

County Level Impacts

Appendix A

to

A Special Report to the Senate Finance Committee

**Senator Oshel Craigo
Chair**

Please Direct Questions to:
Michael Hicks, Ph.D.
Director, Applied Research

Center for Business and Economic Research
Lewis College of Business
400 Hal Greer Boulevard
Huntington, West Virginia 25755
(304) 696-6251
hicksm@marshall.edu

Introduction

This appendix treats the county level impacts of the simulations to coal production described in the text of this report. This disaggregated analysis is performed to provide individual counties with planning assistance regarding potential economic and fiscal impacts that may result from current litigation. This appendix is organized into ten sections. The first provides data on the study region with a county comparison emphasis. It follows with a comparative treatment of the baseline forecast and each simulation comparing county level impacts on employment, wages and output. The second through tenth sections are individual county level impact analyses designed to stand separately. These sections provide a more detailed county level impact, demographics and analysis of fiscal impacts.

The Study Region

Coal production dominates the southern West Virginia counties. Coal miners provide a basic industry to the region and enjoy, on average the highest salaries. Table A-1 provides inter-regional rankings, while Tables A-2 and A-3 outline the county level employment and average wages respectively.

Table A-1
Selected County Rankings within Study Region

County	% Work in County	% Rural	% High School Grad	% College Grad
Boone	6	4	5	6
Fayette	8(tie)	6	4	3
Kanawha	1	9	1	1
Logan	2	2	6	7
McDowell	8(tie)	3	9	9
Mingo	5	5	8	5
Nicholas	3	7	3	4
Raleigh	4	8	2	2
Wyoming	7	1	7	8

Table A-2
Employment in the Study Region

	Boone	Fayette	Kanawha	Logan	McDowell	Mingo	Nicholas	Raleigh	Wyoming	Total
County	7,442	12,862	110,486	12,510	5,442	8,375	8,002	29,838	5,720	200,677
Mining	2,831	508	1,926	1,647	857	2,363	566	1,675	1,237	13,610
Construction	159	548	5,034	425	99	266	345	1,690	274	8,840
Manufacturing	118	1,004	8,631	750	114	374	1,072	1,095	354	13,512
TCPU	369	634	7,300	614	254	854	500	1,322	404	12,251
Wholesale Trade	166	285	5,962	491	92	200	233	1,592	79	9,100
Retail Trade	1,236	2,446	20,089	2,901	952	969	2,057	7,510	995	39,155
FIRE	137	395	7,067	339	246	307	209	1,048	146	9,894
Services	927	3,520	33,267	3,240	806	1,477	1,210	8,775	928	54,150
Government	1,486	3,508	20,861	2,070	2,023	1,543	1,789	4,974	1,297	39,551

Note: TCPU is transportation, communications and public utilities, FIRE is finance, insurance and real estate.

Table A-3
Average Wages in the Study Region

	Boone	Fayette	Kanawha	Logan	McDowell	Mingo	Nicholas	Raleigh	Wyoming	Total
West Virginia	25,278	25,278	25,278	25,278	25,278	25,278	25,278	25,278	25,278	25,278
total County	34,375	21,842	28,629	26,997	22,599	30,772	21,119	24,383	26,390	26,345
Mining	57,029	49,180	53,519	53,615	39,485	51,506	42,618	49,319	49,554	49,536
Construction	26,666	18,243	30,958	24,739	26,687	17,008	24,880	24,258	27,527	24,552
Manufacturing	21,074	37,379	49,363	23,981	15,263	22,515	22,402	27,990	20,573	26,727
TCPU	28,631	26,137	41,362	32,887	24,300	28,097	24,415	30,190	29,003	29,447
Wholesale Trade	30,405	28,252	34,854	29,879	25,514	26,773	27,406	29,257	28,307	28,961
Retail Trade	13,656	13,640	14,805	13,785	12,182	14,171	12,664	14,091	12,596	13,510
FIRE	18,418	20,427	31,978	23,407	25,440	22,278	21,020	28,951	18,006	23,325
Services	19,460	18,016	25,670	26,634	18,374	22,842	17,142	23,126	15,864	20,792
Government	23,146	22,425	28,054	24,721	21,543	25,378	23,607	29,091	23,852	24,646

Note: TCPU is transportation, communications and public utilities, FIRE is finance, insurance and real estate.

The Forecast and Simulations

The forecast and simulations were outlined in detail in the text, but is important to note that while the total coal production declines under each scenario, for individual counties the output may rise. For example under the baseline we forecast an overall decrease of output, while Kanawha, Fayette and Raleigh Counties each enjoy production increases. Under the Haden phase-in scenario only Raleigh County continues to experience coal production increases, and under the final scenario all counties experience output declines in 2000.

