

State of the Workforce Report IV: Region 8

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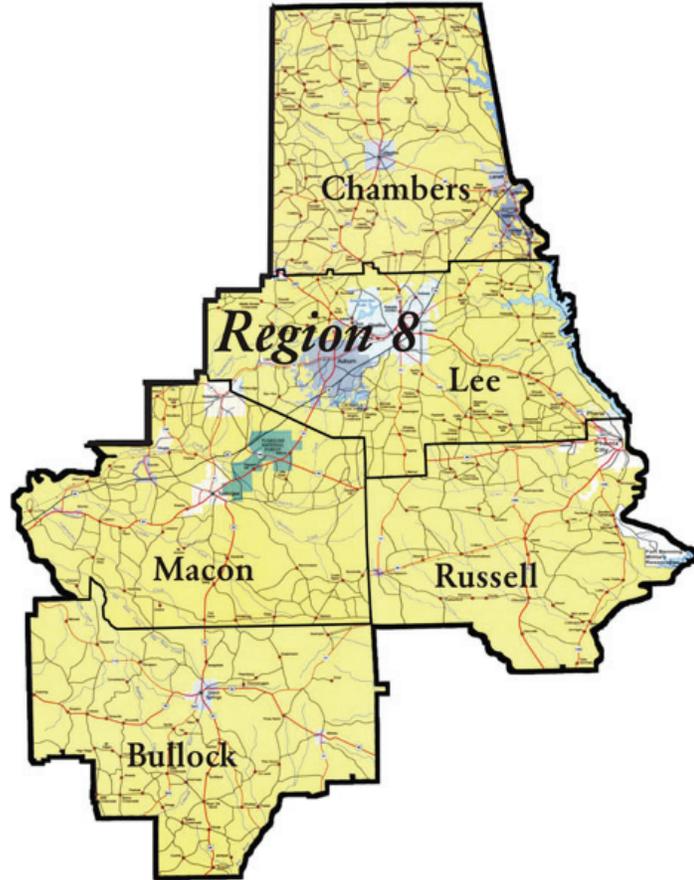
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October 2009

Center for Business and Economic Research
University Center for Economic Development
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THE UNIVERSITY OF ALABAMA

State of the Workforce Report IV: Region 8



October 2009

by

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Summary

- This report analyzes workforce supply and demand issues using available metrics of workforce characteristics for Workforce Development Region 8 and presents implications and recommendations.
- Region 8 had a 9.4 percent unemployment rate in May 2009, with 10,442 unemployed. An underemployment rate of 28.8 percent for 2009 means that the region has a 39,494-strong available labor pool that includes 29,052 underemployed workers who are looking for better jobs and are willing to commute farther and longer for such jobs.
- More job opportunities reduced net out-commuting from 19,834 in 2000 to 4,500 in 2006, but increased commuting into, out of, and within the region is worsening congestion, which could slow economic development. This implies that continuous maintenance and development of transportation infrastructure and systems is important.
- By sector, the top five employers in the region are manufacturing; retail trade; educational services; health care and social assistance; and accommodation and food services. In the third quarter of 2008 these five industries provided 60,343 jobs, about 66 percent of the regional total. Two of the leading employers had higher wages than the region's \$2,704 monthly average. Economic development should aim to diversify and strengthen the region's economy by retaining, expanding, and attracting more high-wage providing industries; workforce development should focus on preparing workers for these industries.
- On average 4,898 jobs were created per quarter from second quarter 2001 to third quarter 2008; quarterly net job flows averaged 455. Job creation is the number of new jobs that are created either by new businesses or through expansion of existing firms. Net job flows reflect the difference between current and previous employment at all businesses.
- The top five high-demand occupations are Team Assemblers; Child Care Workers; Registered Nurses; Meat, Poultry, and Fish Cutters and Trimmers; and Home Health Aides.
- The top five fast-growing occupations are Sales Engineers; Chemical Engineers; Grinding, Lapping, Polishing, Tool Setters, Operators, Metal and Plastic; Electrical and Electronic Equipment Assemblers; and Slaughterers and Meat Packers.
- The top 50 high-earning occupations are mainly in management, health, engineering, computer, postsecondary education, and legal fields and have a minimum salary of \$58,492. Five of the top 10 are management occupations and four are in health.
- Of the top 40 high-demand, the top 40 fast-growing, and 50 high-earning occupations, three belong to all three categories: Industrial Engineers; Medical and Health Services Managers; and Computer Software Engineers; Systems Software. Eight occupations are both high-demand and high-earning. Thirty occupations are in high-demand and fast-growing.

- Of the region's 714 occupations and occupational categories, 41 are expected to decline over the 2006 to 2016 period, with 18 occupations expected to sharply decline by at least 4 percent and lose a minimum of 20 jobs each. Education and training for these 18 occupations should slow accordingly.
- Skill and education requirements for jobs keep rising. Educational and training requirements of high-demand, fast-growing, and high-earning occupations demonstrate the importance of education in developing the future workforce. In the future, more jobs will require postsecondary education and training at a minimum.
- The importance of basic skills generally and for high-demand, high-growth, and high-earning jobs indicates a strong need for training in these skills. For Region 8 the pace of training needs to increase for technical, systems, and two basic (science and mathematics) skills. The scale of training should be raised for basic and social skills. Ideally, all high school graduates should possess basic skills so that postsecondary and higher education can focus on other and more complex skills. Employers should be an integral part of planning for training as they can help identify future skill needs and any existing gaps.
- From a 2006 base, worker surpluses of 6,889 for 2016 and 2,252 for 2025 are expected. A focus on worker skills must be of high priority through 2025. Worker shortfalls in critical occupations will need to be addressed continuously. Strategies to address skill needs and critical occupation shortfalls should aim to raise worker productivity and increase labor force participation and might include: (1) improvements in education and its funding; (2) continuation and enhancement of programs to assess, retrain, and place dislocated workers; (3) focus on hard-to-serve populations (e.g. out-of-school youth); (4) lowering the high school dropout rate; (5) use of economic opportunities to attract new residents; (6) encouragement of older worker participation in the labor force; and (7) facilitation of in-commuting.
- Improving education is important because (i) a highly educated and productive workforce is a critical economic development asset, (ii) productivity rises with education, (iii) educated people are more likely to work, and (iv) it yields high private and social rates of return on investment. Workforce development must view all of education and other programs (e.g. adult education, career technical training, worker retraining, career readiness, etc.) as one system. Funding to support workforce development may require tax reform at state and local levels and should provide for flexibility as workforce needs change over time and demand different priorities. Publicizing both private and public returns to education can encourage individuals to raise their own educational attainment levels, while also promoting public and legislative support for education.
- Higher incomes that come with improved educational attainment and work skills will help to increase personal income for the region as well as raise additional local (county and city) tax revenues. This is important, especially for a region whose per capita income is below the state average.
- Together, workforce development and economic development can build a strong, well-diversified Region 8 economy. Indeed, one cannot achieve success without the other.

Workforce Supply

Labor Force Activity

The labor force includes all persons in the civilian noninstitutional population who are age 16 and over and who have a job or are actively looking for one. Typically, those who have no job and are not looking for one are not included (e.g. students, retirees, the disabled, and discouraged workers). Table 8.1 shows labor force information for Region 8 and its five counties for 2008 and May 2009.¹

Table 8.1 Region 8 Labor Force Information

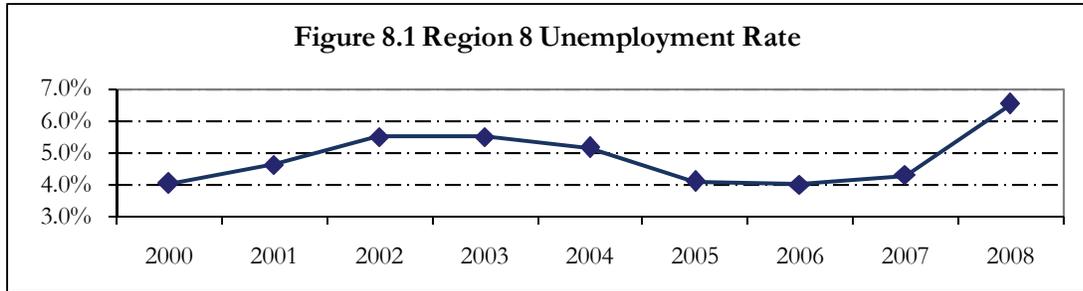
	2008			
	Labor Force	Employed	Unemployed	Rate (%)
Bullock	3,589	3,245	344	9.6
Chambers	14,870	12,903	1,967	13.2
Lee	64,833	61,864	2,969	4.6
Macon	9,006	8,406	600	6.7
Russell	21,640	20,099	1,541	7.1
Region 8	113,938	106,517	7,421	6.5
Alabama	2,162,479	2,053,502	108,977	5.0
United States	154,287,000	145,362,000	8,924,000	5.8
	May 2009			
	Labor Force	Employed	Unemployed	Rate (%)
Bullock	3,542	3,126	416	11.7
Chambers	14,409	11,824	2,585	17.9
Lee	63,169	58,658	4,510	7.1
Macon	8,940	8,058	882	9.9
Russell	21,257	19,208	2,049	9.6
Region 8	111,317	100,874	10,442	9.4
Alabama	2,124,766	1,938,686	186,081	8.8
United States	153,830,000	140,265,000	13,565,000	8.8

Source: Alabama Department of Industrial Relations and U.S. Bureau of Labor Statistics.

