

# West Virginia Higher Education Graduate Employment And Wage Trends: 2003-2010

Summary Results For Work Participation And  
Wages With Analysis By Year, Experience,  
Residency Status, Degree, And Gender

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## **Executive Summary**

The employment of college graduates in West Virginia depends on the structure and performance of the state's labor market. The Great Recession produced massive job losses in West Virginia and nationally in 2009. These job losses were reflected in skyrocketing unemployment rates and significantly slower wage growth. The good news is that the recession is over and both the state and the nation are generating job growth. That job growth, however, has not been sufficient to produce significant improvement in either the state or national unemployment rate.

This report presents a comprehensive look at the labor market experience of students that graduated from West Virginia public higher education institutions during the past 13 years. In particular, we analyze the employment and wages earned by graduates at establishments located in West Virginia. We show how graduate employment and wages have evolved during the past seven years, with a focus on performance before, during, and after the recession. We disaggregate these results across several dimensions, including year, experience, residency, degree, and gender. Selected highlights of this report include:

### ***Results By Experience***

- In 2010, 55.7 percent of graduates from West Virginia public higher education institutions during the 2008-2009 academic year worked at establishments in West Virginia.
- Work participation rates gradually decline as time since graduation rises, with 36.4 percent of graduates during 1996-1997 working in the state in 2010.
- The economic downturn had the biggest impact on the work participation rates of graduates with the least experience. This impact persisted into 2010, with the work participation rate for graduates with 2-3 years of experience well below the rates posted by graduates with similar experience in 2008.
- In addition, annualized wages for graduates with at most five years of experience declined by 0.4 percent per year from 2008-2010. In contrast, wages for graduates with six-to-nine years of experience rose by 0.4 percent during the same period.
- Of the 142,047 West Virginia public higher education graduates during the 1996-1997 to 2008-2009 period, 64,272 worked at establishments in the state in 2010. That translated into an overall work participation rate of 45.2 percent.
- In 2010, West Virginia public higher education graduates during the past 13 years earned \$2.7 billion working at establishments located in the state. That translated into an average annualized wage of \$42,247 per worker.

### ***For Graduates With At Most Nine Years Of Experience***

In order to control for the impact of experience on work participation and wages, the following results focus on graduates with at most nine years of experience.

#### ***Results By Year***

- Graduate work participation rates rose slightly during the downturn of 2009 and the recovery in 2010. This suggests that graduate employment was a bit more stable during the downturn than average.
- For graduates with at most nine years of experience, the work participation rate rose slightly in 2009, to 48.0 percent, and in 2010, to 48.1 percent.
- Annualized wages earned by graduates declined slightly from 2008-2010, at a rate of 0.1 percent per year.

- Annualized wage growth for graduates was slow during the 2003 to 2010 period, just keeping pace with the national rate of inflation.

### ***Results By Residency***

- In-state graduates are more likely to work in the state than are out-of-state graduates. In 2010, 61.3 percent of in-state graduates worked in West Virginia compared to 9.4 percent of out-of-state graduates.
- Work participation rates for both in-state and out-of-state graduates rose slightly from 2008-2010.
- Annualized wages were higher in 2010 for in-state graduates (\$39,347) than for out-of-state graduates (\$36,369).
- Annualized wages were lower in 2010 than 2008 for both in-state and out-of-state graduates.

### ***Results By Degree***

- Work participation rates in 2010 were highest for Associate's degree graduates (65.7 percent), followed by Master's (49.5 percent), First Professional (44.8 percent), Bachelor's (43.3 percent), and Doctoral (26.4 percent) graduates.
- Work participation rates fell from 2008 to 2009 for Master's and First Professional graduates. Work participation rates rose for Associate's, Bachelor's, and Doctoral graduates during the same period.
- In 2010, annualized wages were highest for First Professional (\$100,632) graduates, followed by Doctoral (\$64,655), Master's (\$49,047), Bachelor's (\$33,780), and Associate's graduates (\$32,397).
- From 2008 to 2010, annualized wages fell for Associate's and Bachelor's graduates, but increased for Master's, First Professional, and Doctoral graduates.

### ***Results By Gender***

- In 2010, the female work participation rate, at 52.6 percent, exceeded the male rate of 42.1 percent.
- From 2008 to 2009, the female participation rate increased while the male rate decreased. This suggests that the impact of the downturn hit male graduates harder than female graduates. This likely reflects the large job losses in mining, construction, and manufacturing.
- Rebounding job growth in mining and manufacturing in 2010 set the stage for the male work participation rate to increase. The rate for females remained stable.
- In 2010, annualized wages for male graduates were \$45,285, compared to \$35,439 for female graduates. That means that wages for males were 27.8 percent higher than wages for females.
- From 2008 to 2010, wages for females rose by 0.4 percent per year while wages for males declined by 0.6 percent per year.

### ***The Data***

The data analyzed in this study come from the matching of demographic information on graduates from West Virginia public institutions of higher education with employment records maintained by Workforce West Virginia. Graduates reflect the highest degree earned during the 1996-1997 to 2008-2009 period. The self-employed, student workers, most church workers, and unpaid family workers are generally not covered by this data. **For this report, we do not include civilian federal government employment and wages due to recent administrative problems with the FEDES match.**

