

State of the Workforce Report VII: Region 8

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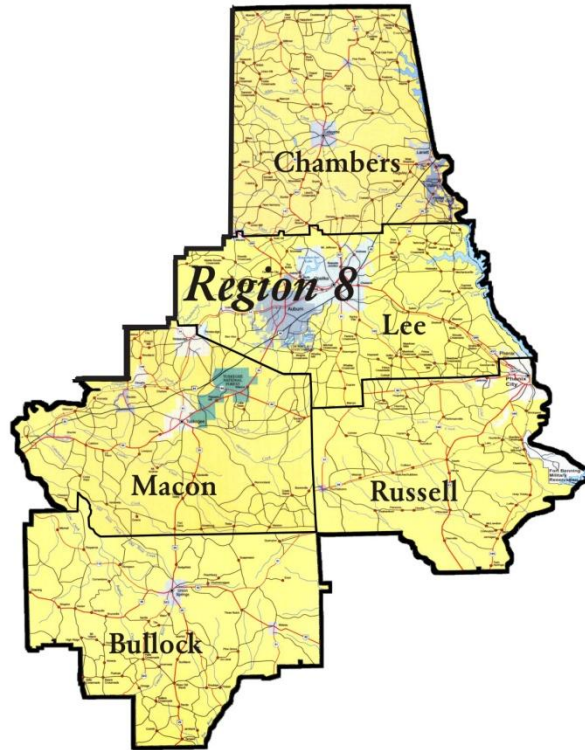


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THE UNIVERSITY OF ALABAMA

State of the Workforce Report VII: Region 8



March 2013

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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 some implications and recommendations.
- Region 8 had a 7.0 percent unemployment rate in December 2012, with 8,199 unemployed. An underemployment rate of 25.8 percent for 2012 means that the region has 36,130-strong available labor pool that includes 27,931 underemployed workers who are looking for better jobs and are willing to commute farther and longer for such jobs.
- More job opportunities in the surrounding regions and Georgia increased net out-commuting from 8,673 in 2005 to 10,452 in 2010. Despite the increased commuting in the region, commute times and distances were down in 2012 implying that congestion eased. Congestion is likely to be problematic as the region recovers from the recent recession. This implies that continuous maintenance and development of transportation infrastructure and systems is important.
- By sector the top five employers in the region are educational services; manufacturing; retail trade; health care and social assistance; and accommodation and food services. These five industries provided 52,392 jobs, 68.1 percent of the regional total in the first quarter of 2012. Three of the leading employers paid higher wages than the region's \$2,785 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 3,917 jobs were created per quarter from second quarter 2001 to first quarter 2012 and quarterly net job flows averaged 437. 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 Secretaries, Except Legal, Medical, and Executive; Nursing Aides, Orderlies, and Attendants; Licensed Practical and Licensed Vocational Nurses; Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products; and Accountants and Auditors.
- The top five fast-growing occupations are Aircraft Structure, Surfaces, Rigging, and Systems Assemblers; Aircraft Mechanics and Service Technicians; Chemical Equipment Operators and Tenders; Biological Technicians; and Personal and Home Care Aides.
- The top 50 high-earning occupations are mainly in management, health, engineering, computer, postsecondary education, and legal fields and have a minimum salary of \$72,197. Four of the top 10 are management occupations, three are in postsecondary education and two are in health.
- Of the top 40 high-demand, the top 20 fast-growing, and 50 high-earning occupations, two belong to all three categories. Three jobs are both high-demand and fast-growing. Nine occupations are in high-demand and high-earning.

- Of the region's 597 occupations, 19 are expected to decline over the 2010 to 2020 period by at least five percent. Education and training for these 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 2010 base, worker shortfalls of 7,831 and 17,672 are expected for 2020 and 2030, respectively. This will demand a focus on both worker skills and the expected shortfall through 2030. Worker shortfalls in critical occupations will also 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 and younger 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.
- Both workforce development and economic development are very crucial in building a strong and well-diversified regional 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 2012 and December 2012.¹

Table 8.1 Region 8 Labor Force Information

	2012 Annual Average			
	Labor Force	Employed	Unemployed	Rate (%)
Bullock	3,669	3,147	522	14.2
Chambers	14,641	13,204	1,437	9.8
Lee	66,373	61,971	4,402	6.6
Macon	8,456	7,578	878	10.4
Russell	23,024	20,810	2,214	9.6
Region 8	116,163	106,710	9,453	8.1
Alabama	2,152,933	1,987,181	165,752	7.7
United States	154,975,000	142,469,000	12,506,000	8.1
	December 2012			
	Labor Force	Employed	Unemployed	Rate (%)
Bullock	3,559	3,093	466	13.1
Chambers	14,559	13,411	1,148	7.9
Lee	67,099	63,259	3,840	5.7
Macon	8,419	7,690	729	8.7
Russell	23,033	21,017	2,016	8.8
Region 8	116,669	108,470	8,199	7.0
Alabama	2,154,744	2,013,847	140,897	6.5
United States	154,904,000	143,060,000	11,844,000	7.6

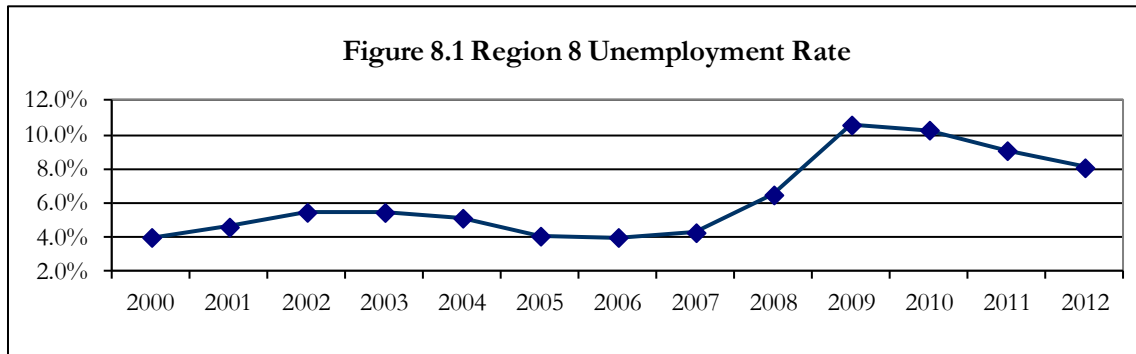
Source: Alabama Department of Labor and U.S. Bureau of Labor Statistics.

