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Replacing Coal Mining Jobs: Marginal Economic Impacts of Selected Industries in Southwest Virginia.

Introduction and Background

Coal mining has for generations been a key component of the economic base in Southwest Virginia. There were around 12,000 coal mining jobs in the region just 25 years ago. However, there has been a persistent decline in coal production and jobs over the past quarter century. The down trend was somewhat arrested during the 2010 through mid – 2012 period, but recent data show renewed losses in coal mining jobs over the past two years. The latest available jobs data as reported by the Virginia Employment Commission show that coal mining jobs during the second quarter of 2014 fell to around 3,500,a loss of 1,400 jobs since 2012 (Appendix Figure A1).

Projections for future coal production in the region are not encouraging. The US Department of Energy forecasts production declines in the Central Appalachian region (southwest Virginia, eastern Kentucky and southern West Virginia) for the foreseeable future (http://www.eia.gov/coal/). It is not the purpose of this report to explore in detail the forces underlying the decline in coal production in the region. Widely reported reasons for declining coal production in the Central Appalachians include stiff competition from both natural gas and coal produced in the western US, and, from the industry's standpoint, an unfavorable regulatory environment. In addition, export markets, which are notoriously fickle, have become increasingly important to the region's coal producers.

We define Southwest Virginia as the traditional coalfield counties of Buchanan, Dickenson, Lee, Russell, Tazewell, Scott and Wise plus the city of Norton, and the bordering counties of Washington and Smyth and the city of Bristol, Va. Although coal production is concentrated in the region's northern counties, the economic impacts of job losses in the industry are enormous and ripple throughout the region. As an example, the loss of 1,400 coal mining jobs noted above would cause, other things equal, a total loss of 3,240 jobs in the region; total earnings paid to households employed in all industries in the region would decline around $215 million.

We employ a methodology which allows one to rank industries according to their marginal economic impact. The marginal economic impact for a given industry, industry X, for example, is measured as the "change in total earnings paid to households employed in all industries for

each job created in industry X." The marginal economic impact is not the same as an industry's total contribution to the local economy. Some service industries provide thousands of jobs in the local economy, but have small marginal economic impacts, whereas coal mining and some manufacturing industries with far fewer employees have large marginal impacts.

Industry marginal economic impacts are helpful in answering questions, such as: (a) how do industries rank in terms of their marginal economic impact? Put another way, how many jobs in industry X are required to have the same economic impact as one job in industry Y? (b) What is the economic impact of a new retail development? (c) What is the economic impact of the gain or loss of 100 jobs in a particular industry? (d) Which industries have the potential to expand the economic base of a region?

Question (d) is a concern for residents of Southwest Virginia as they have witnessed a steady erosion of the region's economic base over the past quarter century. There is a natural ranking of jobs that economic developers seek for their communities. The most desirable new jobs are in industries producing products and services for export. Export producing jobs create goods or services that are sold primarily to non-residents. Thus, they attract money from outside the region. Traditional export producing industries include manufacturing, mining, warehousing, company headquarters, tourism, and state or federal facilities like universities, prisons, or military bases. These industries primarily constitute the economic (income generating) base of a region.

We believe that the marginal economic impacts and attendant analysis presented in this paper will be helpful in answering question (d).

Methodology

The methodology to estimate the marginal economic impact for an industry was developed for KIRES Report No. 10: *A Methodology to Rank Industries According to their Marginal Economic Impact: Case Studies for the First Congressional District of Tennessee and the Knoxville Metro Area,* January 2014. This report may be accessed at http://www.king.edu/fileadmin/DAM/Academics/KIRES/KIRES_Rpt_No_10.pdf

Estimated marginal economic impacts for industries in Southwest Virginia are based on regional *economic impact multipliers* developed by the Bureau of Economic Analysis (BEA) in the US Department of Commerce. These multipliers, known as RIMS II multipliers, are presented in Appendix Table A3 for 60 industries/ industry aggregations in Southwest Virginia. A description of the multipliers and their use in deriving marginal economic impacts is presented in the *Methodology* section of the Appendix.

Estimated Marginal Economic Impacts

Results of our analysis are presented in Appendix Tables A1 and Table A2. Marginal economic impacts in current dollars are shown in Table A1, in order from largest to smallest. Manufacturing industries characterized by relatively high average earnings and extensive supplier linkages, and the higher-paying service industries dominate the top of the rankings. The lowest ranked industries in terms of their marginal economic impact are service providers

whose primary locally purchased input is hired labor, with average earnings at the low end of the scale.