The recession that began in December 2007 has increased the number of unemployed and raised county unemployment rates from a range of 4.6 percent to 13.2 percent for 2008 (6.5 percent for the region) to between 7.1 percent and 17.9 percent in May 2009, with 9.4 percent for the region. Unemployment was lowest in Lee County, which was the only county in the region with a lower rate than the state's 8.8 percent. Chambers County, which saw continued job losses in textile manufacturing, had the highest rate.

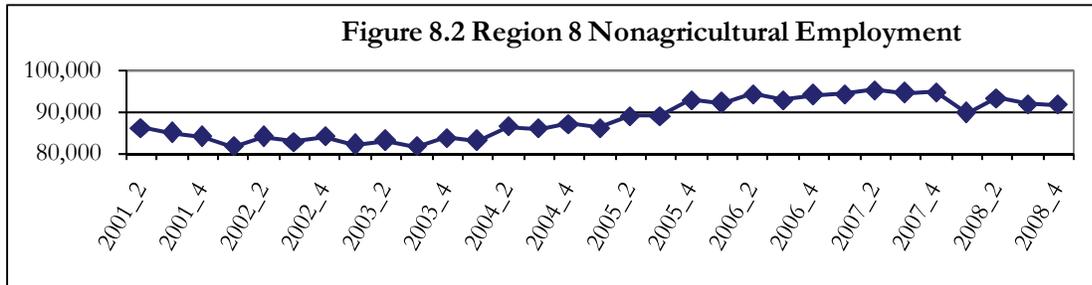
Annual unemployment rates for 2000 to 2008 are shown in Figure 8.1. The region's unemployment rates were low before the 2001 and the most recent recession. The 2008 unemployment rate for the region is the highest in this decade and shows the severe impact of the recent recession on the Region 8 economy. Year-to-date monthly labor force data point to a higher regional unemployment rate for 2009 than the 6.5 percent of 2008; the recession should keep unemployment high for a few more years.

¹ Alabama labor force information is available from the Labor Market Information (LMI) Division of the Alabama Department of Industrial Relations. LMI compiles data in cooperation with the U.S. Bureau of Labor Statistics.



Source: Alabama Department of Industrial Relations.

Nonagricultural employment of the region's residents averaged 88,263 quarterly from the second quarter of 2001 to the fourth quarter of 2008 (Figure 8.2). The number of jobs reached its highest levels in 2007, but the recent recession has caused employment to drop, with steady declines since second quarter 2008.



Source: Alabama Department of Industrial Relations and U.S. Census Bureau.

Table 8.2 shows worker distribution by age in Region 8 for the third quarter of 2008. The region's workforce is younger than the state's. Older workers, age 45 and over, are 37.6 percent of the region's nonagricultural employment versus 39.9 percent for the state. Those who are age 65 and over constitute 3.5 percent of nonagricultural employment compared to 3.7 percent for Alabama. Even so, labor force participation of younger residents must increase to meet long term occupational projections for growth and replacement; else older workers may have to work longer.

Table 8.2 Workers by Age Group Q3 2008

	Nonagricultural Employment	
	Number	Percent
14-18	2,701	3.5
19-24	11,852	15.4
25-34	16,570	21.5
35-44	17,033	22.1
45-54	16,417	21.3
55-64	9,922	12.9
65+	2,705	3.5
45 and over total	29,044	37.6
Total all ages	77,203	100.0

Note: Rounding errors may be present. Nonagricultural employment is by place of work not residence.

Source: U.S. Census Bureau, Local Employment Dynamics Program.

Commuting Patterns

In 2000 almost 20,000 more residents commuted out of the region for work than nonresidents who commuted in; the number of in- and out-commuters was 41,134 (Table 8.3). By 2006 more people (55,058) were commuting but net outflow had shrunk to 4,500 as economic development successes yielded more jobs in the region. There is significant commuting within the region as well. Table 8.3 shows that commute time is up, but distance is down in 2009. All of this suggests that congestion in the region is getting worse. Thus, regional transportation infrastructure and systems must be maintained and developed to ensure that the flow of goods and the movement of workers are not interrupted. Impeding the mobility of workers and goods can delay or slow economic development.

Table 8.3 Commuting Patterns

Area	Inflow, 2000		Outflow, 2000	
	Number	Percent	Number	Percent
Bullock	1,079	10.1	1,036	3.4
Chambers	1,791	16.8	4,251	13.9
Lee	3,340	31.4	11,850	38.9
Macon	1,096	10.3	1,698	5.6
Russell	3,344	31.4	11,649	38.2
Region 8	10,650	100.0	30,484	100.0
Region 8				
	Inflow, 2006		Outflow, 2006	
Region 8	25,279	100.0	29,779	100.0
Percent of workers				
Average commute time (one-way)	2004	2005/2006	2008	2009
Less than 20 minutes	55.5	55.8	52.9	54.5
20 to 40 minutes	31.9	34.9	30.4	27.8
40 minutes to an hour	9.2	5.1	9.7	14.6
More than an hour	2.0	0.3	4.1	0.7
Average commute distance (one-way)	2004	2005/2006	2008	2009
Less than 10 miles	43.1	46.2	44.6	46.1
10 to 25 miles	32.5	34.6	32.5	33.7
25 to 45 miles	16.4	12.2	14.7	13.8
More than 45 miles	4.6	2.6	5.8	5.0

Note: Rounding errors may be present.

Source: U.S. Census Bureau; Alabama Department of Industrial Relations; and Center for Business and Economic Research, The University of Alabama.

Population

The Region 8 population estimate of 251,024 for 2008 is 5.8 percent more than was recorded for 2000 (Table 8.4). Population grew in two counties and shrank in the other three. The region's population is projected to grow 8.6 percent in this decade to about 257,700 by 2010. Population growth will be fastest in Lee County, which will add the most residents. Bullock, Chambers, and Macon counties are expected to lose population.

Table 8.4 Region 8 Population

	1990 Census	2000 Census	2008 Estimate	% Change 2000-2008	2010 Projection	% Change 2000-2010
Bullock	11,042	11,714	10,796	-7.8	10,920	-6.8
Chambers	36,876	36,583	34,424	-5.9	34,528	-5.6
Lee	87,146	115,092	133,010	15.6	138,537	20.4
Macon	24,928	24,105	22,290	-7.5	22,213	-7.8
Russell	46,860	49,756	50,504	1.5	51,523	3.6
Region 8	206,852	237,250	251,024	5.8	257,721	8.6
Alabama	4,040,587	4,447,100	4,661,900	4.8	4,768,769	7.2
U.S.	248,709,873	281,421,906	304,059,724	8.0	310,232,863	10.2

Source: Center for Business and Economic Research, The University of Alabama and U.S. Census Bureau.

Table 8.5 shows population counts, estimates, and projections by age group. The population aged 65 and over will grow rapidly after 2010, with the first of the baby boom generation turning 65 in 2011. Consequently, growth of the prime working age group (20-64) and youth (0-19) will lag that of the total population through 2025. This poses a challenge for workforce development. If employment growth outpaces labor force growth as is expected in the long term, communities that experience rapid job gains may need to consider investments in amenities and infrastructure to attract new residents.