The recession that began in December 2007 increased the number of unemployed people and sharply raised county unemployment rates. The economic recovery from the recession has been slow. County unemployment rates have dropped from a range of 6.6 percent to 14.2 percent for 2012 (8.1 percent for the region) to between 5.7 percent and 13.1 percent in December 2012 (7.0 percent for the region). Unemployment was lowest in Lee County, which was the only county with a lower rate than the state's 6.5 percent. Bullock County, which saw continued job losses in textile manufacturing, had the highest unemployment rate.

Annual unemployment rates for 2000 to 2012 are shown in Figure 8.1. The region's unemployment rates were low before the most recent recession, which raised the region's unemployment rate to double digit levels in 2009 and 2010. As the economy recovers, the unemployment rate is declining, albeit at a slow pace. By 2012 the region's unemployment rate was down to 8.1 percent and is

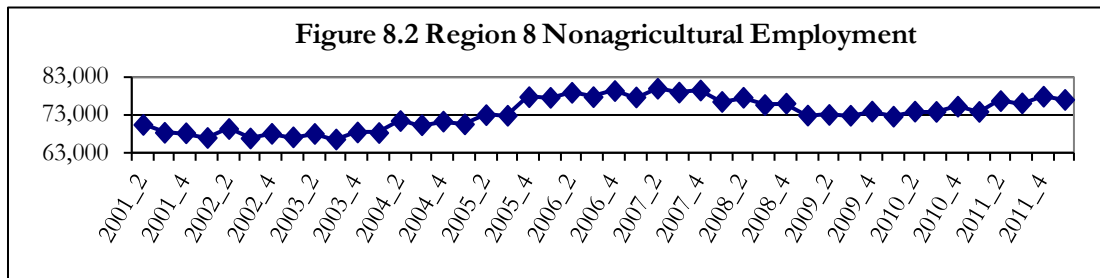
¹ Alabama labor force information is available from the Labor Market Information (LMI) Division of the Alabama Department of Labor. LMI compiles data in cooperation with the U.S. Bureau of Labor Statistics.

expected to continue to dropping. Year-to-date monthly labor force data point to a lower, but still high regional unemployment rate for 2013 than seen in 2012 however, the recession is expected to keep unemployment high for a few more years.



Source: Alabama Department of Labor.

Nonagricultural employment of the region’s residents averaged 73,278 quarterly from the second quarter of 2001 to the first quarter of 2012 (Figure 8.2). The number of jobs reached its highest levels in 2007, but the recent recession caused employment levels to drop. After the drop, the number of jobs leveled out from the first quarter of 2009 to the third quarter of 2010, but has since started trending upwards at a slow pace.



Source: Alabama Department of Labor and U.S. Census Bureau.

Table 8.2 shows worker distribution by age in Region 8 for the first quarter of 2012. The region’s workforce is younger than the state’s. Older workers, age 55 and over, are 17.9 percent of the region’s nonagricultural employment compared to 19.7 percent for Alabama. Those who are age 65 and over constitute 4.0 percent of nonagricultural employment versus 4.4 percent for the state. Even so, labor force participation of younger residents must increase to meet long term occupational projections for growth and replacement otherwise older workers may have to work longer.

Table 8.2 Workers by Age Group (First Quarter 2012)

Age Group	Nonagricultural Employment	
	Number	Percent
14-18	2,168	2.8
19-24	12,485	16.2
25-34	16,728	21.8
35-44	15,950	20.7
45-54	15,804	20.6
55-64	10,676	13.9
65+	3,064	4.0
45 and over total	13,740	17.9
Total all ages	76,875	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 2005 more residents commuted out of the region for work than nonresidents who commuted in; the number of in- and out-commuters was 51,725 and net out-commuters were 8,673 (Table 8.3). In 2006 more people (51,654) were commuting but net outflow shrunk to 4,280 as economic development successes yielded more jobs in the region. The most recent recession lowered regional employment causing commuter inflow to drop and outflow to rise significantly in 2009. Consequently, net outflow rose to 14,385 before declining to 10,452 in 2010. Lee County has the largest share of commuters and Bullock has the smallest. Table 8.3 also shows that commute times and distances are up in 2012 from 2011 for residents, implying that congestion eased. However, congestion is likely to be a major issue as the regional economy recovers and the military BRAC program in nearby Fort Benning in Georgia progresses. Regional transportation infrastructure and systems must be maintained and developed to ensure a smooth flow of goods and movement of workers. Impeding the mobility of workers and goods can delay or slow economic recovery.

Population

The Region 8 population count of 259,775 for 2010 is 9.5 percent more than was recorded in 2000 (Table 8.4). The region's population grew faster in this decade than Alabama's 7.5 percent growth rate. Population grew in two counties but shrank in the other three. Population growth was fastest in Lee County, which also added the most residents. Bullock, Chambers, and Macon counties lost population during the decade.

Table 8.5 shows Region 8's population counts, estimates, and projections by age group. The population aged 65 and over is expected to grow rapidly, with the first of the baby boom generation having turned 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 2030. 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 8.3 Commuting Patterns

Year	Region 8 Inflow		Region 8 Outflow				
	Number		Number				
2005	21,526		30,199				
2006	23,687		27,967				
2007	24,749		35,483				
2008	25,770		35,394				
2009	23,524		37,909				
2010	26,564		37,016				
Region 8 Counties	Inflow, 2010		Outflow, 2010				
	Number	Percent	Number	Percent			
Bullock	1,636	4.4	2,459	5.2			
Chambers	3,289	8.8	9,569	20.1			
Lee	21,612	58.0	16,566	34.7			
Macon	3,061	8.2	5,635	11.8			
Russell	7,661	20.6	13,482	28.3			
	Percent of workers						
Average commute time (one-way)	2004	2005/2006	2008	2009	2010	2011	2012
Less than 20 minutes	55.5	55.8	52.9	54.5	54.0	55.5	56.0
20 to 40 minutes	31.9	34.9	30.4	27.8	29.2	30.0	32.6
40 minutes to an hour	9.2	5.1	9.7	14.6	13.3	12.2	6.9
More than an hour	2.0	0.3	4.1	0.7	1.3	0.7	1.2
Average commute distance (one-way)	2004	2005/2006	2008	2009	2010	2011	2012
Less than 10 miles	43.1	46.2	44.6	46.1	45.8	42.6	42.3
10 to 25 miles	32.5	34.6	32.5	33.7	31.5	38.6	40.2
25 to 45 miles	16.4	12.2	14.7	13.8	15.6	13.8	11.4
More than 45 miles	4.6	2.6	5.8	5.0	5.5	4.7	5.2

Note: Rounding errors may be present.

