

## *Morgantown MSA Forecast to Avoid National Downturn*

by George W. Hammond, Associate Director, BBER  
and Scott Murdoch, Graduate Research Assistant

### IN THIS ISSUE

Morgantown MSA Forecast .....	1
Economic Impact of WVU .....	3
Human Capital Impacts of WV Public Higher Education .....	4
Economic Profile of WV Biosciences Industry .....	5
Per Capita Personal Income by State .....	7

*Mark your calendars:*

**15<sup>th</sup> Annual West Virginia  
Economic Outlook Conference**

**Forecast for 2009**

*and beyond...*

*Tuesday, Nov. 18, 2008*

*Charleston Marriott  
Charleston, WV*

The Morgantown metropolitan statistical area (MSA) economy is one of the most dynamic in the state. Indeed, the metropolitan area, which includes Monongalia and Preston counties, has posted job, inflation-adjusted per capita personal income, and population growth rates far in excess of the state average so far this decade.

Job growth in the Morgantown MSA averaged 3.2 percent per year during the 2002-2007 period, far exceeding the state rate of 0.7 percent and the national rate of 1.1 percent, as Figure 1 shows. Job growth was particularly strong in construction, with large new investments in residential, nonresidential (retail, commercial, hospital, and University-related expansions), and utility (Longview Power Plant) projects. The region has also posted strong job gains in manufacturing, in contrast to the state and the nation, with rising employment in pharmaceuticals and metal products contributing to the growth. The Morgantown MSA has also registered strong employment growth in leisure and hospitality; trade, transportation, and utilities; financial activities; health care; and government. This growth reflects the rising investment in the region, along with strong population gains.

Inflation-adjusted per capita personal income growth has also been relatively strong in the metropolitan area, averaging 2.7 percent per year from 2000-2005, compared to 1.6 percent for the state and 0.8 percent for the nation. Strong job and income growth have contributed to solid population gains, with the metropolitan area adding about 3,500 residents during the last five years.

The forecast calls for the region to continue to expand during the next five years, even as the nation falls into recession during 2008. The national recession is expected to

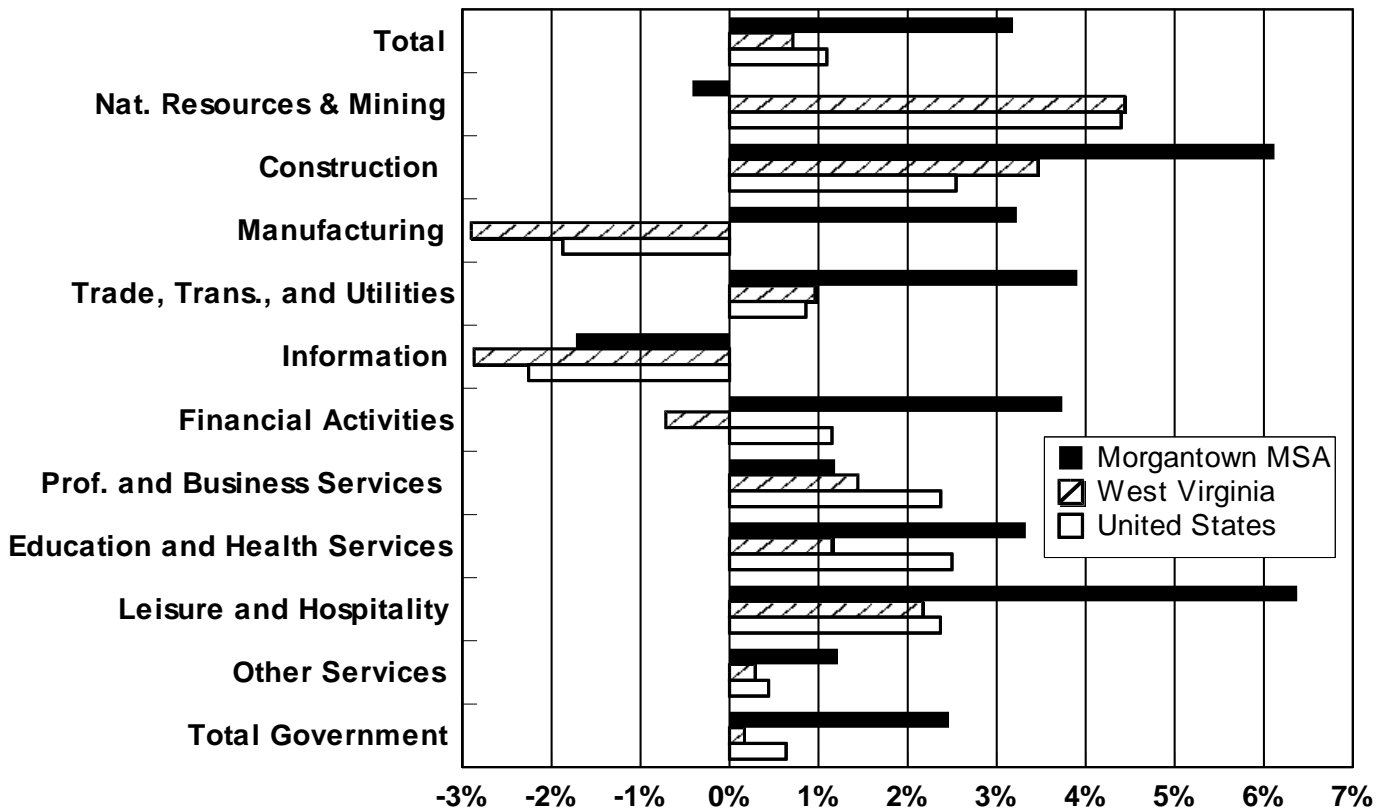
be short and mild and thus causes local growth to decelerate but not stop. Job gains in the Morgantown MSA are expected to come primarily in the service-providing sector (health care; government; leisure and hospitality; and trade, transportation, and utilities) but the goods-producing sector contributes as well. Construction job growth continues to be strong locally, as the region continues work on commercial, retail, health-related, University, utility, and other government projects.

