

State of the Workforce Report IV: Region 9

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The University of Alabama



October 2009

Center for Business and Economic Research
University Center for Economic Development
Institute for Social Science Research

THE UNIVERSITY OF ALABAMA

State of the Workforce Report IV: Region 9



October 2009

by

Samuel Addy, Ph.D., *Director and Associate Research Economist*

Ahmad Ijaz, *Economic Analyst*

Carolyn Trent, *Socioeconomic Analyst*

Rui Chen, *Graduate Research Assistant*

Cristina Lira, *Graduate Research Assistant*

Dong-Yop Oh, *Graduate Research Assistant*

Center for Business and Economic Research

Culverhouse College of Commerce and Business Administration

The University of Alabama

Box 870221, Tuscaloosa, AL 35487-0221

Tel: (205) 348-6191 Fax: (205) 348-2951

uacber@cba.ua.edu

Results Dissemination: Nisa Miranda, *Director*, University Center for Economic Development

Underemployment Survey: Debra McCallum, *Research Social Scientist and Director of the Capstone Poll*

Michael Conaway, *Project Coordinator for the Capstone Poll*

Institute for Social Science Research

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Summary

- This report analyzes workforce supply and demand issues using available metrics of workforce characteristics for Workforce Development Region 9 and presents implications and recommendations.
- Region 9 had a 9.0 percent unemployment rate in May 2009, with 28,421 unemployed. An underemployment rate of 23.8 percent for 2009 means that the region has a 96,941-strong available labor pool that includes 68,520 underemployed workers who are looking for better jobs and are willing to commute farther and longer for such jobs.
- Net out-commuting jumped from 3,122 in 2000 to 12,014 in 2006 as in- and out-commuting doubled. Commute time and distance fell in 2009, but many more people traveling to work 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 retail trade; health care and social assistance; manufacturing; accommodation and food services; and educational services. In the third quarter of 2008 these five industries provided 152,425 jobs, 54 percent of the regional total. Two of these leading employers paid more than the region's \$3,088 monthly average wage. Economic development should continue to diversify and strengthen the region's economy by retaining, expanding, and attracting more high-wage providing industries. Workforce development should also focus on preparing workers for these industries.
- On average 15,808 jobs were created per quarter from second quarter 2001 to third quarter 2008; quarterly net job flows averaged 1,630. 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 Registered Nurses; Construction Laborers; First-Line Supervisors/Managers of Construction Trades and Extraction Workers; Cooks, Restaurant; and Home Health Aides.
- The top five fast-growing occupations are Refractory Material Repairers, Except Brickmasons; Materials Engineers; Pourers and Casters, Metal; Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic; and Metal-Refining Furnace Operators and Tenders.
- The top 50 high-earning occupations are in management, health, engineering, legal, and postsecondary education fields and have a minimum salary of \$73,681. Eight of the top 10 are health occupations.
- Of the top 40 high-demand, the top 40 fast-growing, and 50 high-earning occupations, two belong to all three categories; Industrial Engineers and Veterinarians. Four occupations are in high-demand and high-earning—Industrial Production Managers, Veterinarians; Industrial Engineers; and Engineering Managers—and 27 are both high-demand and fast-growing.

- Of the region's 834 occupations and occupational categories, 80 are expected to decline over the 2006 to 2016 period, with 20 occupations expected to sharply decline by at least 10 percent and lose a minimum of 30 jobs each. Education and training for these 20 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 9 the pace of training needs to increase for science, mathematics, and technical 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, a roughly 11,400-worker surplus for 2016 and an almost 13,200-worker shortfall for 2025 are expected. This will demand a focus on worker skills through 2016, after which both skills and the expected shortfall must be priorities for 2025. Worker shortfalls for critical occupations will need to be continuously addressed. Strategies to address skill needs and worker shortfalls should 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 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 that has average population and labor force growth rates and per capita income that is below the state average.
- Together, workforce development and economic development can build a strong, well-diversified Region 9 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 9.1 shows labor force information for Region 9 and its eight counties for 2008 and May 2009.¹

Table 9.1 Region 9 Labor Force Information

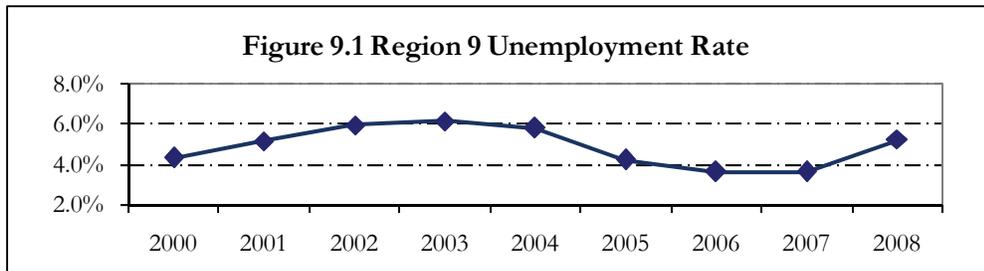
	2008			
	Labor Force	Employed	Unemployed	Rate (%)
Baldwin	82,994	79,614	3,380	4.1
Choctaw	5,040	4,660	380	7.5
Clarke	10,239	9,403	836	8.2
Conecuh	4,837	4,429	408	8.4
Escambia	14,279	13,306	973	6.8
Mobile	185,861	176,413	9,448	5.1
Monroe	8,701	7,898	803	9.2
Washington	6,804	6,286	518	7.6
Region 9	318,755	302,009	16,746	5.3
Alabama	2,162,479	2,053,502	108,977	5.0
U.S.	154,287,000	145,362,000	8,924,000	5.8
	May 2009			
	Labor Force	Employed	Unemployed	Rate (%)
Baldwin	82,534	76,555	5,979	7.2
Choctaw	5,023	4,462	561	11.2
Clarke	10,266	8,928	1,338	13.0
Conecuh	4,920	4,138	781	15.9
Escambia	14,457	12,832	1,625	11.2
Mobile	184,112	168,215	15,897	8.6
Monroe	8,608	7,221	1,387	16.1
Washington	6,763	5,910	853	12.6
Region 9	316,683	288,261	28,421	9.0
Alabama	2,124,766	1,938,686	186,081	8.8
U.S.	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 4.1 percent to 9.2 percent for 2008 (5.3 percent for the region) to between 7.2 percent and 16.1 percent in May 2009, with 9.0 percent for the region. The unemployment rate was lowest in Baldwin County and highest in Monroe. Six counties had higher unemployment rates than Alabama's 8.8 percent. Annual unemployment rates for 2000 to 2008 are shown in Figure 9.1. The region's unemployment rates were low before the 2001 and the most recent recession. The 2003 high of 6.2 percent was due to the effects of the national economic recession of 2001. Employment gains since 2003 resulting from successful state and local economic