Take for example the marginal economic impact for coal mining: each coal mining job that is lost costs the region $ 154,397 in total household earnings. Each coal mining job supports an additional 1.3136 jobs in all other sectors of the region's economy. (See Table A3, line 4, column 6). The $ 154,397 in earnings is attributed to all 2.3136 jobs, not just the coal mining job. (The BEA defines earnings in RIMS II as wages and salaries, proprietors 'net income and employer contributions for employee health insurance.)

A review of Table A1 reveals that manufacturing industries account for 12 of the top 23 industries in terms of marginal economic impact, excluding "mining, except oil and gas" and the related industry, "support activities for mining." Table A2 presents the information in a different light, giving the number of jobs in each industry that is required to match the marginal economic impact of one coal mining job. The industry rankings in Table A2 mirror those in Table A1. Thus, it is reasonable to conclude that manufacturing industries offer the best hope for rebuilding the Southwest Virginia economic base.

Marginal Economic Impact of Tourism

Tourism is often promoted as a means of diversifying and rebuilding the economic base of communities or regions experiencing losses in key industries such as mining or manufacturing. Southwest Virginia falls in this category and for good reason, namely, its natural beauty and cultural heritage. In this section we examine the marginal economic impacts of industries serving tourists. These are (1) retail trade, (2) accommodations, (3) food services and drinking places, (4) amusements, gambling and recreation and (5) performing arts, spectator sports, museums, zoos and parks.

Estimating the impact of a change in retail sales on earnings and employment requires special treatment. In RIMS II output (column 1 in Table A3) is taken to be the retail margin, because only the retail margin affects regional economic activity. The retail margin is defined as sales receipts less the cost of goods sold. These costs include the value of goods purchased from manufacturers and the cost of transporting these goods to retailers. The economic impact of new retail sales is considerably smaller when the products are sold, but not manufactured nor shipped by firms located in the in the region. The average retail margin for the United States is 27-28 percent according to the U.S. Census Bureau, although it varies considerably from one type of retail establishment to another, ranging from less than 20 to nearly 50 percent. Additional information on retail margins may be viewed at http://www.census.gov/retail.

The" final demand earnings multiplier" for retail trade is 0.4042 for Southwest Virginia, meaning that for each one dollar increase in retail margins, earnings of households employed by all industries increase by $ 0.4042 (column 2 in the "retail trade" row in Table A3 and footnote 2).

We can use this information to develop earnings multipliers to be applied to retail sales for a range of retail margins. These multipliers are shown in the table below for margins of 30, 35 and

40 percent. For example, the earnings multiplier for a margin of 35 percent equals 0.4042 times 0.35 = 0.14147. This means for every $1 million increase in retail sales, total earnings of households employed by all industries in Southwest Virginia increase by $ 141,470.

Note that the increase in earnings from new retail sales of $ 1 million is less than the marginal economic impact of a single coal job ($ 154,397) for retail margins of 30 and 35 percent, and earnings barely exceed $ 154,397 when the average margin is 40 percent ($ 161,680) … recall that the average margin for the US is 27 – 28 percent; 35 percent is about the midpoint of the range in margins across all retail establishments.

Earnings Multipliers			
	Retail Margin		
Applied To:	0.30	0.35	0.40
Retail Margin	0.4042	0.4042	0.4042
Retail Sales	0.12126	0.14147	0.16168

For the other four industries serving tourists, we can apply their "final demand earnings multipliers" to new sales to calculate the impact on household earnings (column 2, Table A3). For these industries, output in RIMS II is considered to be sales. The information below shows the effects on the region's earnings due to tourist spending (sales) of $ 1 million in each of the five industries serving tourists. We use a margin of 35 percent for retail sales. The smallest economic impact derives from retail sales while the greatest impact derives from industry grouping G5 ; a tourist dollar spent in the latter industry has more than three times the impact on earnings of a dollar spent in retail stores.

G1: Retail Trade: 0.14147 times $ 1 million = $ 141,470.

G2: Accommodations: 0. 3445 times $ 1 million = $ 344,500.

G3: Food Services & Drinking Places: 0.3845 times $ 1 million = $ 384,500.