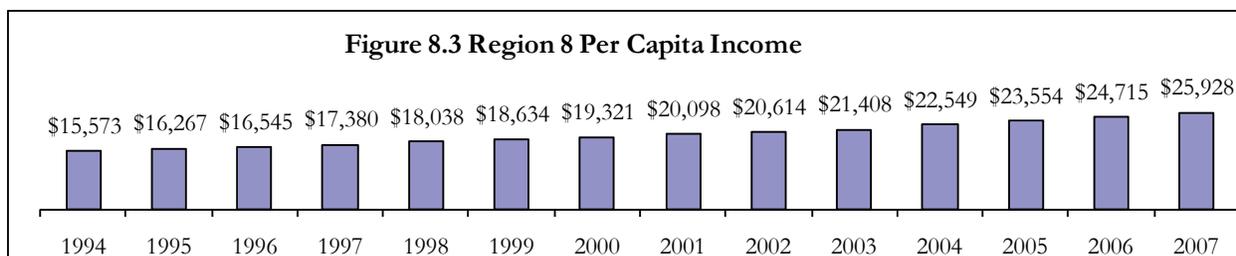
Table 8.5 Population by Age Group (2000-2006) and Projections

Age Group	2000	2006	2016	2025
0-19	69,621	68,860	71,405	76,325
20-24	27,638	29,289	31,078	30,134
25-29	17,086	16,891	19,810	20,137
30-34	15,353	15,368	17,866	20,023
35-39	16,528	15,500	16,470	19,141
40-44	16,496	16,531	16,643	18,947
45-49	15,093	16,663	16,741	17,050
50-54	13,491	15,383	17,608	17,448
55-59	10,582	13,451	17,170	16,905
60-64	8,646	10,548	15,072	17,181
65+	26,716	27,116	34,875	45,762
20-64 Total	140,913	149,624	168,458	176,966
Total Population	237,250	245,600	274,738	299,053
<i>Change from 2006</i>				
0-19			3.7%	10.8%
20-64			12.6%	18.3%
Total Population			11.9%	21.8%

Source: Center for Business and Economic Research, The University of Alabama and U.S. Census Bureau.

Per Capita Income

Per capita income (PCI) in Region 8 was \$25,928 in 2007 (Figure 8.3), up 66 percent from 1994, but \$6,491 below the state average of \$32,419. Lee County had the highest PCI with \$26,883; Bullock County had the lowest with \$21,430.



Source: U.S. Bureau of Economic Analysis and Center for Business and Economic Research, The University of Alabama.

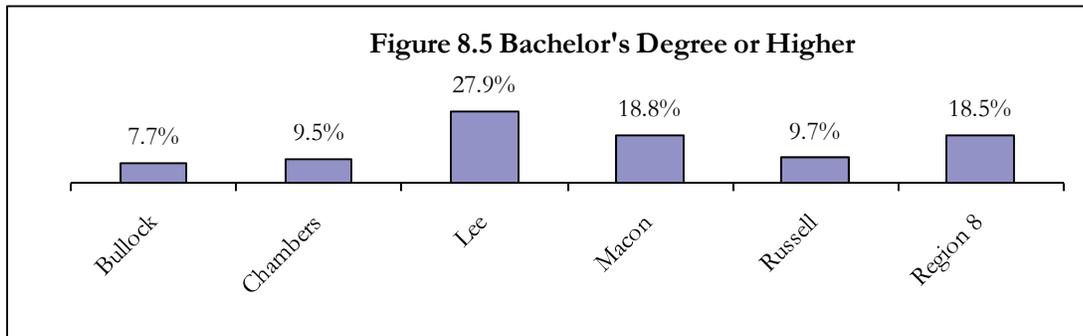
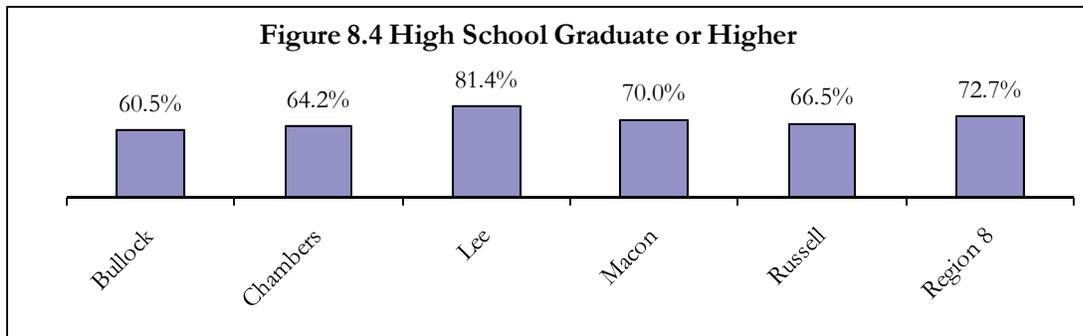
Educational Attainment

Educational attainment in 2000 of Region 8 residents who were 25 years old and over is shown in Figures 8.4 and 8.5 and Table 8.6. About 73 percent graduated from high school and 18.5 percent held a bachelor's or higher degree. Lee County has higher educational attainment than the other four counties and the state as a whole. The 18.8 percent of Macon County's 25 and over population with a bachelor's degree or higher is close to Alabama's 19.0 percent. Educational attainment is important as skills rise with education and high-wage jobs for the 21st century demand more skill sets.

Table 8.6 Educational Attainment in 2000, Population 25 Years and Over

	Bullock	Chambers	Lee	Macon	Russell	Region 8
Total	7,570	24,497	62,170	13,955	32,107	140,299
No schooling completed	143	491	557	247	630	2,068
Nursery to 4th grade	117	251	456	170	482	1,476
5th and 6th grade	297	851	995	506	987	3,636
7th and 8th grade	588	1,464	1,592	622	1,675	5,941
9th grade	325	1,492	1,569	435	1,584	5,405
10th grade	565	1,603	2,234	610	2,028	7,040
11th grade	508	1,469	1,840	641	1,723	6,181
12th grade, no diploma	449	1,157	2,314	957	1,640	6,517
High school graduate/equivalent	2,667	7,863	16,576	3,486	10,594	41,186
Some college, less than 1 year	445	1,742	3,572	867	2,111	8,737
Some college, 1 + years, no degree	658	2,661	8,994	2,018	3,874	18,205
Associate degree	222	1,114	4,120	779	1,669	7,904
Bachelor's degree	330	1,553	9,402	1,446	2,009	14,740
Master's degree	208	581	4,793	878	825	7,285
Professional school degree	36	140	927	161	244	1,508
Doctorate degree	12	65	2,229	132	32	2,470

Source: Center for Business and Economic Research, The University of Alabama and U.S. Census Bureau.



Underemployment and Available Labor

Labor force data are often limited to information on the employed and the unemployed that is available from government sources. However, this information is not complete from the perspective of employers. New or expanding employers are also interested in underemployment because current workers are potential employees. In fact, experience requirements in job ads are evidence that many prospective employers look beyond the unemployed for workers.

Workers in occupations that underutilize their experience, training, and skills are underemployed. These workers might look for other work because their current wages are below what they believe they can earn or because they wish to not be underemployed. Underemployment occurs for various reasons including (i) productivity growth, (ii) spousal employment and income, and (iii) family constraints or personal preferences. Underemployment is unique to areas because of the various contributing factors combined with each area's economic, social, and geographic characteristics.

The existence of underemployment identifies economic potential that is not being realized. It is extremely difficult to measure this economic potential because of uncertainties regarding additional income that the underemployed can bring to an area. It is clear, however, that underemployment provides opportunities for selective job creation and economic growth. A business that needs skills prevalent among the underemployed could locate in places that have such workers regardless of those areas' unemployment rates. A low unemployment rate, which may falsely suggest limited labor availability, is therefore not a hindrance to the business.

The underemployed present a significant pool of labor because they tend to respond to job opportunities that they believe are better for reasons that include (i) higher income, (ii) more benefits, (iii) superior terms and conditions of employment, and (iv) a better match with skills, training, and experience. The underemployed also create opportunities for entry level workers as they leave lower-paying jobs for better-paying ones. Even if their previously-held positions are lost or not filled (perhaps due to low unemployment or adverse economic conditions), there is economic growth in gaining higher-paying jobs. Such income growth boosts consumption, savings, and tax collections. Quantifying the size of the underemployed is a necessary first step in considering this group for economic development, workforce training, planning, and other purposes. It is important to note that the underemployed can take on more responsibilities and earn more income, but they cannot be counted on to address possible future worker shortages as they are already employed.