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

Table 8.4 Region 8 Population

	1990 Census	2000 Census	2010 Census	Change 2000-2010	% Change 2000-2010
Bullock	11,042	11,714	10,914	-800	-6.8
Chambers	36,876	36,583	34,215	-2,368	-6.5
Lee	87,146	115,092	140,247	25,155	21.9
Macon	24,928	24,105	21,452	-2,653	-11.0
Russell	46,860	49,756	52,947	3,191	6.4
Region 8	206,852	237,250	259,775	22,525	9.5
Alabama	4,040,587	4,447,100	4,779,736	332,636	7.5
United States	248,709,873	281,421,906	308,745,538	27,323,632	9.7

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

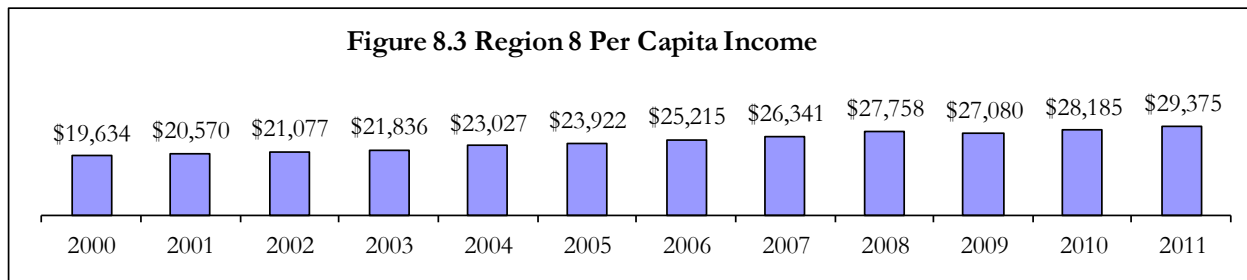
Table 8.5 Population by Age Group and Projections

Age Group	2000	2010	2020	2030
0-19	69,621	71,330	74,555	77,227
20-24	27,638	29,842	30,768	32,412
25-29	17,086	18,509	19,303	19,335
30-34	15,353	15,731	17,781	18,955
35-39	16,528	15,982	17,616	18,574
40-44	16,496	15,923	15,831	17,988
45-49	15,093	17,152	16,512	18,173
50-54	13,491	17,070	16,436	16,292
55-59	10,582	15,248	17,504	16,820
60-64	8,646	13,346	16,967	16,346
65+	26,716	29,642	41,294	54,498
20-64 Total	140,913	158,803	168,718	174,895
Total Population	237,250	259,775	284,567	306,620
Change from 2010				
0-19			4.5%	8.3%
20-64			6.2%	10.1%
Total Population			9.5%	18.0%

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 \$29,375 in 2011 (Figure 8.3), up 50 percent from 2000, but \$5,505 or 16 percent below the state average of \$34,880. Russell County had the highest PCI with \$31,920 and Bullock had the lowest with \$23,188.



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

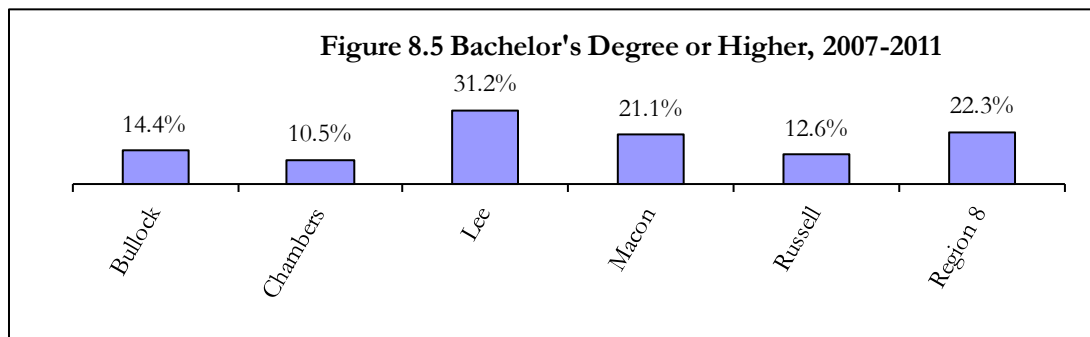
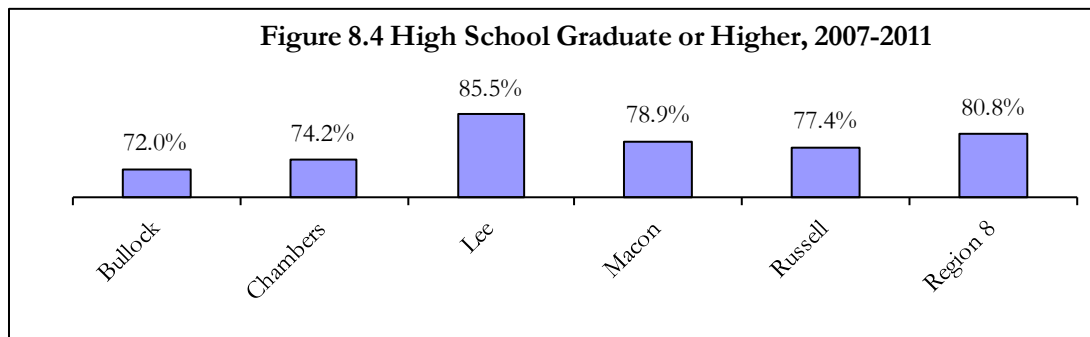
Educational Attainment

