

Economic Impact by Industry of Medicaid Expansion in Alabama under the Affordable Care Act

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September 2013

Commissioned by

Alabama Hospital Association

Note: This report reflects the analysis and opinions of the authors, but not necessarily those of the faculty and staff of the Culverhouse College of Commerce or the administrative officials of The University of Alabama.

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Executive Summary

- This report presents statewide and industry-level economic impacts that would be realized if Alabama were to undertake Medicaid expansion under the Affordable Care Act (ACA). The study builds on and adds to the excellent 2012 work titled “An Economic Evaluation of Medicaid Expansion in Alabama under the Affordable Care Act” by David J. Becker, Ph.D. and Michael A. Morrissey, Ph.D. of the Department of Health Care Organization and Policy, School of Public Health, University of Alabama at Birmingham. Together, the two studies provide a nearly comprehensive economic perspective on the impacts of the expansion on the state economy.
- The ACA provides for federal matching to states of 100 percent in 2014-2016, 95 percent in 2017, 94 percent in 2018, 93 percent in 2019, and 90 percent from 2020 on; this federal matching assistance percentage is much higher than the 68.5 percent Alabama currently receives for Medicaid. To address uncertainty regarding how many newly eligible Alabamians would sign up for the new program and cost, Becker and Morrissey considered three scenarios with annual averages of low take-up (234,455 people at a cost of \$10 billion), intermediate take-up (292,635 costing \$12.5 billion), and high take-up (494,629 costing \$21.1 billion) over the 2014-2020 period. The intermediate take-up scenario is believed to be most likely, but all three scenarios are considered in this report.
- The economic impacts presented in this report focus on output, value-added, earnings, and employment. Output refers to overall business activity—often measured by revenues or sales—and contains value-added, which is the contribution to gross domestic product (GDP) or the value of goods and services produced on a value-added basis. The contribution to GDP is overall business activity less business-to-business (also called “intermediate”) transactions. Earnings impacts are part of value-added and are the wages and salaries for the jobs recognized by the employment impact.
- For the Alabama economy and over the 2014-2020 period, the expansion will increase (i) overall business activity by about \$22 billion to \$47 billion, (ii) GDP by roughly \$14 billion to \$29 billion, and (iii) worker earnings by approximately \$8 billion to \$17 billion. Aggregate impacts of the intermediate take-up scenario are \$28 billion in overall business activity, which includes \$17 billion contribution to GDP, which in turn contains \$10 billion in earnings. The Becker and Morrissey study mentioned above showed that taxes generated from Federal funds inflow alone to Alabama for the program would more than cover the Alabama portion of program costs.
- Average annual impacts of the expansion on Alabama are: (i) employment—about 24,600 jobs with low take-up, 30,700 with intermediate take-up, and 51,900 with high take-up; (ii) earnings—around \$1.0 billion with low take-up, \$1.3 billion with intermediate take-up, and \$2.1 billion with high take-up; (iii) contribution to GDP—roughly \$1.7 billion with low take-up, \$2.1 billion with intermediate take-up, and \$3.6 billion with high take-up; and (iv) business activity—nearly \$2.8 billion with low take-up, \$3.5 billion with intermediate take-up, and \$5.9 billion with high take-up.
- From an economic perspective, Alabama will significantly gain jobs and the associated income, grow its GDP, increase business activity, and generate much-needed tax revenues if it undertakes Medicaid expansion under the ACA. Every industry would benefit from the expansion although healthcare and related industries naturally benefit the most. For example, annual jobs impacts for the intermediate scenario include about 11,300 in health care and social assistance; 6,400 in retail trade; 5,500 in professional, scientific, and technical services; 1,400 in administrative and other support services; 1,200 in accommodation and food services; and 1,100 in finance and insurance.

Average Annual Economic Impacts of ACA Medicaid Expansion in Alabama by Industry, 2014-2020

	Employment	Earnings	Contribution	Business
	(Jobs)	(\$, Millions)	to GDP	Activity
			(\$, Millions)	(\$, Millions)
High Take-Up Scenario				
Agriculture, Forestry, Fishing and Hunting	82	2.3	2.9	8.8
Mining, Quarrying, and Oil and Gas Extraction	8	0.7	1.9	2.7
Utilities	108	10.4	49.8	63.7
Construction	207	7.3	11.3	29.9
Manufacturing	259	15.0	30.8	121.3
Wholesale Trade	522	30.9	68.7	81.6
Retail Trade	10,797	265.5	475.1	717.3
Transportation and Warehousing	481	21.6	35.9	67.8
Information	338	15.5	50.0	98.3
Finance and Insurance	1,852	80.8	184.4	394.1
Real Estate and Rental and Leasing	1,507	19.7	383.8	452.7
Professional, Scientific, and Technical Services	9,275	569.2	780.9	1,238.6
Management of Companies and Enterprises	129	10.1	14.4	25.8
Administrative and Support and Waste Management and Remediation Services	2,407	52.0	79.8	136.2
Educational Services	342	8.8	10.3	23.2
Health Care and Social Assistance	19,072	904.7	1,221.4	2,128.1
Arts, Entertainment, and Recreation	429	4.6	8.5	18.6
Accommodation and Food Services	2,109	31.5	62.7	126.0
Other Services (except Public Administration)	1,229	30.2	41.0	81.0
Public Administration	765	42.2	61.6	77.4
Total	51,918	2,123.1	3,575.4	5,893.4
Intermediate Take-Up Scenario				
Agriculture, Forestry, Fishing and Hunting	49	1.3	1.7	5.2
Mining, Quarrying, and Oil and Gas Extraction	5	0.4	1.1	1.6
Utilities	64	6.2	29.5	37.7
Construction	122	4.3	6.7	17.7
Manufacturing	153	8.9	18.2	71.8
Wholesale Trade	309	18.3	40.7	48.3
Retail Trade	6,390	157.3	281.5	425.0
Transportation and Warehousing	284	12.8	21.2	40.1
Information	200	9.2	29.6	58.2
Finance and Insurance	1,095	47.8	109.1	233.2
Real Estate and Rental and Leasing	891	11.7	227.2	267.9
Professional, Scientific, and Technical Services	5,490	335.8	460.6	730.6
Management of Companies and Enterprises	76	6.0	8.6	15.3
Administrative and Support and Waste Management and Remediation Services	1,423	30.8	47.2	80.6
Educational Services	202	5.2	6.1	13.7
Health Care and Social Assistance	11,290	536.2	723.8	1,261.1
Arts, Entertainment, and Recreation	254	2.7	5.0	11.0
Accommodation and Food Services	1,247	18.7	37.1	74.5
Other Services (except Public Administration)	726	17.9	24.3	47.9
Public Administration	452	25.0	36.5	45.8
Total	30,722	1,256.3	2,115.7	3,487.3
Low Take-Up Scenario				
Agriculture, Forestry, Fishing and Hunting	39	1.1	1.4	4.2
Mining, Quarrying, and Oil and Gas Extraction	4	0.4	0.9	1.3
Utilities	51	4.9	23.6	30.2
Construction	98	3.5	5.4	14.2
Manufacturing	123	7.1	14.6	57.5
Wholesale Trade	247	14.7	32.6	38.7
Retail Trade	5,119	126.0	225.5	340.5
Transportation and Warehousing	228	10.2	17.0	32.1
Information	160	7.3	23.7	46.6
Finance and Insurance	877	38.3	87.4	186.8
Real Estate and Rental and Leasing	714	9.3	182.0	214.6
Professional, Scientific, and Technical Services	4,399	269.0	369.0	585.3
Management of Companies and Enterprises	61	4.8	6.9	12.2
Administrative and Support and Waste Management and Remediation Services	1,140	24.6	37.8	64.6
Educational Services	162	4.2	4.9	11.0
Health Care and Social Assistance	9,045	429.6	579.9	1,010.3
Arts, Entertainment, and Recreation	203	2.2	4.0	8.8
Accommodation and Food Services	999	15.0	29.7	59.7
Other Services (except Public Administration)	582	14.3	19.4	38.4
Public Administration	362	20.0	29.2	36.7
Total	24,613	1,006.5	1,695.0	2,793.9

Note: Pharmacies are in Retail Trade; some health-related facilities (labs, information technology, imaging, etc.) are in Professional, Scientific, and Technical Services; but Health Care and Social Assistance contains the bulk of healthcare activities.