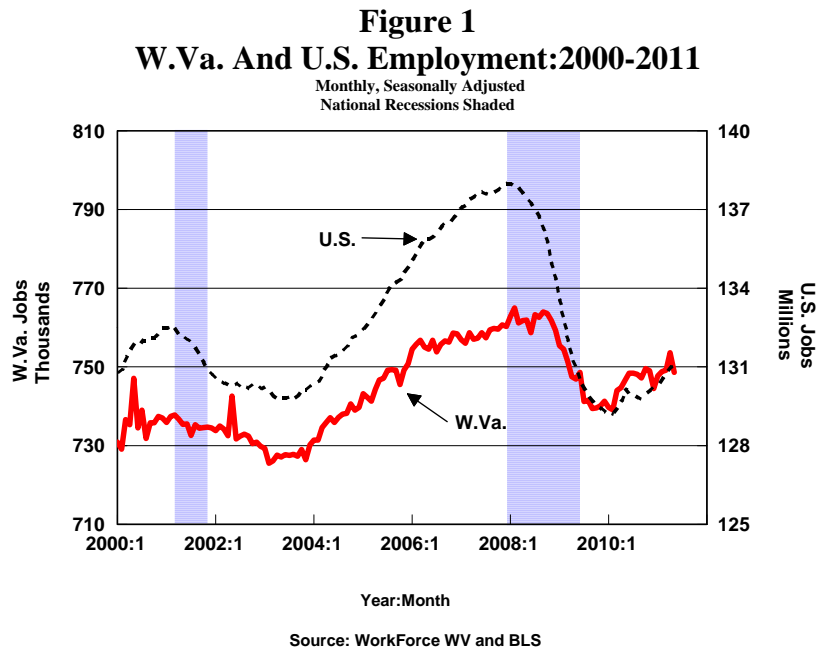


## West Virginia's Labor Market In 2010

The employment of college graduates in West Virginia depends on the structure and performance of the state's labor market. The West Virginia economy was hit hard by the Great Recession, with the largest negative employment impacts concentrated in 2009. As Figure 1 shows, nonfarm payroll jobs in West Virginia were stable during most of 2008, in contrast to the large job losses already being posted nationally. This relative stability in employment reflects in part the importance of the energy sector to the state. The coal and natural gas sectors continued to post strong performance during most of 2008, boosting state performance. In addition, most housing markets in the state did not participate in the housing boom and thus missed the bust as well.

As Figure 1 also shows, in late 2008 and 2009 the state was sucked into the same vortex that swallowed the national economy, with West Virginia posting huge job losses as well. Indeed, the state lost 23,000 jobs during the five quarters from the third quarter of 2008 to the fourth quarter of 2009. Those losses erased 64.2 percent of the jobs gained during the second quarter of 2003 to third quarter of 2008 period. In other words, by the fourth quarter of 2009, the employment level in the state hit its lowest level since the fourth quarter of 2004.

West Virginia's job losses during the Great Recession mirrored huge losses nationally. Indeed, national job losses were even more severe. As Figure 1 shows, national job losses from the first quarter of 2008 to the first quarter of 2010 wiped out all of the jobs gained during the decade. At its lowest point, national employment fell back to a level last seen in 1999.



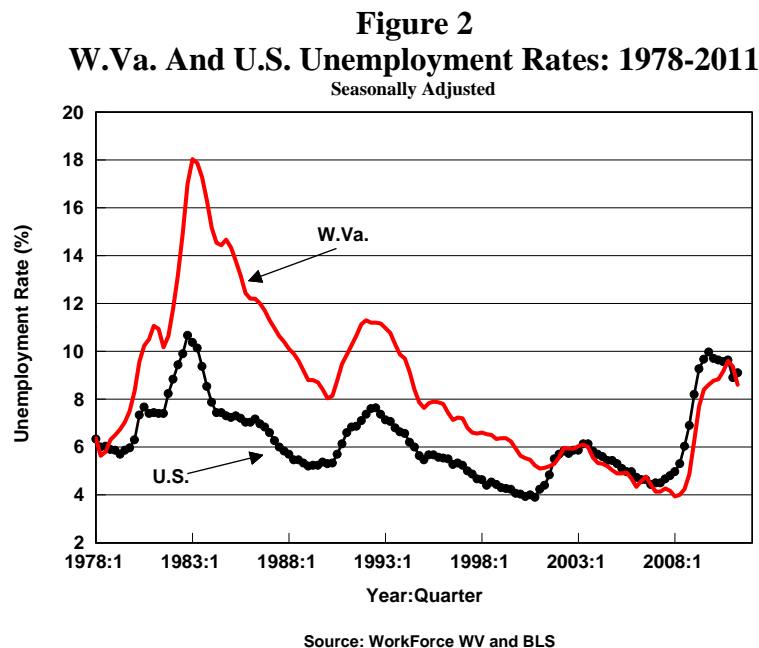
Overall, the Great Recession hit state employment very hard, with a percentage decline of 3.0 percent from the third quarter of 2008 to the fourth quarter of 2009. However, the national economy fared even worse, with a 6.2 percent decline from the first quarter of 2008 to the first quarter of 2010. In addition, the downturn lasted longer nationally than it did in West Virginia.

The good news at this point is that the state employment downturn ended in late 2009 (early 2010 for the U.S.). Since the fourth quarter of 2009, the state has added 8,200 nonfarm payroll jobs on a seasonally adjusted basis. That translated into an increase of 0.9 percent on an annualized basis. As Figure 1 shows, the national economy has also begun to add jobs again, generating growth of 1.0 percent from the first quarter of 2010 to the same quarter of 2011.

The recovery in West Virginia employment has been broad based, with most sectors adding jobs during the past five quarters. This includes job gains in natural resources and mining, which reflect rebounding coal production and increased production of natural gas related to the development of the Marcellus Shale play. Manufacturing jobs have also rebounded, reflecting export gains driven by resurgent world growth and a declining value of the U.S. dollar. As the U.S. dollar depreciates, U.S. exports become more price competitive, other things constant. Most of the job gains in West Virginia during the recovery have come in service-providing sectors, primarily professional and business services; health care; and leisure and hospitality.<sup>1</sup>

The huge job losses suffered by both the state and the nation during the Great Recession were reflected in a surge in the unemployment rate, as Figure 2 shows. Indeed, the West Virginia unemployment rate rose from 4.2 percent in 2008 to 7.7 percent in 2009 and increased again to 9.1 percent by 2010. This was similar to the national experience during the downturn.

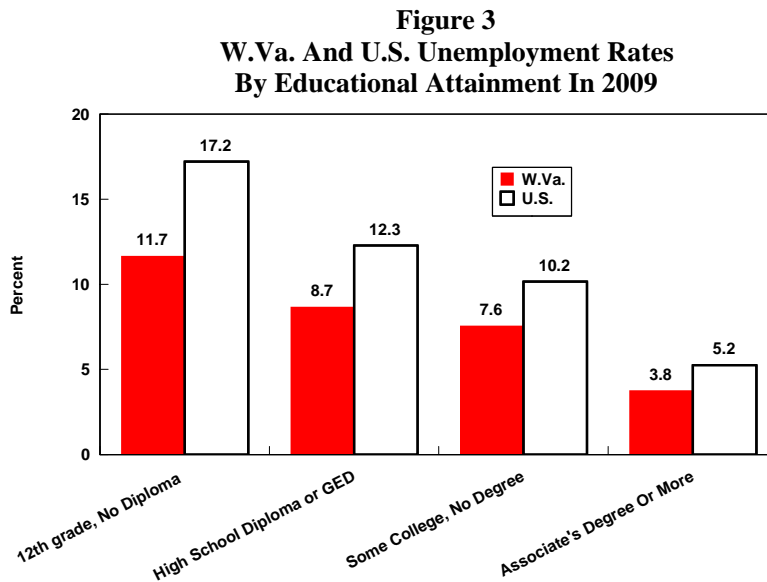
While renewed job growth during the recovery has resulted in a modest decline of the national unemployment rate during 2010, the state rate continued to increase, although at a reduced rate. West Virginia's unemployment rate finally began to drop during the first half of 2011.