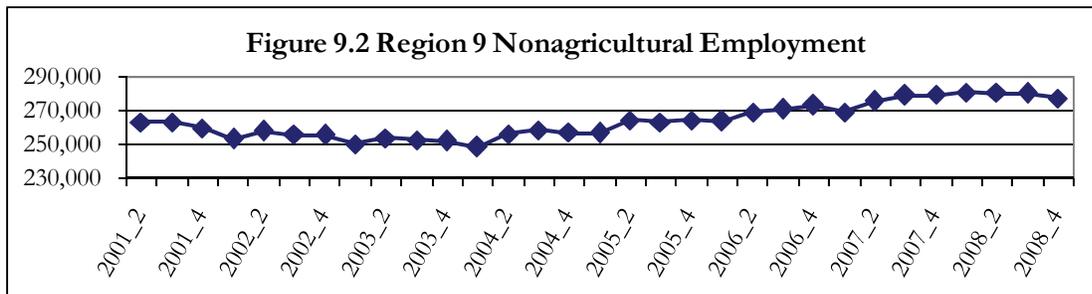
¹ Alabama labor force information is available from the Labor Market Information (LMI) Division of the Alabama Department of Industrial Relations. LMI compiles data in cooperation with the U.S. Bureau of Labor Statistics.

development efforts brought unemployment to record lows in 2006 and 2007. Year-to-date monthly labor force data point to higher regional unemployment rates for 2009 and the next few years than the 5.3 percent of 2008, largely due to the recession.



Source: Alabama Department of Industrial Relations.

Nonagricultural employment of the region’s residents averaged 263,833 quarterly from the second quarter of 2001 to the fourth quarter of 2008 (Figure 9.2). The number of jobs has been declining since its peak in first quarter 2008, but remains well above pre-2005 levels.



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

Table 9.2 shows worker distribution by age in Region 9 for the third quarter of 2008. Older workers, age 45 and over, are 40.7 percent of the region’s nonagricultural employment versus the state’s 39.9 percent. Those who are age 65 and over constitute 3.8 percent compared to 3.7 percent for Alabama. 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 9.2 Workers by Age Group Q3 2008

	Nonagricultural Employment	
	Number	Percent
14-18	9,605	3.4
19-24	33,516	12.0
25-34	59,686	21.4
35-44	62,384	22.4
45-54	64,847	23.3
55-64	38,077	13.7
65+	10,631	3.8
45 and over total	113,555	40.7
Total all ages	278,749	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 residents who commuted out of the region for work exceeded those who commuted in by 3,122 and there was a total of 32,278 in- and out-commuters (Table 9.3). By 2006, the number of in- and out-commuters had nearly doubled, but net out-commuting had risen sharply to 12,014. Table 9.3 shows that average commute time and distance for workers are up in 2009 from 2008, which together with the higher level of in- and out-commuting and considerable commuting within the region, points to rising congestion. Thus, regional transportation infrastructure and systems must be maintained and developed to ensure that the flow of goods and movement of workers are not interrupted. Congestion can slow economic development by impeding these flows.

Table 9.3 Commuting Patterns

Area	Inflow, 2000		Outflow, 2000	
	Number	Percent	Number	Percent
Baldwin	2,659	18.2	3,648	20.6
Choctaw	1,206	8.3	1,321	7.5
Clarke	1,275	8.7	1,090	6.2
Conecuh	487	3.3	614	3.5
Escambia	2,081	14.3	1,501	8.5
Mobile	6,144	42.1	8,373	47.3
Monroe	505	3.5	475	2.7
Washington	221	1.5	678	3.8
Region 9	14,578	100.0	17,700	100.0
Region 9, 2006				
	Inflow, 2006		Outflow, 2006	
Region 9	26,159	100.0	38,173	100.0
Percent of workers				
Average commute time (one-way)	2004	2005/2006	2008	2009
Less than 20 minutes	59.5	61.3	56.5	56.0
20 to 40 minutes	26.5	23.2	28.2	26.5
40 minutes to an hour	7.6	8.4	8.7	10.0
More than an hour	2.3	3.6	3.4	3.7
Average commute distance (one-way)	2004	2005/2006	2008	2009
Less than 10 miles	50.4	49.9	49.7	49.5
10 to 25 miles	24.2	27.5	28.3	27.7
25 to 45 miles	14.2	12.9	14.2	12.9
More than 45 miles	5.1	5.3	6.1	7.8

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 9 population estimate of 711,420 for 2008 is 4.8 percent more than was recorded for 2000 (Table 9.4). Population grew in Mobile and Baldwin counties and shrank in the other six. The region's population is projected to grow 7.1 percent in this decade to about 727,500 by 2010, with

only Baldwin and Mobile counties gaining residents. Population will grow fastest in Baldwin County.

Table 9.4 Region 9 Population

	1990 Census	2000 Census	2008 Estimate	% Change 2000-2008	2010 Projection	% Change 2000-2010
Baldwin	98,280	140,415	174,439	24.2	183,671	30.8
Choctaw	16,018	15,922	14,055	-11.7	14,099	-11.4
Clarke	27,240	27,867	26,304	-5.6	26,524	-4.8
Conecuh	14,054	14,089	13,066	-7.3	13,098	-7.0
Escambia	35,518	38,440	37,490	-2.5	37,979	-1.2
Mobile	378,643	399,843	406,309	1.6	412,009	3.0
Monroe	23,968	24,324	22,553	-7.3	22,695	-6.7
Washington	16,694	18,097	17,204	-4.9	17,463	-3.5
Region 9	610,415	678,997	711,420	4.8	727,538	7.1
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 9.5 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. This poses a challenge for workforce development. If employment growth outpaces labor force growth in the long term, communities that experience rapid job gains may need to consider investments in amenities and infrastructure to attract new residents.