Risks to the forecast include a more severe than expected national recession, which would contribute to slower growth locally as well. Further, strong expected

growth in the Morgantown MSA means increasing pressure on the local transportation infrastructure. Upgrading the transportation infrastructure will continue to be a high priority locally. In addition, the region's unemployment rate is forecast to remain low, which means that local employers will face stiff competition for labor, particularly as the baby boom generation begins to retire.

This article is an excerpt from the full Morgantown MSA forecast, which is available on the BBER website at [www.bber.wvu.edu](http://www.bber.wvu.edu).

**Figure 1**  
**Morgantown MSA**  
**Annual Job Growth 2002 - 2007 \***



\*Annual job growth is based on non-farm payroll data.

# Economic Impact of West Virginia University FY 2007

by Amy Higginbotham, Randall Childs, Dr. Tom S. Witt

Founded in 1867 as the state's public land-grant institution, West Virginia University (WVU) contributes to West Virginia in a diverse and extensive manner. WVU has developed extensive teaching, research, service, and economic development programs benefiting West Virginia residents. Many of the program benefits are neither immediately apparent nor easily quantified. This article presents results from a study of how WVU's expenditures affected the state economy in fiscal year 2007.

Table 1 presents the economic impact that WVU and affiliated organizations<sup>1</sup> had on West Virginia from July 1, 2006 to June 30, 2007. For fiscal year 2007, WVU and affiliated organizations received \$203.2 million in state appropriations. These appropriations included monies to WVU, Potomac State, WVU Parkersburg, WVU Tech, and the Health Sciences Center, as well as funds from the lottery and soft drink tax. In return, WVU and affiliated organizations had a total economic impact of nearly \$3.9 billion of business volume and \$3.3 billion of output. This total business volume impact is more than nineteen times the state investment, which means that every dollar the state legislature spends on WVU and affiliated organizations turns into \$19 in the state economy.

In addition, WVU and affiliated organizations accounted for \$1.2 billion in employee compensation and for 35,700 jobs in the state. Total value added generated was \$1.7 billion. WVU and its affiliated organizations' activities generated \$57.4 million in state tax revenue through consumer sales and use tax, personal income tax, corporate net income tax, and business franchise tax.

For the complete report go to the Bureau of Business and Economic Research's website (<http://www.bber.wvu.edu>).

<sup>1</sup> WVU includes WVU Main Campus (Morgantown), WVU Institute of Technology, WVU Parkersburg, Potomac State College of WVU, and WVU Research Corporation. Affiliated organizations includes WVU Hospitals Inc., United Hospital Center and subsidiaries, Allied Health Services Inc., United Physicians Care Inc., Health Partners Network Services Inc., WVU Medical Corporation, Physicians of Charleston, WVU Dental Corporation, WVU Alumni Association, and WVU Foundation Inc.