Educational attainment in 2007 to 2011 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 81 percent graduated from high school and 22 percent held a bachelor’s or higher degree. Lee County has higher educational attainment than the other four counties. Bullock County has the smallest percent of population with a high school diploma or higher and Chambers had the smallest with bachelor’s degree or higher. 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 of Population 25 Years and Over, 2007-2011

	Bullock	Chambers	Lee	Macon	Russell	Region 8
Total	7,537	23,740	77,424	12,918	34,126	155,745
No schooling completed	398	355	655	227	420	2,055
Nursery to 4th grade	112	291	440	120	254	1,217
5th and 6th grade	171	430	881	225	658	2,365
7th and 8th grade	245	830	1,404	360	1,238	4,077
9th grade	168	1,015	1,876	252	886	4,197
10th grade	484	1,380	2,280	471	1,649	6,264
11th grade	503	1,176	2,429	567	1,876	6,551
12th grade, no diploma	29	642	1,280	509	720	3,180
High school graduate/equivalent	2,614	8,634	20,886	3,736	11,460	47,330
Some college, less than 1 year	253	1,668	4,341	562	2,542	9,366
Some college, 1 + years, no degree	1,086	3,175	11,152	2,259	5,412	23,084
Associate degree	390	1,642	5,665	906	2,696	11,299
Bachelor's degree	655	1,593	13,795	1,433	3,054	20,530
Master's degree	328	690	6,385	915	1,011	9,329
Professional school degree	101	152	1,386	120	169	1,928
Doctorate degree	0	67	2,569	256	81	2,973

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



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 labor pool 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 25.8 percent in 2012. Applying this rate to December 2012 labor force data means that 27,931 employed residents were underemployed (Table 8.7). Adding the unemployed gives a total available labor pool of 36,130 for the region. This is 4.4 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 22.6 percent for Lee County to 34.6 percent for Macon. Bullock County had the smallest available labor pool and Lee had the largest. The underemployed are willing to commute farther and longer for a better job. For the one-way commute, 37.4 percent are prepared for 20 or more minutes longer and 28.9 percent will go 20 or more extra miles.

Table 8.7 Underemployed and Available Labor by County

	Region 8	Bullock	Chambers	Lee	Macon	Russell
Labor Force	116,669	3,559	14,559	67,099	8,419	23,033
Employed	108,470	3,093	13,411	63,259	7,690	21,017
Underemployment rate	25.8%	26.9%	25.0%	22.6%	34.6%	23.7%
Underemployed workers	27,931	833	3,353	14,303	2,662	4,987
Unemployed	8,199	466	1,148	3,840	729	2,016
Available labor pool	36,130	1,299	4,501	18,143	3,391	7,003

Note: Rounding errors may be present. Based on December 2012 labor force data and 2012 underemployment rates.
Source: Center for Business and Economic Research, The University of Alabama and Alabama Department of Labor.

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 849 complete responses were obtained from Region 8. About 39 percent (334 respondents) were employed, of whom 86 stated that they were underemployed. A lack of job opportunities in their area, low wages at available jobs, owning a house in their area, living too far from jobs, other family or personal obligations, and child care responsibilities 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 many also cite a lack of job opportunities in their area and social security limitations 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 fewer of the part-timers would like to work full-time.
- More hold multiple jobs.
- They have shorter commute times and distances.
- More are community and social services workers; entertainers, sports, and media people; healthcare support and technical workers, protective service workers; food preparers and servers; building and compound cleaners and maintenance workers; personal care providers; salespersons; office and administrative support; farming and forestry workers.
- More work in utilities; construction; retail trade; administrative and support and waste management and remediation services; educational services; and arts, entertainment, and recreation industries.
- They have shorter job tenure and 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 times and distances for a better job.
- Fewer are satisfied with their current jobs and more have sought better jobs in the preceding quarter.
- More are willing to train for a better job even if they have to pay all of the cost.
- They are less educated.
- Fewer are males and more are African-Americans.

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 (74.9 percent) are satisfied or completely satisfied with their jobs. Workers are most satisfied with their work shift and least satisfied with the earnings they receive. Fewer underemployed workers are satisfied with their jobs (59.3 percent). The underemployed are also most satisfied with their work shift, but are much more dissatisfied with their earnings.

Workers are generally willing to train for a new or better job, with the underemployed being more willing (66.3 percent vs. 59.7 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 2012 Job Satisfaction and Willingness to Train (Percent)

		Job Satisfaction				
		Completely Dissatisfied	Dissatisfied	Neutral	Satisfied	Completely Satisfied
Employed						
Overall		4.8	6.0	14.4	25.2	49.7
	Earnings	14.4	10.8	21.6	24.3	28.7
	Retention	5.7	5.1	13.5	18.6	56.0
	Work	2.7	3.6	10.8	22.8	60.2
	Hours	6.0	3.9	12.6	22.5	55.1
	Shift	4.2	2.1	8.4	15.9	69.5
	Conditions	5.4	3.6	15.6	23.4	52.1
	Commuting Distance	4.2	6.6	8.4	15.3	65.6
Underemployed						
Overall		8.1	11.6	20.9	25.6	33.7
	Earnings	30.2	16.3	22.1	17.4	14.0
	Retention	12.8	7.0	18.6	18.6	39.5
	Work	4.7	2.3	19.8	15.1	58.1
	Hours	11.6	9.3	17.4	19.8	41.9
	Shift	8.1	3.5	7.0	16.3	65.1
	Conditions	8.1	4.7	14.0	30.2	43.0
	Commuting Distance	5.8	7.0	9.3	14.0	64.0
		Willingness to Train				
		Completely Unwilling	Unwilling	Neutral	Willing	Completely Willing
Employed						
For a new or better job		22.3	4.3	10.4	13.0	46.8
	If paid by trainee	43.5	16.2	24.1	5.1	8.3
	If paid by trainee and government	18.1	9.3	31.0	18.1	20.8
	If paid by government	5.1	2.3	8.3	13.9	69.4
Underemployed						
For a new or better job		18.1	2.4	10.8	15.7	50.6
	If paid by trainee	33.8	22.1	25.0	5.9	10.3
	If paid by trainee and government	14.7	10.3	22.1	23.5	26.5
	If paid by government	1.5	1.5	4.4	11.8	79.4

Note: Rounding errors may be present.