Region 8 had an underemployment rate of 28.8 percent in 2009. Applying this rate to May 2009 labor force data means that 29,052 employed residents were underemployed (Table 8.7). Adding the unemployed gives a total available labor pool of nearly 39,500 for the region. This is 3.8 times the number of unemployed and is a more realistic measure of the available labor pool in the region. Prospective employers must be able to offer the underemployed higher wages, better benefits or terms of employment, or some other incentives to induce them to change jobs. Underemployment rates ranged from 22.5 percent for Russell County to 38.0 percent for Macon. Bullock County had the smallest available labor pool and Lee had the largest.

Table 8.7 Underemployed and Available Labor by County

	<u>Region 8</u>	<u>Bullock</u>	<u>Chambers</u>	<u>Lee</u>	<u>Macon</u>	<u>Russell</u>
Labor Force	111,317	3,542	14,409	63,169	8,940	21,257
Employed	100,874	3,126	11,824	58,658	8,058	19,208
Underemployment rate	28.8%	29.4%	23.2%	29.0%	38.0%	22.5%
Underemployed workers	29,052	919	2,744	16,981	3,062	4,312
Unemployed	10,442	416	2,585	4,510	882	2,049
Available labor pool	39,494	1,335	5,329	21,491	3,944	6,361

Note: Rounding errors may be present. Based on May 2009 labor force data and 2009 underemployment rates.

Source: Center for Business and Economic Research, The University of Alabama and Alabama Department of Industrial Relations.

Underemployment rates for counties, Workforce Development Regions (WDRs), and the state were determined from an extensive survey on the state's workforce. A total of 648 complete responses were obtained from Region 8. About 44 percent (288 respondents) were employed, of whom 83 stated that they were underemployed. A lack of job opportunities in their area, low wages at available jobs, and living too far from jobs are the primary reasons given for being underemployed. Ongoing economic development efforts can help in this regard. Nonworkers cite retirement and disability or other health concerns as the main reasons for their status, but some also cite a lack of job opportunities in their area and low wages as additional major reasons. Such workers may become part of the labor force if their problems can be addressed.

A comparison of underemployed workers to the overall workforce in Region 8 shows that:

- Fewer work full-time and more of the part-timers would like to work full-time.
- More hold multiple jobs.

- They commute longer and farther.
- More are hotel, restaurant, and household help while fewer are managers, teachers, or professionals.
- They have shorter job tenure.
- More are in finance, insurance, and real estate as well as firms providing services for healthcare, businesses, hotels, restaurants, and households.
- They earn less.
- Fewer believe their jobs fit well with their education and training, skills, and experience.
- More believe they are qualified for a better job.
- More would leave their current jobs for higher income.
- More are willing to commute longer and farther for a better job.
- Fewer are satisfied with their current jobs.
- More have sought better jobs in the preceding quarter.
- More are willing to train for a better job even if they have to pay part or all of the cost.
- They have similar median age and educational attainment.
- About the same proportion are married.
- Fewer are male.
- Fewer are white.
- Slightly more are Hispanic.

Table 8.8 shows the detailed survey results on job satisfaction and willingness to train. Responses for overall job satisfaction as well as satisfaction with various aspects of the job were obtained. In general most of the region's workers (71.9 percent) are satisfied or completely satisfied with their jobs. Workers are most satisfied with their shift and least satisfied with the earnings they receive. Fewer underemployed workers are satisfied with their jobs (61.4 percent). The underemployed are also most satisfied with their shift, but much more dissatisfied with their earnings.

Workers are generally willing to train for a new or better job, with the underemployed being much more willing (87.1 percent vs. 69.5 percent). However, the willingness to train is strongly influenced by who pays for the cost of training. Workers typically do not wish to pay for the training and so their willingness is highest when the cost is fully borne by government and lowest when the trainee must pay the full costs. In every case of cost burden considered, the underemployed are more willing to train for the new or better job. The results show that workers expect the government to bear at least part of the training cost. This expectation may result from worker awareness of government workforce programs that provide such assistance.

Table 8.8 2009 Job Satisfaction and Willingness to Train (Percent)

Job Satisfaction						
		Completely Dissatisfied	Dissatisfied	Neutral	Satisfied	Completely Satisfied
Employed						
Overall		3.8	6.6	17.4	22.6	49.3
	Earnings	14.2	12.9	19.4	25.0	27.8
	Retention	6.3	6.6	17.0	19.4	47.9
	Work	4.2	2.4	13.5	22.6	57.3
	Hours	5.2	3.5	8.0	20.8	62.5
	Shift	5.2	3.1	8.0	14.6	69.1
	Conditions	5.2	4.5	17.0	22.9	50.4
	Commuting Distance	5.9	3.8	11.5	16.3	62.2
Underemployed						
Overall		8.4	7.2	22.9	28.9	32.5
	Earnings	19.3	26.5	19.3	20.5	14.5
	Retention	8.4	8.4	22.9	18.1	37.4
	Work	9.6	2.4	19.3	28.9	39.8
	Hours	12.1	4.8	8.4	21.7	53.0
	Shift	9.6	2.4	8.4	14.5	65.1
	Conditions	8.4	3.6	21.7	24.1	42.2
	Commuting Distance	8.4	7.2	9.6	15.7	57.8
Willingness to Train						
		Completely Unwilling	Unwilling	Neutral	Willing	Completely Willing
Employed						
For a new or better job		12.4	4.4	13.7	13.3	56.2
	If paid by trainee	41.9	13.1	25.3	8.6	7.6
	If paid by trainee and government	9.6	11.1	31.3	18.7	25.8
	If paid by government	3.5	2.0	9.6	10.6	73.2
Underemployed						
For a new or better job		2.9	1.4	8.6	10.0	77.1
	If paid by trainee	38.2	8.8	23.5	13.2	13.2
	If paid by trainee and government	10.3	4.4	19.1	22.1	42.7
	If paid by government	2.9	0.0	7.4	2.9	86.8

Note: Rounding errors may be present.

Source: Center for Business and Economic Research, The University of Alabama.

Workforce Demand

Industry Mix

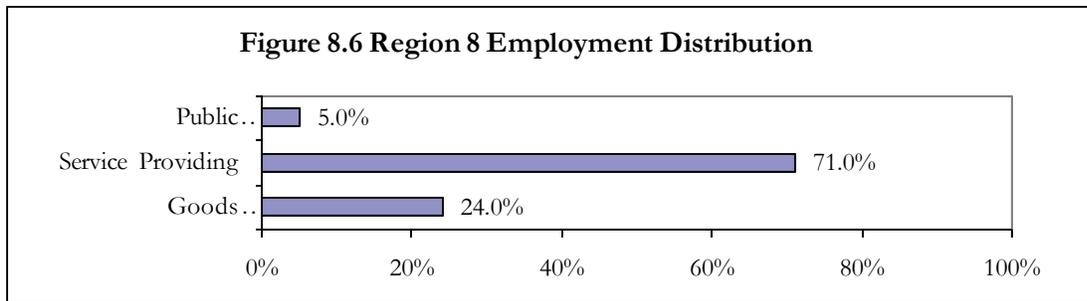
The manufacturing sector was the leading employer with 16,133 jobs in the third quarter of 2008 (Table 8.9). Rounding out the top five industries by employment are retail trade; educational services; health care and social assistance; and accommodation and food services. These five industries provided 60,343 jobs, 65.7 percent of the regional total. The average monthly wage across all industries in the region was \$2,704; two leading employers paid more than this average but were not the highest paying sectors. New hire monthly earnings averaged \$1,638, roughly 61 percent of the region's average monthly wage. The highest average monthly wages were for mining at \$4,034, wholesale trade \$3,943, and utilities \$3,803. Accommodation and food services paid the least at \$1,255. Mining had the highest average monthly new hire wages with \$3,631, followed by professional, scientific, and technical services at \$3,014, and utilities with \$2,847. Accommodation and food services paid newly hired workers the least, \$863.