G4: Amusements, Gambling & Recreation: 0.4154 times $ 1 million = $ 415,400.

G5: Performing Arts, Spectator Sports, etc.: 0.4578 times $ 1 million = $ 457,800.

Tourism is an important part of the region's economic base and likely will become increasingly important in the future. However, the economic impact of tourism may be overstated, particularly when the impact of new retail spending is based on total sales rather than total retail margins. A reasonable rule-of-thumb to assess the impact of tourism on household earnings would be to use the average earnings multipliers for the five industries noted above. The average multiplier is 0.3846.This means that about 38.5 percent of tourists' spending is added to the total earnings of households employed by all industries in Southwest Virginia.;

stated otherwise, tourists' spending of $ 1 million adds $ 385,000 to the earnings of households in the region. This increase in earnings offsets the impact of losing 2.5 coal mining jobs.

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APPENDIX

I. Figure A1. Coal Mining Employment, SW VA.

II. Table A1: Marginal Economic Impacts, Selected Industries.

III. Table A2: Jobs Required to Equal Marginal Economic Impact of One Coal Job.

IV. Methodology.

V. Table A3. RIMS II Multipliers (Type II) for Southwest Virginia.

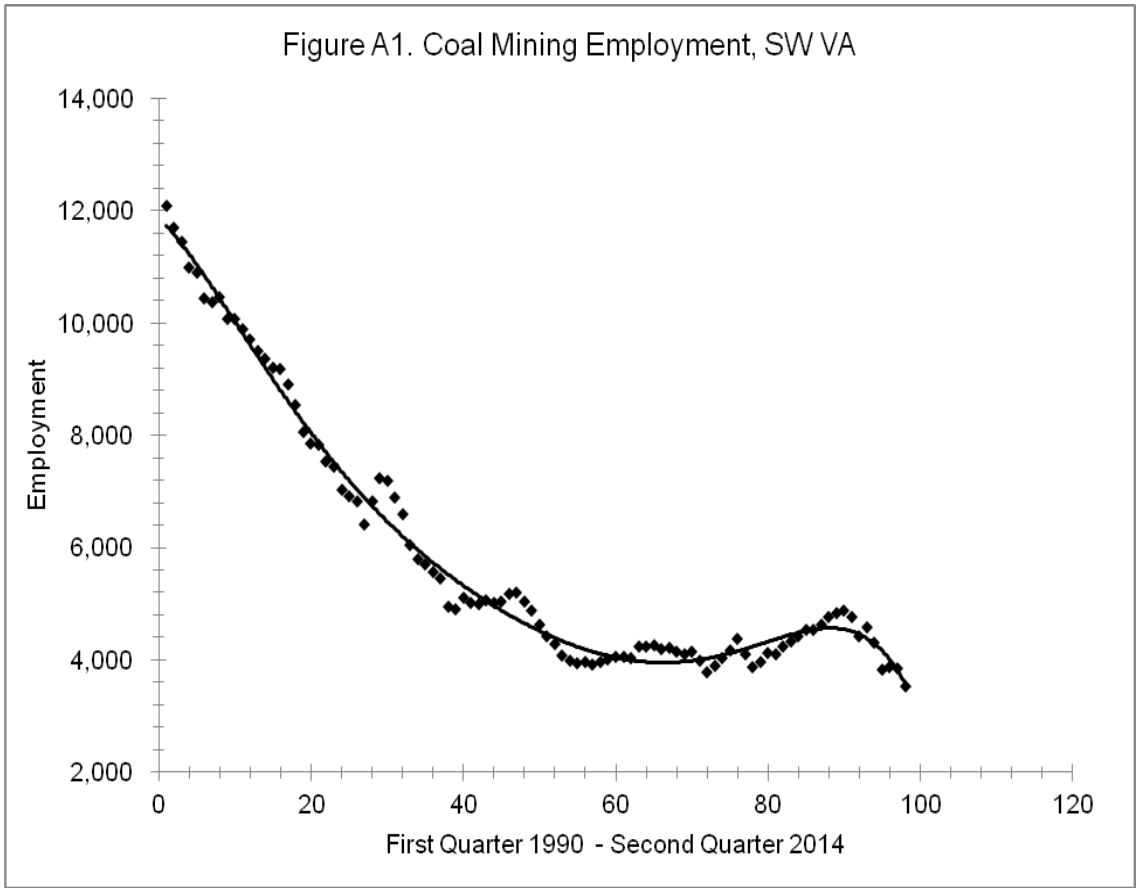
Figure A1. Coal Mining Employment, SW VA
14,000
12,000
10,000
8,000
6,000
4,000
2,000
Employment
0
20
40
60
80
100
120
First Quarter 1990 - Second Quarter 2014

