation Foundation/The Kauffman Foundation. "2008 State of New Economy Index," November 2008. [http://www.itif.org/files/2008\\_State\\_New\\_Economy\\_Index.pdf](http://www.itif.org/files/2008_State_New_Economy_Index.pdf)

**Key Findings**

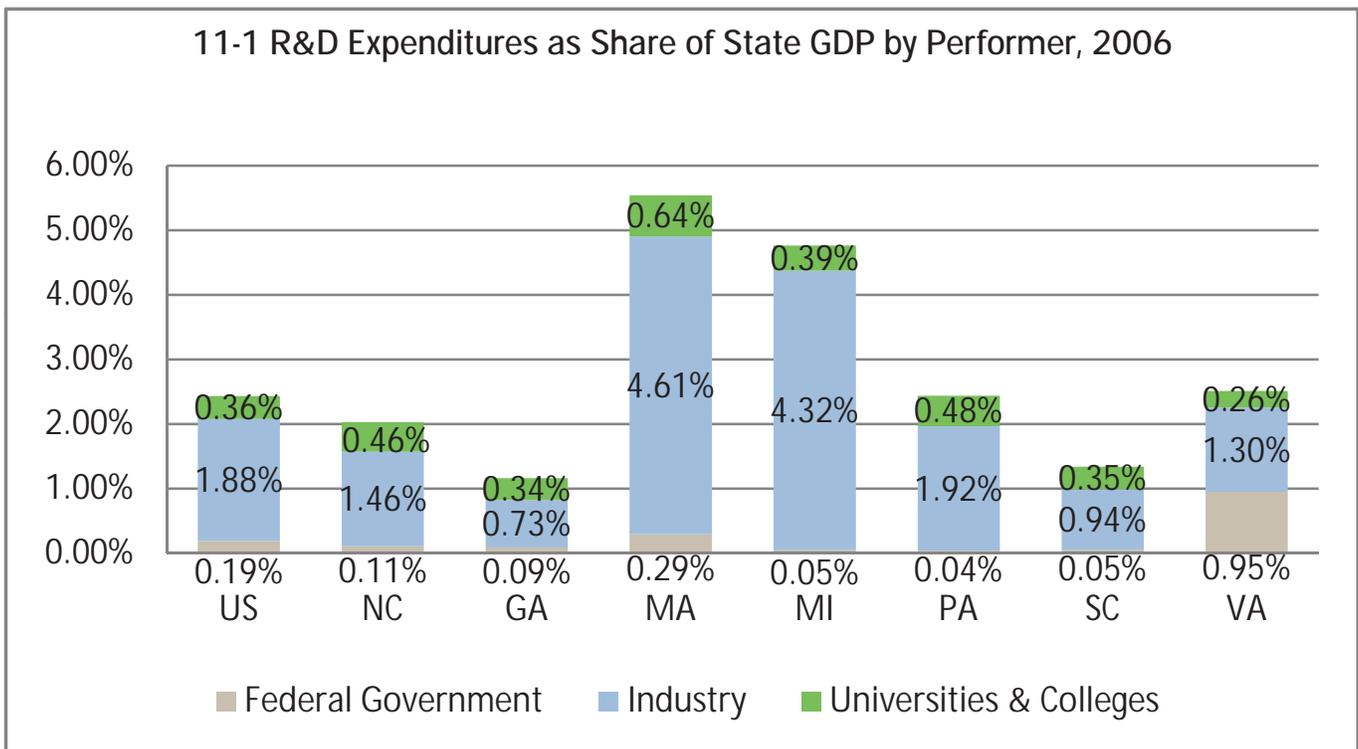
- N.C. ranked below the national average in terms of federal and industry R&D spending as a share of GDP.
- Seventy percent of federal R&D obligations for North Carolina come from the U.S. Department of Health and Human Services.
- UNC-Chapel Hill, Duke University, and North Carolina State University account for 84 percent of all academic R&D expenditures within the state.
- N.C. ranked second among comparison states, with 8.1 percent of its academic R&D funding coming from state and local government.

**Indicator Overview**

Investments in research and development (R&D) increase productivity, boost economic growth, generate new products and processes, and improve the quality of people’s lives. High degrees of R&D activity in a state show support for future growth in knowledge-based industries. Prioritization of R&D among public or private goals can be ascertained when proportionally compared to gross domestic product (GDP). The dollars spent on R&D can be examined for various allocation segments including private industry, federal government and academic institutions.

**How Does North Carolina Perform?**

In 2006, industry, universities and federal government organizations in North Carolina spent \$7.6 billion on R&D, fifth among comparison states. Total R&D spending in Michigan (\$18.1 billion) and Massachusetts (\$18.7 billion) significantly exceeded all other benchmark states. North Carolina ranked below the national average in terms of federal R&D and industry R&D spending as a share of GDP [11-1]. However, the state was above the national average when looking at university R&D intensity (0.46 percent of State GDP versus 0.36 percent). Industry accounts for the greatest share of R&D spending in all states, but Massachusetts and Michigan performed particularly well. Virginia’s large amount of federal R&D spending was consistent with historical trends and is a result of the state’s proximity to Washington, D.C.



National Science Foundation; Bureau of Economic Analysis, U.S. Department of Commerce

Profits from a new product or process frequently lead businesses to invest in R&D, but often industry is unable to capture many of these benefits because the knowledge it produces may be used by others. Consequently, the private sector may not make some investments that have positive social or economic gains for society or the economy as a whole. Analysts generally regard government funding of R&D, particularly support from the federal government, as a way to partly offset this problem.<sup>1</sup> In 2007, total North Carolina R&D obligations<sup>2</sup> from federal government agencies totaled \$1.82 billion, up from \$1.76 billion in 2006 [11-2]. Approximately 70.2 percent of all federal R&D obligations to North Carolina come from the Department of Health and Human Services. Despite strong military presence in North Carolina, R&D obligations from the Department of Defense accounted for only 9.9 percent of total federal obligations to the state. North Carolina universities and colleges were awarded 58.8 percent of all research and development obligations from federal agencies.

11-2 Federal R&D Obligations in North Carolina, by Selected Agency and Performer: FY 2007

Federal Agency	Federal Obligations		Percent of Obligation from Selected Federal Agency by Performer				
	"Value (in thousands)"	% Total	Federal Agencies	Industry	Universities & Colleges	Nonprofits	State & Local Government
Department of Agriculture	\$47,197	2.6%	43.8%	0.0%	55.1%	0.3%	0.8%
Department of Commerce	\$7,212	0.4%	57.1%	19.2%	23.2%	0.0%	0.5%
Department of Defense	\$180,209	9.9%	25.5%	51.4%	21.4%	1.7%	0.0%
Department of Energy	\$20,867	1.1%	1.0%	0.0%	81.1%	17.9%	0.0%
Department of Health and Human Services	\$1,280,675	70.2%	9.3%	14.2%	69.6%	6.6%	0.3%
Department of Homeland Security	\$3,954	0.2%	0.0%	39.3%	0.0%	60.7%	0.0%
Department of the Interior	\$3,915	0.2%	73.5%	1.8%	20.6%	0.0%	4.1%
Department of Transportation	\$1,753	0.1%	0.0%	45.7%	30.9%	23.4%	0.0%
Environmental Protection Agency	\$183,907	10.1%	92.8%	1.1%	4.6%	1.6%	0.0%
National Aeronautics and Space Administration	\$6,527	0.4%	1.7%	46.0%	38.4%	13.9%	0.0%
National Science Foundation	\$88,586	4.9%	0.0%	3.6%	96.2%	0.2%	0.0%
Total R&D	\$1,824,802	100.0%	19.9%	15.7%	58.8%	5.4%	0.2%

Academic R&D, a critical innovation input and one of the state's competitive advantages, is highly concentrated in the Research Triangle region [11-3]. In 2006, the three largest universities located in the Research Triangle – UNC-Chapel Hill, Duke University, and North Carolina State University – accounted for 84 percent of all academic R&D expenditures within the state. Significant activity also exists at other universities throughout North Carolina, in particular, at Wake Forest University, located in the Piedmont Triad region of the state.

<sup>1</sup> Congressional Budget Office. Federal Support for Research and Development. Washington, DC: Congress of the United States, June 2007.

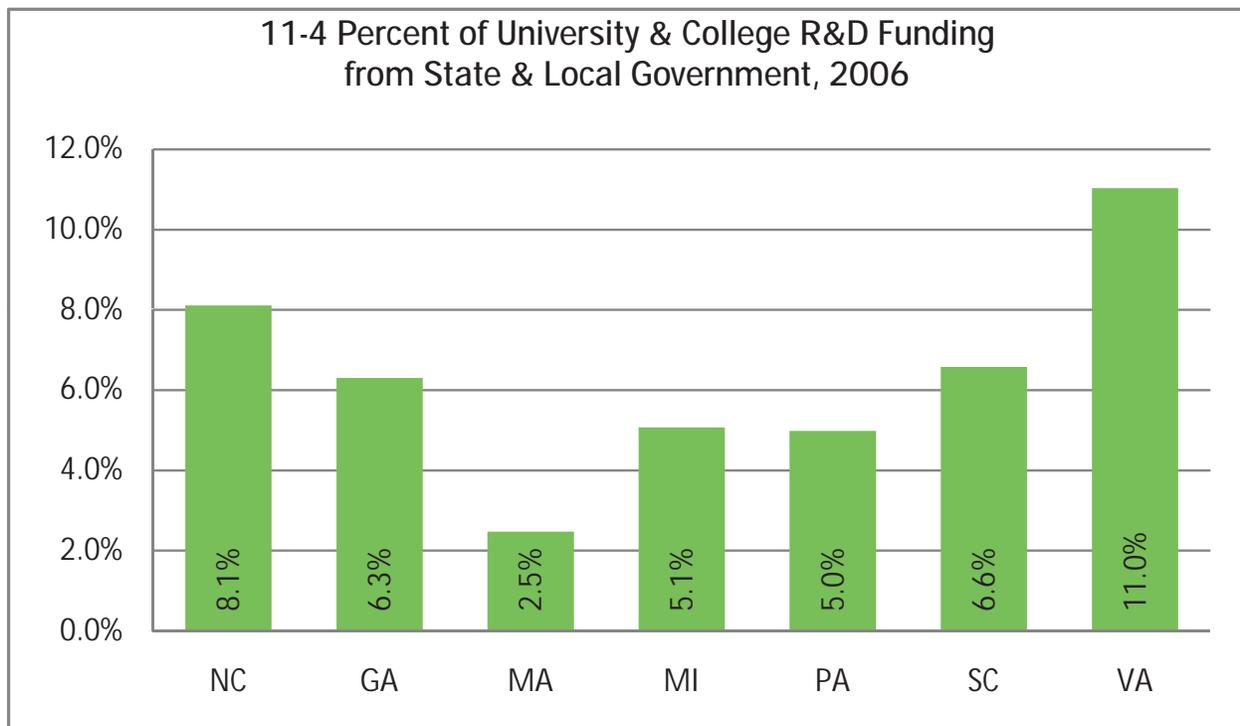
<sup>2</sup> Obligations are liabilities legally incurred and committed to be paid for by the government either immediately or in the future.