Table 8.9 Industry Mix (Third Quarter 2008)

Industry by 2-digit NAICS Code	Total Employment	Share	Rank	Average Monthly Wage	Average Monthly New Hire Earnings
11 Agriculture, Forestry, Fishing and Hunting	926	1.01%	17	\$3,047	\$2,099
21 Mining	277	0.30%	20	\$4,034	\$3,631
22 Utilities	622	0.68%	18	\$3,803	\$2,847
23 Construction	4,722	5.14%	7	\$2,916	\$2,225
31-33 Manufacturing	16,133	17.56%	1	\$3,251	\$2,260
42 Wholesale Trade	2,241	2.44%	11	\$3,943	\$2,166
44-45 Retail Trade	12,267	13.35%	2	\$1,992	\$1,207
48-49 Transportation and Warehousing	2,635	2.87%	9	\$2,568	\$1,877
51 Information	993	1.08%	16	\$2,958	\$1,857
52 Finance and Insurance	2,034	2.21%	12	\$3,437	\$2,483
53 Real Estate and Rental and Leasing	1,342	1.46%	15	\$2,478	\$1,798
54 Professional, Scientific, and Technical Services	1,929	2.10%	13	\$3,386	\$3,014
55 Management of Companies and Enterprises	370	0.40%	19	\$3,433	\$2,274
56 Administrative and Support and Waste Management and Remediation Services	4,824	5.25%	6	\$1,985	\$1,427
61 Educational Services	11,663	12.69%	3	\$3,317	\$1,733
62 Health Care and Social Assistance	11,193	12.18%	4	\$2,634	\$2,023
71 Arts, Entertainment, and Recreation	2,358	2.57%	10	\$1,710	\$1,157
72 Accommodation and Food Services	9,087	9.89%	5	\$1,255	\$863
81 Other Services (Except Public Administration)	1,659	1.81%	14	\$2,133	\$1,429
92 Public Administration	4,597	5.00%	8	\$2,778	\$1,732
ALL INDUSTRIES	91,874	100.00%		\$2,704	\$1,638

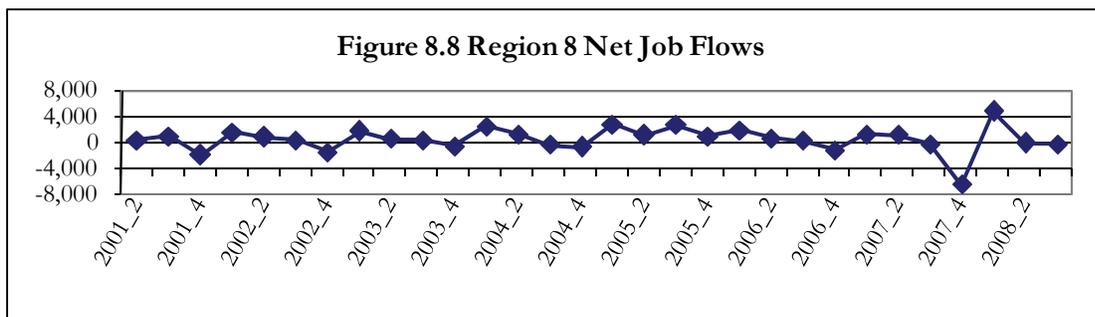
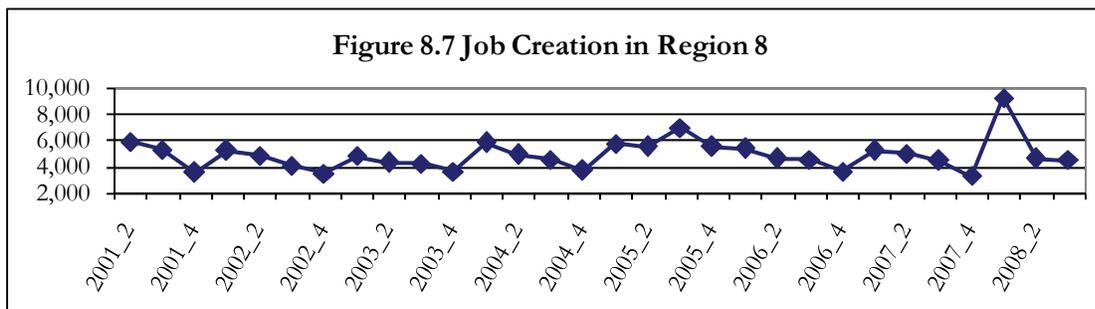
Source: Alabama Department of Industrial Relations and U.S. Census Bureau.

By broad industry classification, service providing industries generated 71 percent of jobs in third quarter 2008 (Figure 8.6). Goods producing industries were next with 24 percent and public administration accounted for 5 percent. The distribution is for all nonagricultural jobs in the region, but there is significant variation by county.



Job Creation and Net Job Flows

On average, 4,898 jobs were created per quarter from second quarter 2001 to third quarter 2008 (Figure 8.7). Quarterly net job flows averaged 455 in the same period and generally followed the job creation pattern (Figure 8.8). Both job creation and net job flows have fallen off significantly from the peaks reached in first quarter 2008. Quarterly net job flows have ranged from a loss of 6,503 to a gain of 4,761. Job creation refers to the number of new jobs that are created either by new area businesses or through the expansion of existing firms. Net job flows reflect the difference between current and previous employment at all businesses.



Source: Alabama Department of Industrial Relations and U.S. Census Bureau.

High-Demand, Fast-Growing, High-Earning, and Sharp-Declining Occupations

Out of a total 714 occupations and occupational categories in the region, 600 are single occupations. Table 8.10 shows the 40 occupations that are expected to be in high-demand, ranked by projected average annual job openings over the 2006 to 2016 period. Many of these occupations are common to three of the five largest employment sectors identified earlier (Table 8.9): manufacturing; educational services; and health care and social assistance. Thus, these sectors will continue to dominate employment in the region.

The top five high-demand occupations are Team Assemblers; Child Care Workers; Registered Nurses; Meat, Poultry, and Fish Cutters and Trimmers; and Home Health Aides. Thirty of the high-demand occupations are also fast-growing. This means that these 30 occupations have a minimum annual growth rate of 2.92 percent, much faster than the regional and state occupational growth rates of 1.14 percent and 1.38 percent, respectively.

The 40 fastest growing occupations ranked by projected growth of employment are listed in Table 8.11. Most of these occupations are related to health care and social assistance and manufacturing industries. The top five fast-growing occupations are Sales Engineers; Chemical Engineers; Grinding, Lapping, Polishing, Tool Setters, Operators, Metal and Plastic; Electrical and Electronic Equipment Assemblers; and Slaughterers and Meat Packers.

Table 8.12 shows the 50 selected highest earning occupations in the region. These occupations are mainly in management, health, engineering, computer, postsecondary education, and legal fields. Of the top ten high-earning occupations, five are in management and four are in health. Any discussion of earnings must consider that wages vary with experience. Occupations with the highest entry wages may not necessarily have the highest average or experienced wages.

The selected high-earning occupations are generally not fast-growing or in high-demand. Eight occupations are both high-earning and in high-demand (Table 8.10). The following three occupations are in high-demand, fast-growing, and high-earning:

1. Medical and Health Services Managers
2. Computer Software Engineers, Systems Software
3. Industrial Engineers

Of the region's 714 occupations and occupational categories, 41 are expected to decline over the 2006 to 2016 period. Employment in the 18 sharpest-declining occupations will fall by at least 4 percent, with each losing a minimum of 20 jobs over the period (Table 8.13). No efforts should be made to sustain these occupations because they are declining as a result of structural changes in the economy of the region.

Table 8.10 Selected High-Demand Occupations (Base Year 2006 and Projected Year 2016)

Occupation	Average Annual Job Openings		
	Total	Due to Growth	Due to Separations
Team Assemblers *	105	70	35
Child Care Workers *	55	30	25
Registered Nurses	50	30	20
Meat, Poultry, and Fish Cutters and Trimmers *	35	25	10
Home Health Aides *	35	30	5
Slaughterers and Meat Packers *	35	25	10
Molding, Coremaking, and Casting Machine Setters, Operators, Metal and Plastic *	25	20	5
Inspectors, Testers, Sorters, Samplers, and Weighers	25	15	10
Machinists *	20	15	5
Education Administrators, Postsecondary	15	5	10
Chemical Engineers *	15	15	0
Industrial Engineers *	15	10	5
Clergy *	15	10	5
Structural Metal Fabricators and Fitters *	15	10	5
Coating, Painting, and Spraying Machine Setters, Operators, and Tenders *	15	10	5
Welders, Cutters, Solderers, and Brazers *	15	10	5
Cabinetmakers and Bench Carpenters *	15	10	5
Pharmacy Technicians *	15	10	5
Assemblers and Fabricators, All Other *	15	10	5
Grinding, Lapping, Polishing, Tool Setters, Operators, Metal and Plastic *	15	15	0
Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic *	15	10	5
Family and General Practitioners	10	5	5
Pharmacists	10	5	5
Health Specialties Teachers, Postsecondary	10	5	5
Industrial Production Managers	10	5	5
English Language and Literature Teachers, Postsecondary	10	5	5
Electrical and Electronic Equipment Assemblers *	10	10	0
Sales Managers	5	5	0
Medical and Health Services Managers *	5	5	0
Computer Software Engineers, Systems Software *	5	5	0
Mathematical Science Teachers, Postsecondary	5	5	0
Art, Drama, and Music Teachers, Postsecondary *	5	5	0
Dental Hygienists *	5	5	0
Medical and Public Health Social Workers *	5	5	0
Medical Records and Health Information Technicians *	5	5	0
Dental Assistants *	5	5	0
Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic *	5	5	0
Medical Assistants *	5	5	0
Sales Engineers *	5	5	0
Public Relations Specialists *	5	5	0

Note: Occupations are growth- and wages-weighted and data are rounded to the nearest 5. Occupations in bold are also high-earning.