<sup>1</sup> Professional and business services includes, for example, accountants, management consultants, lawyers, computer programmers, and call center workers. Leisure and hospitality includes hotels, motels, restaurants, and bars. It also includes the gaming sector.

While the state and national unemployment rates rose significantly during the downturn, and remain elevated, it is important to remember that different demographic groups tend to post different rates of job growth and different unemployment rates. For instance, unemployment rates vary significantly by the level of educational attainment.

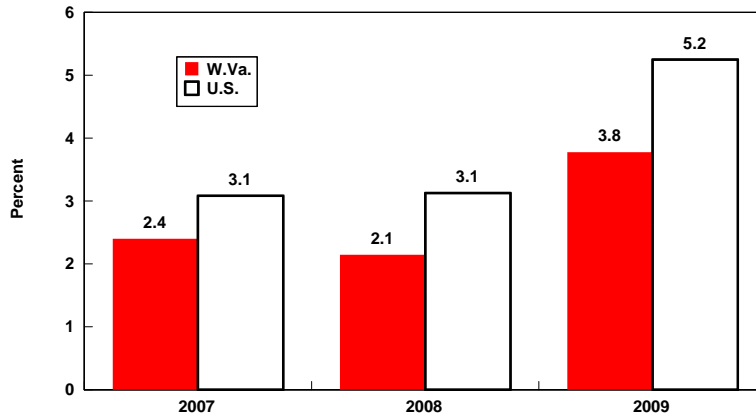
Figure 3 presents unemployment rates in 2009 for West Virginia and the nation by level of educational attainment. These data are from the U.S. Census Bureau’s American Community Survey and the most recent data available are for 2009. As the figure shows, unemployment rates tend to fall as educational attainment rises. For instance, in 2009 state residents with a high school diploma reported an unemployment rate of 8.7 percent, which was far higher than the unemployment rate for residents with an Associate’s degree or more of 3.8 percent.



Source: Census Bureau American Community Survey  
and author calculations

While unemployment rates tend to be lower for residents with higher levels of academic achievement, this does not imply that the Great Recession by-passed college graduates. Indeed, as Figure 4 shows unemployment rates for college graduates rose significantly from 2007 to 2009. For West Virginia, the college graduate unemployment rate rose from 2.1 percent in 2008 to 3.8 percent in 2009. Likewise, the national unemployment rate for college graduates rose from 3.1 percent in 2008 to 5.2 percent in 2009.

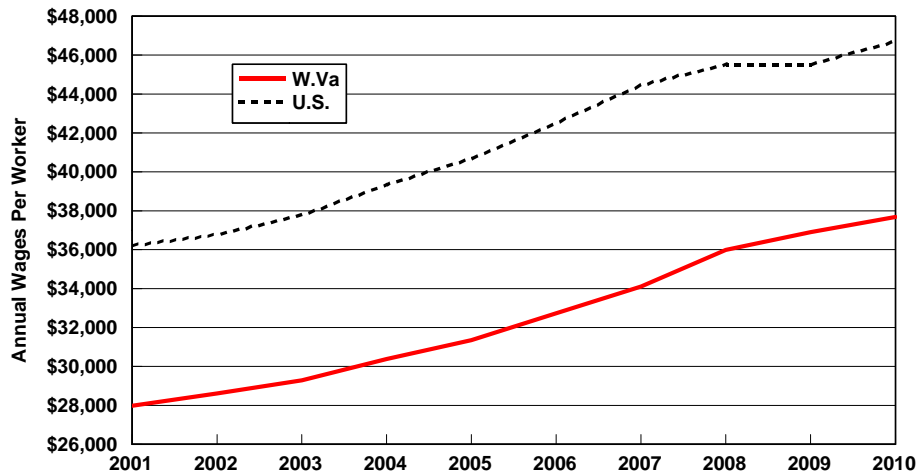
**Figure 4**  
**Unemployment Rates For College Graduates**  
**Rise During The Downturn**



Source: Census Bureau American Community Survey and author calculations  
 Includes Associate's, Bachelor's, Master's, Professional, and Doctoral graduates.

The downturn also impacted state wage growth, as Figure 5 shows. Nominal annual wages per worker in West Virginia increased at an average annual rate of 3.7 percent per year from 2001 to 2008.<sup>2</sup> That was above the national rate of growth of 3.3 percent per year and well above the national rate of inflation of 2.5 percent per year. Since 2008, wage growth has slowed significantly in West Virginia, falling to 2.3 percent per year during the past two years. That growth rate again exceeded the national rate of 1.3 percent per year and remained well above the national inflation rate of 0.9 percent per year, measured by the personal consumption expenditures deflator.

**Figure 5**  
**Nominal Average Annual Wages Per Worker**  
**For W.Va. And The U.S.**



Source: WorkForce WV And BLS

<sup>2</sup> Nominal wages are expressed in current dollars, i.e. before adjustment for inflation.

We now turn to an analysis of the latest data on work participation and wages earned by graduates from West Virginia public higher education institutions. We disaggregate this data by year, experience, residency, degree, and gender. Our focus will be on the data for 2010, but we will also evaluate trends in work participation and wages. These data provide a summary of the workplace performance of graduates, both during the downturn and during the recovery.