11-3 Geographic Distribution of University R&D in North Carolina, 2006



National Science Foundation

The innovative reputations of North Carolina’s universities and colleges are due, in part, to the financial support they receive for research and development from state and local government. Among comparison states, North Carolina ranked second, with 8.1 percent of its academic R&D funding coming from state and local government. The North Carolina General Assembly has a strong tradition of supporting research and development. One of its most recent investments is the North Carolina Research Campus, a private-public partnership to advance health and nutrition research located in Kannapolis. To date, the General Assembly has invested \$18 million in the Campus.



National Science Foundation

**What Does this Mean for North Carolina Economic Development?**

North Carolina's R&D activity at its colleges and universities is a recognized competitive advantage. Universities and colleges within the state are key drivers of North Carolina's transition from a labor-based to a knowledge-based economy. Continued R&D investment is critical to the state's efforts to diversify its industrial base and attract and retain innovative companies and talented workers. Attracting federal research labs and encouraging more industry R&D should be priorities for North Carolina. Also, given the state's high concentration of military bases and related personnel, North Carolina should focus on attracting additional R&D funds from the U.S. Department of Defense and other military/defense related agencies.

**Key Findings**

- Between 2003 and 2008, 3.4 percent of all venture capital in N.C. was designated as startup/seed capital, which was below the national average (3.7 percent).
- In 2008, N.C. attracted more than \$459 million in venture capital funding, however, its share of national venture capital decreased from 2.0 percent in 2003 to 1.6 percent in 2008.
- In 2006, N.C. was granted slightly more than \$40 million in combined SBIR/STTR funds, a significant increase from 2003 (\$24 million).

**Indicator Overview**

Stimulating entrepreneurial activity is an important and growing focus of economic development efforts throughout the United States. Venture capital is a critical source of funding for technology-based start-ups and is most commonly used to stimulate the flow of equity to high-growth industries. The availability of venture capital is a predictor of potential new products and services, job creation, and revenue growth in a state.<sup>1</sup> The U.S. Small Business Administration’s Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs require certain federal agencies to set aside a percentage of their research and development (R&D) budgets for grants to small business. On average, companies that receive SBIR/STTR funding significantly out-perform similar companies that do not receive such support.<sup>2</sup>

**How Does North Carolina Perform?**

Startup/seed capital is needed to get an entrepreneurial venture off of the ground. Businesses that typically obtain startup capital are young companies that have not produced a product or service for commercial sale. The companies are so new that it can be difficult to obtain a regular commercial loan sufficient to cover startup expenses.<sup>3</sup> Though risky, startup capital is critical for fostering an entrepreneurial environment. Between 2003 and 2008, 3.4 percent of all venture capital in North Carolina was designated as startup capital, ranking below the national average (3.7 percent), but above all comparison states except for Massachusetts (3.7 percent) and Michigan (5.0 percent) [12-1]. Most venture capital is available at the expansion and later stages of development, which are considered less risky. *Note: percents may not add up to 100 since data does not account for acquisition/buyout capital.*

**12-1 Percent of Venture Capital by Stage of Development, 2003-2008**

	Startup/Seed	Early Stage	Expansion	Later Stage
US	3.7%	15.4%	49.7%	21.5%
NC	3.4%	16.3%	33.3%	46.7%
GA	3.1%	20.0%	44.6%	32.2%
MA	3.7%	16.7%	38.9%	40.7%
MI	5.0%	17.1%	25.9%	52.1%
PA	2.5%	18.3%	51.3%	27.9%
SC	0.1%	16.1%	12.3%	32.5%
VA	3.4%	17.8%	42.3%	36.5%

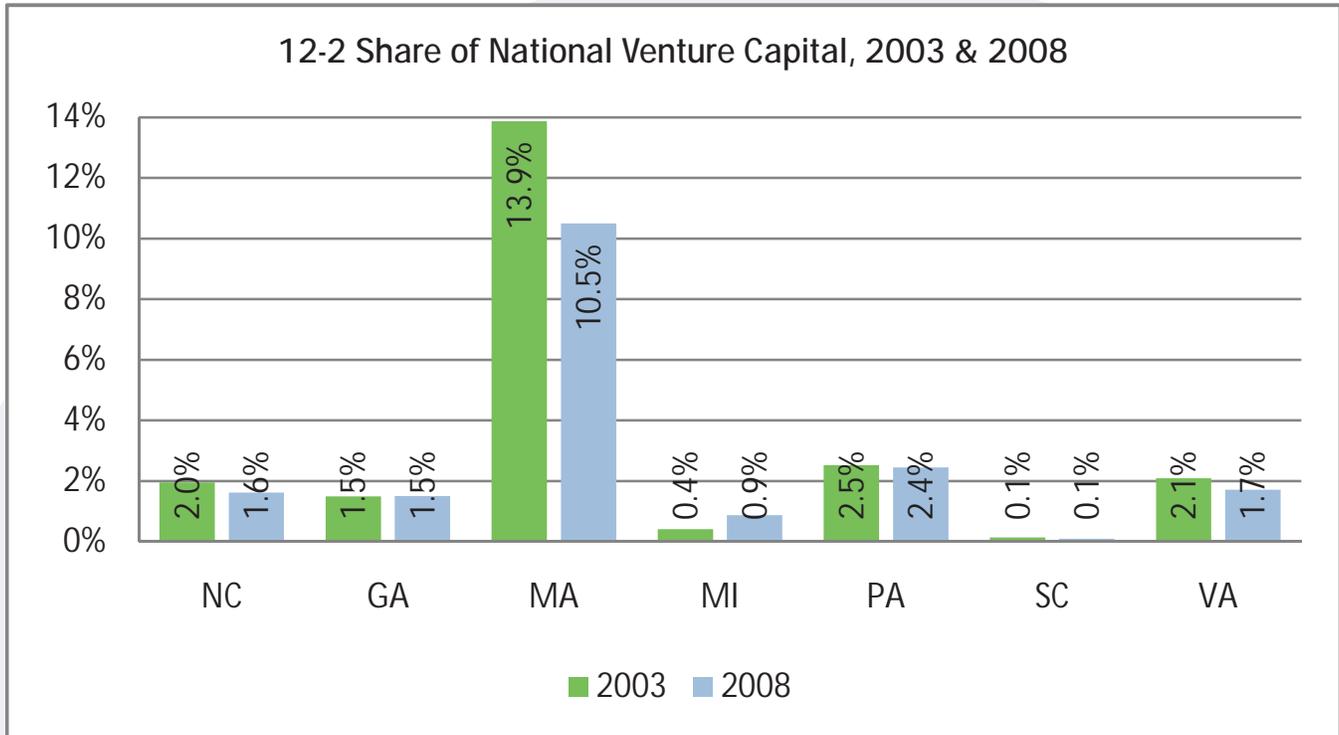
*PriceWaterhouseCoopers; National Venture Capital Association*

In 2008, North Carolina businesses attracted approximately \$459.1 million in venture capital funding, down from its peak in 2000 (\$1.8 billion). North Carolina’s share of national venture capital also decreased from 2.0 percent in 2003 to 1.6 percent in 2008 [12-2]. Among comparison states, Massachusetts (10.5 percent), Pennsylvania (2.4 percent), and Virginia (1.7 percent) outperformed North Carolina.

<sup>1</sup> Hardin, John and Harder, Chris. 2003. Tracking Innovation: North Carolina Innovation Index. North Carolina Board of Science and Technology, North Carolina Department of Commerce.

<sup>2</sup> Ibid.

<sup>3</sup> BusinessFinance.com. Seed Capital. February 2008. <http://www.businessfinance.com/seed-capital.htm>

