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Highlights of the West Virginia Economic Outlook Mid-Year Review 2003

by George W. Hammond, Ph.D.

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WEST VIRGINIA ECONOMIC OUTLOOK CONFERENCE

Thursday, November 13, 2003

8:30 a.m. — 12:30 p.m.
Charleston Marriott Hotel

The Mid-Year Review of the 2003 Economic Outlook for West Virginia was just released by the WVU Bureau of Business and Economic Research. We offer here some highlights from it. For the full text, visit the BBER web site at www.bber.wvu.edu.

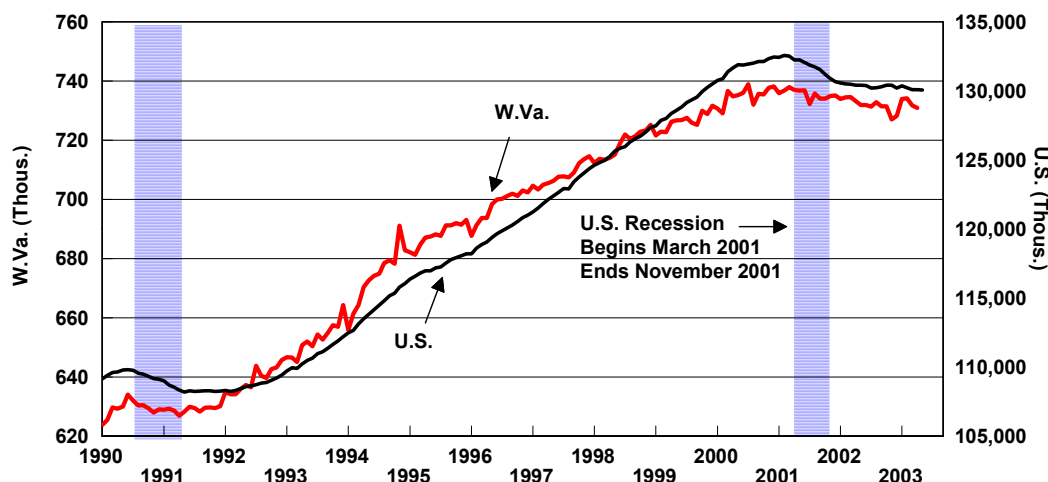
■ The National Bureau of Economic Research has announced that the national recession ended in November 2001. However, as Figure 1 (page 2) shows, both the state and the nation are suffering through a “jobless” recovery, with fewer jobs than a year ago. On a seasonally-adjusted basis, the state has lost 6,900 jobs since March 2001, the start of the national recession.

■ The state’s unemployment rate has risen from 4.8 percent in 2001 to 6.1 percent in 2002, and now sits at 6.0 percent (seasonally adjusted in April 2003). The national rate was 5.8 percent in 2002 and hit 6.0 percent in April 2003 (seasonally adjusted).

■ The state has fared better than the U.S. during the last two years, in terms of job losses, and our unemployment rate is very close to the national average. In fact, the rate of job loss since March 2001 has been roughly twice as bad nationally as it has been in West Virginia.

■ West Virginia has sustained real per capita personal income growth during the last two years, while national growth hit the skids. Thus, the state has made progress in closing the income gap with the nation, for the first time since the mid-1990s.

Figure 1
W. Va. and U.S. Total Nonfarm Jobs: 1990 - 2003
 (Seasonally Adjusted, U.S. Recessions Shaded)



■ West Virginia's population hovers near 1.8 million. Natural increase remains negative while net migration has been negative or essentially zero.

■ National growth remains sub-par, but Global Insight expects faster growth to finally take hold during the second half of 2003. This outlook hinges on sustained consumer spending (buoyed by low interest rates and tax cuts), rebounding business investment, steady residential construction activity, and a falling dollar. The major risks to the outlook revolve around the (very real) possibility that consumers will save their tax cuts instead of spending them and that businesses may hold off on investment spending longer than expected. The bottom line in this pessimistic scenario is sustained, slow real GDP growth in the 2.0 percent per year range, which, in turn, generates minimal job gains.