**Table 1**  
**Economic Impact of West Virginia University and Affiliated Organizations**  
**on the West Virginia Economy**  
**Fiscal Year 2007**

<u>Type of Economic Impact</u>	<u>Direct Impact</u>	<u>Indirect &amp; Induced Impact</u>	<u>Total Impact</u>
Business Volume (\$million)	\$2,086.0	\$1,810.5	\$3,896.5
Output (\$ million)	2,039.0	1,290.8	3,329.8
Employee Compensation (\$million)	831.6	320.0	1,151.6
Value Added (\$ million)	1,019.5	697.2	1,716.7
Employment (jobs)	22,700	13,000	35,700
Assorted State Taxes (\$ million)	-	-	57.4

Note: Numbers may not sum due to rounding. Assorted state taxes include consumer sales, use, personal income, corporate net income and business franchise.

# *Human Capital Impacts of West Virginia Public Higher Education*

by George W. Hammond, Associate Director, BBER  
and Sebastian Leguizamon, Graduate Research Assistant

Human capital is an important determinant of economic competitiveness and growth. Universities and colleges are a crucial component of the system by which nations, states, and local areas generate human capital. A critical consideration is then the degree to which graduates from state higher education institutions remain in the state to work and the wages they earn.

This article summarizes a longer report, titled *From Higher Education to Work in West Virginia 2006*, which is available online at [www.bber.wvu.edu](http://www.bber.wvu.edu). The study analyzes West Virginia labor market experiences of graduates from West Virginia public institutions of higher education during the last decade. This initial report focuses on trends in the number of graduates on the payrolls of establishments located in the state, as well as their wages. Also included are analyses of the work participation and wages of graduates by selected degrees and by residency. Highlights of the study include:

## *Work participation*

Of the 106,583 state public higher education graduates during the last decade, 49,436 earned wages in West Virginia in 2006. Thus, 46.4 percent of West Virginia higher education graduates during the 1995-1996 to 2004-2005 period were on the payrolls of state establishments for at least one quarter of the year.

In 2006, 57.1 percent of state graduates in the 2004-2005 academic year were working at establishments located in West Virginia. This share gradually decreases over time, reaching 37.9 percent of 1995-1996 academic year graduates working in the state in 2006.

In 2006, 94.3 percent of graduates that were on the payrolls of state establishments were classified as in-state residents for fee purposes. Those classified as out-of-state accounted for 4.0 percent of graduates on the payrolls in 2006. Thus, in-state graduates are more likely to work in West Virginia.

Work participation in the state also varies by degree earned. Graduates with Associate's degrees posted the highest work participation rate, with 64.2 percent of these graduates working in the state in 2006. Graduates with Masters' degrees posted a work participation rate of 49.2 percent, followed by First Professional (44.0 percent), Bachelor's (41.1 percent), and Doctoral (23.8 percent) graduates.

## *Wages*

Graduates during the past decade from state public institutions of higher education earned \$1.56 billion in wages at establishments located in West Virginia in 2006. That accounts for 6.8 percent of the \$23.1 billion in wages paid to all workers on the payrolls of state firms covered by unemployment compensation.

Adjusted for part-year work, annualized wages for state graduates were \$36,954 in 2006. Wages rise as workers gain experience, with recent graduates earning an average annualized wage of \$27,190. Graduates during the 1995-1996 academic year earned an annualized wage of \$45,726 in 2006.

For graduates during the last decade, annualized wages in 2006 were highest for those with First Professional degrees (\$88,947), followed by those with Doctoral degrees (\$59,824), Master's degrees (\$45,648), Bachelor's degrees (\$32,477), and Associate's degrees (\$30,494).

West Virginia Associate's and Bachelor's degree graduates earn approximately the same average annualized wages (ranging from the mid-\$20,000 to the mid-\$30,000) during the first six years following graduation. However, after the sixth year since graduation, graduates with Bachelor's degrees do significantly better, with Bachelor's degree graduates during the 1995-1996 academic year earning an average of \$6,330 more than Associate's degree graduates.

The data analyzed in this report cover graduates from state public institutions of higher education during the academic years from 1995-1996 to 2004-2005. Data on graduates is matched, by Workforce West Virginia, with data on employment and wages covered under the state unemployment compensation system. This dataset excludes the self-employed and other workers not covered by state unemployment compensation (railroad workers and federal government employees).

# *An Economic Profile of the Bioscience Industry in West Virginia*

by Anthony Gregory, BBER graduate research assistant, and  
Tom S. Witt, director and professor of economics

The West Virginia economy, along with many other states', has undergone significant changes in its overall economic structure. Manufacturing employment continues to decline while service related jobs continue to grow. As part of the process of identifying new opportunities to grow the state economy, policy makers and economists have identified industry clusters that have potential for advancing the state's economy. In recent years the bioscience industry has received increasing attention and study. The BBER undertook an analysis of this sector earlier this year and released a report that is available on its website.