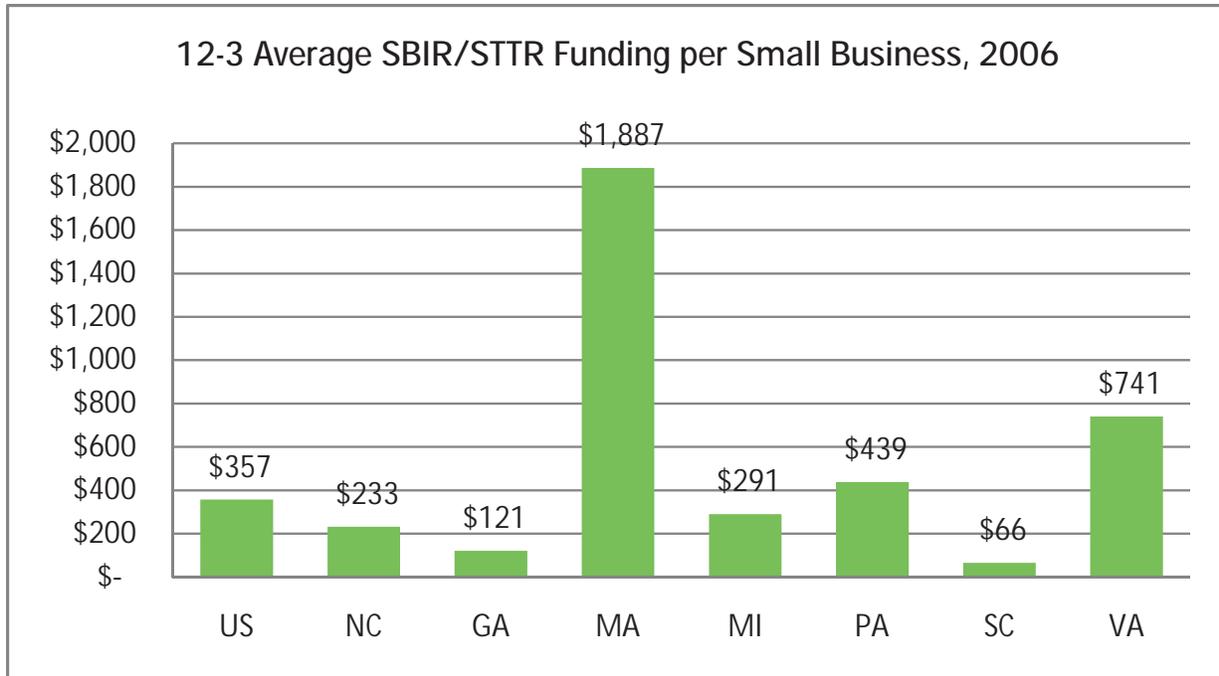


PriceWaterhouseCoopers; National Venture Capital Association

SBIR/STTR is a key form of early-stage capital for many technology companies.<sup>4</sup> In 2006, North Carolina was granted slightly more than \$40 million in combined SBIR/STTR funds, a significant increase from 2003 when the state was granted \$24 million. However, North Carolina's average SBIR/STTR funding per small business<sup>5</sup>, at \$233, was below the national average (\$357) and above only Georgia (\$121) and South Carolina (\$66) among comparison states [12-3]. Massachusetts' average SBIR/STTR funding per small business, \$1,887, significantly exceeded the U.S. average and all comparison states.

<sup>4</sup> The SBIR program provides competitive grants to entrepreneurs to help finance research and development, start-up, and commercialization of innovative business ideas. The STTR program facilitates partnerships between small business and non-profit research institutions, including universities.

<sup>5</sup> The U.S. Small Business Administration defines small business as less than 500 employees.



U.S. Small Business Administration

### What Does this Mean for North Carolina Economic Development?

Without venture capital, many innovative companies in North Carolina will not realize their growth potential. Research suggests that venture capital is highly concentrated in two regions of the United States: Silicon Valley and New England (Boston). Entrepreneurs with venture capital needs often have little choice but to locate in these areas, raising the prospect that these entrepreneurs will leave the state to obtain necessary financing. To the extent that this occurs, North Carolina will not fully capture the gains, in terms of research, innovation, and jobs.<sup>6</sup> Numerous studies also indicate that investment in R&D is a leading contributor to economic growth and quality of life. Despite these benefits to society, small firms generally under-invest in R&D.<sup>7</sup> The goal of the SBIR/STTR program is to increase R&D funding in small firms.<sup>8</sup> Given North Carolina's strength in research at its universities and in the private sector, an emphasis should be placed on improving venture capital opportunities in the state, particularly early-stage capital.

<sup>6</sup> Hardin, John and Harder, Chris. 2003. Tracking Innovation: North Carolina Innovation Index. North Carolina Board of Science and Technology, North Carolina Department of Commerce.

<sup>7</sup> Small firms tend to under-invest in R&D because they receive considerably less benefit (profits) than society (new products/services, knowledge externalities, economic spillovers, etc.). Government can counter this by supporting research efforts that promise potential gains for society but are unlikely to yield immediate gains (profits) to the innovating firm. Wallsten, S. 2000. "The R&D Boondoggle." Regulation, Vol. 23, No.4, pp. 12-16.

<sup>8</sup> Wallsten, S. 2000. "Rethinking the small business innovation research program." In: Branscomb, L., Keller, J. (Eds.), Investing in innovation: Creating a Research and Innovation Policy that Works. MIT Press, Cambridge.

**Key Findings**

- In 2007, N.C. trailed or tied national averages in all educational attainment categories except for Associate’s Degrees.
- Between 2000 and 2007, N.C. outperformed the national average and most benchmark states in reducing the percent of 25+ population having attained less than a high school graduation or equivalent and the percent of 25+ population having attained a bachelor’s degree or higher.
- In the 2006-2007 academic year, N.C. trailed the national average in the number of science and engineering degrees (bachelor’s and graduate degrees) conferred per 10,000 population.

**Indicator Overview**

Education is a key driver of economic prosperity. Educational attainment measures the highest education level completed by an area’s population. Higher levels of education tend to lead to higher wages, improve a worker’s ability to adapt to changing economic conditions and utilize new technologies, and are increasingly a prerequisite for employment in knowledge-based industries.

**How Does North Carolina Perform?**

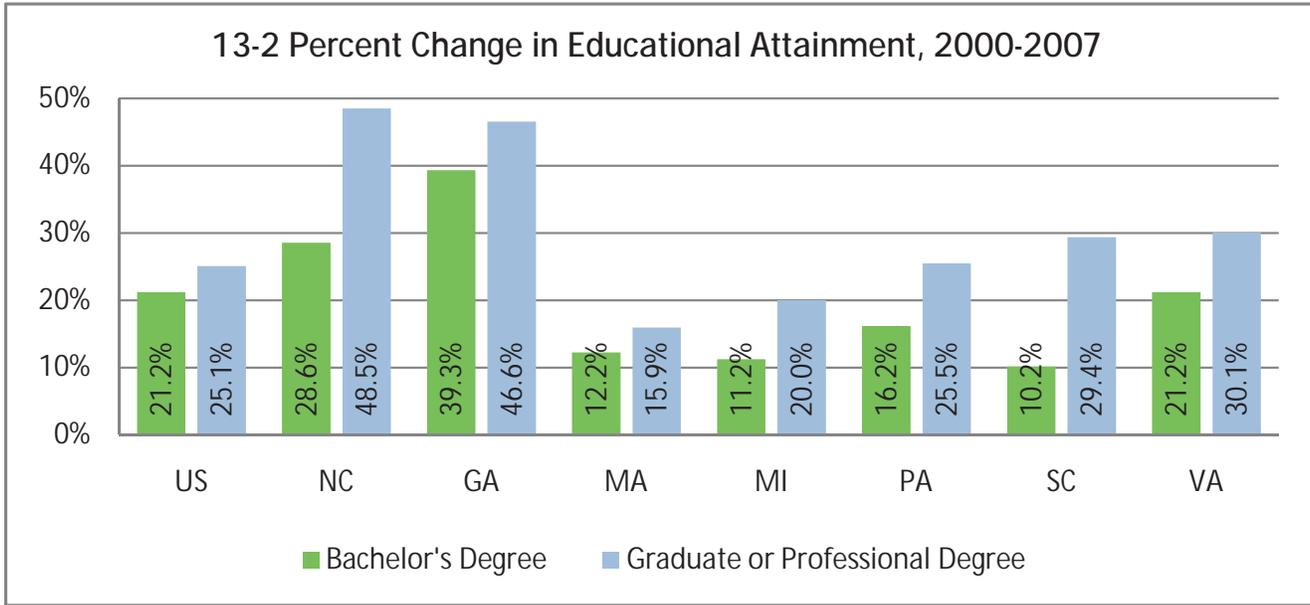
North Carolina is comparatively less educated than the nation as a whole and many benchmark states. In 2007, the state trailed or tied national averages in all educational attainment categories except for Associate’s Degrees [13-1]. In addition, North Carolina trailed all benchmark states except for South Carolina for percent of population over twenty-five years of age (25+) having attained a graduate degree, and percent of the 25+ population attaining less than a high school degree or equivalent.

**13-1 Educational Attainment by Degree Category, 2007**  
(Percent persons 25 years and older)

	US	NC	GA	MA	MI	PA	SC	VA
Less than a High School Graduation or Equivalent	15.5%	17.0%	17.1%	11.6%	12.6%	13.2%	18.0%	14.1%
High School Graduation or Equivalent	30.1%	29.6%	30.5%	27.8%	32.4%	38.4%	32.8%	27.2%
Associate’s Degree	7.4%	8.2%	6.5%	7.4%	8.0%	7.3%	8.0%	6.5%
Some College, No Degree	19.5%	19.5%	18.8%	15.3%	22.3%	15.2%	17.9%	18.5%
Bachelor’s Degree	17.4%	17.0%	17.6%	21.9%	15.2%	15.9%	15.3%	19.8%
Graduate or Professional Degree(s)	10.1%	8.6%	9.5%	16.0%	9.5%	9.9%	8.2%	16.1%