■ For West Virginia, rebounding national growth would gradually pull up state growth as well, but job growth is likely to be muted during the rest of the year. Further, accelerating national growth means gradual erosion in our income growth advantage. The possibility of surging natural gas prices means more cost pressure on the chemical and primary metals sectors, which are already suffering under intense international and domestic competition. A falling U.S. dollar should help, but weak European and Japanese growth will reduce the impact. High natural gas prices do have the potential to drag coal prices up, and may help to sustain coal-mining jobs.

■ Due to the Bureau of Labor Statistics' switch from SIC to NAICS, the West Virginia State Econometric Model is under construction this summer. It will be back on-line for the West Virginia Economic Outlook Conference in Charleston on November 13, 2003.

Municipal Finance in West Virginia: Forging a Course for Fiscal Stability

**by Mehmet S. Tosun, Ph.D., BBER research assistant professor and director,
West Virginia Public Finance Program**

This analysis of the municipal finance system in West Virginia, done by the BBER West Virginia Public Finance Program, was just released by the WVU Bureau of Business and Economic Research. The study was funded by the [Appalachian Regional Commission](#) in cooperation with the [West Virginia Municipal League](#). We offer here a summary of the study findings. [Click here for the full text.](#)

Municipalities are constantly engaged in competition for resources, and in this competitive environment, it has often been argued that West Virginia's municipalities are under financial restraint due to many factors such as demographic pressures, recent fiscal woes facing the state, and the structural problems in municipal financing. This report summarizes the major findings of a comprehensive review of the current system of municipal finance in West Virginia, with an emphasis on how it compares to other states in the Appalachian region.

Municipal financing systems operate under the broader state and local tax structures. The state government in West Virginia has consistently had a strong role in tax revenue generation over the past three decades, but this goes against an overall trend toward decentralization in other Appalachian states, which has led to a diminished role for local governments, including the municipalities. Additionally, there is a decreasing trend in the share of property taxes in total state and local tax revenue over the past three decades in Appalachia—West Virginia and its surrounding states, particularly Ohio, exhibited considerable decreases in the share of property taxes.

West Virginia's municipal financing system was evaluated based on three criteria: revenue adequacy, neutrality, and equity. Revenue adequacy requires that financing sources raise enough funds to cover the cost of planned public expenditures. Neutrality requires that the financing system have as little impact on economic decisions as possible. And the equity criterion requires that the system find an equitable and appropriate way to cover the costs for municipal services.

Analysis of West Virginia's municipal general revenue sources shows that the three largest revenue sources are business and occupation taxes, property taxes and the total municipal charges, licenses and service fees. These three sources account for 91% of total general revenue.

The business and occupation tax, which is the largest single revenue source for municipalities, is found to perform poorly in terms of both neutrality and equity. It leads to high effective tax rates, putting substantial burdens on both businesses (within corporate limits of the city) and consumers. It nevertheless has a broad tax base that generates substantial revenue for municipalities. The study found that for the B&O tax, the inflation-adjusted revenue growth between Fiscal Year 1999 and Fiscal Year 2003 has been quite weak.

There is a lack of consensus in the economics literature on the economic effects of the property tax. Despite its stable tax base, generating revenue with the property tax is impeded by the rate limits imposed by the 1932 Tax Limitation Amendment. The same amendment created four taxable property classes, leading to a relatively large burden on business property. An analysis of the property tax in West Virginia shows that West Virginia municipalities together account for 34% of the total taxable valuations, while

they capture only 7.8% of the total property tax levies. A closer look at larger cities shows that 13 counties with Class I and II municipalities account for 47.6% of the total taxable valuations, while they capture only 10% of the total property tax levies. The study found a moderate inflation-adjusted revenue growth in the property tax between Fiscal Year 1999 and Fiscal Year 2003.

Revenue sources within the total municipal charges, licenses and service fees generally conform to the benefits-received principle in the sense that people or businesses directly pay for the public services that they actually demand. However, low-income households still pay a greater portion of their income in user charges compared to higher-income households. Total municipal charges, licenses and service fees exhibited strong inflation-adjusted growth between Fiscal Year 1999 and Fiscal Year 2003.

