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Education and Wage Outcomes for the Arkansas Workforce

In Arkansas, there is a strong relationship between education achievement and average wages. Surprisingly, this relationship exists whether or not one actually attained a degree or certificate that one was working toward. Those with some college hours made more than those without any college education, and those with more college hours had higher average wages than those with fewer hours. While there is also a bump in wages associated with a degree or certificate, participation in higher education is associated with higher wages, even without the degree or certificate. The same hold true for those with a high school education or less. Those who left high school as a senior make more than those who left as a junior.

The Data Are Clear – More Education Means Higher Wages

The Arkansas workforce is diverse, in both the educational background its workers bring to their jobs and the employment outcomes, wages, of these workers. To understand this diversity one can study a slice of this workforce, a group of workers whose educational attainment, at whatever level that may have been, ended in 2006. Some graduated high school that year and went directly to the workforce. Some did not graduate high school and entered the workforce anyway. Others ended their participation in higher education, either through a degree or credential that year or they simply decided the burdens of higher education were too much and stopped going to college.

The focus of this research was to see, given a diverse group of Arkansans whose educational achievement ended in 2006, what are the average wages five years later given their educational achievement? Granted, the exception provides the rule. There are some who have achieved great success, even as a high school dropout and others struggle for gainful employment despite the fact that they have a graduate degree. What is of interest is what could the average individual expect in terms of employment outcomes given whatever level of their investment in education?

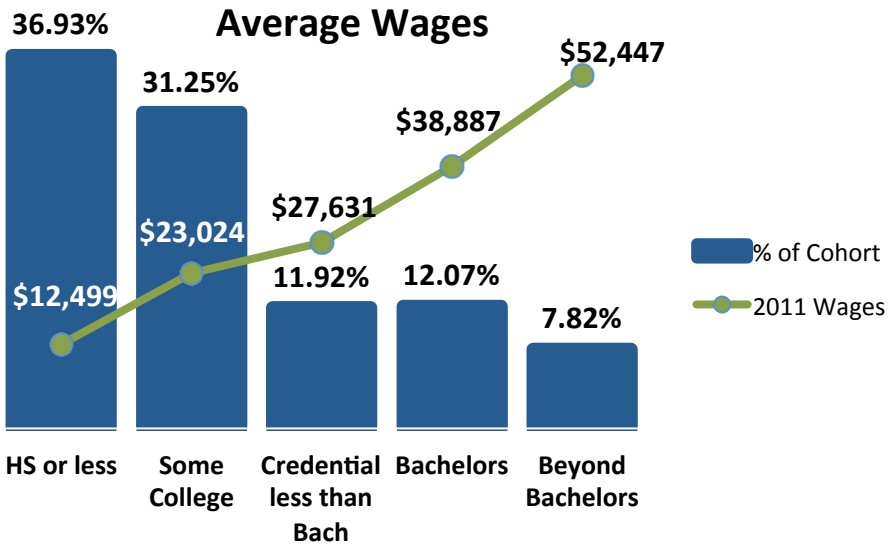
The data are clear--the more education one has, the higher the average wages. The U.S. Census Bureau labels anyone who has attended college but does not have a degree as “Some College,” but there is a significant difference between workers who have 60 hours of college credit without a degree, versus those who have only 6 hours of college credit without a degree. In Arkansas, the higher the educational achievement the individual has, the higher the average wages. An actual degree or credential along the way increases wages as well, so an immediate policy implication would be to remove as many barriers as possible for those who do have some college hours to return to school to complete a credential. In fact, Arkansas is currently doing this with a grant from the Kresge foundation, to identify students who are currently enrolled in college who might already have enough hours for an Associate’s degree, in order that the degree be awarded to them automatically.

There have been major economic changes in the state since this group's last education attainment. In 2006, the economy was robust, fueled in part by what we now recognize was a housing bubble. The relative boom simply seemed the new normal. In addition, work was just beginning on what would be another economic driver in the state, fracking of the Fayetteville Shale. There were more jobs at that time available for someone who had a high school degree or less. Any deficiencies in skills a worker might have could quickly be made up on an actual jobsite.

For this study, data were combined from the Arkansas Department of Education, Arkansas Department of Higher Education, Arkansas Department of Workforce Services, and Arkansas Department of Career Education. Data from the National Student Clearinghouse was also used to determine educational attainment for those from Arkansas who went to an institution of higher education outside the state. These data were joined together in a deidentified manner and the results analyzed at the Arkansas Research Center.