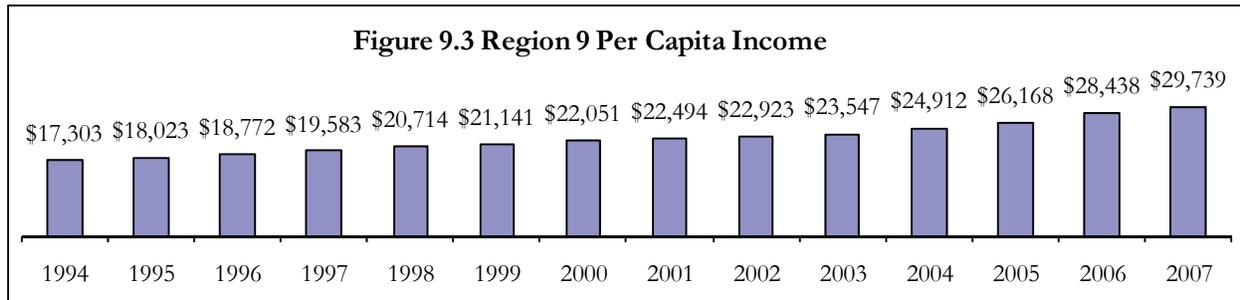
Table 9.5 Population by Age Group (2000-2006) and Projections

Age Group	2000	2006	2016	2025
0-19	200,584	199,212	203,565	215,593
20-24	43,197	46,910	51,092	51,565
25-29	43,786	41,064	48,517	48,189
30-34	44,111	43,176	46,585	51,959
35-39	50,795	44,965	43,622	51,408
40-44	52,894	50,430	46,580	49,488
45-49	47,515	52,903	48,026	45,241
50-54	43,013	48,917	53,356	49,897
55-59	34,984	43,652	55,262	50,115
60-64	29,332	35,660	49,450	55,176
65+	88,786	95,162	124,221	164,202
20-64 Total	389,627	407,678	442,490	453,038
Total Population	678,997	702,052	770,276	832,833
<i>Change from 2006</i>				
0-19			2.2%	8.2%
20-64			8.5%	11.1%
Total Population			9.7%	18.6%

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 9 was \$29,739 in 2007 (Figure 9.3), up 72 percent from 1994, but \$2,681 or 8.3 percent below the state average of \$32,419. Baldwin County had the highest PCI with \$35,021; Washington County had the lowest with \$23,483.



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

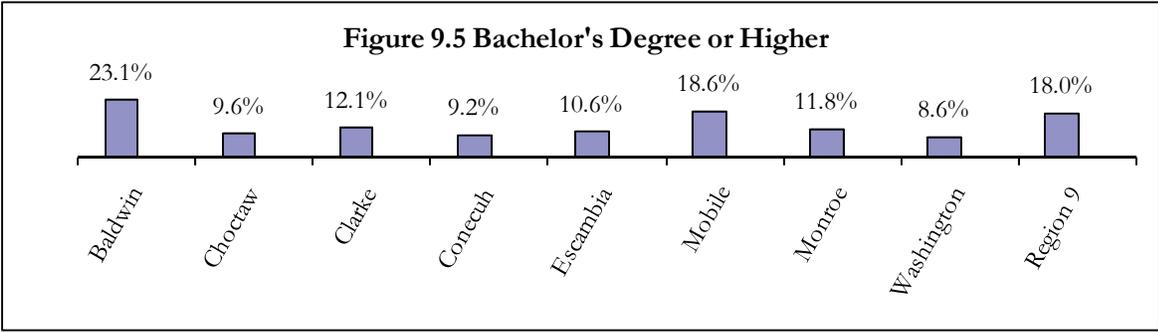
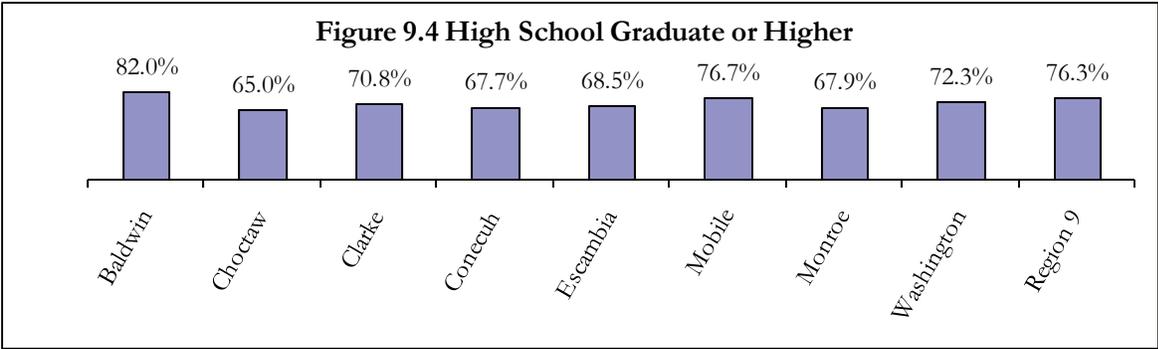
Educational Attainment

Educational attainment in 2000 of Region 9 residents who were 25 years old and over is shown in Table 9.6 and Figures 9.4 and 9.5. Over 76 percent graduated from high school and 18 percent held a bachelor's or higher degree. Baldwin County had higher educational attainment than the other seven counties and the state as a whole. Mobile County had a higher percentage of high school graduates but a slightly smaller share with at least a bachelor's degree than Alabama. Educational attainment is important as skills rise with education and high-wage jobs for the 21st century demand more skill sets.