* Qualify as both high-demand and fast-growing occupations.

Source: Alabama Department of Industrial Relations and Center for Business and Economic Research, The University of Alabama.

Table 8.11 Selected Fast-Growing Occupations (Base Year 2006 and Projected Year 2016)

Occupation	Employment		Percent Change	Annual Growth (Percent)	Average Annual Job Openings
	2006	2016			
Sales Engineers *	NA	NA	300	14.87	5
Chemical Engineers *	70	200	186	11.07	15
Grinding, Lapping, Polishing, Tool Setters, Operators, Metal and Plastic *	70	200	186	11.07	15
Electrical and Electronic Equipment Assemblers *	NA	NA	180	10.84	10
Slaughtering and Meat Packers *	NA	NA	88	6.54	35
Molding, Coremaking, and Casting Machine Setters, Operators, Metal and Plastic *	220	410	86	6.42	25
Graders and Sorters, Agricultural Products	NA	NA	83	6.25	5
Home Health Aides *	370	670	81	6.12	35
Meat, Poultry, and Fish Cutters and Trimmers *	310	560	81	6.09	35
Extruding and Drawing Machine Setters, Operators, Tenders, Metal and Plastic *	70	120	71	5.54	5
Cabinetmakers and Bench Carpenters *	120	200	67	5.24	15
Assemblers and Fabricators, All Other *	150	250	67	5.24	15
Industrial Engineers *	160	260	63	4.97	15
Grinding and Polishing Workers, Hand	NA	NA	60	4.81	5
Machinists *	240	380	58	4.70	20
Medical Assistants *	120	190	58	4.70	5
Coating, Painting, and Spraying Machine Setters, Operators, and Tenders *	140	220	57	4.62	15
Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic *	230	350	52	4.29	15
Computer Software Engineers, Systems Software *	40	60	50	4.14	5
Dental Hygienists *	120	180	50	4.14	5
Medical and Public Health Social Workers *	60	90	50	4.14	5
Medical Records and Health Information Technicians *	60	90	50	4.14	5
Dental Assistants *	100	150	50	4.14	5
Chemical Equipment Operators and Tenders	NA	NA	46	3.87	10
Veterinary Technologists and Technicians	NA	NA	44	3.75	10
Team Assemblers *	1,650	2,350	42	3.60	105
Welders, Cutters, Solderers, and Brazers *	240	340	42	3.54	15
Structural Metal Fabricators and Fitters *	220	310	41	3.49	15
Clergy *	280	390	39	3.37	15
Pharmacy Technicians *	220	300	36	3.15	15
Engineering Teachers, Postsecondary	NA	NA	36	3.10	5
Cement Masons and Concrete Finishers	170	230	35	3.07	10
Hotel, Motel, and Resort Desk Clerks	170	230	35	3.07	10
Child Care Workers *	830	1,120	35	3.04	55
Preschool Teachers, Except Special Education	260	350	35	3.02	15
Medical and Health Services Managers *	120	160	33	2.92	5
Art, Drama, and Music Teachers, Postsecondary *	90	120	33	2.92	5
Veterinary Assistants and Laboratory Animal Caretakers	120	160	33	2.92	5
Agricultural Sciences Teachers, Postsecondary	NA	NA	33	2.92	10
Public Relations Specialists *	120	160	33	2.92	5

Note: Employment data are rounded to the nearest 10 and job openings are rounded to the nearest 5. Occupations in bold are also high-earning.

* Qualify as both high-demand and fast-growing occupations. NA - Not available.

Source: Alabama Department of Industrial Relations and Center for Business and Economic Research, The University of Alabama.

Table 8.12 Selected High-Earning Occupations (Base Year 2006 and Projected Year 2016)

Occupation	Employment		Annual Growth (Percent)	Average Annual Job Openings	Mean Annual Salary (\$)
	2006	2016			
Dentists, General	60	70	1.55	0	198,223
Internists, General	50	60	1.84	0	186,657
Physicians and Surgeons, All Other	70	90	2.54	0	151,586
Chief Executives	150	170	1.26	5	142,783
Marketing Managers	30	30	0.00	0	117,945
Purchasing Managers	30	30	0.00	0	114,156
Family and General Practitioners *	140	180	2.54	10	107,699
Sales Rep., Wholesale & Mfg., Tech. and Scien. Prod.	120	140	1.55	5	100,215
Computer and Information Systems Managers	50	60	1.84	0	99,870
Natural Sciences Managers	NA	NA	0.00	0	97,307
Engineering Managers	60	80	2.92	0	95,378
Lawyers	190	210	1.01	5	94,397
Pharmacists *	160	200	2.26	10	91,870
Engineers, All Other	20	30	4.14	0	87,931
Human Resources Managers, All Other	40	50	2.26	0	87,564
General and Operations Managers	1,030	1,140	1.02	35	86,269
Optometrists	30	40	2.92	0	84,743
Medical and Health Services Managers *	120	160	2.92	5	83,614
Judges, Magistrate Judges, and Magistrates	20	30	4.14	0	83,170
Managers, All Other	500	530	0.58	15	82,295
Financial Managers	160	190	1.73	5	82,262
Management Analysts	110	140	2.44	0	80,705
Clinical, Counseling, and School Psychologists	50	70	3.42	0	79,796
Veterinarians	NA	NA	2.26	0	76,939
Industrial Production Managers *	130	170	2.72	10	76,268
Industrial Engineers *	160	260	4.97	15	74,384
Computer Software Engineers, Systems Software *	40	60	4.14	5	73,603
Physical Therapists	60	80	2.92	0	73,442
Mathematical Science Teachers, Postsecondary *	140	180	2.54	5	72,741
Loan Officers	100	120	1.84	0	71,777
Sales Managers *	100	130	2.66	5	70,507
Electrical Engineers	20	30	4.14	0	70,143
Computer Programmers	60	60	0.00	0	70,042
Education Administrators, Elementary and Sec. School	130	140	0.74	5	69,688
Mechanical Engineers	60	80	2.92	0	69,378
Transportation, Storage, and Distribution Managers	30	40	2.92	0	68,014
Market Research Analysts	10	10	0.00	0	67,472
Construction Managers	400	470	1.63	10	66,847
First-Line Supervisors/Mgr. of Non-Retail Sales Workers	230	260	1.23	10	65,637
History Teachers, Postsecondary	70	80	1.34	0	63,891
Computer Systems Analysts	70	80	1.34	0	63,703
Occupational Health and Safety Specialists	50	60	1.84	0	63,322
Occupational Therapists	50	60	1.84	0	63,232
Foresters	NA	NA	0.00	0	62,495
Physician Assistants	20	20	0.00	0	62,464
Logisticians	10	20	7.18	0	62,391
Network Systems and Data Communications Analysts	50	70	3.42	0	60,525
Postmasters and Mail Superintendents	30	30	0.00	0	60,483
Network and Computer Systems Administrators	130	150	1.44	5	60,144
Civil Engineers	110	120	0.87	5	58,492

Note: Employment data are rounded to the nearest 10; openings to the nearest 5. The salary data provided are based on the May 2007 release of the Occupational Employment Statistics (OES) combined employment and wage file. Estimates for specific occupations may include imputed data. Occupations in bold are also fast-growing. NA – Not available.

* Qualify as both high-earning and high-demand occupations.

Source: Center for Business and Economic Research, The University of Alabama and Alabama Department of Industrial Relations.