## Work Participation By Year, Experience, Residency, Degree, And Gender

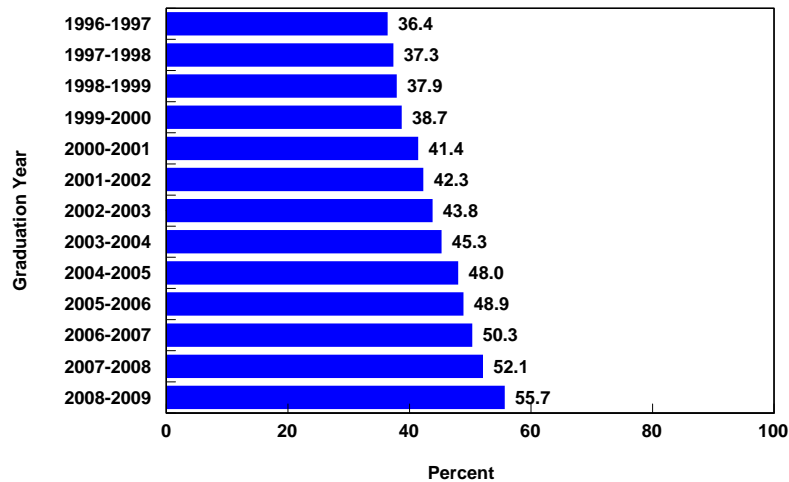
### Year And Experience

Of the 142,047 public higher education graduates during the 1996-1997 to 2008-2009 period, 64,272 worked at establishments in West Virginia during 2010. That translated into an average work participation rate of 45.2 percent.

It is important to keep in mind that work participation rates tend to fall as the time since graduation increases. As Figure 6 shows, graduates during the 2008-2009 academic year posted an average work participation rate of 55.7 percent in 2010. Work participation rates gradually decline as time since graduation rises, with 36.4 percent of graduates during 1996-1997 working in the state in 2010.

There are a variety of reasons for the decline in work participation rates over time. First, graduates may be more likely to be self-employed as they get older and gain workforce experience. This phenomenon will tend to reduce measured work participation rates, because the self-employed are not included in this dataset. Second, graduates may be more likely to drop out of the labor force as time passes, which might be the case for a stay-at-home spouse. Finally, as graduates gain workforce experience they may find employment opportunities in other states.

**Figure 6**  
**Percent Of Graduates From W.Va. Higher Education Institutions Working In The State In 2010**

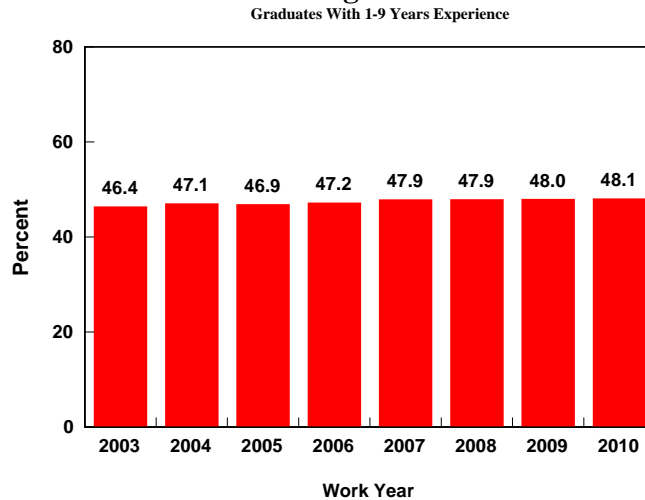


Source: author calculations

In what follows, we will use time since graduation as an indicator of workplace experience. It is important to remember this it is not a perfect measure of experience. For instance, a graduate may have less experience than expected, if she endured periods of unemployment after graduation. A graduate may also have more experience than expected, if she worked before attending and graduating from college.

Figure 7 shows how the graduate work participation rate has changed during the 2003-2010 period. Note that the graph shows employment in West Virginia for graduates with one to nine years of experience. This improves the comparability of the data over time, since work participation rates tend to fall with experience.<sup>3</sup> The graduate work participation rate has been fairly steady since 2008, when state growth began to slow dramatically. The results for 2010 suggest that graduate employment has fared about as well during the recovery as it did during the downturn. This is likely due to the large numbers of graduates that work in the education and health care sectors, which tend to be more stable over business cycle expansions and contractions.

**Figure 7**  
**Percent Of Graduates From W.Va. Higher Education**  
**Institutions Working In The State 2003-2010**



Source: author calculations

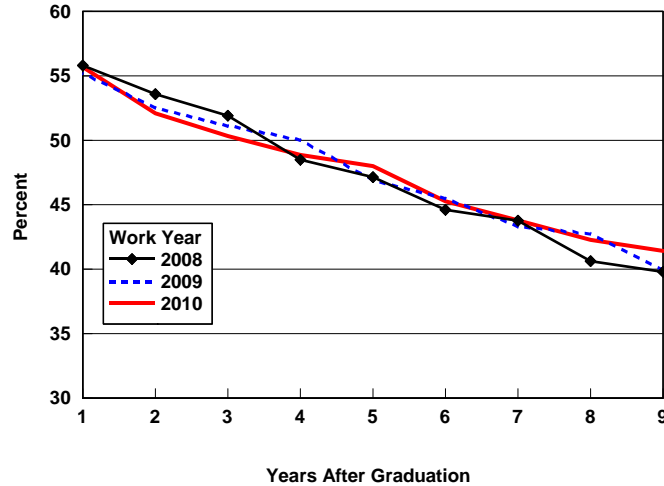
While the overall work participation rate has been fairly stable during the downturn and recovery of the state economy, the impacts have not been the same for graduates at each experience level. As Figure 8 shows, the downturn had the biggest impact on the work participation rates of graduates with the least experience. This impact persisted into 2010, with the work participation rate for graduates with 2-3 years of experience well below the rates posted by graduates with similar experience in 2008.

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<sup>3</sup> Also, to maintain comparability we remove federal government employees from the data for 2007 and 2008.

The employment data suggests that public higher education graduates have fared a bit better than expected, based on the unemployment rate results discussed above. This suggests that the recession may have hit college graduates with more than nine years of experience harder than more recent graduates, particularly those with 4-9 years of experience. In addition, the recession may have more severely affected self-employed graduates, which are not included in the work participation data but are included in the unemployment rate estimates.