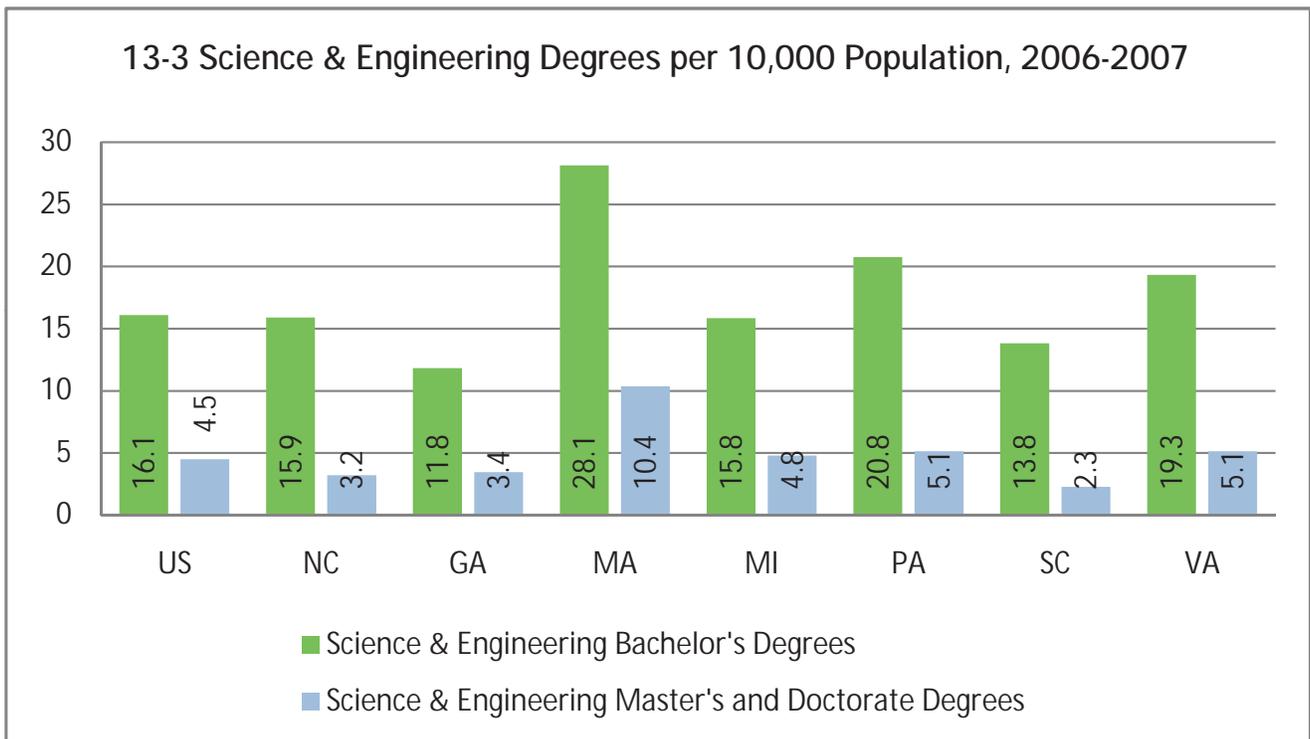
*U.S. Census Bureau*

However, North Carolina ranks high for improving educational attainment in two important categories. The state reduced the percent of the 25+ population having attained less than a high school graduation or equivalent, from 22.6 percent in 2000, to 17.0 percent in 2007. Comparatively, the nation as a whole reduced the percent of the 25+ population with less than a high school degree or equivalent by 3.0 percentage points over the same period. Also, North Carolina increased the number of the 25+ population with a bachelor’s degree or higher by 30.4 percent, equating to a 28.6 percent increase in bachelor’s degrees (+225,112 more degrees) and a 48.5 percent increase in graduate and professional degrees (+167,448 more degrees) [X-2]. During the same period, the United States increased educational attainment for the 25+ population with a bachelor’s degree or higher by 22.6 percent.



Integrated Postsecondary Education Data System, National Center for Education Statistics

Science and engineering education is an important indicator for economic development because the skills associated with their education are needed in knowledge-based jobs. During the 2006-2007 academic year, North Carolina produced 15.9 science and engineering bachelor's degrees and 3.4 science and engineering master's and doctorate degrees per 10,000 population [13-3]. North Carolina ranked higher than Georgia, Michigan, and South Carolina for science and engineering bachelor's degrees; the state trailed all benchmark states except for South Carolina in terms of for the master's and doctorate degrees.



Integrated Postsecondary Education Data System, National Center for Education Statistics

**What Does this Mean for North Carolina Economic Development?**

The growth of North Carolina's economy is predicated on the capabilities of its workforce, and educational attainment is a fundamental way of measuring those capabilities. North Carolina's educational attainment levels, including conferred science and engineering degrees, rank below the national figures and key benchmark states. This means North Carolina employers could face challenges finding and hiring a highly educated workforce, particularly workers necessary for knowledge-based industries. However, North Carolina's documented progress suggests that the state's labor force is improving more rapidly than the nation on average and most benchmark states in many categories. Employers seek locations that produce and attract a highly educated workforce. Continuing to target investment in education will enable North Carolina's population to move up the educational attainment ladder and continue to attract a workforce that employers seek.

**Key Findings**

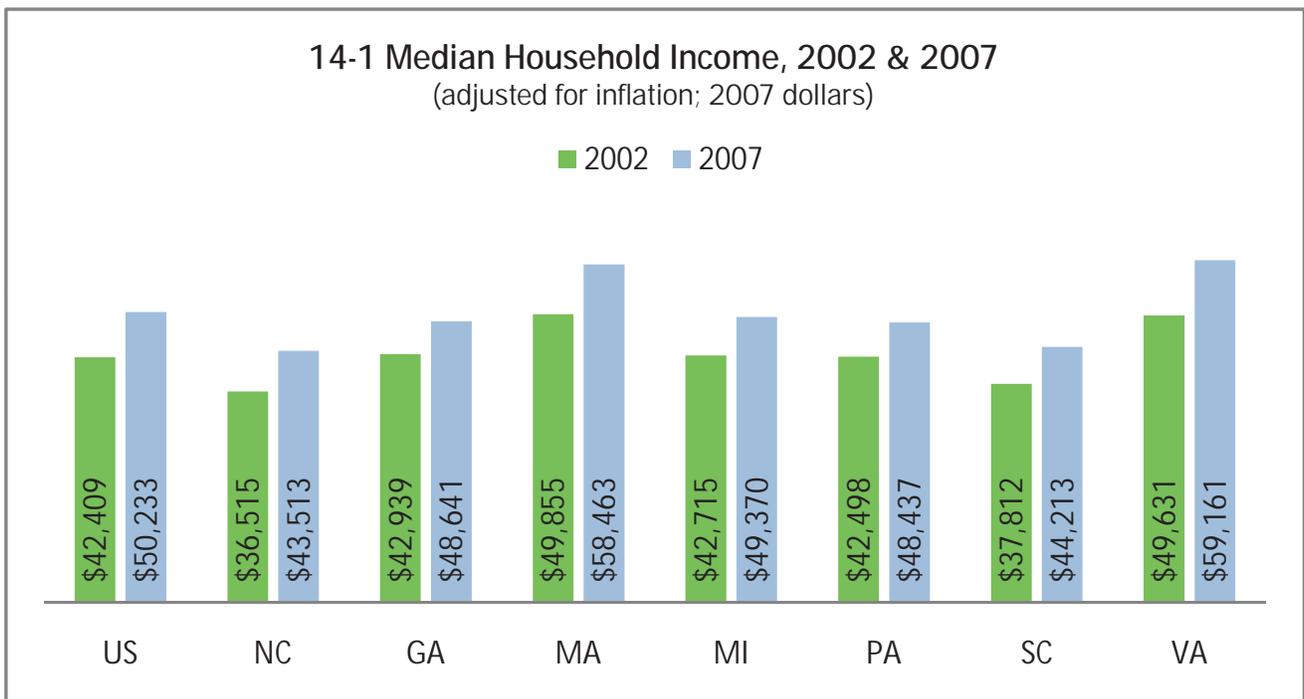
- N.C. median household income was 86.6 percent of the U.S. average and the lowest among comparison states.
- N.C.'s urban economic development regions (Research Triangle, Charlotte, and Piedmont Triad) had the highest average weekly wages.

**Indicator Overview**

Earnings are often cited as a key indicator of job quality and the overall health of an economy. Increasing the number of high-wage jobs is a major goal of economic development, allowing for greater consumer spending which leads to economic growth. North Carolina's relatively low earnings (median household income, average weekly wage) reflect the state's comparatively low cost of living and its traditional concentration of labor intensive industries.

**How Does North Carolina Perform?**

In 2007, North Carolina's median household income<sup>1</sup> was \$43,513, below the national average of \$50,233 and all comparison states [14-1]. The state's median household income was 86.6 percent of the national average.<sup>2</sup> However, from 2002 and 2007, the state experienced a faster growth rate (19.2 percent) than the U.S. average (18.4 percent) and tied Virginia for the fastest growth rate among comparison states.

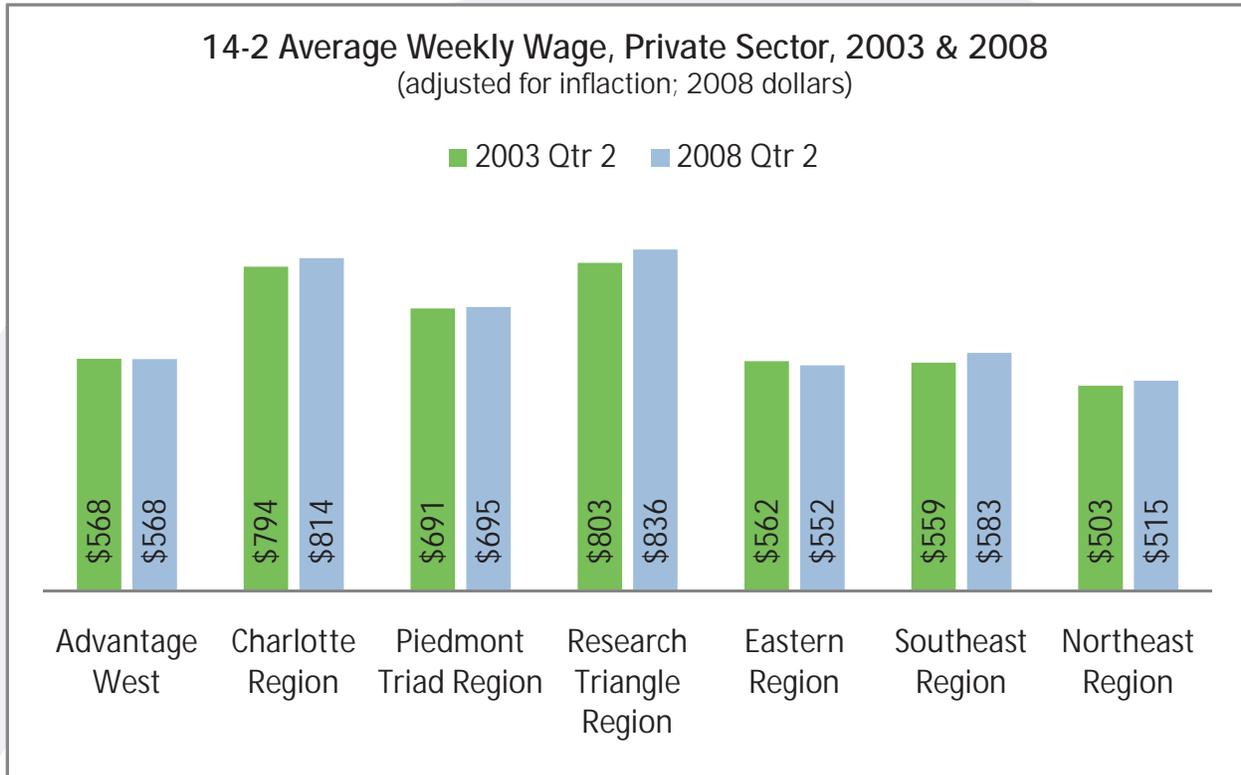


U.S. Census Bureau

The Research Triangle, Charlotte, and Piedmont Triad regions had the highest average weekly wages in 2008 (\$836, \$814, and \$695, respectively) [14-2]. These urban regions have a high concentration of highly paid, knowledge-based jobs. When adjusted for inflation, there has been little increase in average weekly wages across the state between 2003 and 2008. The Southeast region experienced the largest percentage increase in wages, 4.3 percent, followed closely by the Research Triangle region (4.1 percent). The Piedmont Triad region experienced relatively no growth (0.6 percent) and the Advantage West and Eastern regions experienced a decrease in average weekly wages (-0.1 percent and -1.8 percent, respectively).