Table 9.6 Educational Attainment in 2000, Population 25 Years and Over

	Baldwin	Choctaw	Clarke	Conecuh	Escambia	Mobile	Monroe	Washington	Region 9
Total	96,010	10,569	17,702	9,230	25,510	250,122	15,378	11,240	435,761
No schooling completed	590	317	209	260	366	3,033	356	193	5,324
Nursery to 4th grade	330	237	178	150	214	1,564	183	92	2,948
5th and 6th grade	984	341	565	311	676	3,279	406	350	6,912
7th and 8th grade	2,293	753	782	412	1,313	8,846	771	578	15,748
9th grade	2,818	465	696	387	1,281	7,988	632	412	14,679
10th grade	3,327	467	891	451	1,547	10,421	998	407	18,509
11th grade	3,229	470	876	452	1,316	10,826	726	590	18,485
12th grade, no diploma	3,687	654	968	561	1,317	12,266	867	490	20,810
High school graduate/equivalent	28,428	3,670	6,667	3,518	8,860	79,822	5,285	4,904	141,154
Some college, less than 1 year	6,458	587	948	570	1,843	16,388	842	601	28,237
Some college, 1+ years, no degree	15,998	1,119	1,939	974	2,692	35,788	1,787	1,141	61,438
Associate degree	5,722	476	846	333	1,392	13,276	712	513	23,270
Bachelor's degree	14,225	683	1,343	587	1,691	30,499	1,122	627	50,777
Master's degree	5,682	278	556	184	736	10,782	507	241	18,966
Professional school degree	1,553	43	210	59	221	3,586	110	94	5,876
Doctorate degree	686	9	28	21	45	1,758	74	7	2,628

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 9 had an underemployment rate of 23.8 percent in 2009. Applying this rate to May 2009 labor force data means that 68,520 employed residents were underemployed (Table 9.7). Adding the unemployed gives a total available labor pool of 96,941 for the region. This is 3.4 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 16.4 percent for Clarke County to 29.8 percent for Escambia. Choctaw and Conecuh counties had the smallest available labor pools while Mobile had the largest.

Table 9.7 Underemployed and Available Labor by County

	<u>Region 9</u>	<u>Baldwin</u>	<u>Choctaw</u>	<u>Clarke</u>	<u>Conecuh</u>	<u>Escambia</u>	<u>Mobile</u>	<u>Monroe</u>	<u>Washington</u>
Labor Force	316,683	82,534	5,023	10,266	4,920	14,457	184,112	8,608	6,763
Employed	288,261	76,555	4,462	8,928	4,138	12,832	168,215	7,221	5,910
Underemployment rate	23.8%	21.3%	21.6%	16.4%	19.6%	29.8%	27.3%	17.7%	23.1%
Underemployed workers	68,520	16,329	962	1,461	811	3,827	45,940	1,275	1,364
Unemployed	28,421	5,979	561	1,338	781	1,625	15,897	1,387	853
Available labor pool	96,941	22,308	1,523	2,799	1,592	5,452	61,837	2,662	2,217

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. In 2009, a total of 1,377 complete responses were obtained from Region 9. About 47 percent (652 respondents) were employed, of whom 155 stated that they were underemployed. A lack of job opportunities in their area, low wages at available jobs, living too far from jobs, 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 some also cite a lack of job opportunities in their area as an additional major reason. 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 9 shows that:

- Fewer work full-time and more of the part-timers would like to work full-time.
- Fewer hold multiple jobs.
- They have shorter commute time and distance.

- More are retail and wholesale salespersons as well as help for hotels, restaurants, and households.
- They have shorter job tenure.
- More are in retail and wholesale trade, state government, and in 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.
- For a better job, more are willing to commute longer, but fewer wish to commute farther.
- 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 if the government pays for the cost of training.
- Fewer are married.
- Fewer are male.
- They have a slightly higher median age.
- Slightly fewer are Hispanic.
- Fewer are white.
- They have a little lower educational attainment.

Table 9.8 shows the detailed survey results on job satisfaction and willingness to train. Responses for overall job satisfaction as well as various aspects of the job were obtained. In general most of the region's workers (76.2 percent) are satisfied or completely satisfied with their jobs. Workers are most satisfied with the work that they do and least satisfied with the earnings they receive. Fewer of the underemployed workers are satisfied with their jobs (64.5 percent). The underemployed are most satisfied with the work that they do and their shift or work hours, but extremely dissatisfied with their earnings.

Workers are generally willing to train for a new or better job, with the underemployed being much more willing (75.7 percent vs. 68.2 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. Underemployed workers are more willing to train for the new or better job only if the government pays in full for the training. The results show that workers expect the government to bear at least a part of the training cost. This expectation may result from worker awareness of government workforce programs that provide such assistance.

Table 9.8 2009 Job Satisfaction and Willingness to Train (Percent)

Job Satisfaction						
		Completely Dissatisfied	Dissatisfied	Neutral	Satisfied	Completely Satisfied
Employed						
Overall		3.7	3.4	16.3	23.9	52.3
	Earnings	9.1	11.8	20.1	26.8	31.9
	Retention	5.5	4.1	13.5	17.6	58.3
	Work	1.4	1.4	10.0	21.3	65.8
	Hours	4.3	4.8	11.5	21.5	57.7
	Shift	3.5	3.2	8.9	15.8	68.3
	Conditions	4.9	3.8	12.9	25.8	52.5
	Commuting Distance	4.8	5.7	10.1	14.9	64.4
Underemployed						
Overall		6.5	5.8	22.6	28.4	36.1
	Earnings	16.8	22.6	23.9	24.5	11.6
	Retention	10.3	7.7	19.4	14.8	46.5
	Work	2.6	3.9	16.8	23.9	52.9
	Hours	7.7	9.0	18.7	21.9	41.9
	Shift	3.9	4.5	14.2	19.4	57.4
	Conditions	7.1	7.7	13.6	30.3	41.3
	Commuting Distance	4.5	6.5	9.7	15.5	63.9
Willingness to Train						
		Completely Unwilling	Unwilling	Neutral	Willing	Completely Willing
Employed						
For a new or better job		15.1	3.1	12.2	14.9	53.3
	If paid by trainee	38.8	21.5	20.8	6.4	8.7
	If paid by trainee and government	8.7	8.5	33.8	24.4	20.6
	If paid by government	3.0	1.6	7.5	14.8	71.2
Underemployed						
For a new or better job		12.1	0.7	9.3	14.3	61.4
	If paid by trainee	39.8	24.4	17.1	6.5	8.1
	If paid by trainee and government	6.5	4.1	37.4	21.1	23.6
	If paid by government	0.0	0.0	4.9	12.2	81.3

Note: Rounding errors may be present.