The relationship between municipal population and revenue was also addressed in this study. It was found that 75% of all West Virginia municipalities experienced population losses between 1990 and 2000, with the largest losses in municipalities with populations greater than 10,000. A comparison with other Appalachian states shows that West Virginia is the only state that lacks municipalities with population greater than or equal to 75,000. West Virginia municipalities with larger populations seem to have a greater revenue-generating capability compared to municipalities with smaller population sizes. West Virginia municipalities, as a whole, have lower revenue per capita than both the average of all municipalities in Appalachian states and the average of all municipalities in the United States. Thus, low population density and population loss in West Virginia municipalities seem to be serious impediments to revenue generation.

Comparing the municipal finances in West Virginia to municipalities in the Appalachian region, it was found that:

- West Virginia's municipalities rely heavily on charges and miscellaneous general revenue. They have the highest share of charges and miscellaneous general revenue in total revenue in the Appalachian region.

- The intergovernmental revenue share in West Virginia's municipalities is the lowest among the Appalachian states and it is far below the national average. More specifically, West Virginia municipalities have the lowest share of revenue from the state government in total municipal revenue in the Appalachian region.

In conclusion, certain alternative revenue sources and policy options are considered as measures to enhance revenue generation in West Virginia municipalities. These are:

- Local income taxes
- Local sales and use taxes
- Local alcohol taxes
- Local cigarette and tobacco taxes
- Local gasoline tax
- Tax increment financing
- Lottery funds
- Replace the business and occupation tax
- Statewide education levy

Industrial Research and Development Expenditures in the U.S.: 2000

by Armando Alzate, Graduate Research Assistant
and George W. Hammond, Ph.D.

Research and development efforts are a classic example of a high-tech activity. Jobs in this sector often require high levels of academic training and pay high wages. Further, research and development activity influences long-run growth by fostering technological advances and innovation. But what is research and development? According to the National Science Foundation:

Research and development is the planned, systematic pursuit of new knowledge or understanding toward general application (basic research); the acquisition of knowledge or understanding to meet a specific, recognized need (applied research); or the application of knowledge or understanding toward the production or improvement of a product, service, process, or method (development). <http://www.nsf.gov/sbe/srs/nsf03318/sectb.htm#industrial>

The research and development expenditures summarized here represent industrial research and development performed within company facilities, funded from all sources. The funds are the company's own; funds from outside organizations such as other companies, research institutions, universities and colleges, nonprofit organizations, and state governments; and funds from the federal government. Excluded from these data are research and development not performed within the company (e.g., research and development contracted out to other organizations); research and development not performed in the U.S. (e.g., research and development not performed on U.S. soil by foreign subsidiaries or other foreign organizations) and industry-funded research and development undertaken at universities, colleges and other nonprofit organizations.

As summarized in [Table 1](#), the National Science Foundation's (NSF) 2000 Survey of Industrial Research and Development shows that expenditures for research and development performed by companies in the United States amounted to \$199.5 billion. At a level of \$235 million, West Virginia ranked 41st among the 50 states and the District of Columbia in industrial research and development expenditures. California spent nearly \$45.7 billion and ranked first in the nation, followed by Michigan with \$17.6 billion and New Jersey with \$12 billion. The states with the lowest levels of industrial research and development for the year 2000 were Montana, Alaska and Wyoming, at levels of \$28, \$9, and \$7 million, respectively. Industrial research and development expenditures are concentrated in a few states, with the top ten states accounting for about 69 percent of total expenditures. Further, the top 20 states accounted for almost 85 percent of total U.S. industrial research and development expenditures in 2000, while the bottom 20 states accounted for only 2.7 percent.

It is easy to see that the states with the largest economies tended to have the most research and development spending. Another way of evaluating research and development spending is to examine it on a per capita basis. Per capita industry research and development expenditures in 2000 averaged \$707 per person for the U.S. Delaware ranked first in the nation, with \$1,836 per person, which was 2.6 times the national average. Second and third in the ranking were Michigan and Washington, at \$1,772 and \$1,567 per person, respectively. West Virginia ranked 40th, at a level of \$130 per person, about 18 percent of the national average. Louisiana, Alaska, and Wyoming ranked at the bottom, with levels of \$28, \$14, and \$14 per person, respectively.