The Baseline Forecast

Under the baseline forecast the region can expect a decline in coal production. However, some Counties will enjoy temporary increases in production. Tables A-4, A-5 and A-6 outline the county level employment, wages and output impacts respectively in 2000 only. Under this scenario, Fayette, Kanawha and Raleigh Counties each enjoy employment increases.

Table A-4
Baseline Employment Impacts

	Boone	Fayette	Kanawha	Logan	McDowell	Mingo	Nicholas	Raleigh	Wyoming	Total
Agriculture	0	0	0	-1	0	-1	-5	0	0	-7
Mining	-51	+1	+4	-336	-16	-103	-290	+27	-46	-810
Construction	-2	0	0	-19	-1	-4	-24	+2	-3	-51
Manufacturing	0	0	0	-7	0	-1	-8	+1	-1	-16
TCPU	-4	0	0	-26	-1	-8	-28	+2	-4	-69
Trade	-16	0	+2	-175	-4	-27	-149	+16	-16	-369
FIRE	-2	0	+1	-25	-1	-5	-20	+3	-3	-52
Services	-9	0	+2	-133	-3	-26	-99	+17	-11	-262
Other	-1	0	0	-5	0	-1	-4	+1	0	-10
Total	-85	+1	+9	-727	-26	-176	-627	+69	-84	-1,646

Note: TCPU is transportation, communications and public utilities, FIRE is finance, insurance and real estate.

Table A-5
Baseline Wage Impacts (in \$1,000's)

	Boone	Fayette	Kanawha	Logan	McDowell	Mingo	Nicholas	Raleigh	Wyoming	Total
Agriculture	0	+0	+1	-14	0	-7	-47	+1	-2	-68
Mining	-2,908	+49	+214	-18,014	-631	-5,305	-12,359	+1,331	-2,279	-39,902
Construction	-82	+1	+18	-549	-29	-121	-970	+56	-90	-1,766
Manufacturing	-8	+0	+8	-210	-2	-19	-215	+22	-20	-444
TCPU	-171	+2	+22	-993	-54	-334	-1,086	+90	-162	-2,686
Trade	-263	+4	+41	-2,990	-62	-459	-2,521	+269	-244	-6,225
FIRE	-36	+1	+14	-497	-21	-92	-378	+72	-44	-981
Services	-198	+4	+61	-3,399	-68	-612	-1,893	+389	-235	-5,951
Other	-8	+0	+1	-34	-1	-9	-29	+2	-0	-79
Total	-3,674	+61	+379	-26,700	-868	-6,958	-19,498	+2,232	-3,076	-58,102

Note: TCPU is transportation, communications and public utilities, FIRE is finance, insurance and real estate.

Table A-6
Baseline Output Impacts (in \$1,000's)

	Boone	Fayette	Kanawha	Logan	McDowell	Mingo	Nicholas	Raleigh	Wyoming	Total
Agriculture	-1	0	+1	-25	0	-12	-88	+4	-4	-125
Mining	-14,324	+130	+1,162	-93,258	-3,705	-28,000	-70,809	+7,036	-12,776	-214,544
Construction	-175	+3	+42	-1,220	-62	-298	-2,045	+130	-196	-3,821
Manufacturing	-31	+1	+44	-819	-10	-77	-927	+80	-88	-1,827
TCPU	-537	+6	+81	-3,630	-189	-1,086	-3,851	+344	-539	-9,401
Trade	-580	+8	+95	-6,831	-138	-1,048	-5,824	+625	-540	-14,233
FIRE	-330	+4	+87	-4,092	-115	-841	-3,164	+505	-361	-8,307
Services	-405	+8	+118	-6,539	-140	-1,179	-4,211	+774	-492	-12,066
Other	-8	0	+1	-34	-1	-9	-29	+2	0	-79
Total	-16,391	+160	+1,631	-116,448	-4,360	-32,550	-90,948	+9,500	-14,996	-264,403

Note: TCPU is transportation, communications and public utilities, FIRE is finance, insurance and real estate.

The Haden Decision Phase-In

Under the first scenario the region can expect a decline in coal production. However, Raleigh County will enjoy temporary increases in production. This is due to recent increases in coal production in that county. Tables A-7, A-8 and A-9 outline the county level employment, wages and output impacts respectively in 2000 only.