Table A1. Marginal Economic Impacts, Selected Industries.	
INDUSTRY AGGREGRATION:	Marginal Economic Impact, dollars[1]
Utilities*	173,135
Mining, except oil and gas	154,397
Broadcasting, except Internet	146,337
Internet and other information services	145,988
Management of companies and enterprises	137,613
Rail transportation	136,185
Pipeline transportation	129,500
Petroleum and coal products manufacturing	124,910
Telecommunications	122,999
Chemical manufacturing	120,593
Federal Reserve banks, credit intermediation and related services	118,849
Paper manufacturing	115,539
Motor vehicle, body, trailer, and parts manufacturing	105,799
Machinery manufacturing	102,447
Wholesale trade	101,125
Electrical equipment and appliance manufacturing	101,063
Food, beverage, and tobacco product manufacturing	99,759
Computer and electronic product manufacturing	97,322
Plastics and rubber products manufacturing	95,843
Professional, scientific, and technical services	94,493
Fabricated metal product manufacturing	94,250
Other transportation equipment manufacturing	93,756
Publishing industries, except Internet	87,076
Nonmetallic mineral product manufacturing	86,111
Support activities for mining	85,716
Ambulatory health care services	83,200
Insurance carriers and related activities	81,830
Waste management and remediation services	80,092
Wood product manufacturing	78,941
Miscellaneous manufacturing	76,849
Primary metal manufacturing	76,320
Rental and leasing services and lessors of intangible assets	76,200
Hospitals	73,095
Textile and textile product mills	67,883
Printing and related support activities	65,553

Table A1, continued.	
Construction	64,948
Other transportation and support activities*	64,506
Truck transportation	64,331
Furniture and related product manufacturing	61,589
Warehousing and storage	55,244
Crop and animal production	50,119
Securities, commodity contracts, investments	48,463
Accommodation	43,900
Funds, trusts, and other financial vehicles	43,895
Nursing and residential care facilities	41,077
Educational services	40,790
Real estate	37,985
Motion picture and sound recording industries	37,821
Retail trade	36,061
Apparel, leather, and allied product manufacturing	31,548
Forestry, fishing, and related activities	30,391
Performing arts, spectator sports, museums, zoos, and parks	30,212
Transit and ground passenger transportation*	30,112
Administrative and support services	29,651
Social assistance	29,178
Food services and drinking places	27,038
Amusements, gambling, and recreation	22,658

[1] The total change in earnings of households employed by all industries for each job created in the row industry.

* Includes Government enterprises.

Table A2. Jobs Required to Equal Marginal Economic Impact of One Coal Job.	
INDUSTRY AGGREGRATION:	No. Jobs
Utilities*	0.89
Mining, except oil and gas	1.00
Broadcasting, except Internet	1.06
Internet and other information services	1.06
Management of companies and enterprises	1.12
Rail transportation	1.13
Pipeline transportation	1.19
Petroleum and coal products manufacturing	1.24
Telecommunications	1.26
Chemical manufacturing	1.28
Federal Reserve banks, credit intermediation and related services	1.30
Paper manufacturing	1.34
Motor vehicle, body, trailer, and parts manufacturing	1.46
Machinery manufacturing	1.51
Wholesale trade	1.53
Electrical equipment and appliance manufacturing	1.53
Food, beverage, and tobacco product manufacturing	1.55
Computer and electronic product manufacturing	1.59
Plastics and rubber products manufacturing	1.61
Professional, scientific, and technical services	1.63
Fabricated metal product manufacturing	1.64
Other transportation equipment manufacturing	1.65
Publishing industries, except Internet	1.77
Nonmetallic mineral product manufacturing	1.79
Support activities for mining	1.80
Ambulatory health care services	1.86
Insurance carriers and related activities	1.89
Waste management and remediation services	1.93
Wood product manufacturing	1.96
Miscellaneous manufacturing	2.01
Primary metal manufacturing	2.02
Rental and leasing services and lessors of intangible assets	2.03
Hospitals	2.11
Textile and textile product mills	2.27
Printing and related support activities	2.36