The cohort is split into five groups based on their educational attainment in 2006—High School or Less, Some College, College Credential (Certificate of Proficiency, Technical Certificate, or Associates Degree), Bachelor Degree, and Graduate Degree. We identified 69,515 members of this cohort. Their average age in 2006 was 26.4, 50.7% are female, and the average salary in 2011 for the entire cohort was $23,903. They are split roughly into thirds. 36.9% are a high school graduate or less, 31.3% attended college but do not have a certificate or degree, and 31.8% have a certificate or degree. In employment outcomes, wages, you can see there is a clear and significant relationship between educational attainment and the wages those individuals are making today. It is also important to note that of those in the Arkansas workforce with some college or a credential, the groups with the highest average wages, the majority are women, 55.5%.

Table 1



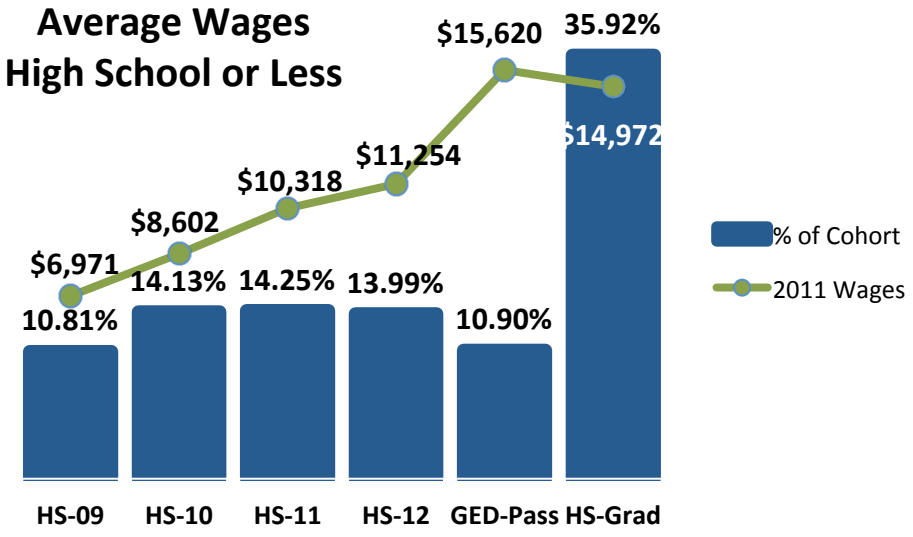
Could we have convinced a graduating senior in 2006 that if they did not continue their education their expected annual salary would be only $12,499 five years later? Could we have convinced someone attending college in 2006 but thinking of dropping out that yes, actually getting that credential or degree represents a significant increase in their annual wages which will accrue over their lifetime? There has been a lot of discussion about the costs of higher education and the debt students have after college. In 2012, total student debt for the first time surpassed total credit-card debt. Former Education Secretary William Bennett coauthored a book provocatively titled *Is College Worth It?* However, the Hamilton Project with the Brookings Institution calculates the return on the investment of a bachelor's degree to be 15.2%, even factoring in the lost wages associated with time required to attain that degree. As college becomes more accessible for working students through such things as online classes, the impact of higher education on wages lost to attend college will fall.

There will always be anomalies, such as someone dropping out of college to start a multi-billion dollar company or someone with a graduate degree working as a waiter. However, it is very clear that for most, educational attainment will establish how much money they can expect to earn over their lifetime. This linear relationship between education and wages is made even clearer if we further divide our original groups into finer detail concerning educational achievement and wage outcomes.