<sup>1</sup> Household income is the sum of income received in the calendar year by the head of household and all household members 15 years old and over (U.S. Census Bureau).

<sup>2</sup> Between 2002 and 2007, the percentage of NC's median household income compared to the U.S. went from 86.1% to a high of 90.8% in 2005 before falling to 82.6% in 2006 then rising again in 2007.



N.C. Employment Security Commission

**What does this Mean for North Carolina Economic Development?**

Healthy economies generate opportunities for individuals and households to increase incomes. As North Carolina continues its economic transition, the state must maintain a focus on expanding high-wage industries and dedicate resources to provide training opportunities and improve the education and skill levels of the labor force. Education is key—those with post-secondary degrees move up the income ladder and those with high school diploma or less, move down.

**Key Findings**

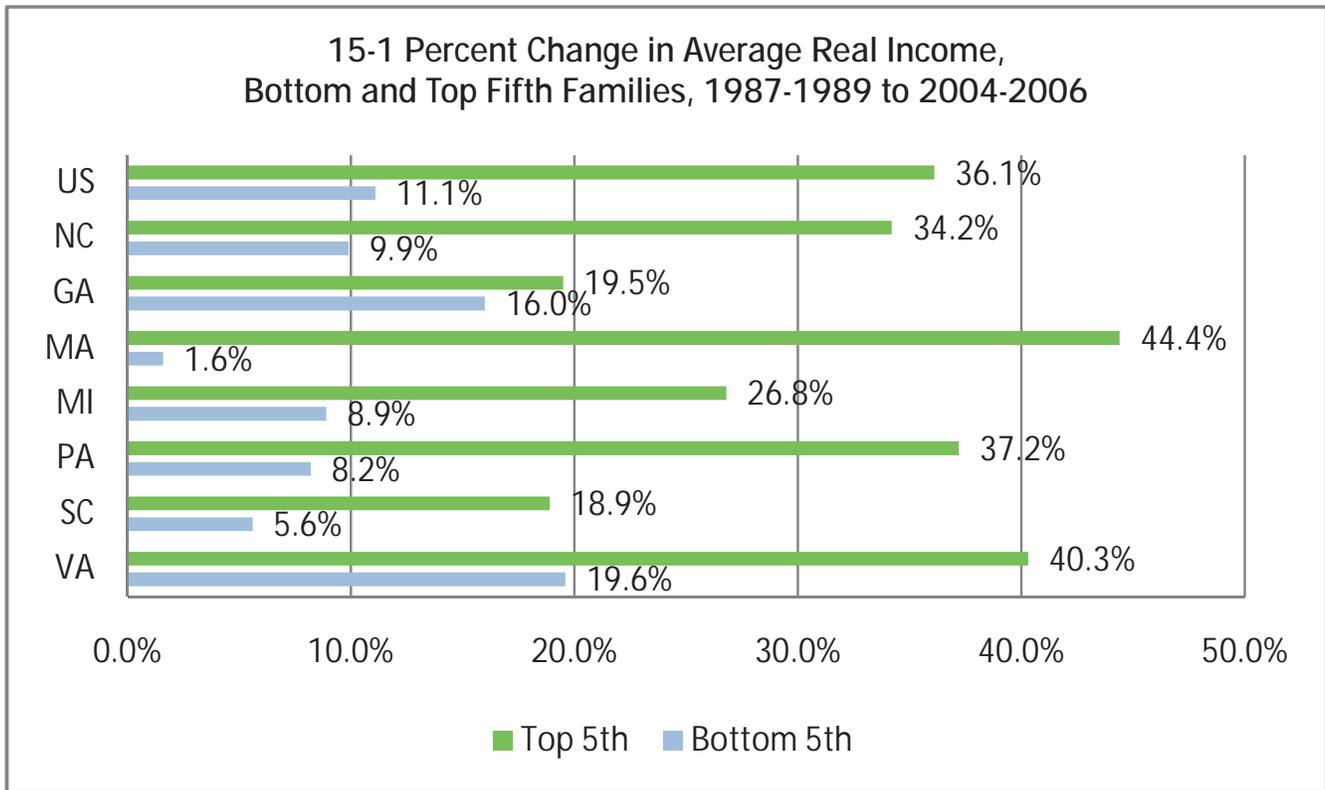
- The income of N.C.'s wealthiest families grew at a significantly faster rate than that of the state's poorest families.
- N.C.'s urban economic development regions (Research Triangle, Charlotte, and Piedmont Triad) had the highest average weekly wages.
- In North Carolina, wealth is highly concentrated with a relatively small number of households.

**Indicator Overview**

Promoting economic opportunity for citizens, regardless of income level, is an essential goal of economic development in North Carolina. The core mission of the Department of Commerce is to improve the economic well-being and quality of life for all North Carolinians. Income distribution is an important indicator for measuring the degree to which North Carolina's economy creates opportunities for all residents across the state.

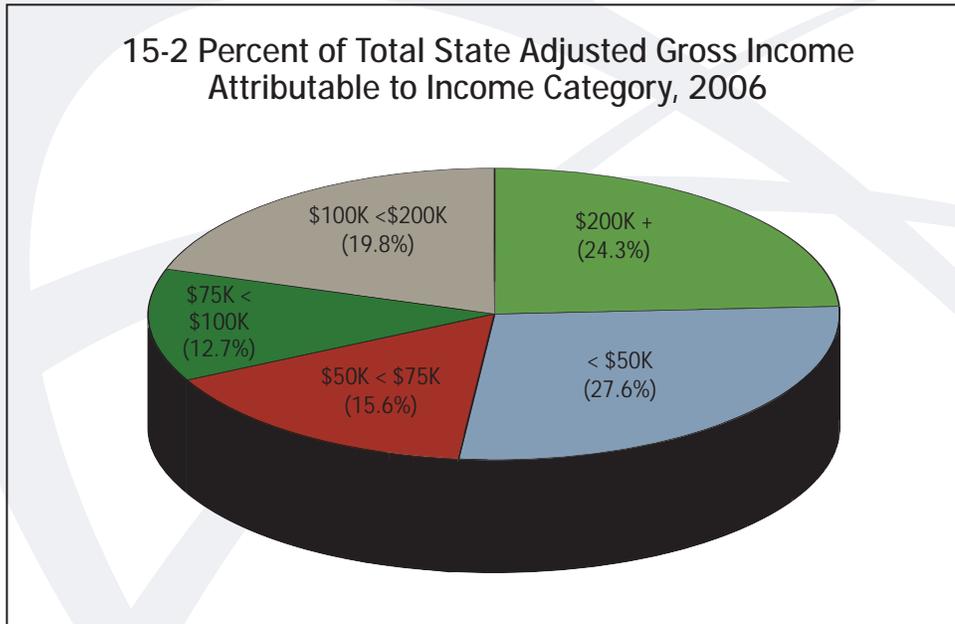
**How does North Carolina Perform?**

Between the late 1980's and the mid 2000's, the income of the country's wealthiest families grew at a significantly higher rate than the income of the country's poorest families. Income disparities grew in 37 states over the past two decades, including North Carolina. North Carolina mirrored national trends, with the income of the state's wealthiest families growing much more rapidly than the state's poorest families. Between 1987-1989 and 2004-2006, the income of the state's wealthiest 20 percent of families grew by 34.2 percent, or \$30,154 [15-1]. The income of the state's poorest 20 percent of families grew by 9.9 percent, or \$1,474. Income growth of North Carolina's wealthiest families (34.2 percent) was below the national average (36.1 percent) and three comparison states, Massachusetts (44.4 percent), Virginia (40.3 percent), and Pennsylvania (37.2 percent). The income growth of the poorest families was also below that of the United States as a whole, but better than Massachusetts, Michigan, Pennsylvania, and South Carolina.



Economic Policy Institute

Wealth is highly concentrated in North Carolina and comes from a relatively small number of households. Families in the state's higher income categories account for a small percent of tax returns filed each year, but a large percent of total state income (Adjusted Gross Income - AGI)<sup>1</sup>. According to 2006 tax returns, the top two income categories (\$100K - \$200K and \$200K +) account for 44.0 percent of total state income, but only a combined 10 percent of all tax returns filed [15-2]. The lowest income category (<\$50K) accounts for 27.6% of total state income, but 69.6 percent of all tax returns.



U.S. Internal Revenue Service

North Carolina had a higher percentage of tax returns filed by the lowest income category compared to the nation (69.6 percent and 67.0 percent, respectively) [15-3]. Only South Carolina had a larger percentage of tax returns filed by the lowest income category among comparison states. However, between 2002 and 2006, the percentage of tax returns filed by North Carolina households earning less than \$75,000 decreased from 86.0 percent to 82.8 percent, while those households with incomes more than \$75,000 increased from 14.0 percent to 17.5 percent. These trends could signify an expansion of the middle and upper middle classes.