Table A2, continued.	
Construction	2.38
Other transportation and support activities*	2.39
Truck transportation	2.40
Furniture and related product manufacturing	2.51
Table A2, continued.	
Warehousing and storage	2.79
Crop and animal production	3.08
Securities, commodity contracts, investments	3.19
Accommodation	3.52
Funds, trusts, and other financial vehicles	3.52
Nursing and residential care facilities	3.76
Educational services	3.79
Real estate	4.06
Motion picture and sound recording industries	4.08
Retail trade	4.28
Apparel, leather, and allied product manufacturing	4.89
Forestry, fishing, and related activities	5.08
Performing arts, spectator sports, museums, zoos, and parks	5.11
Transit and ground passenger transportation*	5.13
Administrative and support services	5.21
Social assistance	5.29
Food services and drinking places	5.71
Amusements, gambling, and recreation	6.81

* Includes Government enterprises.

Methodology

Economic Impact Multipliers

The Bureau of Economic Analysis (BEA) in the US Department of Commerce makes regional economic impact multipliers available through its Regional Input-Output Modeling System (RIMS II). These multipliers allow users to estimate the extent to which a change in an industry's output will affect total employment and earnings in the region. These multipliers underpin calculations of the marginal economic impacts presented in this paper.

The RIMS II multipliers used for this report are based on national interindustry or input-output relationships in 2010. These national multipliers are adjusted for regional supply conditions and trading patterns in 2010.These adjustments are necessary because local industries often do not supply all of the intermediate inputs needed to produce the region's output. Industries must purchase (import) some inputs from suppliers outside the region. Purchases of inputs from suppliers located outside the region reduce the multiplier effect on employment and earnings within the region.

The employment and earnings multipliers shown in Appendix Table A3 are total (Type II) multipliers. These multipliers include *direct, indirect* and *induced* economic impacts … Type I multipliers exclude the induced impacts. To illustrate, suppose 100 workers are hired to undertake a construction project (direct impact). Employment will increase by more than the 100 jobs directly tied to the project. As the materials and equipment needed to complete the project are purchased, additional jobs are created in the businesses that supply these materials and equipment (indirect impact). As people are put to work, directly and indirectly, they purchase more consumer goods and services. This new spending creates jobs in industries that supply consumer goods and services (induced impact).

The BEA has prepared a user guide which covers the development, uses and limitations of RIMS II multipliers. This publication*, RIMS II: An Essential Tool for Regional Developers and Planners* may be accessed at http://www.bea.gov/regional/pdf/rims/rimsii_user_guide.pdf.

Marginal Economic Impact

The marginal economic impact for the "mining, except oil and gas" industry in Southwest Virginia is calculated below. The RIMS II information used in the calculation is given in row 4 in table A3 and is reproduced below, except for the footnotes accompanying the table.

Multiplier					
Final Demand				Direct Effect	
Output (dollars)	Earnings (dollars)	Employment (jobs)	Value-added (dollars)	Earnings (dollars)	Employment (jobs)
1.6026	0.3473	5.5737	0.9138	1.7744	2.3136

Step 1: The “final demand” earnings multiplier is per dollar of additional output, while the final demand employment multiplier is based on jobs per million dollars of additional output (Table A3, footnotes 2 and 3). To put the multipliers on the same dollar basis, the final demand earnings multiplier is multiplied by 1,000,000 … 1,000,000*0.3473 = $347,300.

Step 2: To find the number of mining jobs associated with $1,000,000 of output, divide the final demand jobs multiplier for the industry by the direct effect jobs multiplier … 5.5737/2.3136 = 2.4091.

Step 3: Divide the result from Step 1 by the result from Step 2 … $347,300/2.4091 = $144,162. This is the marginal economic impact in 2010 dollars for the industry.

Step 4: The result in Step 3 is the marginal economic impact in 2010 dollars. The Consumer Price Index rose 7.1 percent from December 2010 to December 2014. The result from Step 3 is multiplied by 1.071 to put the value in current dollars … 144,162 * 1.071= $154,397.

The marginal economic impact for “mining, except oil and gas” in Southwest Virginia is $ 154,397. This means that for each additional job created in this industry, total earnings paid to households employed in all industries in the region increase by $154,397. The marginal economic impact for each job lost in the industry is a negative $154,397.