As **Figure 1** shows, research and development activity on a per capita basis tended to be the highest in the Northeast, the upper Midwest, and the West. Lower levels of industrial research and development spending were found in the upper Plains and the South. In general, industrial research and development spending per capita seems to be high in those states with higher levels of educational attainment. Indeed, research and development spending is positively correlated with college-level educational attainment.¹

Another revealing way to look at research and development spending is to investigate its intensity (for instance, measured by its share of gross state product). For the nation as a whole, research and development intensity was 2.0 percent in 2000. As shown in Table 1, West Virginia ranked 35th, with an intensity of 0.6 percent, 30 percent of the national average. Michigan ranked first in the nation with research and development intensity of 5.4 percent, which was 2.7 times the national average. Washington and Nebraska ranked second and third, with 4.2 and 4.0 percent, respectively. At the bottom of the rankings, we find Louisiana, Wyoming, and Alaska, at levels of nearly zero percent.

¹The correlation coefficient is 0.43, which is statistically different from zero at the 1 percent level.

Table 1
Industrial Research and Development Expenditures by State: 2000

Area	Total R&D (Dollars in millions)	Rank	R&D Per	Rank	R&D share	Rank
United States	\$199,539	-	\$707	-	2.0	-
Alabama	607	33	136	39	0.5	38
Alaska	9(S)	50	14	50	0.0	51
Arizona	2,445	18	473	20	1.6	18
Arkansas	273	39	102	43	0.4	40
California	45,769	1	1,346	6	3.4	7
Colorado	3,140	15	726	13	1.9	16
Connecticut	4,371(S)	11	1,281	8	2.7	10
Delaware	1,444(S)	25	1,836	1	3.9	4
D.C.	112	45	196	33	0.2	46
Florida	3,212	14	200	32	0.7	33
Georgia	1,579	24	192	35	0.5	37
Hawaii	154	43	127	41	0.4	42
Idaho	1,338	26	1,029	10	3.6	5
Illinois	10,661	4	857	11	2.3	11
Indiana	2,668(S)	17	438	23	1.4	20
Iowa	538	36	184	36	0.6	34
Kansas	1,140(S)	29	423	26	1.3	22
Kentucky	582	35	144	38	0.5	39
Louisiana	126	44	28	49	0.1	49

Continued on next page →

Table 1 (con't)
Industrial Research and Development Expenditures by State: 2000

Area	Total R&D (Dollars in millions)	Rank	R&D Per Capita	Rank	R&D share of GSP (%)	Rank
Maine	201	42	157	37	0.6	36
Maryland	2,032	20	382	28	1.1	28
Massachusetts	9,863	6	1,550	4	3.5	6
Michigan	17,640(S)	2	1,772	2	5.4	1
Minnesota	3,722(S)	12	754	12	2.0	14
Mississippi	101	46	35	47	0.2	47
Missouri	1,893	22	338	30	1.1	29
Montana	28(S)	49	31	48	0.1	48
Nebraska	2,253	19	1,315	7	4.0	3
Nevada	248	40	123	42	0.3	43
New Hampshire	586	34	472	21	1.2	25
New Jersey	12,062	3	1,430	5	3.4	8
New Mexico	1,158(S)	28	636	16	2.2	12
New York	10,539	5	555	17	1.3	24
North Carolina	3,672	13	454	22	1.3	23
North Dakota	51(S)	47	80	45	0.3	44
Ohio	5,962	10	525	18	1.6	17
Oklahoma	333	38	96	44	0.4	41
Oregon	1,651	23	481	19	1.4	21
Pennsylvania	7,873	9	641	15	2.0	15
Rhode Island	1,090(S)	30	1,037	9	3.0	9
South Carolina	781	32	194	34	0.7	31
South Dakota	44	48	58	46	0.2	45
Tennessee	1,215(S)	27	213	31	0.7	32
Texas	8,961	8	428	25	1.2	26
Utah	979	31	436	24	1.4	19
Vermont	396	37	649	14	2.2	13
Virginia	2,718	16	382	27	1.0	30
Washington	9,265(S)	7	1,567	3	4.2	2
West Virginia	235	41	130	40	0.6	35
Wisconsin	1,981	21	369	29	1.1	27
Wyoming	7	51	14	51	0.0	50