Wage Value of a High School Diploma, Some College, and Various Credentials

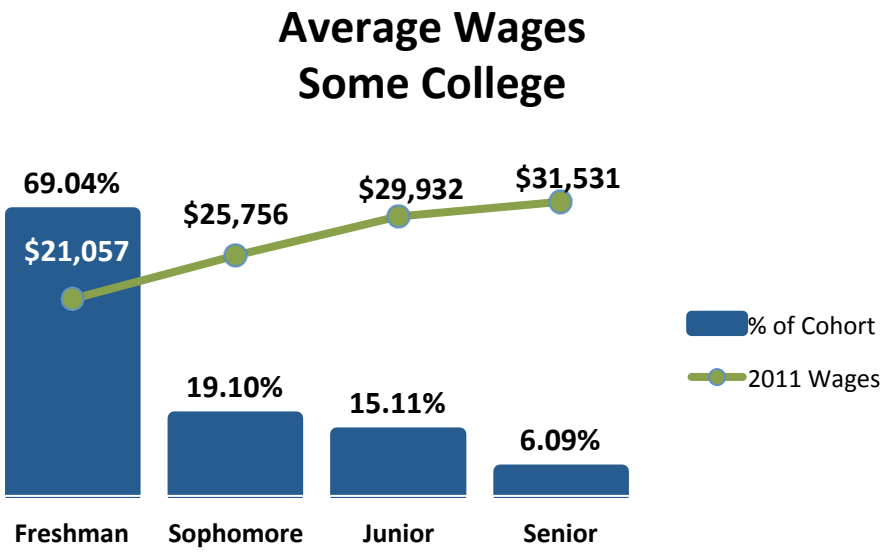
If we look at the group which comprises our "High School or Less" category from the cohort, we can see that it is comprised of groups that in 2006 stopped their educational attainment at various levels. For those students in this cohort that left as a ninth grader, the average salary is less than half of what it is for those who stopped education after receiving their high school diploma. There is even a dramatic difference in wages for those who at least waited until they were seniors before leaving school. You can also see that those who received their GED in 2006 make considerable more than those who simply dropped out. This group actually makes more than those who received their high school diploma in 2006, but as a group, they are on average over 10 years older than those who graduated high school, so they have been in the workforce longer. However, it is important to realize the economic hardship represented by the low wages for all members of this group. Five years after their last education attainment, these Arkansas workers are making very low wages, and the prospects for a higher paying job given this level of educational achievement are very low.

Table 2



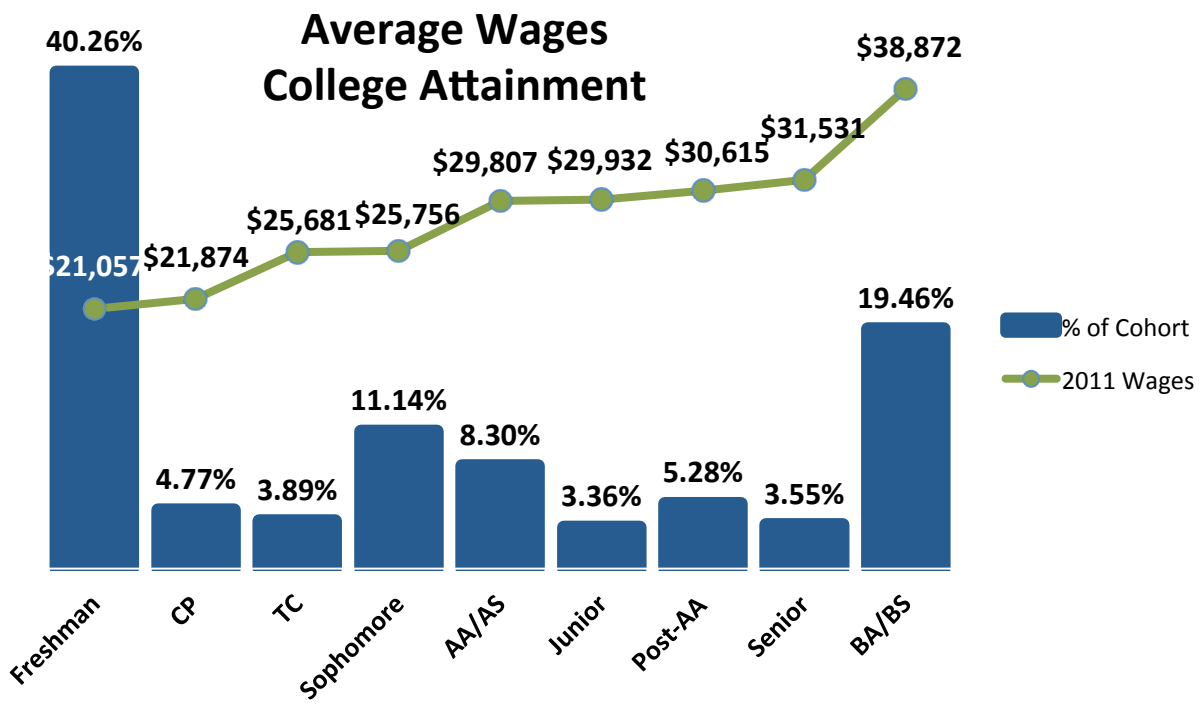
If we break out the group which has some college but no credential or degree to show for it, we again see a clear linear relationship between the number of college hours, based on the classification (grade level) at which they left college and average wages. Those who left college with enough hours to be classified as a senior make on average over $10,000 more a year than those who only went to college for a single year or less. This relationship is again very strong, with sophomores making more than freshmen, juniors more than sophomores, and seniors making more than those who left as juniors. Unfortunately, almost 70% of this group is made up of those who went to college for a single year or less. However, it is important to note that for this group, students who went to college for a single year or less, average wages are over $6,000 a year more than those who stopped with a high school diploma.