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

Workforce Demand

Industry Mix

The educational services sector was the leading employer with 12,801 jobs in the first quarter of 2012 (Table 8.9). Rounding out the top five industries by employment are manufacturing; retail trade; health care and social assistance; and accommodation and food services. These five industries provided 52,392 jobs, 68.2 percent of the regional total. The average monthly wage across all industries in the region was \$2,785; three leading employers paid more than this average but were not the highest paying sectors. New hire monthly earnings averaged \$1,554, roughly 56 percent of the region's average monthly wage. The highest average monthly wages were for mining \$4,949, utilities at \$4,666, and professional, scientific, and technical services \$3,829. Accommodation and food services paid the least at \$1,228. Mining also had the highest average monthly new hire wages with \$4,097, followed by professional, scientific, and technical services at \$2,702, and information at \$2,685. Arts, entertainment, and recreation paid newly hired workers the least, \$844.

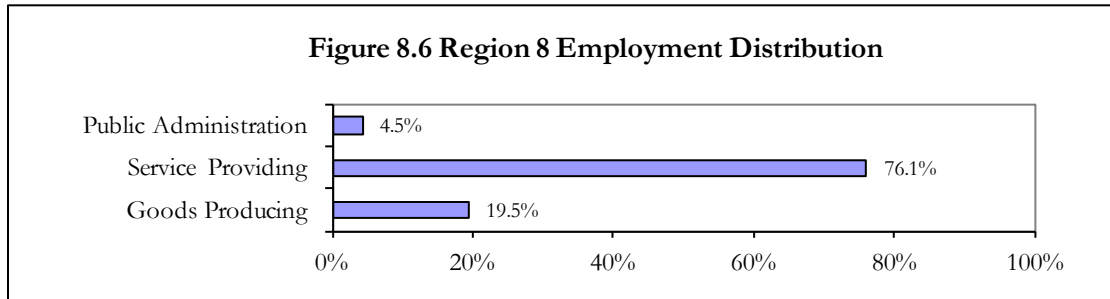
Table 8.9 Industry Mix (First Quarter 2012)

Industry by 2-digit NAICS Code	Total Employment	Share	Rank	Average Monthly Wage	Average Monthly New Hire Earnings
11 Agriculture, Forestry, Fishing and Hunting	869	1.13%	15	\$3,055	\$2,228
21 Mining	196	0.25%	20	\$4,949	\$4,097
22 Utilities	536	0.70%	18	\$4,666	\$2,680
23 Construction	2,679	3.48%	9	\$3,231	\$2,514
31-33 Manufacturing	11,223	14.60%	2	\$3,603	\$2,376
42 Wholesale Trade	1,248	1.62%	13	\$3,806	\$2,127
44-45 Retail Trade	10,666	13.87%	3	\$1,979	\$1,098
48-49 Transportation and Warehousing	2,752	3.58%	8	\$2,712	\$1,610
51 Information	807	1.05%	16	\$3,318	\$2,685
52 Finance and Insurance	1,542	2.01%	11	\$3,578	\$2,485
53 Real Estate and Rental and Leasing	1,079	1.40%	14	\$2,701	\$2,042
54 Professional, Scientific, and Technical Services	1,764	2.29%	10	\$3,829	\$2,702
55 Management of Companies and Enterprises	409	0.53%	19	\$3,304	\$1,988
56 Administrative and Support and Waste Management and Remediation Services	5,086	6.62%	6	\$1,901	\$1,406
61 Educational Services	12,801	16.65%	1	\$3,277	\$1,163
62 Health Care and Social Assistance	9,014	11.73%	4	\$2,878	\$1,822
71 Arts, Entertainment, and Recreation	635	0.83%	17	\$1,800	\$844
72 Accommodation and Food Services	8,688	11.30%	5	\$1,228	\$907
81 Other Services (Except Public Administration)	1,441	1.87%	12	\$2,182	\$1,537
92 Public Administration	3,442	4.48%	7	\$2,855	\$2,321
ALL INDUSTRIES	76,876	100.00%		\$2,785	\$1,554

Source: Alabama Department of Labor and U.S. Census Bureau.

By broad industry classification, service providing industries generated 76.1 percent of jobs in first quarter 2012 (Figure 8.6). Goods producing industries were next with 19.5 percent and public

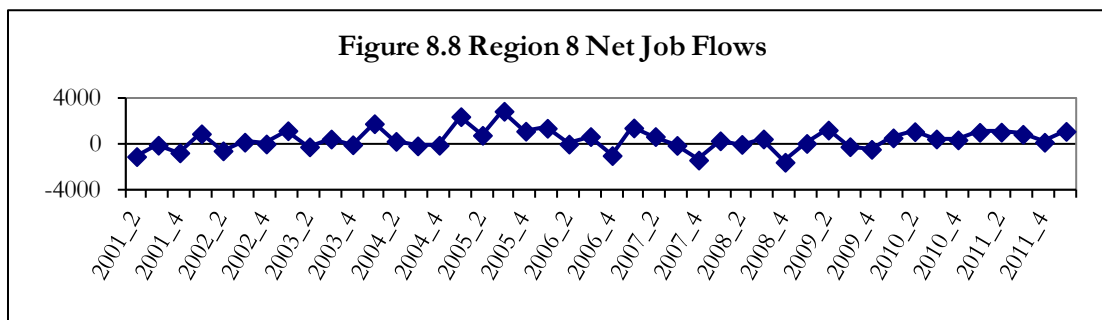
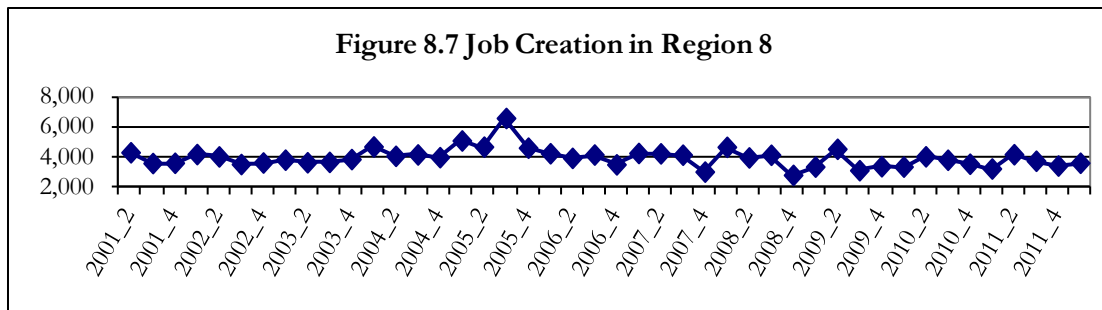
administration accounted for 4.7 percent. The distribution is for all nonagricultural jobs in the region, but there is significant variation by county.