Economic Impact by Industry of Medicaid Expansion in Alabama under the Affordable Care Act

Introduction

This report presents statewide and industry-level economic impacts that would be realized if Alabama were to undertake Medicaid expansion under the Affordable Care Act (ACA). The objective is to inform and enhance the decision making process on whether the state should undertake the expansion. This study builds on the excellent and objective 2012 report titled “An Economic Evaluation of Medicaid Expansion in Alabama under the Affordable Care Act” by David J. Becker, Ph.D. and Michael A. Morrissey, Ph.D. of the Department of Health Care Organization and Policy, School of Public Health, University of Alabama at Birmingham. Specifically, cost estimates for Medicaid expansion in Alabama under the ACA developed in the Becker and Morrissey study were used to determine economic impacts that were not covered in their study. Together, the two studies provide a nearly comprehensive economic perspective on whether Alabama should undertake Medicaid expansion under the ACA.

The economic impacts presented in this report focus on output, value-added, earnings, and employment for the Alabama economy. Output refers to total or gross business activity often measured by revenues or sales. This overall business activity impact includes value-added, which is the contribution to gross domestic product (GDP) or the value of goods and services produced on a value-added basis. The contribution to GDP is overall business activity less business-to-business transactions that are also called intermediate transactions. Earnings impacts are part of value-added and are the wages and salaries for employment impact jobs.

The Becker and Morrissey 2012 report presented overall business activity and related tax impacts statewide of Medicaid expansion Federal funds inflow to Alabama. We consider the impacts of total spending (both Federal and State) for Medicaid expansion under the ACA in Alabama. Fiscal impacts were beyond the scope of this study, but there is no need to consider fiscal impacts since Becker and Morrissey showed that Alabama taxes generated from just Federal funds inflow to the state for the program would more than cover the Alabama portion of program costs.

To deal with uncertainty regarding how many newly eligible Alabamians would sign up for the program and the associated cost, Becker and Morrissey considered three scenarios—low, intermediate, and high take-up—over the 2014-2020 period. The intermediate take-up scenario is believed to be most likely, but we consider and present impacts for all three scenarios at both statewide and industry levels.

Becker and Morrissey Summary

Becker and Morrissey 2012 rightly noted that under the ACA, Medicaid eligibility is expanded to adults (ages 19-64) with family incomes less than 138% of the federal poverty level who are not currently eligible for Medicare. The ACA provides for federal matching to states of 100 percent in 2014-2016, 95 percent in 2017, 94 percent in 2018, 93 percent in 2019, and 90 percent from 2020 on. This federal matching assistance percentage (FMAP) is much higher than the 68.5 percent FMAP Alabama currently receives for Medicaid.

The study considered impacts over 2014-2020 focusing on five major areas: (i) Medicaid enrollment of newly eligible individuals; (ii) State and Federal spending on the expanded population; (iii) Impact of Federal funds inflow for the expansion on economic activity in the state; (iv) Alabama state budgetary impact of Federal funds inflow for the expansion; and (v) Potential health effects of the expansion. To address uncertainty regarding how many newly eligible Alabamians would sign up for the program and cost, they considered three scenarios with annual averages of low take-up (234,455 people at a cost of \$10 billion), intermediate take-up (292,635 people and cost of \$12.5 billion), and high take-up (494,629 people at a cost of \$21.1 billion). The intermediate take-up scenario is believed to be most likely.

They concluded that Medicaid expansion under the ACA would grow Alabama's economy, create a net positive effect on the state budget, increase the number of people with health insurance, and improve health. For the three scenarios of estimates of new Alabama Medicaid enrollment under the expansion, statewide economic activity increases by about \$16 billion to \$34 billion and generates net tax revenues of \$749 million to \$1.6 billion. Under the likely intermediate take-up scenario, approximately \$20 billion in increased economic activity will be realized from 2014 and 2020 along with a net increase of \$935 million in tax revenues.

Analysis and Results

Economic impact analysis measures the effects of a specific economic activity or event on a specified geographic area; the ACA-related Medicaid expansion on Alabama in this case. Impact studies provide information that can be used to facilitate positive economic impacts and/or mitigate potential negative ones and are therefore important decision-making tools that can enhance the quality of decisions made. The analysis typically focuses on one or more of the major economic indicators mentioned earlier—overall business activity, contribution to GDP, earnings, and employment. The purpose of an impact study usually determines which economic variable(s) should be the focus. In this study, the focus is on changes in all four major economic indicators for the state economy that increased economic activity resulting from Medicaid expansion will bring about.

Spending estimates for Medicaid expansion in Alabama associated with the ACA in the Becker and Morrisey report were reviewed and used to derive the statewide and industry-level impacts for the same three scenarios. The analysis made use of multipliers from the Regional Input-Output Modeling System (RIMS II), an input-output application developed and maintained by the U.S. Department of Commerce’s Bureau of Economic Analysis. A description of the general methodology for economic impact estimation is detailed in the Appendix.

Federal and state spending for the expansion directly and indirectly impacts the whole state economy through direct and significant effects on four major health-related sectors: professional services; hospital services; pharmacy services; and other health services. These sectors will use the funds to provide healthcare and in the process pay their workers and their suppliers and service providers (e.g., for equipment, materials and supplies, utilities, travel, and janitorial and security services); they may also pay taxes and distribute profits. The direct impacts or effects of the expansion-related payments create indirect effects through successive rounds of increasingly wider demand for products and services for both supplier networks and consumers, but with diminishing effect at each round. In this way the initial expansion spending propagates through the entire economy, but the ripple effect converges and is captured by multipliers for the direct effect sectors. The multipliers for each major expansion-related healthcare sector capture the total economic impact of the expansion by incorporating all the direct and indirect effects. Table 1 shows the distribution of expenditures for these sectors over 2014–2020.

Table 1. Distribution of Health Care Expenditures (Percent)

	2014	2015	2016	2017	2018	2019	2020
Professional Services	30.7	30.6	30.5	30.6	30.6	30.6	30.6
Hospital Services	37.5	37.4	37.5	37.4	37.3	37.2	37.1
Pharmacy Services	15.6	15.7	15.6	15.7	15.7	15.7	15.7
Other Health Services	16.2	16.3	16.3	16.4	16.5	16.5	16.6
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Becker and Morrisey (2012), Appendix Table 3.