Table A-7
Haden Phase-In Employment Impacts

	Boone	Fayette	Kanawha	Logan	McDowell	Mingo	Nicholas	Raleigh	Wyoming	Total
Agriculture	-1	-1	-7	-1	0	-1	-5	0	0	-16
Mining	-51	-121	-389	-414	-35	-173	-306	+17	-92	-1,564
Construction	-13	-4	-50	-23	-2	-7	-25	+1	-6	-129
Manufacturing	-2	-3	-18	-8	0	-1	-8	+1	-2	-41
TCPU	-23	-11	-48	-32	-3	-14	-30	+2	-8	-167
Trade	-93	-56	-215	-215	-9	-45	-157	+10	-32	-812
FIRE	-12	-8	-55	-31	-2	-8	-21	+2	-5	-140
Services	-53	-50	-242	-163	-7	-44	-105	+11	-23	-676
Other	-7	-2	-9	-6	-0	-2	-5	+1	0	-30
Total	-255	-256	-1,033	-893	-58	-295	-662	+45	-168	-3,575

Note: TCPU is transportation, communications and public utilities, FIRE is finance, insurance and real estate.

Table A-8
Haden Phase-In Wage Impacts (in \$1,000's)

	Boone	Fayette	Kanawha	Logan	McDowell	Mingo	Nicholas	Raleigh	Wyoming	Total
Agriculture	-2	-5	-74	-17	0	-12	-46	+1	0	-155
Mining	-2,908	-5,929	-20,818	-22,196	-1,381	-8,910	-13,041	+834	-4,558	-78,907
Construction	-483	-72	-1,818	-675	-65	-202	-970	+36	-182	-4,431
Manufacturing	-45	-77	-797	-259	-4	-32	-215	+14	-41	-1,456
TCPU	-1,006	-445	-2,196	-1,222	-121	-558	-1,085	+57	-329	-7,019
Trade	-1,550	-946	-4,043	-3,677	0	-768	-2,521	+171	-496	-13,830
FIRE	-210	-141	-1,380	-611	-47	-153	-378	+46	-90	-2,964
Services	-1,167	-1,047	-6,051	-4,180	-154	-1,024	-1,892	+247	-478	-15,746
Other	-46	-19	-73	-42	-2	-16	-29	+1	0	-226
Total	-7,417	-8,681	-37,250	-32,879	-1,774	-11,675	-20,177	+1,293	-6,174	-124,734

Note: TCPU is transportation, communications and public utilities, FIRE is finance, insurance and real estate.

Table A-9
Haden Phase-In Output Impacts (in \$1,000's)

	Boone	Fayette	Kanawha	Logan	McDowell	Mingo	Nicholas	Raleigh	Wyoming	Total
Agriculture	-8	-18	-133	-30	0	-20	-87	+2	0	-294
Mining	-84,335	-32,913	-114,328	-114,671	-8,344	-46,598	-70,808	+4,475	-25,937	-493,459
Construction	-1,031	-651	-4,095	-1,500	-141	-498	-2,044	+83	-397	-10,274
Manufacturing	-180	-372	-4,351	-1,008	-23	-128	-926	+51	-178	-7,115
TCPU	-3,161	-1,505	-7,994	-4,463	-425	-1,817	-3,851	+219	-1,094	-24,091
Trade	-3,414	-2,160	-9,356	-8,399	-311	-1,753	-5,823	+397	-1,096	-31,915
FIRE	-1,941	-1,073	-8,575	-5,032	-259	-1,407	-3,164	+321	-733	-21,863
Services	-2,385	-2,098	-11,618	-8,040	-315	-1,973	-4,211	+492	-998	-31,146
Other	-46	-19	-73	-42	-2	-16	-29	+1	0	-226
Total	-96,501	-40,809	-160,523	-143,185	-9,820	-54,210	-90,943	+6,041	-30,433	-620,383

Note: TCPU is transportation, communications and public utilities, FIRE is finance, insurance and real estate.

The Restrictive Haden Decision

Under the second scenario, the region can expect a decline in coal production. Tables A-10, A-11 and A-12 outline the county level employment, wages and output impacts respectively in 2000 only.