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

Workforce Demand

Industry Mix

The retail trade sector was the leading Region 9 employer with 39,450 jobs in the third quarter of 2008 (Table 9.9). Rounding out the top five industries by employment are health care and social assistance; manufacturing; accommodation and food services; and educational services. These five industries provided 152,425 jobs, 54.4 percent of the region's total. The average monthly wage across all industries in the region was \$3,088; two leading employers paid more than this average. New hire monthly earnings averaged \$2,047, about 66 percent of the average monthly wage. The highest average monthly wages were for mining at \$5,896; utilities \$4,337; manufacturing \$4,158; and professional, scientific, and technical services \$4,144. Accommodation and food services paid the least at \$1,392. Mining had the highest average monthly new hire wages with \$3,968, followed by professional, scientific, and technical services at \$3,086, and transportation and warehousing with \$3,084. Accommodation and food services paid newly hired workers the least, \$1,049.

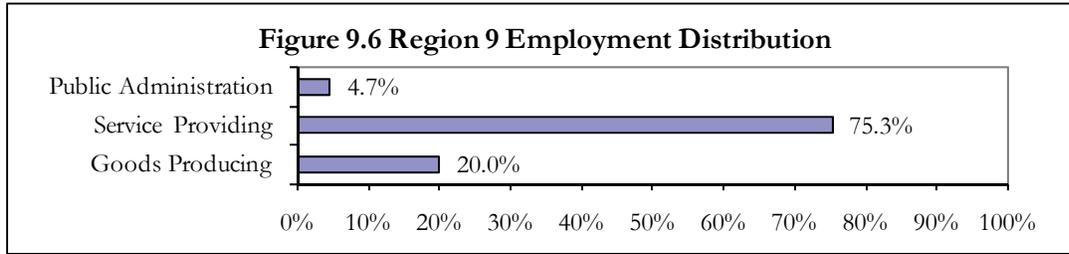
Table 9.9 Industry Mix (Third Quarter 2008)

Industry by 2-digit NAICS Code	Total Employment	Share	Rank	Average Monthly Wage	Average Monthly New Hire Earnings
11 Agriculture, Forestry, Fishing and Hunting	2,939	1.05%	18	\$2,816	\$1,993
21 Mining	829	0.30%	20	\$5,896	\$3,968
22 Utilities	3,013	1.08%	17	\$4,337	\$2,596
23 Construction	21,140	7.54%	6	\$3,386	\$2,881
31-33 Manufacturing	31,185	11.13%	3	\$4,158	\$2,943
42 Wholesale Trade	12,281	4.38%	10	\$3,979	\$2,896
44-45 Retail Trade	39,450	14.08%	1	\$2,156	\$1,394
48-49 Transportation and Warehousing	13,103	4.68%	8	\$3,534	\$3,084
51 Information	3,560	1.27%	15	\$3,301	\$2,214
52 Finance and Insurance	9,038	3.23%	12	\$3,890	\$2,753
53 Real Estate and Rental and Leasing	6,613	2.36%	14	\$2,881	\$1,841
54 Professional, Scientific, and Technical Services	11,783	4.21%	11	\$4,144	\$3,086
55 Management of Companies and Enterprises	1,052	0.38%	19	\$3,227	\$1,988
56 Administrative and Support and Waste Management and Remediation Services	17,691	6.31%	7	\$2,487	\$1,862
61 Educational Services	24,387	8.70%	5	\$3,446	\$2,103
62 Health Care and Social Assistance	31,885	11.38%	2	\$3,082	\$2,171
71 Arts, Entertainment, and Recreation	3,446	1.23%	16	\$1,718	\$1,431
72 Accommodation and Food Services	25,518	9.11%	4	\$1,392	\$1,049
81 Other Services (Except Public Administration)	8,201	2.93%	13	\$2,223	\$1,669
92 Public Administration	13,085	4.67%	9	\$2,915	\$1,946
ALL INDUSTRIES	280,195	100.00%		\$3,088	\$2,047

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

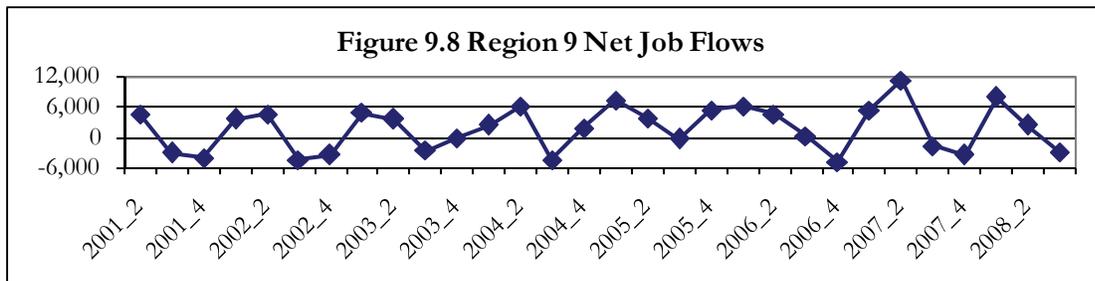
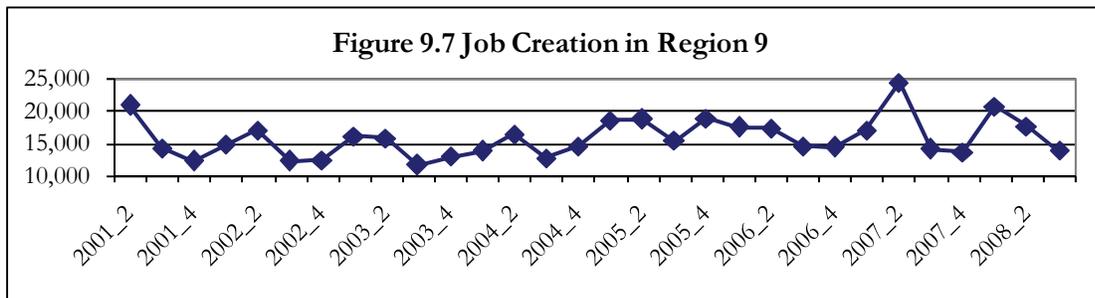
By broad industry classification, service providing industries generated 75.3 percent of jobs in third quarter 2008 (Figure 9.6). Goods producing industries were next with 20.0 percent and public