Table 2 shows estimated state and federal costs of the expansion for each scenario. The cost to the state includes both its share and new administrative costs to be incurred due to the expansion. For each scenario, the data in Tables 1 and 2 are used to determine direct spending associated with the expansion on the four health-related sectors mentioned earlier (Table 3). Under the intermediate take-up scenario, total direct spending for the program is roughly \$12.5 billion, rising from \$1.757 billion in 2014 to \$1.852 billion in 2020. Hospitals receive the highest amounts, followed by professional services while pharmacy and other health services receive somewhat similar spending amounts.

Table 2. Federal and State Cost Estimates Associated with Alabama Medicaid Expansion

<i>Million \$</i>	2014	2015	2016	2017	2018	2019	2020	Total 2014-2020
<u>High Take-Up Scenario</u>								
Alabama Costs	65	65	65	211	243	278	375	1,302
Federal Costs	2,904	2,909	2,901	2,765	2,765	2,793	2,755	19,792
Total Costs	2,969	2,974	2,966	2,976	3,008	3,071	3,130	21,094
<u>Intermediate Take-Up Scenario</u>								
Alabama Costs	39	39	39	125	144	164	222	772
Federal Costs	1,718	1,721	1,716	1,636	1,636	1,653	1,630	11,710
Total Costs	1,757	1,760	1,755	1,761	1,780	1,817	1,852	12,482
<u>Low Take-Up Scenario</u>								
Alabama Costs	31	31	31	100	115	132	178	618
Federal Costs	1,376	1,379	1,375	1,311	1,311	1,324	1,306	9,382
Total Costs	1,407	1,410	1,406	1,411	1,426	1,456	1,484	10,000

Source: Becker and Morrisey (2012), Table 4.

Table 3. Direct Spending Associated with Alabama Medicaid Expansion (\$, Millions)

	2014	2015	2016	2017	2018	2019	2020
<u>High Take-Up Scenario</u>							
Professional Services	911	910	905	911	920	940	958
Hospital Services	1,113	1,112	1,112	1,113	1,122	1,142	1,161
Pharmacy Services	463	467	463	467	472	482	491
Other Health Services	481	485	483	488	496	507	520
TOTAL	2,969	2,974	2,963	2,979	3,011	3,071	3,130
<u>Intermediate Take-Up Scenario</u>							
Professional Services	539	539	535	539	545	556	567
Hospital Services	659	658	658	659	664	676	687
Pharmacy Services	274	276	274	276	279	285	291
Other Health Services	285	287	286	289	294	300	307
TOTAL	1,757	1,760	1,753	1,763	1,782	1,817	1,852
<u>Low Take-Up Scenario</u>							
Professional Services	432	431	429	432	436	446	454
Hospital Services	528	527	527	528	532	542	551
Pharmacy Services	219	221	219	222	224	229	233
Other Health Services	228	230	229	231	235	240	246
TOTAL	1,407	1,410	1,405	1,412	1,427	1,456	1,484

The spending amounts in Table 3 were used to derive the economic impacts using RIMS II multipliers for the four sectors with some modifications. For spending on professional services, multipliers belonging to the professional, scientific, and technical services sector were used as the larger sector contains professional services. Similarly, retail trade sector multipliers were used for spending on pharmacy services and also ambulatory health care services multipliers were used for spending on other health services. The modifications were necessary because stand-alone multipliers are available for hospitals, but not for professional services, pharmacy services, and other health services. The overall effect of the modifications or adjustments was conservative impact estimates as the analysis ultimately involved smaller multipliers than would typically be expected. For example, pharmacies would be expected to have higher multipliers than the retail trade sector average. The direct spending amounts shown in Table 3 are in 2012 dollars and thus were first deflated into 2010 dollars to determine employment impacts because the employment multipliers are based on 2010 dollars.

Table 4 shows annual economic impacts statewide that would occur from the direct Medicaid expansion spending for each scenario together with the estimated number of enrollees as well as the average over the 2014 to 2020 period. The annual impacts can be aggregated to see the total impact over the seven-year inclusive period. The aggregate impacts of the expansion on the Alabama economy is to increase (i) overall business activity by \$47.1 billion with high take-up, \$27.9 billion with intermediate take-up, and \$22.4 billion with low take-up; (ii) GDP by \$28.6 billion with high take-up, \$16.9 billion with intermediate take-up, and \$13.6 billion with low take-up; and (iii) worker earnings by \$17.0 billion with high take-up, \$10.1 billion with intermediate take-up, and \$8.1 billion with low take-up.

The annual averages show that the expansion will have the following significant impacts on the Alabama economy:

1. Raise employment by 51,918 jobs with high take-up, 30,722 jobs with the likely intermediate take-up, and 24,613 with low take-up;
2. Increase earnings because of the additional jobs by \$2.123 billion with high take-up, \$1.256 billion with intermediate take-up, and \$1.007 billion with low take-up;
3. Grow GDP by \$3.575 billion with high take-up, \$2.116 billion with intermediate take-up, and \$1.695 billion with low take-up; and
4. Provide additional business activity of \$5.893 billion with high take-up, \$3.487 billion with intermediate take-up, and \$2.794 billion with low take-up.

Table 4. Annual Economic Impacts of Medicaid Expansion in Alabama under ACA

	2014	2015	2016	2017	2018	2019	2020	Annual Average
<u>High Take-Up Scenario</u>								
Employment (Number of Jobs)	51,134	51,235	51,038	51,320	51,872	52,907	53,924	51,918
Earnings (\$, Millions)	2,091	2,095	2,087	2,098	2,121	2,164	2,206	2,123
Contribution to GDP (\$, Millions)	3,522	3,528	3,515	3,534	3,572	3,644	3,714	3,575
Overall Business Activity (\$, Millions)	5,806	5,815	5,794	5,825	5,888	6,005	6,121	5,893
Estimated Number of New Enrollees	521,566	510,744	497,979	488,391	482,517	481,531	479,673	494,629
<u>Intermediate Take-Up Scenario</u>								
Employment (Number of Jobs)	30,260	30,320	30,200	30,368	30,696	31,303	31,906	30,722
Earnings (\$, Millions)	1,238	1,240	1,235	1,242	1,255	1,280	1,305	1,256
Contribution to GDP (\$, Millions)	2,084	2,088	2,080	2,091	2,114	2,156	2,197	2,116
Overall Business Activity (\$, Millions)	3,436	3,441	3,429	3,447	3,484	3,553	3,621	3,487
Estimated Number of New Enrollees	308,572	302,169	294,617	288,945	285,469	284,886	283,787	292,635
<u>Low Take-Up Scenario</u>								
Employment (Number of Jobs)	24,232	24,291	24,194	24,332	24,591	25,084	25,566	24,613
Earnings (\$, Millions)	991	993	989	995	1,006	1,026	1,046	1,007
Contribution to GDP (\$, Millions)	1,669	1,673	1,666	1,676	1,693	1,727	1,761	1,695
Overall Business Activity (\$, Millions)	2,751	2,757	2,747	2,762	2,791	2,847	2,902	2,794
Estimated Number of New Enrollees	247,224	242,094	236,044	231,499	228,714	228,247	227,366	234,455

Tables 5-8 show the industry-level annual economic impacts that would occur from the Medicaid expansion for each scenario and the average over the 2014 to 2020 period. Every industry would benefit although healthcare and related industries naturally benefit the most. This is because the changes are specific to healthcare and the Medicaid expansion spending works directly through the four main health-related sectors (see Table 3). Health Care and Social Assistance shows the largest impacts because it contains the bulk of healthcare activities. Retail Trade contains pharmacies and also health-related professional services such as labs, information technology, imaging, accounting, and legal service providers are in Professional, Scientific, and Technical Services.