**15-3 Percent of Tax Returns by Income Category, 2006**

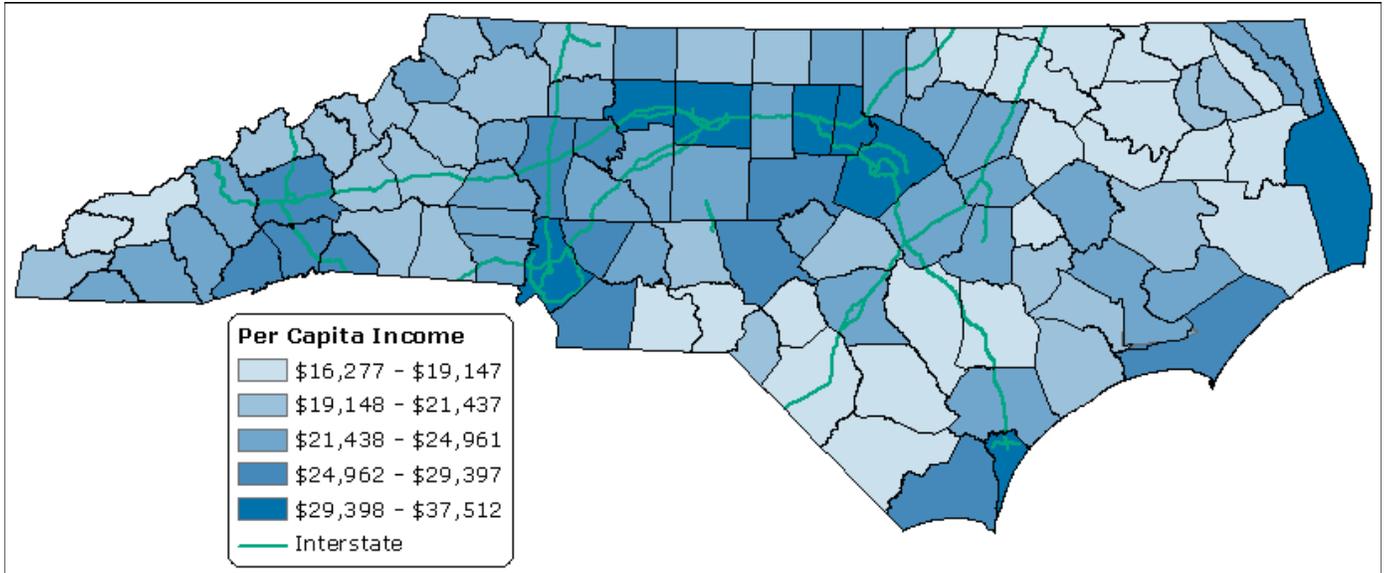
	US	NC	GA	MA	MI	PA	SC	VA
Under \$50K	67.0%	69.6%	69.4%	60.4%	66.4%	67.0%	71.8%	61.2%
\$50K under \$75K	13.4%	12.9%	12.5%	14.2%	14.1%	14.1%	12.3%	14.2%
\$75K under \$100K	8.0%	7.5%	7.3%	9.2%	8.8%	8.3%	7.1%	9.1%
\$100K under \$200K	8.7%	7.6%	8.2%	11.9%	8.7%	8.2%	6.7%	11.7%
\$200K or more	2.9%	2.4%	2.7%	4.3%	2.0%	2.5%	2.0%	3.8%

U.S. Internal Revenue Service

<sup>1</sup> AGI is defined by the IRS as gross income reduced by certain amounts, such as deductible IRA contributions or student loan interest.

Per capita income varies widely across North Carolina [15-4]. The highest levels of per capita income in North Carolina are concentrated in urban counties where high wage, New Economy jobs are located.

15-4 Per Capita Income in North Carolina by County, 2008



N.C. EDIS

**What Does this Mean for North Carolina Economic Development?**

Identifying strategies both to promote growth and address income inequality remains a major challenge for economists, policymakers, and economic development professionals. Education is a much more important determinant of income today than in the past. Workers with a college education are moving up the income ladder while those with a high school degree or less are moving down. Workers with a post-secondary degree are much more prepared to compete for high-paying, knowledge-based occupations. The state’s public policy must continue to shift its focus beyond high school completion as the capstone of one’s educational attainment to Associate’s degrees, Bachelor’s degrees or advanced degree completion. Continued investment in education, particularly for low-income families, and enhanced workforce development opportunities for transitioning or displaced workers, will aid in slowing the growth of income disparity in North Carolina.

**Key Findings**

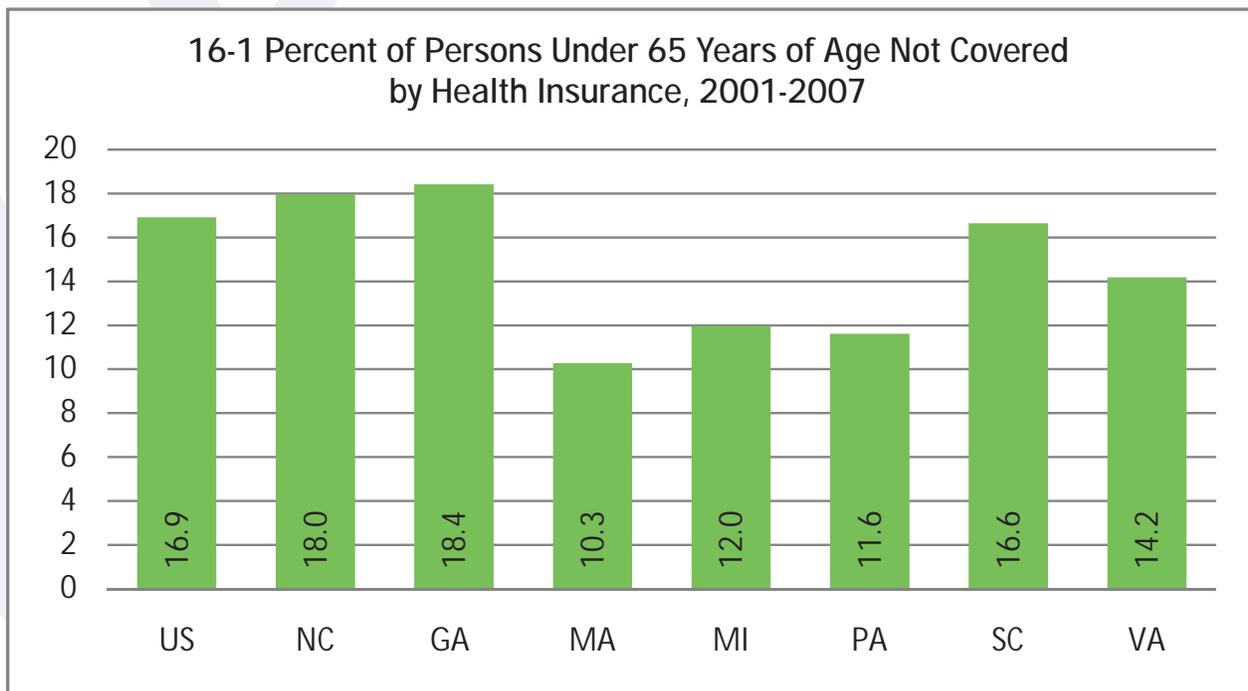
- Between 2001 and 2007, 18 percent of North Carolinians less than 65 years of age were not covered by health insurance.
- N.C.'s average 2006 premiums are below the national average (\$11,381) and all but one benchmark state.
- In 2006, 43 percent of small businesses in N.C. offered health insurance to their employees.

**Indicator Overview**

A healthy workforce is vital to economic growth. Labor time lost at work and the inability to concentrate or perform optimally due to poor health is a drain on the economy. Employers provide most health care insurance in the United States. In 2006, approximately 54 percent of all Americans depended on employer-sponsored health insurance.<sup>1</sup> Health care costs are rising at unprecedented rates and the implications are serious. American manufacturers are finding it increasingly difficult to compete with foreign companies who offer universal health insurance. The effects on small businesses are even greater as coverage is declining due to high and rapidly rising costs of providing health insurance.

**How Does North Carolina Perform?**

High rates of uninsured people are a financial drain on hospitals, employers, and the uninsured themselves. Uninsured patients enter hospitals with more severe illnesses than those with insurance and often incur higher hospital bills.<sup>2</sup> Between 2001 and 2007, 18 percent of North Carolinians less than 65 years of age were not covered by health insurance [16-1]. This was more than the national average (16.9 percent) and higher than all comparison states except Georgia (18.4 percent).