**Figure 8**  
**Percent Of Graduates From W.Va. Higher Education Institutions Working In The State 2008-2010**



Source: author calculations

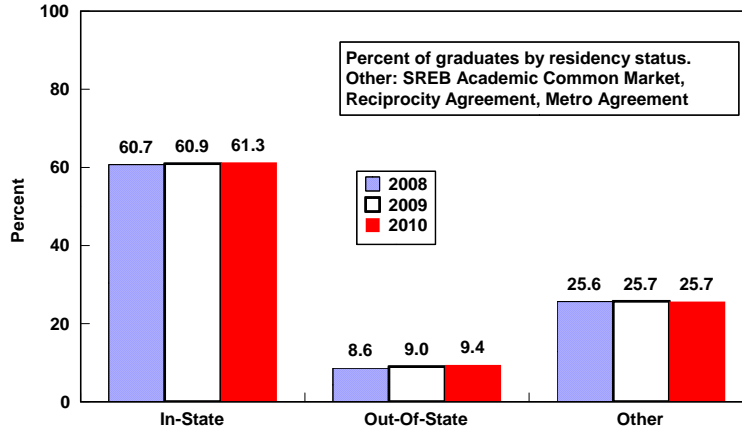
### Residency, Degree, And Gender

West Virginia graduate work participation rates vary significantly by residency status. As Figure 9 shows, in-state graduates with one-to-nine years of experience tended to have much higher work participation rates than either out-of-state graduates or other graduates.<sup>4</sup> The figure also shows that the recession had a minimal impact on the work participation of in-state graduates, with the rate rising from 60.7 percent in 2008 to 60.9 percent in 2009. Likewise, the work participation rate for out-of-state graduates rose from 8.6 percent to 9.0 percent in 2009. This may reflect the fact that the state economy came through the downturn in somewhat better shape than many states. With rebounding job gains in 2010, the in-state work participation rate rose to 61.3 percent and the out-of-state rate rose to 9.4 percent.

<sup>4</sup> Other graduates include SREB Academic Common Market, Reciprocity Agreement, and Metro Agreement graduates.

**Figure 9**  
**Percent Of Graduates From W.Va. Higher Education**  
**Institutions Working In The State 2008-2010**  
**By Residency**

Graduates With 1-9 Years Experience

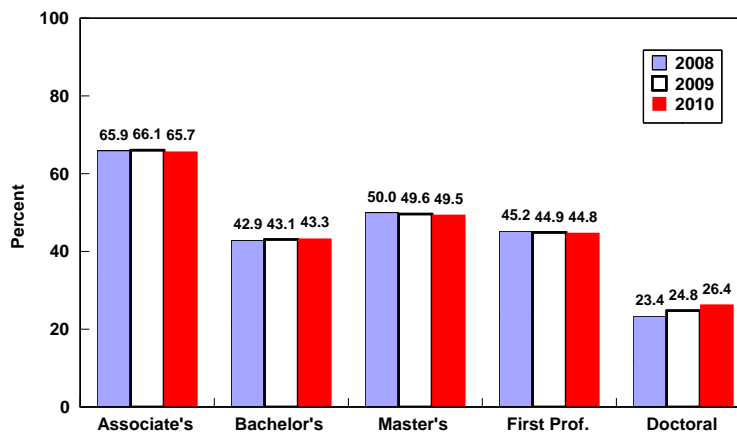


Source: author calculations

West Virginia work participation rates also vary significantly by summary degree. As Figure 10 shows, Associate's degree recipients posted by far the highest work participation rate in 2010. For Associate's degree graduates with one to nine years of experience, 65.7 percent worked in West Virginia in 2010. That was far higher than the 43.3 percent rate for Bachelor's degree graduates. It also exceeded work participation rates for Master's (49.5 percent), First Professional (44.8 percent), and Doctoral (26.4 percent) graduates.

**Figure 10**  
**Percent Of Graduates From W.Va. Higher Education**  
**Institutions Working In The State 2008-2010**  
**By Degree**

Graduates With 1-9 Years Experience



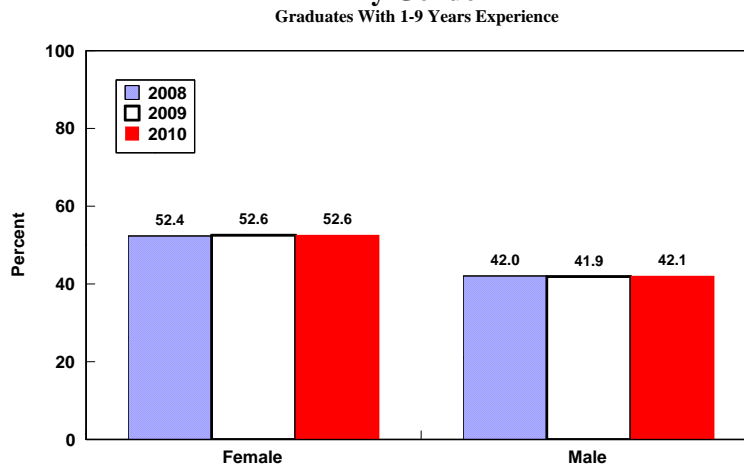
Source: author calculations



Figure 10 also shows the impact of the recession on work participation rates by degree. Associate's, Bachelor's, and Doctoral degree graduates posted higher work participation rates in 2009 than 2008, while the rate fell for Master's and First Professional graduates. Work participation rates rose again in 2010 for Bachelor's and Doctoral graduates, but fell for Associate's degree recipients. Master's and First Professional graduates posted declines again in 2010.

Recessions can also have different impacts on men than on women. Indeed, the national downturn generated more severe job losses for men than for women. As Figure 11 shows, the West Virginia work participation rate for female graduates rose from 52.4 percent in 2008 to 52.6 percent in 2009. In contrast, the work participation rate for male graduates fell slightly, from 42.0 percent in 2008 to 41.9 percent in 2009. This likely reflects the concentration of job losses during the downturn in the goods-producing sectors (mining, manufacturing, construction) which tend to employ more men. Note as well that the work participation rate for men increased in 2010, which may reflect the rebound in natural resources and mining (coal and natural gas) and manufacturing.