Table 5. Industry-Level Employment Impacts of Medicaid Expansion in Alabama under ACA (Number of Jobs)

	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>Annual Average</u>
High Take-Up Scenario								
Agriculture, Forestry, Fishing and Hunting	81	81	81	81	82	84	85	82
Mining, Quarrying, and Oil and Gas Extraction	8	8	8	8	8	8	9	8
Utilities	107	106	106	106	107	110	112	108
Construction	205	204	203	204	206	210	214	207
Manufacturing	257	255	255	256	259	264	269	259
Wholesale Trade	517	515	513	516	521	531	542	522
Retail Trade	10,589	10,671	10,590	10,681	10,796	11,019	11,231	10,797
Transportation and Warehousing	477	474	472	475	480	490	499	481
Information	336	333	332	333	337	344	350	338
Finance and Insurance	1,835	1,826	1,819	1,829	1,849	1,885	1,922	1,852
Real Estate and Rental and Leasing	1,493	1,486	1,481	1,488	1,504	1,534	1,564	1,507
Professional, Scientific, and Technical Services	9,146	9,156	9,106	9,164	9,262	9,455	9,637	9,275
Management of Companies and Enterprises	128	127	127	128	129	132	134	129
Administrative and Support and Waste Management and Remediation Services	2,388	2,373	2,365	2,377	2,402	2,450	2,497	2,407
Educational Services	339	337	336	338	341	348	355	342
Health Care and Social Assistance	18,731	18,816	18,795	18,862	19,065	19,430	19,803	19,072
Arts, Entertainment, and Recreation	426	423	421	424	428	437	445	429
Accommodation and Food Services	2,095	2,079	2,071	2,082	2,105	2,147	2,188	2,109
Other Services (except Public Administration)	1,219	1,211	1,207	1,213	1,226	1,251	1,275	1,229
Public Administration	758	754	752	756	764	779	794	765
Total	51,134	51,235	51,038	51,320	51,872	52,907	53,924	51,918
Intermediate Take-Up Scenario								
Agriculture, Forestry, Fishing and Hunting	48	48	48	48	48	50	50	49
Mining, Quarrying, and Oil and Gas Extraction	5	5	5	5	5	5	5	5
Utilities	63	63	63	63	64	65	66	64
Construction	120	120	120	121	122	124	127	122
Manufacturing	151	151	151	151	153	156	159	153
Wholesale Trade	304	305	303	305	308	314	321	309
Retail Trade	6,276	6,315	6,266	6,320	6,388	6,519	6,645	6,390
Transportation and Warehousing	280	281	279	281	284	290	295	284
Information	197	197	196	197	199	203	207	200
Finance and Insurance	1,079	1,080	1,077	1,082	1,094	1,115	1,137	1,095
Real Estate and Rental and Leasing	878	879	876	881	890	908	925	891
Professional, Scientific, and Technical Services	5,425	5,419	5,388	5,423	5,481	5,594	5,702	5,490
Management of Companies and Enterprises	75	76	75	76	76	78	79	76
Administrative and Support and Waste Management and Remediation Services	1,402	1,404	1,399	1,406	1,422	1,450	1,478	1,423
Educational Services	199	199	199	200	202	206	210	202
Health Care and Social Assistance	11,118	11,135	11,121	11,161	11,282	11,496	11,717	11,290
Arts, Entertainment, and Recreation	250	250	249	251	253	258	263	254
Accommodation and Food Services	1,229	1,230	1,226	1,232	1,245	1,270	1,295	1,247
Other Services (except Public Administration)	716	717	714	718	726	740	754	726
Public Administration	446	446	445	447	452	461	470	452
Total	30,260	30,320	30,200	30,368	30,696	31,303	31,906	30,722

Table 5 (Continued). Industry-Level Employment Impacts of Medicaid Expansion in Alabama under ACA (Number of Jobs)

Low Take-Up Scenario	2014	2015	2016	2017	2018	2019	2020	Annual Average
Agriculture, Forestry, Fishing and Hunting	38	38	38	38	39	40	40	39
Mining, Quarrying, and Oil and Gas Extraction	4	4	4	4	4	4	4	4
Utilities	50	50	50	50	51	52	53	51
Construction	96	97	96	97	98	100	102	98
Manufacturing	121	121	121	121	123	125	127	123
Wholesale Trade	243	244	243	244	247	252	257	247
Retail Trade	5,026	5,059	5,020	5,064	5,118	5,224	5,325	5,119
Transportation and Warehousing	224	225	224	225	228	232	237	228
Information	157	158	157	158	160	163	166	160
Finance and Insurance	864	866	862	867	876	894	911	877
Real Estate and Rental and Leasing	703	704	702	706	713	727	741	714
Professional, Scientific, and Technical Services	4,344	4,341	4,316	4,345	4,391	4,483	4,569	4,399
Management of Companies and Enterprises	60	61	60	61	61	62	64	61
Administrative and Support and Waste Management and Remediation Services	1,123	1,125	1,121	1,127	1,139	1,162	1,184	1,140
Educational Services	159	160	159	160	162	165	168	162
Health Care and Social Assistance	8,903	8,921	8,910	8,943	9,038	9,212	9,389	9,045
Arts, Entertainment, and Recreation	200	200	200	201	203	207	211	203
Accommodation and Food Services	984	986	982	987	998	1,018	1,037	999
Other Services (except Public Administration)	573	574	572	575	581	593	604	582
Public Administration	357	358	356	358	362	369	376	362
Total	24,232	24,291	24,194	24,332	24,591	25,084	25,566	24,613

Table 6. Industry-Level Earnings Impacts of Medicaid Expansion in Alabama under ACA (\$, Millions)