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



Job Creation and Net Job Flows

On average, 15,808 jobs were created per quarter from second quarter 2001 to third quarter 2008 (Figure 9.7); quarterly net job flows averaged 1,630 (Figure 9.8). Seasonal employment due to tourism is reflected in generally stronger second quarter job creation. However, both job creation and net job flows have been declining since the first quarter of 2008. Quarterly net job flows fluctuate considerably and have ranged from a loss of 4,850 to a gain of 11,087. 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 834 occupations and occupational categories in the region, 718 are single occupations. Table 9.10 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 the five largest employment sectors identified earlier (Table 9.9): retail trade; health care and social assistance; manufacturing; accommodation and food services; and educational services. Thus, these sectors will continue to dominate employment in the region.

The top five high-demand occupations are Registered Nurses; Construction Laborers; First-Line Supervisors/Managers of Construction Trades and Extraction Workers; Cooks, Restaurant; and Home Health Aides. Twenty-seven of the high-demand occupations are also fast-growing. This means that these 27 occupations have a minimum annual growth rate of 3.70 percent, much faster than the regional and state occupational growth rates of 2.05 percent and 1.38 percent, respectively.

The 40 fastest growing occupations ranked by projected growth of employment are listed in Table 9.11. Most of these occupations are related to health, educational services, and manufacturing industries. The top five fast-growing occupations are Refractory Material Repairers, Except Brickmasons; Materials Engineers; Pourers and Casters, Metal; Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic; and Metal-Refining Furnace Operators and Tenders.

Table 9.12 shows the 50 selected highest earning occupations in the region. These occupations are mainly in management, health, engineering, legal, and postsecondary education fields. Eight of the top 10 listed are health occupations. 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. Four occupations are both high-earning and in high-demand (Table 9.10): Industrial Production Managers, Industrial Engineers, Engineering Managers, and Veterinarians. Two occupations—Industrial Engineers and Veterinarians—are in high-demand, fast-growing, and high-earning.

Of the region's 834 occupations and occupational categories, 80 are expected to decline over the 2006 to 2016 period. Employment in the 20 sharpest-declining occupations will fall by at least 10 percent, with each losing a minimum of 30 jobs over the period (Table 9.13). 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 9.10 Selected High-Demand Occupations (Base Year 2006 and Projected Year 2016)

Occupation	Average Annual Job Openings		
	Total	Due to Growth	Due to Separations
Registered Nurses	310	210	100
Construction Laborers	185	155	30
First-Line Supervisors/Managers of Construction Trades and Extraction Workers	135	95	40
Cooks, Restaurant	130	80	50
Home Health Aides *	110	95	15
Construction Managers	90	65	25
Plumbers, Pipefitters, and Steamfitters	90	55	35
Welders, Cutters, Solderers, and Brazers	75	50	25
Computer Systems Analysts *	65	45	20
Clergy	60	45	15
Medical Assistants *	50	40	10
Crane and Tower Operators *	40	35	5
Aircraft Mechanics and Service Technicians *	40	35	5
Structural Metal Fabricators and Fitters *	40	30	10
Aircraft Structure, Surfaces, Rigging, and Systems Assemblers *	35	30	5
Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic *	35	35	0
Network and Computer Systems Administrators *	30	20	10
Dental Hygienists *	30	20	10
Service Station Attendants *	30	15	15
First-Line Supervisors/Managers of Helpers, Laborers, and Material Movers, Hand	25	15	10
Veterinary Technologists and Technicians *	25	20	5
Industrial Production Managers	20	10	10
Industrial Engineers *	20	15	5
Physical Therapists *	20	15	5
Engineering Technicians, Except Drafters, All Other	20	15	5
Cost Estimators *	20	15	5
Chemical Technicians *	20	15	5
Metal-Refining Furnace Operators and Tenders *	20	20	0
Engineering Managers	15	10	5
Veterinarians *	15	10	5
Business Teachers, Postsecondary *	15	10	5
Nursing Instructors and Teachers, Postsecondary *	15	10	5
Network Systems and Data Communications Analysts *	15	10	5
Vocational Education Teachers, Postsecondary *	15	10	5
Rolling Machine Setters, Operators, and Tenders, Metal and Plastic *	15	15	0
Computer Hardware Engineers	10	5	5
Materials Engineers *	10	10	0
Physical Therapist Assistants *	10	10	0
Mathematical Science Teachers, Postsecondary *	5	5	0
Computer Software Engineers, Applications *	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 9.11 Selected Fast-Growing Occupations (Base Year 2006 and Projected Year 2016)