Source: Alabama Department of Labor and U.S. Census Bureau.

Job Creation and Net Job Flows

On average, 3,916 jobs were created per quarter from second quarter 2001 to first quarter 2012 (Figure 8.7). Quarterly net job flows averaged 437 in the same period and generally followed the job creation pattern (Figure 8.8). Both job creation and net job flows have fluctuated since fourth quarter of 2007. Since the first quarter of 2010, net job flow gains have remained positive. Since the first quarter of 2001, quarterly net job flows have ranged from a loss of 1,540 to a gain of 2,939. 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 Labor and U.S. Census Bureau.

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

Workforce Development Region 8 has a total of 597 single occupations based on 2010 to 2020 occupational projections. Table 8.10 shows the 40 occupations that are expected to be in high-demand, ranked by projected average annual job openings over the projection period. Many of these occupations are common to two of the five largest employment sectors identified earlier (Table 8.9): manufacturing and health care and social assistance. Thus, these sectors will continue to dominate employment in the region.

The top five high-demand occupations are Secretaries, Except Legal, Medical, and Executive; Nursing Aides, Orderlies, and Attendants; Licensed Practical and Licensed Vocational Nurses; Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products; and Accountants and Auditors. Three of the high-demand occupations are also fast-growing. This means that these three occupations have a minimum annual growth rate of 4.14 percent, much faster than the regional and state occupational growth rates of 1.66 percent and 1.30 percent, respectively.

The 20 fastest growing occupations ranked by projected growth of employment are listed in Table 8.11. The top five fast-growing occupations are Aircraft Structure, Surfaces, Rigging, and Systems Assemblers; Aircraft Mechanics and Service Technicians; Chemical Equipment Operators and Tenders; Biological Technicians; and Personal and Home Care Aides.

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 science fields. Of the top 10 high-earning occupations, four are in management, three are in postsecondary education, and two 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. Nine occupations are both high-earning and in high-demand (Table 8.10). The following two occupations are in high-demand, fast-growing, and high-earning:

1. Occupational Therapists
2. Physical Therapists

Of the region's 597 occupations, 19 are expected to decline over the 2010 to 2020 period. Employment in these occupations will fall by at least five percent 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 2010 and Projected Year 2020)

Occupation	Average Annual Job Openings		
	Total	Due to Growth	Due to Separations
Secretaries, Except Legal, Medical, and Executive	45	20	25
Nursing Aides, Orderlies, and Attendants	40	25	15
Licensed Practical and Licensed Vocational Nurses	25	15	15
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	25	10	15
Accountants and Auditors	20	10	10
Automotive Service Technicians and Mechanics	20	10	10
Teacher Assistants	20	10	15
Medical Assistants	15	10	5
Child, Family, and School Social Workers	10	5	5
Computer Programmers	10	5	5
Education Administrators, Postsecondary	10	5	5
Electrical Power-Line Installers and Repairers	10	0	5
Kindergarten Teachers, Except Special Education	10	5	5
Pharmacists	10	5	5
Shipping, Receiving, and Traffic Clerks	10	0	5
Assemblers and Fabricators, All Other	5	0	0
Cardiovascular Technologists and Technicians	5	0	0
Chemical Technicians	5	0	0
Computer and Information Systems Managers	5	0	0
Computer Systems Analysts	5	5	0
Cost Estimators	5	5	0
Diagnostic Medical Sonographers	5	0	0
Emergency Medical Technicians and Paramedics	5	5	0
Fitness Trainers and Aerobics Instructors	5	5	0
Helpers--Electricians	5	5	5
Industrial Production Managers	5	5	5
Logisticians*	5	5	0
Machinists	5	0	0
Management Analysts	5	5	0
Mechanical Engineers	5	0	0
Medical and Health Services Managers	5	5	0
Medical Records and Health Information Technicians	5	5	0
Network and computer systems architects and administrators	5	5	0
Occupational Therapists*	5	5	0
Physical Therapists*	5	5	0
Probation Officers and Correctional Treatment Specialists	5	0	0
Purchasing Agents, Except Wholesale, Retail, and Farm Products	5	5	5
Rehabilitation Counselors	5	0	0
Social and Community Service Managers	5	0	0
Training and Development 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 Labor and Center for Business and Economic Research, The University of Alabama.

Table 8.11 Selected Fast-Growing Occupations (Base Year 2010 and Projected Year 2020)

Occupation	Employment		Percent Change	Annual Growth (Percent)	Average Annual Job Openings
	2010	2020			
Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	NA	NA	+	+	5
Aircraft Mechanics and Service Technicians	NA	NA	300	14.87	5
Chemical Equipment Operators and Tenders	30	70	133	8.84	5
Biological Technicians	30	60	100	7.18	5
Personal and Home Care Aides	NA	NA	88	6.49	15
Home Health Aides	420	760	81	6.11	40
Logisticians*	50	90	80	6.05	5
Chemists	40	70	75	5.76	5
Occupational Therapists*	40	70	75	5.76	5
Funeral service managers, directors, morticians, and undertakers	40	70	75	5.76	5
Software Developers, Systems Software	30	50	67	5.24	0
Medical Secretaries	120	200	67	5.24	10
Chemical Plant and System Operators	NA	NA	67	5.24	5
Mental Health Counselors	50	80	60	4.81	5
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	NA	NA	57	4.62	5
Medical and Public Health Social Workers	90	140	56	4.52	5
Physical Therapists*	60	90	50	4.14	5
Dental Assistants	120	180	50	4.14	10
Helpers--Carpenters	NA	NA	50	4.14	5
Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters	NA	NA	50	4.14	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. + - Not available due to disclosure restrictions.