High Take-Up Scenario	2014	2015	2016	2017	2018	2019	2020	Annual Average
Agriculture, Forestry, Fishing and Hunting	2.2	2.2	2.2	2.2	2.3	2.3	2.4	2.3
Mining, Quarrying, and Oil and Gas Extraction	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.7
Utilities	10.2	10.3	10.2	10.3	10.4	10.6	10.8	10.4
Construction	7.2	7.2	7.2	7.3	7.3	7.5	7.6	7.3
Manufacturing	14.8	14.8	14.8	14.9	15.0	15.3	15.6	15.0
Wholesale Trade	30.4	30.5	30.4	30.6	30.9	31.5	32.1	30.9
Retail Trade	258.5	262.6	260.7	262.9	265.8	271.3	276.6	265.5
Transportation and Warehousing	21.3	21.3	21.2	21.4	21.6	22.0	22.5	21.6
Information	15.3	15.3	15.2	15.3	15.5	15.8	16.1	15.5
Finance and Insurance	79.5	79.7	79.4	79.9	80.7	82.3	83.9	80.8
Real Estate and Rental and Leasing	19.4	19.4	19.4	19.5	19.7	20.1	20.5	19.7
Professional, Scientific, and Technical Services	572.7	559.9	556.8	560.5	566.6	578.4	589.6	569.2
Management of Companies and Enterprises	9.9	9.9	9.9	9.9	10.1	10.3	10.5	10.1
Administrative and Support and Waste Management and Remediation Services	51.2	51.3	51.1	51.4	51.9	53.0	54.0	52.0
Educational Services	8.7	8.7	8.7	8.7	8.8	9.0	9.2	8.8
Health Care and Social Assistance	882.3	893.4	892.4	895.7	905.5	922.9	940.8	904.7
Arts, Entertainment, and Recreation	4.6	4.6	4.5	4.6	4.6	4.7	4.8	4.6
Accommodation and Food Services	31.1	31.1	31.0	31.2	31.5	32.1	32.8	31.5
Other Services (except Public Administration)	29.7	29.8	29.7	29.8	30.2	30.8	31.4	30.2
Public Administration	41.5	41.6	41.5	41.7	42.2	43.0	43.9	42.2
Total	2,091.1	2,094.6	2,087.2	2,098.4	2,121.3	2,163.6	2,205.6	2,123.1
Intermediate Take-Up Scenario	2014	2015	2016	2017	2018	2019	2020	Annual Average
Agriculture, Forestry, Fishing and Hunting	1.3	1.3	1.3	1.3	1.3	1.4	1.4	1.3
Mining, Quarrying, and Oil and Gas Extraction	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4
Utilities	6.1	6.1	6.1	6.1	6.2	6.3	6.4	6.2
Construction	4.3	4.3	4.3	4.3	4.3	4.4	4.5	4.3
Manufacturing	8.8	8.8	8.7	8.8	8.9	9.1	9.2	8.9
Wholesale Trade	18.0	18.0	18.0	18.1	18.3	18.6	19.0	18.3
Retail Trade	154.4	155.4	154.2	155.6	157.3	160.5	163.6	157.3
Transportation and Warehousing	12.6	12.6	12.6	12.6	12.8	13.0	13.3	12.8
Information	9.0	9.0	9.0	9.0	9.1	9.3	9.5	9.2
Finance and Insurance	47.1	47.2	47.0	47.3	47.8	48.7	49.7	47.8
Real Estate and Rental and Leasing	11.5	11.5	11.5	11.5	11.6	11.9	12.1	11.7
Professional, Scientific, and Technical Services	331.7	331.4	329.5	331.6	335.3	342.2	348.9	335.8
Management of Companies and Enterprises	5.9	5.9	5.9	5.9	5.9	6.1	6.2	6.0
Administrative and Support and Waste Management and Remediation Services	30.3	30.4	30.2	30.4	30.7	31.3	32.0	30.8
Educational Services	5.1	5.2	5.1	5.2	5.2	5.3	5.4	5.2
Health Care and Social Assistance	527.8	528.7	528.1	530.0	535.8	546.0	556.7	536.2
Arts, Entertainment, and Recreation	2.7	2.7	2.7	2.7	2.7	2.8	2.8	2.7
Accommodation and Food Services	18.4	18.4	18.3	18.4	18.6	19.0	19.4	18.7
Other Services (except Public Administration)	17.6	17.6	17.6	17.7	17.8	18.2	18.6	17.9
Public Administration	24.6	24.6	24.6	24.7	25.0	25.5	25.9	25.0
Total	1,237.5	1,239.6	1,235.0	1,241.7	1,255.3	1,280.1	1,305.0	1,256.3

Table 6 (Continued). Industry-Level Earnings Impacts of Medicaid Expansion in Alabama under ACA (\$, Millions)

<u>Low Take-Up Scenario</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>Annual Average</u>
Agriculture, Forestry, Fishing and Hunting	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Mining, Quarrying, and Oil and Gas Extraction	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4
Utilities	4.9	4.9	4.9	4.9	4.9	5.0	5.1	4.9
Construction	3.4	3.4	3.4	3.4	3.5	3.5	3.6	3.5
Manufacturing	7.0	7.0	7.0	7.0	7.1	7.3	7.4	7.1
Wholesale Trade	14.4	14.5	14.4	14.5	14.6	14.9	15.2	14.7
Retail Trade	123.7	124.5	123.6	124.7	126.0	128.6	131.1	126.0
Transportation and Warehousing	10.1	10.1	10.1	10.1	10.2	10.4	10.7	10.2
Information	7.2	7.2	7.2	7.2	7.3	7.5	7.6	7.3
Finance and Insurance	37.7	37.8	37.7	37.9	38.3	39.0	39.8	38.3
Real Estate and Rental and Leasing	9.2	9.2	9.2	9.2	9.3	9.5	9.7	9.3
Professional, Scientific, and Technical Services	265.6	265.5	264.0	265.7	268.6	274.2	279.5	269.0
Management of Companies and Enterprises	4.7	4.7	4.7	4.7	4.8	4.9	5.0	4.8
Administrative and Support and Waste Management and Remediation Services	24.3	24.3	24.2	24.4	24.6	25.1	25.6	24.6
Educational Services	4.1	4.1	4.1	4.1	4.2	4.3	4.4	4.2
Health Care and Social Assistance	422.6	423.6	423.1	424.7	429.3	437.6	446.0	429.6
Arts, Entertainment, and Recreation	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.2
Accommodation and Food Services	14.7	14.8	14.7	14.8	14.9	15.2	15.5	15.0
Other Services (except Public Administration)	14.1	14.1	14.1	14.1	14.3	14.6	14.9	14.3
Public Administration	19.7	19.7	19.7	19.8	20.0	20.4	20.8	20.0
Total	991.0	993.1	989.4	994.9	1,005.7	1,025.8	1,045.7	1,006.5

Table 7. Industry-Level Contribution to GDP Impacts of Medicaid Expansion in Alabama under ACA (\$, Millions)