**Figure 11**  
**Percent Of Graduates From W.Va. Higher Education**  
**Institutions Working In The State 2008-2010**  
**By Gender**



Source: author calculations

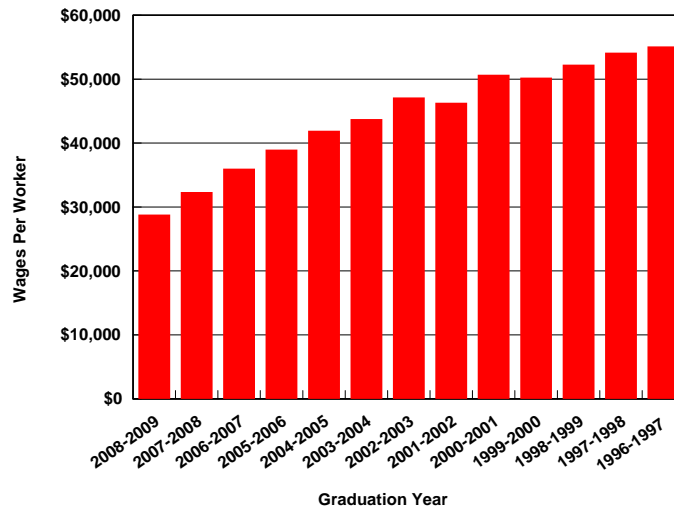
# Annualized Wages By Year, Experience, Residency, Degree, And Gender

## Year And Experience

In 2010, West Virginia public higher education graduates during the past 13 years earned \$2.7 billion working at establishments located in the state. That translated into an average annualized wage of \$42,247 per worker.<sup>5</sup>

As Figure 12 shows, graduates with more experience tend to earn higher wages. Indeed, graduates with one year of experience earned \$28,820 in 2010, while graduates with 13 years of experience earned \$55,117. Thus, graduates with 13 years of experience earned 91.2 percent more than graduates with one year of experience.

**Figure 12**  
**Annualized Wages Of Graduates From W.Va. Higher Education Institutions In 2010**



Source: author calculations

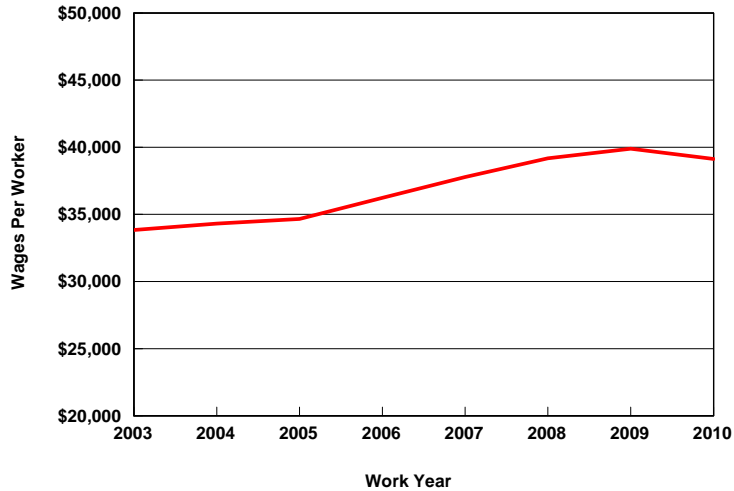
Annualized wages for graduates have risen during the past seven years, as Figure 13 shows. Indeed, for graduates with between one and nine years of experience, annual wages rose from \$33,836 in 2003 to \$39,133 in 2010. That translated into an average annual increase of 2.1 percent per year, which was equal to the national inflation rate of 2.1 percent per year.<sup>6</sup> Wage growth was most rapid during the 2003-2008 period, when graduate wages rose by 3.0 percent per year, but this was slightly below the national inflation rate of 3.3 percent per year.

<sup>5</sup> To compute annualized wages we divide a worker's total wages for the year by the number of quarters worked. The resulting quarterly wage is then 'annualized' by multiplying by four. Thus, a worker with total wages of \$33,000 for the year, with three quarters worked, will have an average annualized wage of \$44,000  $(= (\$33,000/3)*4)$ .

<sup>6</sup> The inflation rate is measured as the compound annual percent change in the U.S. personal consumption expenditures deflator.

**Figure 13**  
**Annualized Wages Of Graduates From W.Va. Higher**  
**Education Institutions 2003-2010**

Graduates With 1-9 Years Experience

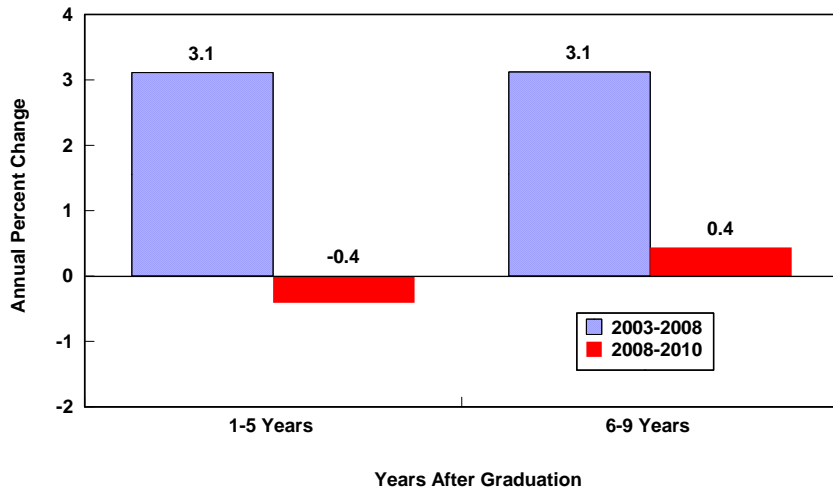


Source: author calculations

Annualized wages of graduates continued to rise in 2009, even as employment declined, as Figure 13 also shows. However, wage growth was considerably weaker in 2010, with nominal wages falling by 1.9 percent. Overall, annualized wages in 2010 were slightly below their 2008 level for graduates with one-to-nine years of experience.

Graduate wage growth was weak during the past two years for graduates with at most nine years of experience. Figure 14 shows average annual wage growth by experience level for two periods: 2003-2008 and 2008-2010. The figure shows that wage growth rates have differed significantly by experience level during the past two years, in contrast to the previous five years. In particular, average wages declined from 2008 to 2010 for graduates with one-to-five years of experience, in contrast to modest wage increases for graduates with six-to-nine years of experience. This suggests that graduates with the least experience have been hit the hard by the downturn. These graduates have posted both lower work participation rates and lower annual wages since 2008.