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

Table 8.12 Selected High-Earning Occupations (Base Year 2010 and Projected Year 2020)

Occupation	Employment		Annual Growth (Percent)	Average Annual Job Openings	Mean Annual Salary (\$)
	2010	2020			
Physicians and Surgeons, All Other	110	150	3.15	5	246,068
Economists	10	10	0.00	0	135,672
Education Administrators, Postsecondary*	190	220	1.48	10	135,243
Business Teachers, Postsecondary	120	150	2.26	5	126,737
Pharmacists*	220	290	2.80	10	116,501
Engineering Teachers, Postsecondary	220	260	1.68	10	105,268
General and Operations Managers	1090	1270	1.54	40	103,134
Chief Executives	150	170	1.26	5	103,026
Public Relations Managers	50	60	1.84	0	101,209
Financial Managers	130	140	0.74	5	101,082
Writers and Authors	40	40	0.00	0	101,017
Computer and Information Systems Managers*	60	80	2.92	5	99,493
Engineering Managers	30	40	2.92	0	98,380
Economics Teachers, Postsecondary	20	20	0.00	0	95,781
Industrial Production Managers*	130	170	2.72	5	93,181
Aerospace Engineers	10	20	7.18	0	92,115
Managers, All Other	390	410	0.50	10	90,587
Environmental Engineers	NA	NA	0.00	0	89,725
Market Research Analysts and Marketing Specialists	30	40	2.92	0	89,431
Coaches and Scouts	140	180	2.54	10	88,440
Computer Science Teachers, Postsecondary	110	140	2.44	5	88,140
Human Resources Managers	30	40	2.92	0	87,361
Construction Managers	250	280	1.14	5	86,633
Administrative Services Managers	30	30	0.00	0	86,356
Industrial Engineers	150	170	1.26	5	85,964
Physical Therapists*	60	90	4.14	5	84,908
Medical and Health Services Managers*	90	120	2.92	5	84,668
Physics Teachers, Postsecondary	40	50	2.26	0	84,465
Mathematical Science Teachers, Postsecondary	130	150	1.44	5	84,155
Psychology Teachers, Postsecondary	NA	NA	2.54	0	83,963
Chemical Engineers	10	20	7.18	0	83,868
Biological Science Teachers, Postsecondary	90	110	2.03	5	82,084
Transportation, Storage, and Distribution Managers	30	40	2.92	0	81,561
Sales Managers	80	90	1.18	5	80,432
Architects, Except Landscape and Naval	30	40	2.92	0	80,427
Physician Assistants	NA	NA	2.92	0	79,873
Education Administrators, Elementary and Secondary School	180	200	1.06	5	79,711
Conservation Scientists	10	20	7.18	0	78,182
Chemistry Teachers, Postsecondary	50	60	1.84	0	77,472
Purchasing Managers	30	30	0.00	0	77,422
Political Science Teachers, Postsecondary	30	30	0.00	0	76,970
Property, Real Estate, and Community Association Managers	120	120	0.00	0	76,203
Computer Programmers*	120	160	2.92	10	74,868
Soil and Plant Scientists	40	40	0.00	0	74,761
Management Analysts*	140	190	3.10	5	74,544
Occupational Therapists*	40	70	5.76	5	73,688
Electrical Engineers	30	30	0.00	0	73,296
Clinical, Counseling, and School Psychologists	30	40	2.92	0	72,998
Speech-Language Pathologists	40	50	2.26	0	72,493
Sociology Teachers, Postsecondary	30	40	2.92	0	72,197

Note: Employment data are rounded to the nearest 10; openings to the nearest 5. The salary data provided are based on the May 2012 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 Labor.

Table 8.13 Selected Sharp-Declining Occupations (Base Year 2010 and Projected Year 2020)

Occupation	Employment		Net Change	Percent Change
	2010	2020		
Extruding and Forming Machine Setters, Operators, and Tenders, Synthetic and Glass Fibers	NA	NA	*	-38
Postal Service Mail Carriers	230	210	-20	-9
Food Service Managers	200	190	-10	-5
Mixing and Blending Machine Setters, Operators, and Tenders	150	140	-10	-7
Sewing Machine Operators	90	80	-10	-11
Financial Specialists, All Other	NA	NA	*	-17
Computer Operators	60	50	-10	-17
Switchboard Operators, Including Answering Service	50	40	-10	-20
Cutting and Slicing Machine Setters, Operators, and Tenders	NA	NA	*	-20
Photographic Process Workers and Processing Machine Operators	NA	NA	*	-20
Door-To-Door Sales Workers, News and Street Vendors, and Related Workers	40	30	-10	-25
Textile Knitting and Weaving Machine Setters, Operators, and Tenders	NA	NA	*	-25
Postal Service Clerks	30	20	-10	-33
Cutters and Trimmers, Hand	NA	NA	*	-33
Shampoosers	20	10	-10	-50
Postal Service Mail Sorters, Processors, and Processing Machine Operators	20	10	-10	-50
Prepress Technicians and Workers	NA	NA	*	-50
Textile Cutting Machine Setters, Operators, and Tenders	NA	NA	*	-50
Textile Winding, Twisting, and Drawing Out Machine Setters, Operators, and Tenders	NA	NA	*	-50

Note: Employment data are rounded to the nearest 10. NA - Not available. * - Not available due to disclosure restrictions.