	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>Annual Average</u>
High Take-Up Scenario								
Agriculture, Forestry, Fishing and Hunting	2.8	2.9	2.8	2.9	2.9	2.9	3.0	2.9
Mining, Quarrying, and Oil and Gas Extraction	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9
Utilities	49.0	49.2	49.0	49.2	49.8	50.8	51.8	49.8
Construction	11.1	11.1	11.1	11.2	11.3	11.5	11.7	11.3
Manufacturing	30.3	30.4	30.3	30.5	30.8	31.4	32.0	30.8
Wholesale Trade	67.6	67.8	67.6	68.0	68.7	70.1	71.4	68.7
Retail Trade	463.0	470.1	466.5	470.5	475.6	485.5	494.8	475.1
Transportation and Warehousing	35.3	35.4	35.2	35.5	35.8	36.6	37.3	35.9
Information	49.4	49.3	49.2	49.4	50.0	51.0	51.9	50.0
Finance and Insurance	181.6	182.0	181.3	182.3	184.3	187.9	191.6	184.4
Real Estate and Rental and Leasing	377.7	378.8	377.4	379.4	383.5	391.2	398.7	383.8
Professional, Scientific, and Technical Services	786.1	768.2	763.9	768.9	777.2	793.4	808.7	780.9
Management of Companies and Enterprises	14.2	14.3	14.2	14.3	14.4	14.7	15.0	14.4
Administrative and Support and Waste Management and Remediation Services	78.6	78.7	78.5	78.9	79.7	81.3	82.9	79.8
Educational Services	10.1	10.2	10.1	10.2	10.3	10.5	10.7	10.3
Health Care and Social Assistance	1,191.8	1,206.2	1,204.8	1,209.2	1,222.4	1,245.8	1,269.8	1,221.4
Arts, Entertainment, and Recreation	8.4	8.4	8.3	8.4	8.5	8.6	8.8	8.5
Accommodation and Food Services	61.9	61.8	61.6	61.9	62.6	63.9	65.1	62.7
Other Services (except Public Administration)	40.4	40.5	40.3	40.5	41.0	41.8	42.6	41.0
Public Administration	60.6	60.8	60.6	60.9	61.6	62.8	64.0	61.6
Total	3,521.9	3,527.8	3,514.7	3,533.9	3,572.2	3,643.5	3,713.8	3,575.4
Intermediate Take-Up Scenario								
Agriculture, Forestry, Fishing and Hunting	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.7
Mining, Quarrying, and Oil and Gas Extraction	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.1
Utilities	29.0	29.1	29.0	29.1	29.5	30.0	30.6	29.5
Construction	6.6	6.6	6.6	6.6	6.7	6.8	6.9	6.7
Manufacturing	18.0	18.0	17.9	18.0	18.2	18.6	18.9	18.2
Wholesale Trade	40.1	40.1	40.0	40.2	40.6	41.4	42.2	40.7
Retail Trade	276.4	278.2	276.0	278.4	281.5	287.2	292.8	281.5
Transportation and Warehousing	20.9	20.9	20.9	21.0	21.2	21.6	22.0	21.2
Information	29.2	29.2	29.1	29.2	29.6	30.2	30.7	29.6
Finance and Insurance	107.5	107.7	107.3	107.9	109.0	111.2	113.4	109.1
Real Estate and Rental and Leasing	223.8	224.1	223.3	224.5	227.0	231.4	235.9	227.2
Professional, Scientific, and Technical Services	455.1	454.6	452.0	455.0	459.9	469.4	478.5	460.6
Management of Companies and Enterprises	8.4	8.4	8.4	8.5	8.5	8.7	8.9	8.6
Administrative and Support and Waste Management and Remediation Services	46.5	46.6	46.4	46.7	47.2	48.1	49.0	47.2
Educational Services	6.0	6.0	6.0	6.0	6.1	6.2	6.3	6.1
Health Care and Social Assistance	712.6	713.8	712.9	715.6	723.3	737.1	751.4	723.8
Arts, Entertainment, and Recreation	4.9	4.9	4.9	5.0	5.0	5.1	5.2	5.0
Accommodation and Food Services	36.5	36.6	36.5	36.7	37.1	37.8	38.5	37.1
Other Services (except Public Administration)	23.9	23.9	23.9	24.0	24.2	24.7	25.2	24.3
Public Administration	35.9	36.0	35.9	36.0	36.4	37.2	37.9	36.5
Total	2,084.2	2,087.8	2,079.7	2,091.1	2,113.9	2,155.7	2,197.5	2,115.7

Table 7 (Continued). Industry-Level Contribution to GDP Impacts of Medicaid Expansion in Alabama under ACA (\$, Millions)

Low Take-Up Scenario	2014	2015	2016	2017	2018	2019	2020	Annual Average
Agriculture, Forestry, Fishing and Hunting	1.3	1.4	1.3	1.4	1.4	1.4	1.4	1.4
Mining, Quarrying, and Oil and Gas Extraction	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Utilities	23.3	23.3	23.2	23.3	23.6	24.1	24.5	23.6
Construction	5.3	5.3	5.3	5.3	5.3	5.5	5.6	5.4
Manufacturing	14.4	14.4	14.4	14.4	14.6	14.9	15.2	14.6
Wholesale Trade	32.1	32.2	32.0	32.2	32.6	33.2	33.9	32.6
Retail Trade	221.3	222.9	221.1	223.1	225.5	230.2	234.6	225.5
Transportation and Warehousing	16.7	16.8	16.7	16.8	17.0	17.3	17.7	17.0
Information	23.4	23.4	23.3	23.4	23.7	24.2	24.6	23.7
Finance and Insurance	86.1	86.3	86.0	86.4	87.4	89.1	90.8	87.4
Real Estate and Rental and Leasing	179.2	179.6	178.9	179.9	181.8	185.5	189.0	182.0
Professional, Scientific, and Technical Services	364.4	364.2	362.1	364.5	368.5	376.2	383.4	369.0
Management of Companies and Enterprises	6.7	6.8	6.7	6.8	6.8	7.0	7.1	6.9
Administrative and Support and Waste Management and Remediation Services	37.3	37.3	37.2	37.4	37.8	38.6	39.3	37.8
Educational Services	4.8	4.8	4.8	4.8	4.9	5.0	5.1	4.9
Health Care and Social Assistance	570.7	571.9	571.1	573.3	579.5	590.6	602.1	579.9
Arts, Entertainment, and Recreation	4.0	4.0	3.9	4.0	4.0	4.1	4.2	4.0
Accommodation and Food Services	29.3	29.3	29.2	29.4	29.7	30.3	30.9	29.7
Other Services (except Public Administration)	19.1	19.2	19.1	19.2	19.4	19.8	20.2	19.4
Public Administration	28.8	28.8	28.7	28.9	29.2	29.8	30.4	29.2
Total	1,669.0	1,672.6	1,666.1	1,675.5	1,693.5	1,727.4	1,760.8	1,695.0

Table 8. Industry-Level Business Activity Impacts of Medicaid Expansion in Alabama under ACA (\$, Millions)

High Take-Up Scenario	2014	2015	2016	2017	2018	2019	2020	Annual Average
Agriculture, Forestry, Fishing and Hunting	8.7	8.7	8.7	8.7	8.8	9.0	9.2	8.8
Mining, Quarrying, and Oil and Gas Extraction	2.7	2.7	2.7	2.7	2.7	2.8	2.8	2.7
Utilities	62.7	62.9	62.6	63.0	63.7	64.9	66.2	63.7
Construction	29.4	29.5	29.4	29.5	29.8	30.4	31.0	29.9
Manufacturing	119.4	119.7	119.3	119.9	121.2	123.6	126.0	121.3
Wholesale Trade	80.3	80.6	80.3	80.7	81.6	83.2	84.8	81.6
Retail Trade	699.2	709.7	704.3	710.4	718.0	732.8	746.9	717.3
Transportation and Warehousing	66.7	66.9	66.6	67.0	67.7	69.1	70.4	67.8
Information	97.1	97.0	96.6	97.1	98.2	100.2	102.1	98.3
Finance and Insurance	388.1	388.9	387.5	389.5	393.7	401.6	409.3	394.1
Real Estate and Rental and Leasing	445.6	446.8	445.2	447.5	452.4	461.4	470.2	452.7
Professional, Scientific, and Technical Services	1,247.3	1,218.5	1,211.7	1,219.5	1,232.6	1,258.3	1,282.5	1,238.6
Management of Companies and Enterprises	25.3	25.5	25.4	25.5	25.8	26.3	26.8	25.8
Administrative and Support and Waste Management and Remediation Services	134.3	134.4	133.9	134.7	136.1	138.8	141.5	136.2
Educational Services	22.9	22.9	22.8	23.0	23.2	23.7	24.1	23.2
Health Care and Social Assistance	2,077.1	2,101.7	2,099.3	2,106.8	2,129.5	2,170.3	2,212.1	2,128.1
Arts, Entertainment, and Recreation	18.3	18.3	18.2	18.3	18.5	18.9	19.3	18.6
Accommodation and Food Services	124.4	124.3	123.9	124.5	125.9	128.4	130.8	126.0
Other Services (except Public Administration)	79.9	80.0	79.7	80.1	80.9	82.6	84.2	81.0
Public Administration	76.2	76.4	76.2	76.6	77.4	78.9	80.4	77.4
Total	5,805.6	5,815.2	5,794.3	5,825.1	5,887.9	6,005.1	6,120.5	5,893.4
Intermediate Take-Up Scenario	2014	2015	2016	2017	2018	2019	2020	Annual Average
Agriculture, Forestry, Fishing and Hunting	5.2	5.2	5.1	5.2	5.2	5.3	5.4	5.2
Mining, Quarrying, and Oil and Gas Extraction	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.6
Utilities	37.1	37.2	37.1	37.3	37.7	38.4	39.1	37.7
Construction	17.4	17.4	17.4	17.5	17.7	18.0	18.4	17.7
Manufacturing	70.7	70.8	70.6	71.0	71.7	73.1	74.6	71.8
Wholesale Trade	47.6	47.7	47.5	47.8	48.3	49.2	50.2	48.3
Retail Trade	417.3	420.0	416.7	420.3	424.9	433.6	442.0	425.0
Transportation and Warehousing	39.5	39.6	39.4	39.6	40.1	40.9	41.7	40.1
Information	57.3	57.4	57.2	57.5	58.1	59.3	60.4	58.2
Finance and Insurance	229.7	230.1	229.3	230.5	233.0	237.6	242.2	233.2
Real Estate and Rental and Leasing	263.9	264.4	263.4	264.8	267.7	273.0	278.2	267.9
Professional, Scientific, and Technical Services	721.9	721.1	717.0	721.6	729.4	744.5	758.8	730.6
Management of Companies and Enterprises	15.0	15.1	15.0	15.1	15.3	15.6	15.9	15.3
Administrative and Support and Waste Management and Remediation Services	79.4	79.5	79.3	79.7	80.5	82.1	83.7	80.6
Educational Services	13.5	13.6	13.5	13.6	13.7	14.0	14.3	13.7
Health Care and Social Assistance	1,241.7	1,243.8	1,242.2	1,246.7	1,260.2	1,284.1	1,308.9	1,261.1
Arts, Entertainment, and Recreation	10.8	10.8	10.8	10.8	11.0	11.2	11.4	11.0
Accommodation and Food Services	73.5	73.6	73.3	73.7	74.5	76.0	77.4	74.5
Other Services (except Public Administration)	47.2	47.3	47.1	47.4	47.9	48.8	49.8	47.9
Public Administration	45.1	45.2	45.1	45.3	45.8	46.7	47.6	45.8
Total	3,435.7	3,441.4	3,428.5	3,446.9	3,484.2	3,553.0	3,621.5	3,487.3