Table A-10
The Restrictive Haden Decision Employment Impacts

	Boone	Fayette	Kanawha	Logan	McDowell	Mingo	Nicholas	Raleigh	Wyoming	Total
Agriculture	-4	-2	-21	-3	0	-3	-7	-1	-2	-43
Mining	-1021	-451	-1163	-877	-152	-588	-399	-41	-399	-5,091
Construction	-45	-40	-149	-49	-8	-25	-33	-3	-24	-376
Manufacturing	-8	-12	-54	-18	-1	-4	-10	-1	-7	-115
TCPU	-77	-40	-143	-68	-14	-47	-39	-4	-35	-467
Trade	-317	-200	-644	-456	-39	-153	-204	-24	-137	-2,174
FIRE	-40	-30	-164	-66	-7	-27	-27	-5	-22	-388
Services	-181	-200	-724	-346	-30	-149	-136	-26	-97	-1,889
Other	-23	-9	-26	-13	-2	-8	-6	-1	-1	-89
Total	-1,716	-984	-3,088	-1,896	-253	-1,004	-861	-106	-724	-10,632

Note: TCPU is transportation, communications and public utilities, FIRE is finance, insurance and real estate.

Table A-11
The Restrictive Haden Decision Wage Impacts (in \$1,000's)

	Boone	Fayette	Kanawha	Logan	McDowell	Mingo	Nicholas	Raleigh	Wyoming	Total
Agriculture	-5	-19	0	-36	0	-40	-60	-2	-20	-182
Mining	-58,197	-22,180	-1	-47,020	-6,001	-30,285	-17,004	-2,022	-19,772	-202,482
Construction	-1,658	-955	0	-1,431	-284	-688	-1,263	-87	-786	-7,152
Manufacturing	-153	-287	0	-549	-17	-109	-280	-34	-177	-1,606
TCPU	-3,452	-1,658	0	-2,591	-525	-1,905	-1,414	-140	-1,420	-13,105
Trade	-5,318	-3,522	-1	-7,798	-603	-2,621	-3,284	-417	-2,144	-25,708
FIRE	-720	-526	0	-1,296	-203	-521	-492	-112	-387	-4,257
Services	-4,004	-3,899	-1	-8,864	-666	-3,494	-2,465	-602	-2,065	-26,060
Other	-159	-71	0	90	-11	-54	-37	-3	-4	-429
Total	-73,666	-33,117	-3	-69,675	-8,310	-39,717	-26,299	-3,419	-26,775	-280,981

Note: TCPU is transportation, communications and public utilities, FIRE is finance, insurance and real estate.

Table A-12
The Restrictive Haden Decision Output Impacts (in \$1,000's)

	Boone	Fayette	Kanawha	Logan	McDowell	Mingo	Nicholas	Raleigh	Wyoming	Total
Agriculture	-28	-67	-399	-65	0	-68	-113	-6	-35	-781
Mining	-289,293	-122,508	-342,146	-243,184	-36,183	-159,124	-92,233	-10,895	-112,060	-1,407,626
Construction	-3,535	-2,423	-12,254	-3,182	-610	-1,698	-2,663	-202	-1,716	-28,283
Manufacturing	-619	-1,385	-13,020	-2,137	-101	-436	-1,206	-123	-769	-19,796
TCPU	-10,843	-5,601	-23,923	-9,465	-1,844	-6,204	-5,016	-533	-4,726	-68,155
Trade	-10,843	-8,042	-27,999	-17,813	-1,348	-5,986	-7,585	-968	-4,736	-85,320
FIRE	-6,659	-3,995	-25,662	-10,671	-1,123	-4,805	-4,121	-781	-3,165	-60,982
Services	-8,182	-7,809	-34,770	-17,051	-1,367	-6,738	-5,485	-1,198	-4,312	-86,912
Other	-159	-7,000	-218	-90	-11	-54	0	-3	-4	-7,539
Total	-330,161	-158,830	-480,391	-303,658	-42,587	-185,113	-118,422	-14,709	-131,523	-1,765,394

Note: TCPU is transportation, communications and public utilities, FIRE is finance, insurance and real estate.

Table A-11 outlines the public sector job impacts under the baseline forecast and each of the two simulations above. Note that under the Baseline forecast Kanawha, and Raleigh enjoy public sector job increases, and under the Phase-in scenario Raleigh County also enjoys a public sector employment increase due to increased coal production.

Table A-13
Public Sector Employment Impacts

County	Baseline	Haden Phase-In	Restrictive Haden
Boone	-18	-104	-357
Fayette	0	-78	-293
Kanawha	+3	-316	-947
Logan	-130	-160	-340
McDowell	-7	-16	-71
Mingo	-34	-58	-197
Nicholas	-151	-159	-207
Raleigh	+16	+10	-25
Wyoming	-20	-41	-175
Total	-341	-922	-2,612

Summary

The output changes experienced by each county, and their impacts vary widely under each scenario. The differences involve recent changes in coal production (the opening and closing of mines in each county) and the heterogeneous nature of the counties themselves. The following county level impacts outline in more detail the impacts on each county.