Occupation	Employment		Percent Change	Annual Growth (Percent)	Average Annual Job Openings
	2006	2016			
Refractory Materials Repairers, Except Brickmasons	NA	NA	1,000	27.10	10
Materials Engineers *	10	90	800	24.57	10
Pourers and Casters, Metal	NA	NA	733	23.62	20
Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic *	NA	NA	700	23.11	35
Metal-Refining Furnace Operators and Tenders *	40	220	450	18.59	20
Rolling Machine Setters, Operators, and Tenders, Metal and Plastic *	80	240	200	11.61	15
Aircraft Structure, Surfaces, Rigging, and Systems Assemblers *	NA	NA	127	8.56	35
Aerospace Engineers	NA	NA	125	8.45	5
Crane and Tower Operators *	300	670	123	8.37	40
Chemical Technicians *	170	330	94	6.86	20
Industrial Engineers *	180	340	89	6.57	20
Veterinary Technologists and Technicians *	200	370	85	6.35	25
Aircraft Mechanics and Service Technicians *	490	830	69	5.41	40
Veterinarians *	150	240	60	4.81	15
Fiberglass Laminators and Fabricators	100	160	60	4.81	5
Computer Systems Analysts *	800	1,270	59	4.73	65
Home Health Aides *	1,680	2,640	57	4.62	110
Medical Assistants *	730	1,140	56	4.56	50
Mathematical Science Teachers, Postsecondary *	90	140	56	4.52	5
Physical Therapist Assistants *	180	280	56	4.52	10
Nursing Instructors and Teachers, Postsecondary *	200	310	55	4.48	15
Business Teachers, Postsecondary *	170	260	53	4.34	15
Bakers	360	550	53	4.33	30
Structural Metal Fabricators and Fitters *	580	880	52	4.26	40
Service Station Attendants *	310	470	52	4.25	30
Personal and Home Care Aides	640	970	52	4.25	40
Physical Therapists *	340	510	50	4.14	20
Computer Software Engineers, Applications *	120	180	50	4.14	5
Network Systems and Data Communications Analysts *	200	300	50	4.14	15
Industrial Engineering Technicians	60	90	50	4.14	5
Vocational Education Teachers, Postsecondary *	200	300	50	4.14	15
Health Educators	60	90	50	4.14	5
Network and Computer Systems Administrators *	440	650	48	3.98	30
Physical Therapist Aides	150	220	47	3.90	5
Dental Hygienists *	460	670	46	3.83	30
Fence Erectors	NA	NA	45	3.82	5
Dental Assistants	490	710	45	3.78	30
Cost Estimators *	360	520	44	3.75	20
Bartenders	520	750	44	3.73	45
Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	730	1,050	44	3.70	80

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.

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

Table 9.12 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			
Surgeons	160	210	2.76	10	228,887
Anesthesiologists	100	130	2.66	5	227,782
Physicians and Surgeons, All Other	280	360	2.54	15	209,546
Internists, General	140	170	1.96	10	187,093
Dentists, General	280	340	1.96	10	180,973
Psychiatrists	20	30	4.14	0	166,133
Chief Executives	620	700	1.22	25	151,113
Pediatricians, General	100	120	1.84	5	148,871
Chiropractors	180	250	3.34	5	141,358
Biological Science Teachers, Postsecondary	50	70	3.42	0	136,118
Family and General Practitioners	90	110	2.03	0	135,080
Personal Financial Advisors	180	250	3.34	5	126,917
Administrative Law Judges, Adjudicators, and Hearing Officers	NA	NA	0.00	0	123,765
Pharmacists	510	630	2.14	20	117,803
Engineering Managers *	250	350	3.42	15	114,292
Lawyers	1,250	1,500	1.84	50	111,318
Sales Engineers	70	90	2.54	0	107,925
Sales Managers	470	560	1.77	20	98,046
Computer and Information Systems Managers	220	270	2.07	10	93,688
Radiation Therapists	40	60	4.14	0	92,546
Electronics Engineers, Except Computer	110	110	0.00	5	92,020
Purchasing Managers	90	120	2.92	5	91,078
Chemical Engineers	100	100	0.00	5	90,595
Judges, Magistrate Judges, and Magistrates	110	130	1.68	0	90,416
Health Diagnosing and Treating Practitioners, All Other	310	370	1.79	10	89,409
General and Operations Managers	4,870	5,430	1.09	170	88,713
Industrial Production Managers *	330	450	3.15	20	87,185
Financial Managers	820	970	1.69	25	86,917
Landscape Architects	10	10	0.00	0	85,480
Marketing Managers	160	170	0.61	5	85,473
Natural Sciences Managers	20	20	0.00	0	85,389
Medical and Health Services Managers	470	570	1.95	20	83,896
Marine Engineers and Naval Architects	50	70	3.42	0	81,976
Managers, All Other	1,550	1,690	0.87	45	81,582
Orthotists and Prosthetists	10	10	0.00	0	80,883
Training and Development Managers	10	20	7.18	0	80,407
Architects, Except Landscape and Naval	130	140	0.74	5	79,494
Electrical Engineers	280	320	1.34	10	78,681
Human Resources Managers, All Other	90	110	2.03	0	78,425
Management Analysts	460	530	1.43	15	78,052
Mechanical Engineers	270	270	0.00	5	76,971
Environmental Engineers	150	180	1.84	10	76,373
Physician Assistants	40	50	2.26	0	76,215
Compensation and Benefits Managers	40	70	5.76	0	76,104
Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	30	30	0.00	0	75,901
Industrial Engineers *	180	340	6.57	20	75,248
Veterinarians *	150	240	4.81	15	74,392
Civil Engineers	460	510	1.04	15	74,312
Biological Scientists, All Other	NA	NA	0.00	0	74,024
Airline Pilots, Copilots, and Flight Engineers	20	30	4.14	0	73,681

Note: Employment data are rounded to the nearest 10; openings to the nearest 5. The salary data provided are based on the May 2008 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 9.13 Selected Sharp-Declining Occupations (Base Year 2006 and Projected Year 2016)

Occupation	Employment		Net Change	Percent Change
	2006	2016		
Paper Goods Machine Setters, Operators, and Tenders	1,110	610	-500	-45
Farmers and Ranchers	1,840	1,640	-200	-11
Sewing Machine Operators	1,060	870	-190	-18
File Clerks	500	360	-140	-28
Order Clerks	470	380	-90	-19
Maintenance Workers, Machinery	260	180	-80	-31
Textile Cutting Machine Setters, Operators, and Tenders	NA	NA	-60	-46
Agricultural Workers, All Other	450	390	-60	-13
Chemical Equipment Operators and Tenders	450	390	-60	-13
Mixing and Blending Machine Setters, Operators, and Tenders	580	520	-60	-10
Packers and Packagers, Hand	570	510	-60	-11
Fallers	380	330	-50	-13
Electrical and Electronic Equipment Assemblers	150	100	-50	-33
Textile Knitting and Weaving Machine Setters, Operators, and Tenders	NA	NA	-40	-22
Stationary Engineers and Boiler Operators	130	90	-40	-31
Chemical Plant and System Operators	350	310	-40	-11
Photographic Processing Machine Operators	100	60	-40	-40
Machine Feeders and Offbearers	420	380	-40	-10
Photographic Process Workers	NA	NA	-30	-33
Electrical and Electronics Repairers, Commercial and Industrial Equipment	170	140	-30	-18