Table 8 (Continued). Industry-Level Business Activity Impacts of Medicaid Expansion in Alabama under ACA (\$, Millions)

Low Take-Up Scenario	2014	2015	2016	2017	2018	2019	2020	Annual Average
Agriculture, Forestry, Fishing and Hunting	4.1	4.1	4.1	4.1	4.2	4.3	4.4	4.2
Mining, Quarrying, and Oil and Gas Extraction	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Utilities	29.7	29.8	29.7	29.9	30.2	30.8	31.4	30.2
Construction	13.9	14.0	13.9	14.0	14.1	14.4	14.7	14.2
Manufacturing	56.6	56.8	56.6	56.9	57.5	58.6	59.7	57.5
Wholesale Trade	38.1	38.2	38.1	38.3	38.7	39.4	40.2	38.7
Retail Trade	334.2	336.5	333.9	336.8	340.4	347.5	354.1	340.5
Transportation and Warehousing	31.6	31.7	31.6	31.8	32.1	32.8	33.4	32.1
Information	45.9	46.0	45.8	46.1	46.6	47.5	48.4	46.6
Finance and Insurance	184.0	184.4	183.7	184.7	186.7	190.4	194.1	186.8
Real Estate and Rental and Leasing	211.4	211.8	211.0	212.2	214.5	218.7	222.9	214.6
Professional, Scientific, and Technical Services	578.1	577.7	574.4	578.2	584.4	596.6	608.0	585.3
Management of Companies and Enterprises	12.0	12.1	12.0	12.1	12.2	12.5	12.7	12.2
Administrative and Support and Waste Management and Remediation Services	63.6	63.7	63.5	63.8	64.5	65.8	67.1	64.6
Educational Services	10.8	10.9	10.8	10.9	11.0	11.2	11.4	11.0
Health Care and Social Assistance	994.3	996.4	995.1	998.9	1,009.5	1,029.0	1,048.8	1,010.3
Arts, Entertainment, and Recreation	8.7	8.7	8.6	8.7	8.8	9.0	9.1	8.8
Accommodation and Food Services	58.8	58.9	58.7	59.0	59.7	60.9	62.0	59.7
Other Services (except Public Administration)	37.8	37.9	37.8	38.0	38.4	39.1	39.9	38.4
Public Administration	36.2	36.2	36.1	36.3	36.7	37.4	38.1	36.7
Total	2,751.3	2,757.0	2,746.7	2,761.8	2,791.3	2,847.1	2,901.9	2,793.9

Conclusions

This report presents statewide and industry-level economic impacts that would be realized if Alabama were to undertake Medicaid expansion under the Affordable Care Act (ACA). It adds to other impacts previously presented in the aforementioned Becker and Morrisey 2012 report. We find that Medicaid expansion in Alabama under the ACA would have significant aggregate and annual economic impacts on the state economy and every industry would benefit.

For the Alabama economy, the expansion would, on an annual average basis, (i) create a significant number of jobs—about 24,600 with low take-up, 30,700 with intermediate take-up, and 51,900 with high take-up; (ii) generate wage and salary earnings of around \$1.0 billion with low take-up, \$1.3 billion with intermediate take-up, and \$2.1 billion with high take-up; (iii) grow GDP by roughly \$1.7 billion with low take-up, \$2.1 billion with intermediate take-up, and \$3.6 billion with high take-up; and (iv) increase business activity by nearly \$2.8 billion with low take-up, \$3.5 billion with intermediate take-up, and \$5.9 billion with high take-up. The intermediate take-up scenario is believed to be most likely.

Over the 2014-2020 period, the expansion will increase (i) overall business activity by about \$22 billion to \$47 billion, (ii) GDP by roughly \$14 billion to \$29 billion, and (iii) worker earnings by approximately \$8 billion to \$17 billion. Aggregate impacts of the intermediate take-up scenario are \$28 billion in overall business activity, which includes \$17 billion contribution to GDP, which in turn contains \$10 billion in earnings.

From an economic perspective, it is clear that Alabama will significantly gain jobs and the associated income, grow its GDP, increase business activity, and generate much-needed tax revenues if it chooses to undertake Medicaid expansion under the ACA. Hopefully, these results help to inform the debate on and enhance the decision making process as to whether Alabama should undertake the expansion.

Appendix

Economic impact analysis measures the effects of a specific economic activity or event on a specified geographic area. Examples include the economic impact on a state or county of a proposed industrial plant, an existing industry, closing a military installation, or expansion of an existing industrial facility. In some cases, federal laws, as well as state and local regulations, require economic impact studies prior to the implementation of a particular policy (relocation of an economic activity, change in tax policy, changes in zoning ordinance, etc.). No matter what the justification, impact studies are designed to provide information for instituting policies to facilitate positive economic impacts and/or mitigate potential negative impacts. Economic impact analysis is therefore an important decision making tool which can enhance the quality of decisions made, as well as the decision making process in both public and private sectors. The analysis typically focuses on one or more of the major economic indicators: output or gross business sales (a measure of total business activity), value-added or contribution to gross domestic product (GDP), employment, and income. The purpose of an impact study usually determines which socioeconomic variable(s) should be monitored. In this study, the focus is on changes in all four major economic indicators that increased economic activity resulting from expansion of Medicaid coverage in Alabama will bring about.