Table 8.13 Selected Sharp-Declining Occupations (Base Year 2006 and Projected Year 2016)

Occupation	Employment		Net Change	Percent Change
	2006	2016		
Textile Winding and Drawing Out Machine Setters, Operators, and Tenders	520	90	-430	-83
Sewing Machine Operators	360	130	-230	-64
Textile Knitting and Weaving Machine Setters, Operators, and Tenders	320	90	-230	-72
Industrial Machinery Mechanics	540	350	-190	-35
Conveyor Operators and Tenders	190	70	-120	-63
Printing Machine Operators	170	110	-60	-35
Packaging and Filling Machine Operators and Tenders	190	130	-60	-32
Textile Bleaching and Dyeing Machine Operators and Tenders	60	10	-50	-83
Fabric and Apparel Patternmakers	NA	NA	-40	-80
Packers and Packagers, Hand	430	390	-40	-9
Farmers and Ranchers	780	750	-30	-4
File Clerks	90	60	-30	-33
Order Clerks	90	60	-30	-33
Textile Cutting Machine Setters, Operators, and Tenders	40	10	-30	-75
Textile, Apparel, and Furnishings Workers, All Other	70	40	-30	-43
Prepress Technicians and Workers	40	20	-20	-50
Tailors, Dressmakers, and Custom Sewers	50	30	-20	-40
Extruding, Forming, and Compacting Machine Setters, Operators, and Tenders	290	270	-20	-7

Note: Employment data are rounded to the nearest 10. NA - Not available.

Source: Alabama Department of Industrial Relations and Center for Business and Economic Research, The University of Alabama.

Skills and Skills Gap Analyses

Jobs require skill sets and it is necessary that jobholders have the relevant skills. Table 8.14 shows skill types and definitions as provided by O*NET Online, which offers skill sets for all occupations ranked by the degree of importance. High-earning occupations typically require skills that are obtained in the pursuit of the high educational attainment levels that such jobs require. Lower earning occupations require more basic skill sets. Some occupations have no minimum skill set requirements (e.g. dishwashers and maids).

Table 8.15 shows the percentage of selected occupations in the region that list a particular skill as primary. We define primary skills as the 10 most important skills in the required skill set for an occupation. It is important to note that a particular skill may be more important and more extensively used in one occupation than another. Table 8.15 does not address such cross-occupational skill importance comparisons. In general, basic skills are most frequently listed as primary, which means that they are important for practically all jobs.

Table 8.14 Skill Types and Definitions

<p>Basic Skills: Developed capacities that facilitate learning or the more rapid acquisition of knowledge.</p> <p>Active Learning — Understanding the implications of new information for both current and future problem-solving and decision-making.</p> <p>Active Listening — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.</p> <p>Critical Thinking — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.</p> <p>Learning Strategies — Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.</p> <p>Mathematics — Using mathematics to solve problems.</p> <p>Monitoring — Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.</p> <p>Reading Comprehension — Understanding written sentences and paragraphs in work-related documents.</p> <p>Science — Using scientific rules and methods to solve problems.</p> <p>Speaking — Talking to others to convey information effectively.</p> <p>Writing — Communicating effectively in writing as appropriate for the needs of the audience.</p> <p>Complex Problem Solving Skills: Developed capacities used to solve novel, ill-defined problems in complex, real-world settings.</p> <p>Complex Problem Solving — Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.</p> <p>Resource Management Skills: Developed capacities used to allocate resources efficiently.</p> <p>Management of Financial Resources — Determining how money will be spent to get the work done and accounting for these expenditures.</p> <p>Management of Material Resources — Obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do certain work.</p> <p>Management of Personnel Resources — Motivating, developing, and directing people as they work, identifying the best people for the job.</p> <p>Time Management — Managing one's own time and the time of others.</p> <p>Social Skills: Developed capacities used to work with people to achieve goals.</p> <p>Coordination — Adjusting actions in relation to others' actions.</p> <p>Instructing — Teaching others how to do something.</p> <p>Negotiation — Bringing others together and trying to reconcile differences.</p> <p>Persuasion — Persuading others to change their minds or behavior.</p> <p>Service Orientation — Actively looking for ways to help people.</p> <p>Social Perceptiveness — Being aware of others' reactions and understanding why they react as they do.</p> <p>Systems Skills: Developed capacities used to understand, monitor, and improve socio-technical systems.</p> <p>Judgment and Decision Making — Considering the relative costs and benefits of potential actions to choose the most appropriate one.</p> <p>Systems Analysis — Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.</p> <p>Systems Evaluation — Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.</p> <p>Technical Skills: Developed capacities used to design, set-up, operate, and correct malfunctions involving application of machines or technological systems.</p> <p>Equipment Maintenance — Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.</p> <p>Equipment Selection — Determining the kind of tools and equipment needed to do a job.</p> <p>Installation — Installing equipment, machines, wiring, or programs to meet specifications.</p> <p>Operation and Control — Controlling operations of equipment or systems.</p> <p>Operation Monitoring — Watching gauges, dials, or other indicators to make sure a machine is working properly.</p> <p>Operations Analysis — Analyzing needs and product requirements to create a design.</p> <p>Programming — Writing computer programs for various purposes.</p> <p>Quality Control Analysis — Conducting tests and inspections of products, services, or processes to evaluate quality or performance.</p> <p>Repairing — Repairing machines or systems using the needed tools.</p> <p>Technology Design — Generating or adapting equipment and technology to serve user needs.</p> <p>Troubleshooting — Determining causes of operating errors and deciding what to do about it.</p>
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Source: O*NET Online (<http://online.onetcenter.org/skills/>).

Table 8.15 Percentage of Selected Occupations for Which Skill Is Primary

	Selected High-Demand Occupations	Selected Fast-Growing Occupations	Selected High-Earning Occupations
Basic Skills			
Active Learning	50	50	66
Active Listening	63	58	76
Critical Thinking	50	48	76
Learning Strategies	15	18	8
Mathematics	30	33	30
Monitoring	23	15	26
Reading Comprehension	68	63	82
Science	13	18	28
Speaking	58	53	54
Writing	40	43	30
Complex Problem Solving Skills			
Complex Problem Solving	10	15	36
Resource Management Skills			
Management of Financial Resources	0	0	12
Management of Material Resources	0	0	4
Management of Personnel Resources	5	0	10
Time Management	40	40	56
Social Skills			
Coordination	18	18	36
Instructing	38	43	24
Negotiation	3	5	16
Persuasion	8	8	10
Service Orientation	23	20	14
Social Perceptiveness	35	30	14
Systems Skills			
Judgment and Decision Making	20	13	54
Systems Analysis	3	3	6
Systems Evaluation	3	0	10
Technical Skills			
Equipment Maintenance	10	13	0
Equipment Selection	13	18	6
Installation	8	8	4
Operation and Control	10	10	2
Operation Monitoring	10	13	0
Operations Analysis	5	5	10
Programming	3	3	4
Quality Control Analysis	10	13	4
Repairing	3	5	0
Technology Design	5	5	8
Troubleshooting	8	8	12

Note: Rounding errors may be present.

Source: O*NET Online and Center for Business and Economic Research, The University of Alabama.

High-earning occupations require more critical thinking, complex problem solving, resource management, systems, negotiation, and persuasion skills than both high-demand and fast-growing jobs. These are skills that require long training periods and postsecondary education. However, high-earning jobs involve less technical skills. Fast-growing occupations need somewhat more complex problem solving and technical skills than high-demand occupations; but slightly less systems skills.

Table 8.16 shows skill gap indexes for all 35 skills in Table 8.14. Skills gap indexes range up to 100 and are standardized measures of the gap between current supply and projected demand. The index does not provide any information about current or base year skill supply. Its focus is on the projection period, which for Table 8.16 is 2006 to 2016, and identifies critical skill needs. The index essentially ranks expected training needs. The higher the index the more critical is the skill over the specified projection period.

For policy and planning purposes, skill gap indexes have to be considered together with replacement indexes, which are the expected shares of job openings due to replacement. Replacement is necessary because of turnover and people leaving the labor force. The smaller the replacement index, the larger the share of job openings due to growth, which in turn implies a need to increase the pace of skill training. Skill gap indexes point to the need to ramp up the scale of skill training while replacement indexes address the pace of training.

By skill type the skill gap indexes show that for Region 8 basic skills are most critical followed by social, complex problem solving, resource management, system, and technical skills. The importance of basic skills generally and for high-demand, high-growth, and high-earning jobs indicates a strong need for training in these skills. The pace of training needs to increase for technical, systems, and two basic (science and mathematics) skills. The scale of training should be raised for basic and social skills.

Education and Training Issues

Educational attainment in Region 8 is slightly below that of the state as a whole. Almost 73 percent of residents age 25 and over had graduated from high school in 2000, compared to 75.3 percent for Alabama. Of the age 25 and over population, 18.5 percent have a bachelor's or higher degree versus 19.0 percent for the state. Skill and education requirements for jobs keep rising. This highlights a strong need to raise educational attainment in the region.