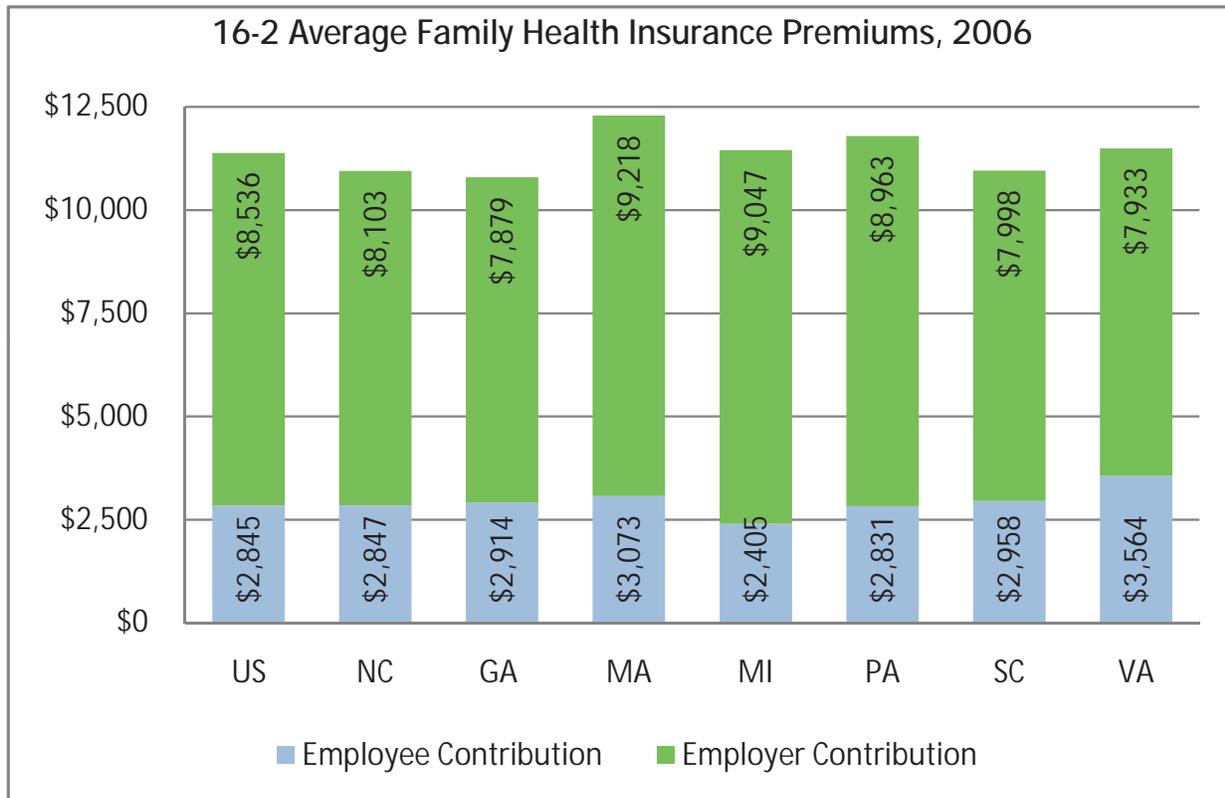


United States Census Bureau

<sup>1</sup> The Henry J. Kaiser Family Foundation. "State Health Facts." January 2008. <http://www.statehealthfacts.org/index.jsp>

<sup>2</sup> Illinois Hospital Association. "Who Cares for the Uninsured." <http://www.ihatoday.org/issues/payment/uninsured/care.html>

Over the past several decades, health care costs in the United States have steadily increased. Since 1999, average family premiums increased 119 percent.<sup>3</sup> As a result of increasing health care costs, employees are being asked to cover a significant portion of health insurance premiums. In 2006, the average family premium per enrolled employee for employer-based health insurance in North Carolina was \$10,950, compared to \$9,657 in 2005 [16-2]. North Carolina's average 2006 premiums are below the national average (\$11,381) and all but one of the benchmark states (Georgia). Of the total premium amount, employees contributed \$2,847 in 2006. The percent contributed by North Carolina employees, 26 percent, exceeds the U.S. average (25 percent) and three comparison states; Massachusetts (25 percent), Michigan (21 percent), and Pennsylvania (24 percent).



The Henry J. Kaiser Family Foundation

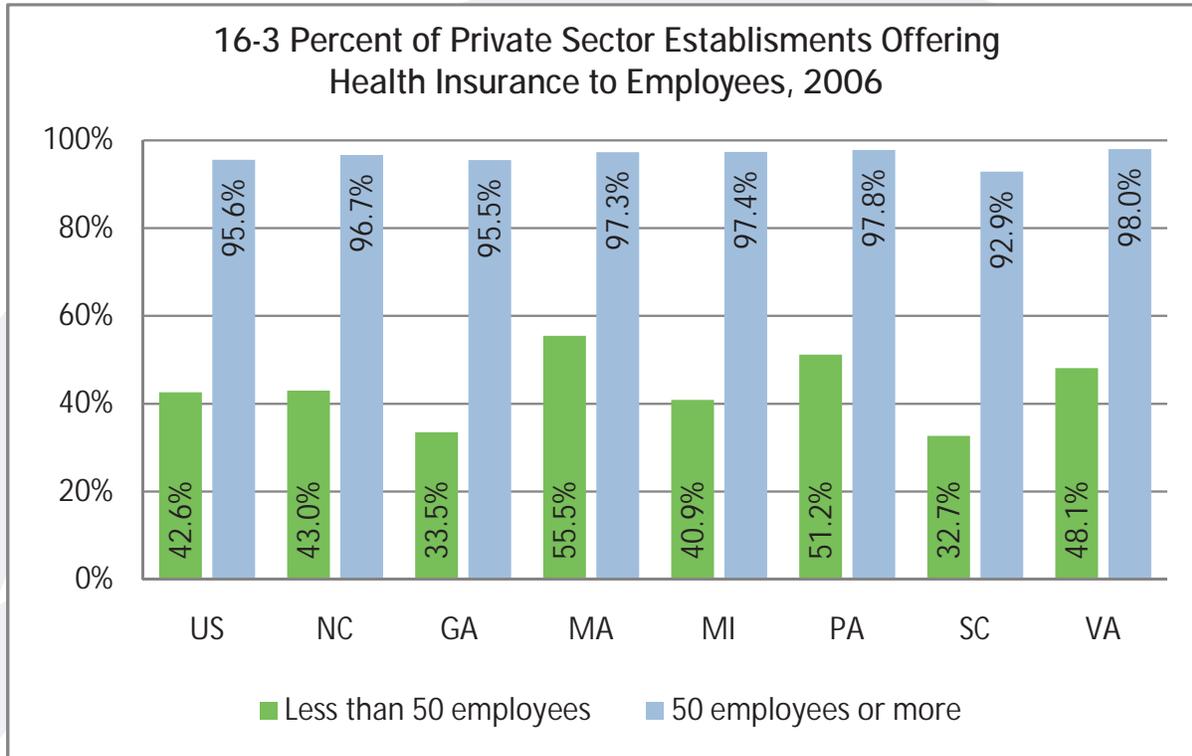
For reasons of market power (group rates), adverse selection (ability to absorb employee health care costs) and administrative costs, health insurance is more expensive for small businesses and even greater for individuals than large employers.<sup>4</sup> According to the most recent national data (2008), the percentage of small firms offering health benefits has fallen since 1999. Firms with 9 or fewer employees have seen a drop in employer offered health benefits, from 56 percent (1999) to 49 percent (2008), while firms with 3-199 employees have seen a drop in health benefits from 65 percent (1999) to 62 percent (2008). In contrast, 99 percent of large firms (200 or more workers) continued to offer health insurance during this time period.<sup>5</sup>

In 2006, 43 percent of small businesses with fewer than 50 employees in North Carolina offered health insurance to their employees, while 96.7 percent of the businesses employing 50 or more offered health insurance coverage. The national average for small businesses is 42.6 percent, and 95.6 for businesses with 50 or more employees [16-3].

<sup>3</sup> The Henry J Kaiser Family Foundation. Employee Health Benefits: 2008 Annual Survey. September 2008.

<sup>4</sup> Gruber, Jonathan and Poterba, James. 1994. "Tax Incentives and the Decision to Purchase Health Insurance: Evidence from the Self-Employed." The Quarterly Journal of Economics, vol. 109, Issue 2.

<sup>5</sup> The Henry J Kaiser Family Foundation. Employee Health Benefits: 2008 Annual Survey. September 2008.



The Henry J. Kaiser Family Foundation

### What Does this Mean for North Carolina Economic Development?

Increasing health care costs and a growing uninsured population have serious implications for employment and economic development. In a report released in 2008, The North Carolina Chamber states:

“North Carolina manufacturers complain that healthcare costs are outpacing wages and productivity. They do not want to pass these costs on to workers by lowering wages and find it increasingly difficult to raise prices in extremely competitive markets.”

According to the National Coalition on Health Care, health insurance premiums have a devastating impact on business operations by cutting into operating margins and limiting the ability to invest in research, capital spending, product development, and marketing.<sup>6</sup> High health care costs make it difficult for small businesses in North Carolina to retain and compete for good workers. The inability of small businesses to provide health care coverage serves as a barrier to entrepreneurship because individuals that may have thought about starting their own company are reluctant to leave the security they have in their current jobs. Also, growing insurance premiums and the increasing share employees are required to cover will result in a financial drain (i.e. less disposable income) on the state’s working population. Economic development professionals and state policymakers should continue to advocate for more accessible health care and reward existing and new companies that offer affordable health insurance.

<sup>6</sup> National Coalition on Health Care. “Health Insurance Coverage.” January 2008. <http://www.nchc.org>

## Sources Guide (by Indicator)

### Population

*Population Growth:* Cumulative Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico are from the Population Division of the U.S. Census Bureau.

*Population Change for North Carolina Economic Development Regions:* Migration statistics for the United States, Regions, and States are from the Cumulative Estimates of the Components of Population Change tables published by the U.S. Census Bureau's Population Division.

*Percent of Population by Age Group:* Estimates of Population Change for the United States, Regions, States, and Puerto Rico are from the Population Division of the U.S. Census Bureau. The Population Estimates Program publishes state population estimates each year for total population with details on age, sex, race, and Hispanic origin.

### Labor Force

*Growth in Labor Force and Employment:* Seasonally adjusted labor force and employment is from the Bureau of Labor Statistics, Local Area Unemployment Statistics program.

*Labor Force Participation Rate:* Annual average labor force participation rates data for states is from the Bureau of Labor Statistics, Civilian Non-institutional Population and Associated Rate and Ratio Measures for Model-Based Areas. The National labor force participation rate data is from the Bureau of Labor Statistics, Current Population Survey.

*Percent of Labor Force in North Carolina by Age Group:* Based on Local Area Unemployment Statistics and Employment status of the Civilian Non-institutional Population in states by sex, race, Hispanic or Latino ethnicity, and detailed age are from the Bureau of Labor Statistics.

### Industry Mix

*North Carolina Employment by Industry Sector:* Industry employment data are from Economic Modeling Specialists, Inc (EMSI). EMSI derives its industry employment data by combining covered employment data from Quarterly Census of Employment and Wages (QCEW) produced by the Department of Labor with total employment data in Regional Economic Information System (REIS) published by the Bureau of Economic Analysis (BEA). The data is augmenting with County/ZIP Business Patterns (CBP) and Nonemployer Statistics (NES) published by the U.S. Census Bureau. In addition, Current Employment Statistics (Bureau of Labor Statistics) is used to fill the 6-9 month lag in QCEW and create more informed estimates for current-year data.