Source: Alabama Department of Labor 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>

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	20	40	48
Active Listening	90	85	84
Critical Thinking	88	85	86
Learning Strategies	10	0	28
Mathematics	5	5	14
Monitoring	70	65	46
Reading Comprehension	78	70	76
Science	15	10	18
Speaking	80	75	82
Writing	35	35	54
Complex Problem Solving Skills			
Complex Problem Solving	38	55	62
Resource Management Skills			
Management of Financial Resources	5	0	2
Management of Material Resources	0	0	0
Management of Personnel Resources	8	0	18
Time Management	35	30	24
Social Skills			
Coordination	55	45	40
Instructing	15	5	30
Negotiation	3	5	10
Persuasion	3	10	8
Service Orientation	38	50	10
Social Perceptiveness	48	45	32
Systems Skills			
Judgment and Decision Making	63	50	68
Systems Analysis	10	5	4
Systems Evaluation	8	0	4
Technical Skills			
Equipment Maintenance	0	5	0
Equipment Selection	0	0	0
Installation	0	0	0
Operation and Control	5	15	0
Operation Monitoring	13	20	0
Operations Analysis	5	5	8
Programming	8	5	2
Quality Control Analysis	10	15	2
Repairing	3	5	0
Technology Design	0	0	0
Troubleshooting	5	5	0

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 active learning, learning strategies, math, science, speaking, writing, complex problem solving, personnel resource management, instructing, negotiation, judgment and decision making, and operation analysis skills than both high-demand and fast-growing jobs. These are skills that require long training periods and higher educational attainment. However, high-earning jobs involve less technical skills. High-demand occupations need somewhat more basic, resource management, and systems skills than fast-growing occupations; but slightly less technical skills.

Table 8.16 shows skill gap indexes for all 35 skills in Table 8.14 based on a previous projection period (2008 to 2018). 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 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. Although the skills gap indexes are for a previous projection period, they are applicable to current projections. 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 comparable to that of the state as a whole. Of the population age 25 and over population, 80.8 percent of residents age 25 and over had graduated from high school in 2007 to 2011, compared to 81.9 percent for Alabama. Those with a bachelor's or higher degree were 22.3 percent versus 22.0 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; seven of the high-earning occupations do not require a bachelor's or higher degree. Twenty-four (60 percent) of the 40 high-demand occupations require an associate degree at the minimum and 21 (53 percent) require a bachelor's or higher degree. Nine (60 percent) of the 20 fast-growing occupations require a bachelor's or higher degree.

The 2010 to 2020 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 597 occupations, 19 are expected to decline over the period and education and training for these should slow accordingly.

Table 8.16 Skills Gap Indexes (Base Year 2008 to Projected Year 2018)

Skill	Total Openings (Projected Demand)	Replacement Index	Skills Gap Index
Active Listening	1,295	58	100
Reading Comprehension	1,260	57	97
Critical Thinking	1,110	56	94
Active Learning	985	55	91
Speaking	980	56	89
Coordination	935	55	86
Instructing	985	56	83
Monitoring	885	57	80
Time Management	850	54	77
Writing	855	56	74
Social Perceptiveness	815	56	71
Learning Strategies	750	55	69
Persuasion	670	58	66
Service Orientation	650	56	63
Judgment and Decision Making	530	57	60
Complex Problem Identification	505	55	57
Mathematics	490	51	54
Equipment Selection	410	52	51
Negotiation	340	59	49
Management of Personnel Resources	355	62	46
Troubleshooting	285	51	43
Equipment Maintenance	285	53	40
Operation Monitoring	200	53	37
Quality control	150	40	34
Installation	180	53	31
Repairing	165	52	29
Management of Financial Resources	190	63	26
Operation and Control	135	52	23
Operations Analysis	100	55	20
Management of Material Resources	115	65	17
Science	60	67	14
Systems Evaluation	90	61	11
Systems Analysis	50	40	9
Technology Design	40	50	6
Programming	10	50	3

Source: Alabama Department of Labor.

Note: The skills gap indexes are from 2008 to 2018 projection period and not 2010 to 2020.

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
Doctoral Degree or First Professional Degree	2	1	15
Master's Degree	3	3	5
Work Experience Plus a Bachelor's or Higher Degree	5	1	10
Bachelor's Degree	11	4	13
Associate Degree	3	0	2
Postsecondary Non-Degree Plus On-the-job Training	0	1	0
Postsecondary Non-Degree	4	2	0
Some College, no Degree Plus On-the-job Training	0	0	0
Some College, no Degree	0	0	0
High School Diploma Plus On-the-job Training	11	5	1
High School Diploma	0	0	4
Less than High School Plus On-the-job Training	1	3	0
Less than High School	0	0	0

Note: The on-the-job training refers to the typical on-the-job training needed to attain competency in the occupation in addition to the typical education needed for entry to the occupation. This could be long-term, moderate-term, or short-term on-the-job training. **Long-term** requires more than 12 months on-the-job training. **Moderate-term** requires one to 12 months of on-the-job training. **Short-term** requires up to one month of on-the-job training. These types of training are more common in occupations that require postsecondary non-degree or less educational attainment. Other types of on-the-job training requirements that may be needed but are not shown on the table are apprenticeship and internship/residency that are typical in certain professions many of which require higher educational attainment.

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

Implications and Recommendations

Regional economic growth is currently low but is projected to be greater than the growth of prime working age population in the long term. From a 2010 base, worker shortfalls of 7,831 and 17,672 are estimated for 2020 and 2030, respectively (Table 8.18). Worker shortfalls may be somewhat underestimated because of BRAC-related troop increases and job opportunities at nearby Fort Benning in Georgia which are partially responsible for the expected population gains. A focus on both worker skills and the expected shortfall must be priorities for 2030. Worker shortfalls for critical occupations will need to be addressed as well.

Table 8.18 Expected Worker Shortfall

	2010-2020	2010-2030
Total population growth (percent)	9.5	18.0
Age 20-64 population growth (percent)	6.2	10.1
Job growth (percent)	13.9	27.5
Worker shortfall (percent)	7.7	17.3
Worker shortfall (number)	7,831	17,672

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 education 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 20 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 population growth rate is high and adequate to meet long term job demand. Further growth in 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 challenges. 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.