KEY: (S) = Indicates imputation of more than 50 percent.; NA = Not Available: GSP is Gross State Product

NOTES: The R&D in this table is the industrial R&D performed within company facilities funded from all sources. The funds are the company's own; funds from outside organizations such as other companies, research institutions, universities and colleges, nonprofit organizations, and State governments; and funds from the Federal government. Excluded from this table are R&D not performed within the company (e.g., R&D contracted out to other organizations); R&D not performed in the U.S. (e.g., R&D not performed on U.S. soil by foreign subsidiaries or other foreign organizations) and Industrial funded R&D undertaken at universities, colleges and other nonprofit organizations.

SOURCES:

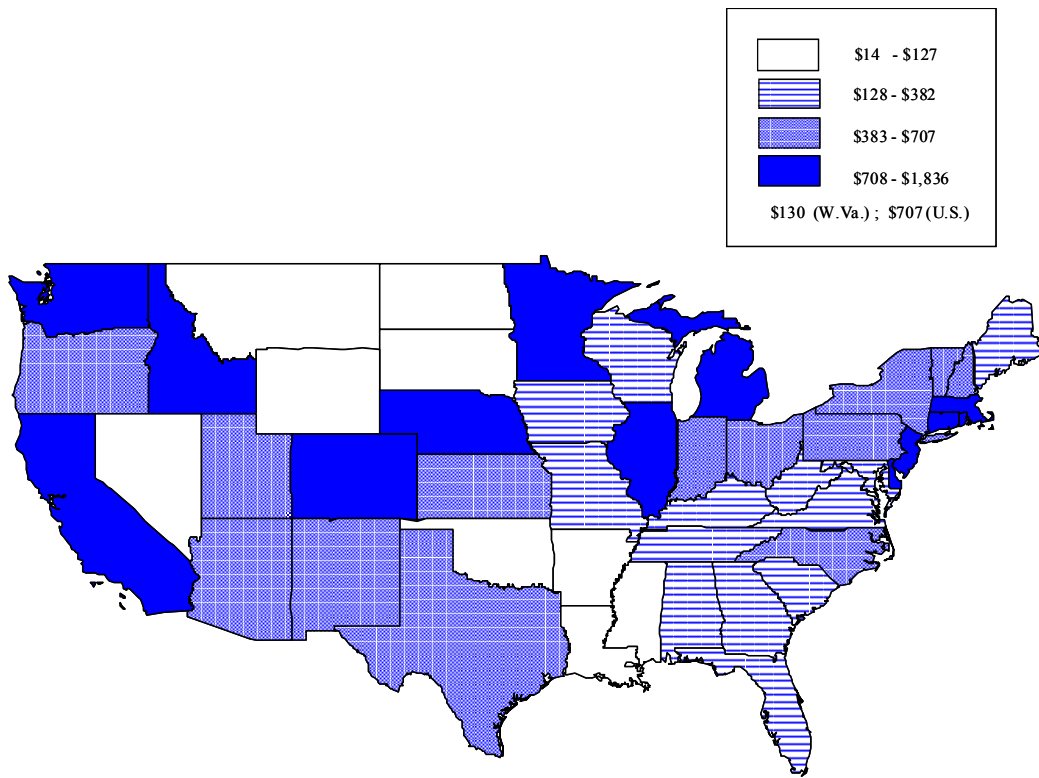
National Science Foundation/Division of Science Resources Statistics, Survey of Industrial R&D: 2000
<http://www.nsf.gov/sbe/srs/nsf03318/start.htm>

U.S. Census Bureau, Population Division, State Population Estimates.

Bureau of Economic Analysis, Department of Commerce.

Tabulation by the Bureau of Business and Economic Research, West Virginia University: www.bber.wvu.edu

Figure 1
Industrial Research and Development Expenditures Per Capita: 2000



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