Table 8.17 shows the number of selected occupations in the region for which a particular education/training category is most common. In general, high-earning occupations require high educational attainment levels; six of the high-earning occupations do not require a bachelor's or higher degree. Nineteen (48 percent) of the 40 high-demand occupations require an associate degree at the minimum and sixteen (40 percent) require a bachelor's or higher degree. Fourteen (35 percent) of the 40 fast-growing occupations require an associate degree at the minimum, with eleven (28 percent) requiring a bachelor's or higher degree.

The 2006 to 2016 occupational projections indicate that future jobs will require postsecondary education and training at a minimum. Job ads are increasingly requiring at least a high school

diploma or GED. Of the region's 714 occupations and occupational categories, 41 are expected to decline over the period and education and training for these should slow accordingly.

Table 8.16 Skills Gap Indexes (Base Year 2006 to Projected Year 2016)

Skill	Total Openings (Projected Demand)	Replacement Index	Skills Gap Index
Reading Comprehension	1,455	50	100
Active Listening	1,425	52	97
Critical Thinking	1,215	51	94
Speaking	1,125	52	91
Instructing	1,150	50	88
Active Learning	1,060	50	85
Coordination	1,045	51	82
Monitoring	1,040	52	79
Writing	980	51	76
Time Management	955	51	73
Learning Strategies	920	48	70
Social Perceptiveness	950	50	67
Persuasion	725	53	64
Service Orientation	680	53	61
Identification of Key Causes	665	50	58
Mathematics	595	46	55
Complex Problem Solving	615	50	52
Equipment Selection	495	48	50
Negotiation	360	57	47
Management of Personnel Resources	385	57	44
Troubleshooting	310	45	41
Quality Control	180	28	38
Equipment Maintenance	300	52	35
Management of Financial Resources	220	57	32
Installation	215	44	29
Science	110	45	26
Repairing	200	48	23
Operation Monitoring	255	49	20
Operations Analysis	115	43	17
Systems Evaluation	115	43	14
Management of Material Resources	115	61	11
Judgment and Decision Making	40	25	8
Technology Design	40	25	5
Operation and Control	175	49	2
Programming	10	0	0

Source: Alabama Department of Industrial Relations.

Table 8.17 Number of Selected Occupations by Education/Training Requirement

Most Common Education/Training Requirements Categories	Selected High-Demand Occupations	Selected Fast-Growing Occupations	Selected High-Earning Occupations
First Professional Degree	2	0	8
Doctoral Degree	0	2	2
Master's Degree	5	2	3
Work Experience Plus a Bachelor's or Higher Degree	3	1	14
Bachelor's Degree	6	6	17
Associate Degree	3	3	0
Postsecondary Vocational Training	0	1	0
Work Experience in a Related Occupation	1	1	5
Long-term On-the-job Training	3	3	0
Moderate-term On-the-job Training	13	15	1
Short-term On-the-job Training	4	6	0

Note: The last three education and training requirements categories are based on the length of time it generally takes an average worker to achieve proficiency for occupations in which postsecondary training is usually not needed for entry. **Long-term** requires more than 12 months on-the-job training that can include up to four years of apprenticeship, formal classroom instruction, and short-term employer-sponsored training. Trainees are generally considered to be employed in the occupation. **Moderate-term** requires one to 12 months on-the-job experience and informal training. **Short-term** requires up to one month on-the-job experience and training.

Source: O*NET Online; Center for Business and Economic Research, The University of Alabama; and Alabama Department of Industrial Relations.

Implications and Recommendations

From a 2006 base, worker surpluses of 6,889 and 2,252 are estimated by 2016 and 2025, respectively (Table 8.18). Worker surpluses may be somewhat overstated because of BRAC-related troop increases and job opportunities at nearby Fort Benning in Georgia is partially responsible for expected population gains. A focus on worker skills must be of high priority through 2025. Worker shortfalls for critical occupations will need to be addressed as well.

Table 8.18 Expected Worker Shortfall

	2006-2016	2006-2025
Total population growth (percent)	11.9	21.8
Age 20-64 population growth (percent)	12.6	18.3
Job growth (percent)	5.1	15.8
Worker shortfall (percent)	-7.5	-2.4
Worker shortfall (number)	-6,889	-2,252

Source: Center for Business and Economic Research, The University of Alabama.

Employment is critical to economic development and so strategies to address worker skill needs and potential shortfalls for critical occupations must be adopted and implemented. Such strategies should aim at increasing labor force participation and raising worker productivity and might include: (1) improvements in education and its funding; (2) continuation and enhancement of programs to assess, retrain, and place dislocated workers; (3) focus on hard-to-serve populations (e.g. out-of-school youth); (4) lowering the high school dropout rate; (5) use of economic opportunities to attract new residents; (6) facilitation of in-commuting; and (7) encouragement of older worker participation in the labor force.

Improving education is vital because a highly educated and productive workforce is a critical economic development asset. The educational and training requirements of high-demand, fast-growing, and high-earning occupations show the significance of education in developing the workforce of the future. The importance of basic skills generally and for high-demand, high-growth, and high-earning jobs demonstrates a strong need for training in these skills. In Region 8 the pace of training needs to increase for technical, systems, and two basic (science and mathematics) skills while the scale of training is raised for basic and social skills. Ideally, all high school graduates should possess basic skills so that postsecondary and higher education can focus on other and more complex skills while enhancing these basic skills. Employers should be an integral part of planning for training as they can help identify future skill needs and any existing gaps. Education and training for the 18 sharp-declining occupations in Table 8.13 should slow accordingly.

Another very important reason to improve education is that more educated people are more likely to work; data on worker participation and educational attainment show that labor force participation increases with worker education. Productivity also rises with education, which yields high private and social returns. Workforce development must view all of the education and other programs (e.g. adult education, career technical training, worker retraining, career readiness, etc.) as one system. Funding to support workforce development may require tax reform at state and local levels and must provide for flexibility as workforce needs change over time and demand different priorities.

Programs to assess, retrain, and place dislocated workers—especially those affected by outsourcing and structural changes in the economy—should be continued and enhanced because they can improve the labor force participation rate. Hard-to-serve populations include out-of-school youth, persons in poverty, those receiving welfare, residents of sparsely populated areas, and those on active parole. These populations are often outside of the mainstream economy and are poor. They usually have difficulty finding work because they have low levels of educational attainment, lack occupational skills, or face geographic or other barriers. They are a potential human resource, but investment in training, transportation, child care, infrastructure, etc. may be needed to tap this resource.

In-migration is one way of growing the labor force as it helps population growth. The region's moderate population growth rate may still hinder its ability to meet long term job demand barring future economic slowdowns. Growing employment demand could be served somewhat with in-commuting or a reduction in out-commuting. However, new residents can be attracted using higher-paying job opportunities from the region's economic development successes. Investment in amenities and infrastructure may be needed to support such growth. In-migration is generally more beneficial than in-commuting since it grows the economy faster and adds to the tax base.

Policies that facilitate and encourage older worker participation are needed as older workers can help meet the region's workforce challenge. Such policies could be related to income taxation, job flexibility, and retirement programs. As the share of older people in the population is projected to increase (see Table 8.5), it becomes even more important that they be active in the workforce. Older worker participation has been rising nationally since the early 1990s. This has been attributed to reasons including:

- Older workers can work longer because they are healthier
- The number of physically demanding jobs is falling
- Defined contribution plans are replacing pensions
- There are fewer employer-paid retiree health insurance programs
- Social security reforms affecting those born after 1938 (i) gradually raise the normal retirement age from 65 to 67, (ii) increase the rate at which monthly payments rise with delayed benefits, and (iii) eliminate the reduction in benefits for those working beyond the full retirement age.

Diversifying the region's economy will strengthen it. This demands that economic development also focus on retaining, expanding, and attracting businesses that provide more high-earning jobs. Current workers—including the underemployed—would welcome higher-earning opportunities. An economic development focus on diversification would require that workforce development pay attention to postsecondary and higher educational systems to ensure a ready and available workforce for new and expanding businesses. The higher incomes earned by graduates of these institutions will help raise personal income for the region and provide additional local (county and city) tax revenue. Raising personal income by improving educational attainment and technological skills is an effective economic development strategy, even for a region that has above average population and labor force growth rates. Together, workforce development and economic development can build a strong, well-diversified economy. Indeed, one cannot achieve success without the other.