Economic impacts comprise direct and indirect impacts. Direct impacts are those that are most obvious and include the wages and salaries of the employees who work directly for a firm or industry, as well as all other expenditures of the firm or industry, including taxes and distributed profits. Indirect economic impacts, often referred to as the “ripple” or “multiplier” effects, occur because of the additional demand arising from new income and expenditures for inputs and products related to the activity under study. New income creates demand for consumer products and services and their associated indirect impacts are often called induced impacts. Indirect and induced impacts may spark demand for the output of the firm or industry under study. For example, an increase in healthcare expenditures also creates an indirect impact on its vendors by purchasing their products and services and also through purchases of supplies from both wholesale and retail industries. These industries and their workers in turn make purchases from other vendors in the area, and so forth, but also consume healthcare services. Other industries, especially manufacturing, increase production to meet the direct and indirect demands created by expansion of or additional healthcare activity. The total economic impacts of the organization being studied capture all the direct, indirect, and induced impacts effects. The ratio of the total economic impact to the direct effect is the multiplier that can be used to summarize the economic effects of the organization on the region or area of focus.

However, economic relationships do not obey strict geographic boundaries; workers and their incomes and industry purchases flow across these boundaries enabled by transportation and communication. Thus a portion of the indirect effects of purchases or expenditures may occur beyond the boundaries of the specified region. Such occurrences are called *leakages*, as opposed to *linkages* (supplier-purchaser relationships) within the region. In general a small geographic area will have a small *absolute* economic impact due to a high likelihood of leakage. A large region will have a larger absolute economic impact, but a smaller *relative* economic impact of an individual firm or industry on that area. The closure of one plant within a state, for example, may have only a small relative impact even if the plant employs thousands of workers; the absolute impact could be very large. The important point is that the effect or size of the economic impact is influenced by the size of the study area. If the area is too broadly defined, the relative impact will be small. If narrowly defined, the relative impact will be large.

Determining the Multiplier

Several methodological approaches are used in estimating economic impacts. These include the construction of econometric, economic base, computable general equilibrium (CGE), and input-output (I-O) models. Econometric and CGE models can be very costly and time-consuming to build. Economic base models require a very detailed set of information that is sometimes not available. The other methodological approaches generate slightly smaller multipliers than I-O models because of assumptions on factors such as input substitution and optimization behavior by economic agents.

The I-O modeling framework is used in this study. The technique generates multipliers for the economic activity of interest by focusing on economic interactions among all industries and all other economic transactions in the specified region. Interindustry relationships exist in directions; backward (suppliers and other upstream linkages and leakages), and forward (distributors, retailers, customers, and other downstream linkages and leakages). The number and strength of these backward and forward linkages and leakages determines the multiplier effects of the industry. In general, products and services that require a small number of inputs and little additional processing (little value addition) will have smaller multiplier effects than complex products that require lots of inputs and extensive processing.

The four main types of multipliers—output, value-added, income or earnings, and employment—are defined as follows. Output multipliers represent the total dollar change in output that occurs in all industries for each additional dollar of output delivered to final demand (final consumption) by the industry under study. Value-added multipliers are similarly defined except that they represent the total dollar change in value-added across all industries. Earnings multipliers represent the total

dollar change in earnings of households employed by all industries for each additional dollar of payroll expenditure (or each dollar of output delivered to final demand) by the industry whose economic impact is being estimated. Employment multipliers represent the total change in the number of jobs in all industries for each direct job (or for each million dollars of output delivered to final demand) by the industry whose economic impact is being estimated. Earnings are part of value-added, which in turn is part of output.

The nature of the product or service and technology largely determine the degree of interindustry linkages and leakages (and thus the overall impact), and the specific impact on a region depends upon the degree to which these interindustry relationships are localized. Technology determines inputs and economics determines the geographic source of supply and destination of products or services. Inputs purchased outside the economic impact study area constitute a leakage of potential impact. The leakage represents activities of local firms that have no economic impact on the local economy, and provides opportunities for “localizing” such impact. Identifying leakage can provide valuable planning information to local economic development authorities for commercial or industrial development. An activity’s maximum impact on a specific area is obtained when all interindustry linkages occur within the area. A systemwide view is required because different firms have different linkages. The I-O technique permits the incorporation of such systemwide perspectives.

To estimate the economic impact of increases in healthcare related expenditures on Alabama, interactions between the healthcare industry and all its suppliers and customers must be traced. This task is greatly facilitated by the Regional Input-Output Modeling System (RIMS II), an input-output model developed and maintained by the U.S. Department of Commerce’s Bureau of Economic Analysis. The model is available for every state, region, county, and metropolitan area in the nation. This study uses RIMS II for the state of Alabama. IMPLAN is another I-O software that can be, and has been, used.

The RIMS II I-O model consists of nearly 500 industries. Data on each industry reflects the value of inputs used per dollar of output in the production of that industry’s output. For example, data for the hospitals industry show the value of each input per dollar of product (or service) produced in the state. Since the rows (outputs) are produced by specific industries, they are also columns (inputs). Demand for a particular input causes supply from its source industry, which in turn creates demand for the materials that are used to produce the particular input and so on and so forth. The round-by-round effects decrease and converge; I-O methodology captures the total effect of the rounds of spending or employment with multipliers. RIMS II multipliers for an economy account for all linkages within and leakages from that economy. I-O models are based on a table of

transaction balances, which ensures economy-wide accounting consistency. Total payments equal total receipts for each producing sector. Aggregate final demand equals aggregate value added.

Multipliers are determined mathematically from I-O tables that are constructed from observed and reported data for the economic area of interest. The economy is divided into a number of producing industries or sectors that sell and purchase goods and services to and from each other with *interindustry* or *intersectoral* flows that are key data. Sector goods and services are purchased by domestic consumers (households), international customers (exports), government (federal, state, and local), and for private investment purposes. These external to production purchases are for direct use and termed *final demand*. For an economy with n sectors, if X_i represents total output for sector i , Y_i represents final demand for sector i products, and z_{ij} represent interindustry flows, then

$$X_i = \sum_{j=1}^n z_{ij} + Y_i \quad (1)$$

If a_{ij} represents the I-O technical coefficients where $a_{ij} = z_{ij} / X_j$ so that sectors use inputs in fixed proportions (the constant returns to scale Leontief production function) then the above equation becomes

$$X_i = \sum_{j=1}^n a_{ij} X_j + Y_i \quad (2)$$

The standard formulation of the basic I-O model and its application, in matrix notation is:

$$\text{Transactions balance: } X = AX + Y \quad (3)$$

$$\text{Solving for X: } X = (I - A)^{-1}Y \quad (4)$$

$$\text{For a change in Y: } \Delta X = (I - A)^{-1}\Delta Y \quad (5)$$

where X is the gross output column vector, A is the matrix of fixed I-O coefficients, Y is the final demand column vector, and I is the identity matrix. This model enables determination of the output given changes in final demand levels (consumption, investment, government, or exports). The Leontief inverse, $(I - A)^{-1}$, provides the I-O multipliers used to determine impacts. The elements of the matrix are really very useful and important. Each captures in a single number, an entire series of direct and indirect effects. Gross output requirements are translatable into employment coefficients in a diagonal matrix that is used together with the Leontief inverse to generate employment impacts. Similar manipulations generate value-added and income or earnings multipliers.