The bioscience industry has four major subsectors: agricultural feedstock and chemicals, drugs and pharmaceuticals, medical devices and equipment, and research, testing and medical laboratories. National studies by the Battelle Memorial Institute and the Milken Institute have identified the bioscience industry as an attractive target for states seeking to stimulate economic growth. This industry has strong job growth and wages well above the national private sector level. As a result, states have been fashioning their public policies to support the continued growth of this industry cluster.

This study estimates the economic impact (direct, indirect and induced, and total) of the West Virginia bioscience industry in 2006. Table 1 summarizes these impacts.

The report presents a detailed profile of the West Virginia bioscience industry over the period 2001-2006. Major findings include:

- Within the bioscience industry, the agricultural feedstock and chemical sub-sector, as well as the drugs and pharmaceutical sub-sector, have a greater concentration in West Virginia than in the nation as a whole. The Charleston MSA has a relatively high concentration of agriculture feedstock and chemicals employment while the Morgantown MSA has a very high concentration of employment in the drugs and pharmaceutical sub-sector.
- West Virginia bioscience employment ranged from 6,928 in 2001 to 6,912 in 2006. Significant employment declines of 1,151 jobs in the All Other Basic Organic Chemical Manufacturing Sector were largely offset by employment gains in the other bioscience sectors.

---

**Table 1**  
**Economic Impact of West Virginia's Bioscience Industry**  
**2006 (millions of \$)**

<u>Type of Economic Impact</u>	<u>Direct Impact</u>	<u>Indirect &amp; Induced Impact</u>	<u>Total Impact</u>
Business Volume	\$3,374	3,821	7,195
Employment (jobs)	6,912	15,023	21,935
Output	\$3,374	2,720	6,094
Employee Compensation	\$457	499	956
Value Added	\$825	1,053	1,878
Assorted State Taxes	-	-	56.8

---

Note: Totals may not sum due to rounding. Assorted state taxes include consumer sales, use, personal income, corporate net income and business franchise.

- West Virginia’s bioscience average earnings in 2006 were \$55,220 compared to statewide average earnings of \$37,894.

- Bioscience employment was largely concentrated in the Charleston, Huntington and Morgantown Metropolitan Statistical Areas, as well as Tyler County.

National studies on the bioscience industry acknowledge the importance of research undertaken in higher education; however, most studies do not estimate the economic impact of this research. University-based research is a very important component for the development of human capital as well as the commercialization of research in the private sector. Table 2

summarizes the economic impact of the life sciences research undertaken at West Virginia University, Marshall University, and the West Virginia School of Osteopathic Medicine during FY2007.

The study also reviews a variety of state level public policy measures critical to the growth and development of the industry. West Virginia has numerous efforts underway, as well as new initiatives that will create an environment more attractive and welcoming to the bioscience sector. Governor Manchin’s recently enacted “Bucks for Brains” represents the type of initiative that should lead to long-term economic growth of this industry.

---

**Table 2**  
**Economic Impact of West Virginia’s Life Science Research**  
**at WVU, Marshall and WVSOM,**  
**FY 2007 (thousands of \$)**

<u>Type of Economic Impact</u>	<u>Direct Impact</u>	<u>Indirect &amp; Induced Impact</u>	<u>Total Impact</u>
Business Volume	\$99,760	100,303	200,063
Employment (jobs)	872	712	1,584
Output	\$99,760	72,723	172,483
Employee Compensation	\$35,028	16,817	51,845
Value Added	\$46,111	39,520	85,631
Assorted State Taxes	\$1,568	1,149	2,716

---

Note: Totals may not sum due to rounding. Assorted state taxes include consumer sales, use, personal income, corporate net income and business franchise.