**Figure 14**  
**Annualized Wage Growth For W.Va. Higher Education Graduates By Years Of Experience**

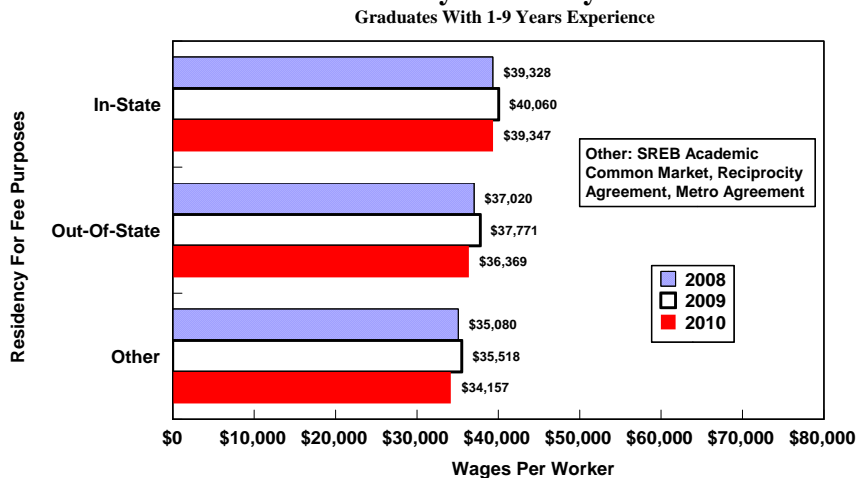


Source: author calculations

**Residency, Degree, And Gender**

Annualized wages also tend to differ by residency. As Figure 15 shows for graduates with at most nine years of experience, wages in 2010 were highest for in-state graduates (\$39,347) followed by out-of-state graduates (\$36,369) and other graduates (\$34,157). In-state graduates posted a slight increase in wages from 2008-2010, in contrast to wage declines for out-of-state and other graduates.

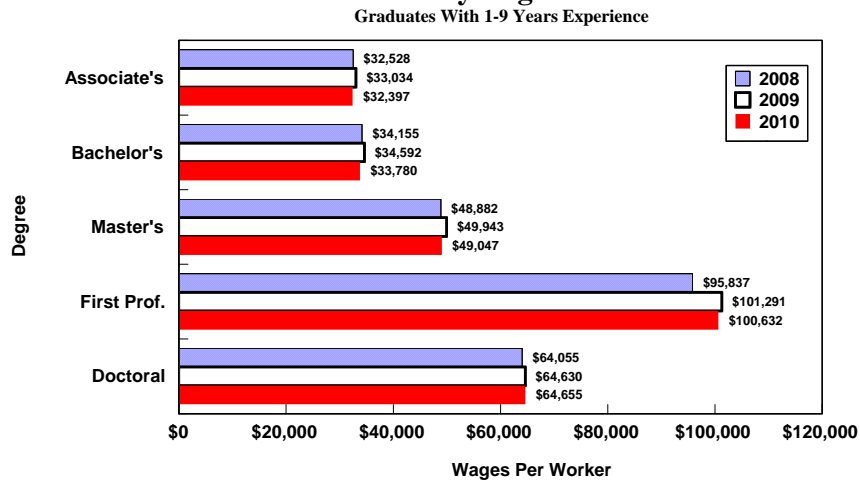
**Figure 15**  
**Annualized Wages Of Graduates From W.Va. Higher Education Institutions Working In The State 2008-2010**  
**By Residency**



Source: author calculations

Graduate wages also differ significantly by degree. Figure 16 shows that graduate wages in 2010 were highest for First Professional graduates (\$100,632), followed by Doctoral (\$64,655), Master's (\$49,047), Bachelor's (\$33,780), and Associate's (\$32,397) graduates. These results demonstrate strong returns to additional educational attainment beyond the Bachelor's degree.

**Figure 16**  
**Percent Of Graduates From W.Va. Higher Education**  
**Institutions Working In The State 2008-2010**  
**By Degree**



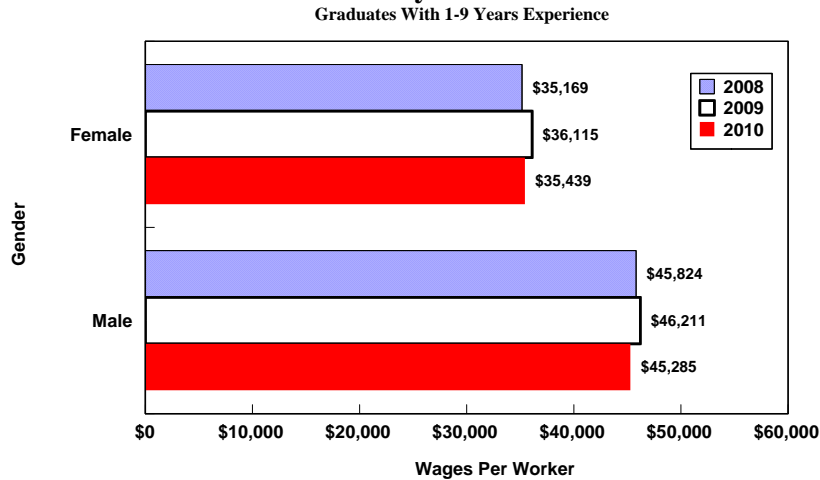
Source: author calculations

The figure also shows that wages of graduates with Associate's and Bachelor's degrees were hit harder during the past two years than were wages of graduates with higher levels of attainment. Wages of Associate's and Bachelor's graduates fell by 0.2 percent per year and 0.6 percent per year, respectively. In contrast, wages for First Professional graduates rose by 2.5 percent per year, Doctoral graduates wages rose by 0.5 percent per year, and Master's graduate wages rose by 0.2 percent per year.

Figure 17 shows average annual wages for the 2008-2010 period for female and male graduates with at most nine years of experience. In 2010, male graduates posted annual wages of \$45,285. This exceeded female wages in 2010 (of \$35,439) by 27.8 percent, on average. That gap was down slightly from 2008, when it hit 30.3 percent. It is important to remember that this is an average difference, which does not control for differences in degrees, majors, and other influences on wages.

In addition to the decline in the male participation rate from 2008 to 2010, wages for males experienced a decline from 2008 to 2010 of 0.6 percent per year on an annualized basis. In contrast, wages for females rose by 0.4 percent from 2008 to 2010.