*Percent of Change in Manufacturing Employment:* Data is from the Bureau of Economic Analysis, Regional Economic Accounts, Employment by Industry.

### Occupational Mix

*Top 5 Employed Occupations in North Carolina (with Associated Annual Earnings):* Occupational data for North Carolina are from Economic Modeling Specialists, Inc (EMSI). EMSI's occupation data are based on EMSI's industry data and regional staffing patterns taken from the Occupational Employment Statistics program (U.S. Bureau of Labor Statistics). Wage information is partially derived from the American Community Survey. The occupation-to-program (SOC-to-CIP) crosswalk is based on one from the U.S. Department of Education, with customizations by EMSI.

*Top Earning Occupations in North Carolina (with Associated Employment):* Occupational data for North Carolina are from Economic Modeling Specialists, Inc (EMSI). EMSI's occupation data are based on EMSI's industry data and regional staffing patterns taken from the Occupational Employment Statistics program (U.S. Bureau of Labor Statistics). Wage information is partially derived from the American Community Survey. The occupation-to-program (SOC-to-CIP) crosswalk is based on one from the U.S. Department of Education, with customizations by EMSI.

## SOURCES GUIDE

*Management, Professional and Technical Occupations by North Carolina Economic Development Region:* Occupational data for North Carolina are from Economic Modeling Specialists, Inc (EMSI). EMSI's occupation data are based on EMSI's industry data and regional staffing patterns taken from the Occupational Employment Statistics program (U.S. Bureau of Labor Statistics). Wage information is partially derived from the American Community Survey. The occupation-to-program (SOC-to-CIP) crosswalk is based on one from the U.S. Department of Education, with customizations by EMSI.

*Top 5 Growing Occupations by Economic Development Region:* Occupational data for North Carolina are from Economic Modeling Specialists, Inc (EMSI). EMSI's occupation data are based on EMSI's industry data and regional staffing patterns taken from the Occupational Employment Statistics program (U.S. Bureau of Labor Statistics). Wage information is partially derived from the American Community Survey. The occupation-to-program (SOC-to-CIP) crosswalk is based on one from the U.S. Department of Education, with customizations by EMSI.

### State Gross Domestic Product

*Percent Change in Real GDP:* National and state real Gross Domestic Product data are from the U.S. Bureau of Economic Analysis' Regional Economic Accounts.

*Per Capita Real GDP:* National and state real Gross Domestic Product data are from the U.S. Bureau of Economic Analysis' Regional Economic Accounts. Cumulative Estimates of Population Change for the United States, Regions, States, and Puerto Rico are from the Population Division of the U.S. Census Bureau.

*Top Ten Industries Contributing to North Carolina's GDP:* North Carolina's Real Gross Domestic Product by industry is from the Bureau of Economic Analysis' Regional Economic Accounts Gross Domestic Product by State and Industry tables.

### Labor Productivity

*Labor Productivity (State GDP/Employment):* National and state Real Gross Domestic Product data are from the U.S. Bureau of Economic Analysis' Regional Economic Accounts. Seasonally adjusted employment is from the Bureau of Labor Statistics, Local Area Unemployment Statistics program.

*Percent Change in Labor Productivity:* National and state Real Gross Domestic Product data are from the U.S. Bureau of Economic Analysis' Regional Economic Accounts. Seasonally adjusted employment is from the Bureau of Labor Statistics, Local Area Unemployment Statistics program.

*North Carolina Labor Productivity Growth by Select Industries:* National and state Real Gross Domestic Product data are from the U.S. Bureau of Economic Analysis' Regional Economic Accounts. Employment data are from the N.C. Employment Security Commission, Labor Market Information Division, Quarterly Census of Employment and Wage Program (QCEW), Employment and Wage by Industry.

### Energy

*Average Industrial Price of Electricity:* Electricity price data was obtained from Energy Information Administration; Electric Energy Price by Class of Service and State.

*Percent of Net Electric Power Generated from Renewable Energy Sources (Excluding Hydroelectric):* Net Generation from Other Renewables by State and Net Generation by State data are from the U.S. Department of Energy, Energy Information Administration, Form EIA-906, "Power Plant Report;" and Energy Information Administration, Form EIA-920 "Combined Heat and Power Plant Report;" Net Generation by State by Sector.

### Exports

*Dollar Value of Exports:* National and state export data is from the World Trade Atlas software developed by Global Trade Information Services, Inc (GTIS).

*Top Destination Countries for North Carolina Exports:* National and state export data is from the World Trade Atlas software developed by Global Trade Information Services, Inc (GTIS).

## SOURCES GUIDE

*Top North Carolina Exports by Commodity:* National and state export data is from the World Trade Atlas software developed by Global Trade Information Services, Inc (GTIS).

### Foreign Direct Investment

*Dollar Value of Foreign Direct Investment:* Foreign Direct Investment data are from the U.S. Bureau of Economic Analysis, Foreign Direct Investment in the U.S.: Financial and Operating Data for U.S. Affiliates of Foreign Multinational Companies, Majority-Owned U.S. Affiliates.

*Percent of Foreign Direct Investment in North Carolina by Country:* Investment data are from the U.S. Bureau of Economic Analysis, Foreign Direct Investment in the U.S.: Financial and Operating Data for U.S. Affiliates of Foreign Multinational Companies, Majority-Owned U.S. Affiliates.

*Employment in Foreign Owned Companies:* Employment data are from the U.S. Bureau of Economic Analysis, Foreign Direct Investment in the U.S.: Financial and Operating Data for U.S. Affiliates of Foreign Multinational Companies, Majority-Owned U.S. Affiliates.

### Firm Growth

*Percent Change in Number of Firms:* The annual number of firms by state is from the Small Business Administration's (SBA) The Small Business Economy: A Report to the President 2008. The SBA compiles state data estimates from the U.S. Census Bureau and Department of Labor Employment and Training Administration.

*Percent of Jobs in Gazelle Firms:* The number of jobs in Gazelle firms as a percent of total state employment is from The State New Economy Index published by the Information Technology and Innovation Foundation (ITIF) and the Kauffman Foundation.

### Research & Development

*R&D Spending as Share of State Gross Domestic Product by Performer:* Research and development data were derived from National Science Foundation, Division of Science Resources Statistics (NSF/SRS), Survey of Industrial Research and Development; NSF/SRS, Survey of Research and Development Expenditures at Universities and Colleges; and NSF/SRS, Survey of Federal Funds for Research and Development: GDP data are from the U.S. Bureau of Economic Analysis.

*Federal R&D Obligations in North Carolina, by Selected Agency and Performer:* Research and development data were derived from National Science Foundation, Division of Science Resources Statistics (NSF/SRS), Survey of Federal Funds for Research and Development.

*Geographic Distribution of University & College R&D in North Carolina:* Data are from the National Science Foundation/Division of Science Resources Statistics, Survey of Research and Development Expenditures at Universities and Colleges.

*Percent of University & College R&D from State and Local Government:* Data are from the National Science Foundation/Division of Science Resources Statistics, Survey of Research and Development Expenditures at Universities and Colleges.

### Entrepreneurial & Small Business Capital

*Percent of Venture Capital by Stage of Development:* Venture capital investment data are from the Money Tree Report. The Money Tree Report is the collaboration between PricewaterhouseCoopers and the National Venture Capital Association (based upon data from Thomson Financial).

*Share of National Venture Capital:* Venture capital investment data are from the Money Tree Report. The Money Tree Report is the collaboration between PricewaterhouseCoopers and the National Venture Capital Association (based upon data from Thomson Financial).

*SBIR & STTR Funding per Small Business:* Data for state SBIR and STTR funding is from the Small Business Administration's Tech-Net database. Data for the number of small businesses in each state is from Small Business Administration's Office of Advocacy.

## SOURCES GUIDE

### Educational Attainment

*Educational Attainment by Degree Category:* Data regarding educational attainment is from the U.S. Census Bureau's American Community Survey Multiyear Profile.

*Percent Change in Educational Attainment:* Data regarding educational attainment is from the U.S. Census Bureau's American Community Survey Multiyear Profile.

*Science & Engineering Degrees Awarded per 10,000 Population:* Data on the number of degrees awarded is based on select classification of instructional program codes. The data are from the Integrated Post-Secondary Education Data System (IPEDS) of the National Center for Education Statistics. Cumulative Estimates of Population are from the Population Division of the U.S. Census Bureau.

### Earnings

*Median Household Income:* Data for specific regions, states, and the national level are from the U.S. Census Bureau's Current Population Survey, Annual Social and Economic Supplements.

*Average Weekly Wage by NC Economic Development Region:* Weekly wage data for the regions are from the N.C. Employment Security Commission, Labor Market Information Division, Quarterly Census of Employment and Wage Program (QCEW), Employment and Wage by Industry.

### Income Distribution

*Percent Chance in Average Real Income, Top and Bottom Fifth of Families:* Average real income data are from Pulling Apart: State-by-State Analysis of Income Trends published by the Center on Budget and Policy Priorities, Economic Policy Institute, Washington, DC.

*Percent of Total State Adjusted Gross Income Attributable to Income Category:* Tax return statistics and adjusted gross income data are from the Internal Revenue Service Tax Statistics.

*Percent of Returns by Income Category:* Tax return statistics and adjusted gross income data are from the Internal Revenue Service Tax Statistics.

*Per Capita Income in North Carolina by County:* Income data is from ESRI. Population data is from the U.S. Census. All data gathered using North Carolina's Economic Development Intelligence System (EDIS).

### Health Care Access & Cost

*Percent of Persons Under 65 Years of Age Not Covered by Health Insurance:* Data on health insurance coverage by age category are from the U.S. Census Bureau, Current Population Survey's Annual Social and Economic Supplement (ASEC).

*Average Family Health Insurance Premiums:* The Henry J. Kaiser Family Foundation, State Health Facts database.

*Percent of Private Sector Establishments Offering Health Insurance to Employees:* The Henry J. Kaiser Family Foundation, State Health Facts database