The direct effect jobs multiplier for the industry is 2.3136, indicating that for each job created or lost in the industry another 1.3136 jobs are created or lost in all other sectors of the regional economy. The marginal economic impact of $154,397 is, therefore, total earnings from 2.3136 jobs.

Table A3. RIMS II Multipliers (Type II) for Southwest Virginia.

INDUSTRY	Multiplier					
	Final Demand				Direct Effect	
	Output/1/ (dollars)	Earnings/2/ (dollars)	Employment/3/ (jobs)	Value-added/4/ (dollars)	Earnings/5/ (dollars)	Employment/6/ (jobs)
1. Crop and animal production	1.5013	0.2731	8.9850	0.6599	1.6603	1.5396
2. Forestry, fishing, and related activities	1.5023	0.5812	25.2768	0.9061	1.3351	1.2341
3. Oil and gas extraction	1.4047	0.2695	8.7980	0.8718	1.7242	1.4414
4. Mining, except oil and gas	1.6026	0.3473	5.5737	0.9138	1.7744	2.3136
5. Support activities for mining	1.4709	0.3345	7.1436	0.6854	1.6789	1.7092
6. Utilities*	1.3794	0.2855	4.2499	0.9189	1.5127	2.4064
7. Construction	1.6221	0.5486	13.3824	0.8746	1.4226	1.4793
8. Wood product manufacturing	1.7366	0.4402	12.5452	0.7408	1.9543	2.1006
9. Nonmetallic mineral product manufacturing	1.4589	0.2728	6.2868	0.6494	1.8332	1.8529
10. Primary metal manufacturing	1.3371	0.2450	5.7296	0.3981	1.6555	1.6665
11. Fabricated metal product manufacturing	1.4186	0.2784	5.7099	0.6670	1.6068	1.8049
12. Machinery manufacturing	1.4112	0.3064	5.7394	0.6867	1.5467	1.7918
13. Computer and electronic product manufacturing	1.2905	0.4064	6.6177	0.8818	1.2496	1.4797
14. Electrical equipment and appliance manufacturing	1.3644	0.2549	4.8493	0.5927	1.6074	1.7952
15. Motor vehicle, body, trailer, and parts manufacturing	1.5283	0.2742	5.7893	0.4262	1.9897	2.0857
16. Other transportation equipment manufacturing	1.5765	0.3075	6.9273	0.6448	2.2316	1.9721
17. Furniture and related product manufacturing	1.4210	0.3848	9.6625	0.7398	1.4111	1.4440
18. Miscellaneous manufacturing	1.3928	0.3520	7.4747	0.8025	1.4104	1.5237
19. Food, beverage, and tobacco product manufacturing	1.5158	0.2336	5.3940	0.5233	2.1456	2.1508
20. Textile and textile product mills	1.5581	0.3123	8.2004	0.5999	1.8209	1.6643
21. Apparel, leather, and allied product manufacturing	1.5425	0.7489	29.9288	0.9847	1.2692	1.1772
22. Paper manufacturing	1.3094	0.2131	3.9592	0.5158	1.6902	2.0043
23. Printing and related support activities	1.4416	0.3755	9.2895	0.6254	1.4987	1.5142
24. Petroleum and coal products manufacturing	1.2440	0.2073	3.4491	0.4143	1.3981	1.9405
25. Chemical manufacturing	1.3990	0.3002	5.0235	0.5816	1.5799	1.8842
26. Plastics and rubber products manufacturing	1.4553	0.2849	5.7703	0.6178	1.6739	1.8125
27. Wholesale trade	1.3926	0.3825	7.0155	0.8902	1.4218	1.7318
28. Retail trade	1.4031	0.4042	14.9612	0.9069	1.3681	1.2463
29. Air transportation	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30. Rail transportation	1.4014	0.3013	5.3449	0.6573	1.6348	2.2557
31. Water transportation	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000
32. Truck transportation	1.5382	0.4506	11.7011	0.7818	1.5192	1.5598
33. Transit and ground passenger transportation*	1.4151	0.5523	22.6944	0.9510	1.2470	1.1553
34. Pipeline transportation	1.6174	0.6484	10.1012	0.9852	1.3640	1.8837
35. Other transportation and support activities*	1.4035	0.5015	11.4872	0.9406	1.2906	1.3796
36. Warehousing and storage	1.3224	0.2726	7.6328	0.9312	1.4689	1.4443
37. Publishing industries, except Internet	1.3725	0.4148	7.9161	0.7006	1.3352	1.5516
38. Motion picture and sound recording industries	1.2831	0.2811	10.1539	0.7464	1.3921	1.2756