**Figure 17**  
**Annualized Wages Of Graduates From W.Va. Higher**  
**Education Institutions Working In The State 2008-2010**  
**By Gender**



Source: author calculations

## Conclusion And Directions For Future Research

This report examined trends in West Virginia work participation and wages during the past seven years. Overall, graduate work participation rates and wages have increased from 2003-2010. In addition, graduate employment in West Virginia was stable during the severe downturn of 2009, in contrast to the massive job losses posted by both the state and the nation. However, graduates did not escape unscathed, because both employment and wage growth appear to have slowed since 2008. Indeed, average annualized wages for graduates with at most nine years of experience declined from 2008 to 2010. In addition, wage growth during the past seven years has been slow, barely keeping pace with the national rate of inflation.

In upcoming reports, we will further disaggregate graduate work participation and wages by area of concentration, race, industry of work, county of work, academic achievement, tuition assistance, and work in nearby states. We will also contrast selected results for work in West Virginia with a new administrative match based on county of residence. Finally, we will analyze the employment of graduates by establishment size. This will shed light on the extent to which graduates work in large versus small firms and the associated wage levels.

## Appendix I: Detailed Description Of Employment Data

The West Virginia data analyzed in this study come from the matching of demographic information on graduates from West Virginia institutions of higher education (compiled by the HEPC<sup>7</sup>) with employment records maintained by Workforce West Virginia. Graduates reflect the highest degree earned at the time of measurement (during the 1996-1997 to 2007-2008 period).

The employment data used is gathered from West Virginia unemployment compensation records. This is a well-known dataset which measures employment by place of work. It covers jobs and wages reported by firms participating in the West Virginia Unemployment Compensation system. As a general rule, any firm which employs one or more workers for some part of a day in at least 20 different weeks of a calendar year is required to contribute to the state's unemployment insurance system. Major exceptions are railroad companies and the federal government, which contribute to separate systems. The self-employed, student workers, most church workers, and unpaid family workers are also generally not covered.

Finally, in 2009, the county of employment could not be identified for roughly 13,000 employed graduates. This can occur due to the administrative nature of the data. For instance, for a firm with multiple establishments located in multiple states, the unemployment insurance contact information (and thus the geographic identifier) is sometimes only available for a centralized payroll processing center that happens to be located out of the state. Thus, for some graduates, we know they are employed in the state, but we cannot narrow the location down any further.

Covered employment counts 692,305 jobs at establishments in West Virginia in 2009.<sup>8</sup> As Figure 18 shows, this measure of employment is lower than two other major measures of employment: employment measured by the U.S. Bureau of Economic Analysis (BEA) and employment measured by the U.S. Bureau of Labor Statistics (BLS) household survey. Differences arise because of the treatment of the self-employed, who are excluded from covered jobs but are included in the BEA measure and in the BLS household survey, as well as the exclusion of student workers, most church workers, and unpaid family members from the measure of covered jobs. Further, BLS household employment is measured by place of residence, which includes state residents working out of state.

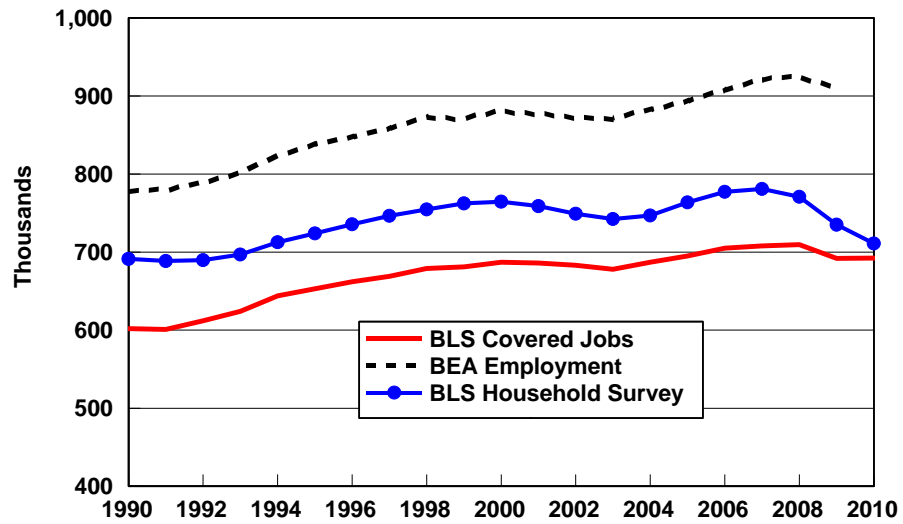
Finally, the wages documented in the report are an important source of compensation, but they are not the only source. Data on wage income is readily available, well understood, and is useful in the evaluation of returns to work of state higher education graduates. However, wage data does not include fringe benefits provided by firms, particularly employer-paid pension and health insurance. This source of income has accounted for an increasing share of work compensation during the last 30 years. Indeed, the share of private other labor income to gross earnings by place of work has risen from 6.3 percent in 1969 to 14.4 percent by 2010 for West Virginia.

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<sup>7</sup> We would like to thank Rob Anderson and Larry Ponder of the WVHEPC for providing the bulk of the data used in this study.

<sup>8</sup> Federal government jobs are added in separately for completeness.

**Figure 18**  
**Three Measures Of West Virginia Employment**





## **Appendix II: List Of Institutions And Degrees**

### **Public Higher Education Institutions**

Bluefield State College  
Community and Technical College at WVU Tech  
Community and Technical College of Shepherd  
Concord University  
Fairmont State University  
Eastern West Virginia Community and Technical College  
Fairmont State Community and Technical College  
Glenville State College  
Marshall Community and Technical College  
Marshall University  
New River Community and Technical College  
Potomac State College of West Virginia University  
Shepherd University  
Southern West Virginia Community & Tech College  
West Liberty State College  
West Virginia Northern Community College  
West Virginia School of Osteopathic Medicine  
West Virginia State Community and Technical College  
West Virginia State University  
West Virginia University  
West Virginia University Institute of Technology  
West Virginia University at Parkersburg

### **Degrees**

Undergraduate Certificate  
Associate's Degree  
Bachelor's Degree  
First Professional  
Master's Degree  
Post-Master's Certificate  
Doctoral Degree