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 9.14 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 9.15 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 9.15 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 9.14 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 9.15 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	55	58	58
Active Listening	68	65	82
Critical Thinking	60	55	82
Learning Strategies	18	23	2
Mathematics	33	30	28
Monitoring	20	28	28
Reading Comprehension	73	73	84
Science	18	15	28
Speaking	53	58	58
Writing	30	28	36
Complex Problem Solving Skills			
Complex Problem Solving	23	23	34
Resource Management Skills			
Management of Financial Resources	0	0	12
Management of Material Resources	0	0	2
Management of Personnel Resources	8	5	14
Time Management	45	45	54
Social Skills			
Coordination	23	25	34
Instructing	38	33	18
Negotiation	3	0	14
Persuasion	0	0	16
Service Orientation	23	28	16
Social Perceptiveness	23	25	18
Systems Skills			
Judgment and Decision Making	28	20	64
Systems Analysis	3	3	4
Systems Evaluation	0	3	16
Technical Skills			
Equipment Maintenance	13	20	0
Equipment Selection	20	28	6
Installation	13	15	0
Operation and Control	10	15	10
Operation Monitoring	13	18	6
Operations Analysis	10	5	10
Programming	5	3	0
Quality Control Analysis	13	18	2
Repairing	5	13	0
Technology Design	8	8	6
Troubleshooting	15	15	6

Note: Rounding errors may be present.

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

High-earning occupations in Region 9 require more critical thinking, science, complex problem solving, resource management, systems, and two social (persuasion and negotiation) skills than both high-demand and fast-growing jobs. These are skills that require long training periods and postsecondary education. However, high-earning jobs require significantly less technical skills. Fast-growing occupations require somewhat more technical skills than high-demand occupations.

Table 9.16 shows skill gap indexes for all 35 skills in Table 9.14. 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 9.16 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 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. In Region 9 the pace of training needs to increase for science, mathematics, and technical skills; the scale of training should be raised for basic and social skills.

Education and Training Issues

Educational attainment in Region 9 is close to that of the state as a whole. About 76 percent of residents age 25 and over had graduated from high school in 2000, compared to 75 percent for Alabama. Of the age 25 and over population, 18 percent had a bachelor's or higher degree versus 19 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 9.17 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; three high-earning occupations do not require a bachelor's or higher degree. Twenty-two (55 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. Nineteen (48 percent) of the 40 fast-growing occupations require an associate degree at the minimum, with fourteen (35 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 a high school diploma or GED at a minimum. Of the region's 834 occupations and occupational categories, 80 are expected to decline over the period and education and training for these should slow accordingly.

Table 9.16 Skills Gap Indexes (Base Year 2006 to Projected Year 2016)

Skill	Total Openings (Projected Demand)	Replacement Index	Skills Gap Index
Active Listening	6,835	47	100
Reading Comprehension	6,725	46	97
Critical Thinking	6,185	46	94
Coordination	5,315	45	91
Speaking	5,275	46	88
Active Learning	5,370	46	85
Instructing	4,865	45	82
Monitoring	4,930	46	79
Writing	4,640	46	76
Time Management	4,580	46	73
Learning Strategies	4,260	46	70
Social Perceptiveness	4,065	46	67
Service Orientation	3,410	46	64
Persuasion	3,105	48	61
Identification of Key Causes	3,085	47	58
Mathematics	2,885	44	55
Complex Problem Solving	2,820	46	52
Equipment Selection	2,355	43	50
Troubleshooting	1,670	41	47
Management of Personnel Resources	1,685	51	44
Negotiation	1,585	52	41
Equipment Maintenance	1,525	45	38
Installation	1,225	41	35
Repairing	1,005	39	32
Management of Financial Resources	915	52	29
Operation Monitoring	980	46	26
Quality Control	630	42	23
Operations Analysis	640	49	20
Operation and Control	730	48	17
Science	465	44	14
Systems Evaluation	490	47	11
Management of Material Resources	480	59	8
Technology Design	315	48	5
Judgment and Decision Making	305	46	2
Programming	65	46	0

Source: Alabama Department of Industrial Relations.

Table 9.17 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	1	1	12
Doctoral Degree	1	1	1
Master's Degree	4	4	0
Work Experience Plus a Bachelor's or Higher Degree	2	1	16
Bachelor's Degree	8	7	18
Associate Degree	6	5	1
Postsecondary Vocational Training	1	1	0
Work Experience in a Related Occupation	4	1	2
Long-term On-the-job Training	5	3	0
Moderate-term On-the-job Training	6	10	0
Short-term On-the-job Training	2	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, a roughly 11,400-worker surplus for 2016 and an almost 13,200-worker shortfall for 2025 are expected (Table 9.18). A focus on worker skills must be a priority through 2016, after which both skills and the expected shortfall must be priorities for 2025. Worker shortfalls for critical occupations will need to be continuously addressed through 2025.

Table 9.18 Expected Worker Shortfall

	2006-2016	2006-2025
Total population growth (percent)	9.7	18.6
Age 20-64 population growth (percent)	8.5	11.1
Job growth (percent)	4.9	15.4
Worker shortfall (percent)	-3.7	4.2
Worker shortfall (number)	-11,442	13,169

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

Employment is critical to economic development and so strategies to address skill needs and worker shortfalls must be adopted and implemented. Such strategies should aim at increasing labor force participation and raising worker productivity and could 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. The pace of training in Region 9 needs to increase for science, mathematics, and technical 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 9.13 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 of low levels of educational attainment, geographic or other barriers, or a lack of occupational skills. 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 9 population growth rate is comparable to the state's, but may hinder the ability to meet long term expected job demand barring future economic slowdowns. Higher employment demand could be partially served by 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 preferred to 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 can 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 9.5), 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, especially for a region that has a lower than average per capita income. Together, workforce development and economic development can build a strong, well-diversified economy. Indeed, one cannot achieve success without the other.