(Continued)

INDUSTRY	Multiplier					
	Final Demand				Direct Effect	
	Output/1/ (dollars)	Earnings/2/ (dollars)	Employment/3/ (jobs)	Value-added/4/ (dollars)	Earnings/5/ (dollars)	Employment/6/ (jobs)
39. Broadcasting, except Internet	1.4430	0.3069	5.2521	0.6070	1.5710	2.3383
40. Telecommunications	1.3137	0.2247	3.9583	0.7583	1.5505	2.0231
41. Internet and other information services	1.3607	0.2326	4.4520	0.6965	1.7767	2.6090
42. Federal Reserve banks, credit intermediation and related services	1.2918	0.2165	3.9954	0.7436	1.5475	2.0479
43. Securities, commodity contracts, investments	1.4324	0.3800	11.5293	0.6245	1.4543	1.3729
44. Insurance carriers and related activities	1.3800	0.4003	8.0652	0.8874	1.3628	1.5394
45. Funds, trusts, and other financial vehicles	1.1926	0.1811	5.6767	0.5304	1.3526	1.2847
46. Real estate	1.1663	0.0668	2.9651	0.7909	2.6806	1.5743
47. Rental and leasing services and lessors of intangible assets	1.5511	0.5727	12.0266	1.0693	1.3865	1.4941
48. Professional, scientific, and technical services	1.4498	0.5867	10.2626	0.9930	1.2709	1.5433
49. Management of companies and enterprises	1.4466	0.5827	7.9548	0.9230	1.2642	1.7541
50. Administrative and support services	1.4325	0.5267	22.5212	0.9379	1.2986	1.1838
51. Waste management and remediation services	1.4913	0.4001	9.0183	0.8062	1.5340	1.6856
52. Educational services	1.4667	0.5900	19.0015	0.9413	1.2645	1.2266
53. Ambulatory health care services	1.5060	0.6355	12.2119	1.0009	1.2949	1.4928
54. Hospitals	1.5030	0.5421	11.7015	0.8495	1.3541	1.4732
55. Nursing and residential care facilities	1.4548	0.5657	18.3114	0.9579	1.2827	1.2415
56. Social assistance	1.4911	0.6013	25.9406	0.9422	1.2904	1.1753
57. Performing arts, spectator sports, museums, zoos, and parks	1.4098	0.4578	19.6679	0.8492	1.3448	1.2119
58. Amusements, gambling, and recreation	1.3851	0.4154	22.4782	0.8835	1.3410	1.1448
59. Accommodation	1.4462	0.3445	11.7059	0.8123	1.6217	1.3928
60. Food services and drinking places	1.4345	0.3845	18.2142	0.7949	1.4310	1.1959
61. Other services*	1.5446	0.5412	14.2515	0.8839	1.3838	1.4018
62. Households	0.6670	0.1791	5.3315	0.4165	0.0000	0.0000

1. Each entry in column 1 represents the total dollar change in output that occurs in all industries for each additional dollar of output delivered to final demand by the industry corresponding to the entry.
2. Each entry in column 2 represents the total dollar change in earnings of households employed by all industries for each additional dollar of output delivered to final demand by the industry corresponding to the entry.
3. Each entry in column 3 represents the total change in number of jobs that occurs in all industries for each additional 1 million dollars of output delivered to final demand by the industry corresponding to the entry. Because the employment multipliers are based on 2010 data, the output delivered to final demand should be in 2010 dollars.
4. Each entry in column 4 represents the total dollar change in value added that occurs in all industries for each additional dollar of output delivered to final demand by the industry corresponding to the entry.
5. Each entry in column 5 represents the total dollar change in earnings of households employed by all industries for each additional dollar of earnings paid directly to households employed by the industry corresponding to the entry.
6. Each entry in column 6 represents the total change in number of jobs in all industries for each additional job in the industry corresponding to the entry.
NOTE.--Multipliers are based on the 2010 Annual Input-Output Table for the Nation and 2010 regional data. Industry List B identifies the industries corresponding to the entries.

Source: Regional Input-Output Modeling System (RIMS II), Regional Product Division, Bureau of Economic Analysis.