# Per Capita Personal Income by State: 2000, 2007

State	Nominal Per Capita Personal Income				Avg. Annual Growth 2000-2007	
	2000	2000 Rank	2007	2007 Rank	Percent	Rank
United States	\$29,845	na	\$38,611	na	3.7%	na
Alabama	\$23,767	45	\$32,404	43	4.5%	11
Alaska	\$29,869	16	\$40,352	16	4.4%	13
Arizona	\$25,653	38	\$33,029	41	3.7%	33
Arkansas	\$21,926	49	\$30,060	49	4.6%	10
California	\$32,462	9	\$41,571	8	3.6%	36
Colorado	\$33,361	8	\$41,042	11	3.0%	49
Connecticut	\$41,492	1	\$54,117	2	3.9%	29
Delaware	\$30,869	14	\$40,608	13	4.0%	25
D.C.	\$40,403	2	\$61,092	1	6.1%	2
Florida	\$28,508	21	\$38,444	21	4.4%	15
Georgia	\$27,987	27	\$33,457	39	2.6%	50
Hawaii	\$28,435	23	\$39,239	19	4.7%	8
Idaho	\$24,077	43	\$31,197	45	3.8%	32
Illinois	\$32,186	10	\$40,322	17	3.3%	43
Indiana	\$27,133	32	\$33,616	38	3.1%	46
Iowa	\$26,556	34	\$35,023	28	4.0%	23
Kansas	\$27,691	28	\$36,768	23	4.1%	20
Kentucky	\$24,412	41	\$31,111	47	3.5%	38
Louisiana	\$23,081	46	\$34,756	32	6.0%	3
Maine	\$25,973	36	\$33,722	36	3.8%	31
Maryland	\$34,261	6	\$46,021	6	4.3%	17
Massachusetts	\$37,750	4	\$49,082	4	3.8%	30
Michigan	\$29,554	18	\$35,086	27	2.5%	51
Minnesota	\$32,014	11	\$41,034	12	3.6%	35
Mississippi	\$21,007	51	\$28,845	51	4.6%	9
Missouri	\$27,242	31	\$34,389	33	3.4%	41
Montana	\$22,933	47	\$32,458	42	5.1%	5
Nebraska	\$27,624	30	\$36,471	25	4.0%	22
Nevada	\$30,433	15	\$40,480	14	4.2%	19
New Hampshire	\$33,399	7	\$41,512	9	3.2%	44
New Jersey	\$38,372	3	\$49,194	3	3.6%	34
New Mexico	\$22,143	48	\$31,474	44	5.2%	4
New York	\$34,901	5	\$47,385	5	4.5%	12
North Carolina	\$27,064	33	\$33,636	37	3.2%	45
North Dakota	\$25,103	39	\$34,846	30	4.8%	7
Ohio	\$28,206	25	\$34,874	29	3.1%	48
Oklahoma	\$24,409	42	\$34,153	34	4.9%	6
Oregon	\$28,096	26	\$34,784	31	3.1%	47
Pennsylvania	\$29,696	17	\$38,788	20	3.9%	28
Rhode Island	\$29,213	19	\$39,463	18	4.4%	14
South Carolina	\$24,423	40	\$31,013	48	3.5%	40
South Dakota	\$25,721	37	\$33,905	35	4.0%	24
Tennessee	\$26,095	35	\$33,280	40	3.5%	37
Texas	\$28,314	24	\$37,187	22	4.0%	26
Utah	\$23,864	44	\$31,189	46	3.9%	27
Vermont	\$27,681	29	\$36,670	24	4.1%	21
Virginia	\$31,083	13	\$41,347	10	4.2%	18
Washington	\$31,777	12	\$40,414	15	3.5%	39
West Virginia	<b>\$21,904</b>	<b>50</b>	<b>\$29,537</b>	<b>50</b>	<b>4.4%</b>	<b>16</b>
Wisconsin	\$28,570	20	\$36,047	26	3.4%	42
Wyoming	\$28,469	22	\$43,226	7	6.1%	1



Bureau of Business and Economic Research  
College of Business and Economics  
West Virginia University,  
P.O. Box 6025  
Morgantown, WV 26506-6025

Non-profit Org.  
U.S. Postage  
PAID  
Morgantown,  
WV  
Permit 34

*The West Virginia Business & Economic Review* is published four times a year by the Bureau of Business and Economic Research, College of Business and Economics, West Virginia University, P.O. Box 6025, Morgantown, WV 26506-6025. It is available free of charge in either print or electronic versions. To subscribe, contact the BBER:

PHONE: (304)293-7831

FAX: (304)293-7061

WEBSITE: [www.bber.wvu.edu](http://www.bber.wvu.edu)

Milan Puskar Dean ..... R. Stephen Sears

BBER Director ..... Tom Witt

**BBER Research Staff**

**Randy Childs**, economist

**Tami Gurley-Calvez**, research assistant professor

**George Hammond**, associate director

**Amy Higginbotham**, economist

**Juan Leguizamon**, graduate research assistant

**Patrick Mann**, research associate and professor of economics emeritus

**Scott Murdoch**, graduate research assistant

**Arzu Sen**, graduate research assistant

---

West Virginia University is governed by the WVU Board of Advisors and the West Virginia Higher Education Policy Commission and is an Equal Opportunity/Affirmative Action Institution.

©2008 West Virginia University Research Corporation