Table 3



Splitting out this "Some College/No Degree" is relatively new. To understand it better, we need to look to see how it relates to actually attaining a degree or certificate. In the table below, you can see again the relationship. Someone who obtains a Certificate of Proficiency (CP) on average makes more than someone who attended college but did not have enough hours to be classified as anything above a freshman. Those who obtain a Technical Certificate (TC) make more than those with a CP. However, those with enough hours to be classified as a sophomore but do not have a degree or credential make about the same as those with a TC. For those who were awarded an Associates (AA), there is a significant increase in wages over those with less educational attainment.

Table 4

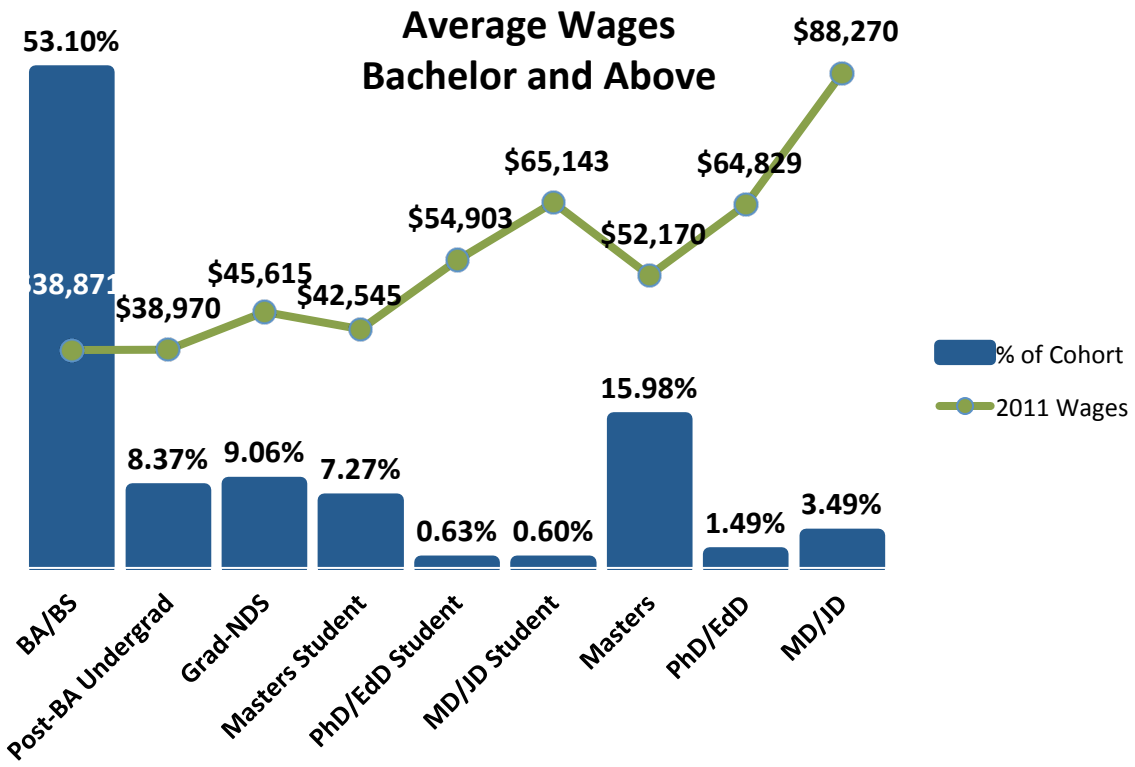


Higher Degrees Pay Off

Again, these are the average wages in 2011 for those whose last educational achievement was in 2006. The difference between someone in Arkansas who gets their bachelor's degree compared to someone who only has a high school diploma, $38,872 compared to $14,972, is dramatic. However the data clearly shows that there is an increase in earnings all the way up the education stack. Even without a degree or certificate there is an impact, but there is an added benefit in the form of higher average wages for receiving the degree or credential.

The final category for this cohort would be those who have degrees beyond a bachelor's. Table 5 demonstrates what has been seen in all other categories, the higher the educational achievement the higher the average wages. This includes those who were students in graduate school in 2006 but did not receive the degree they were seeking.

Table 5



The data show that there is an economic advantage in continuing education. High school students in the state should be made aware of their economic future if they enter the workforce at the expense of not continuing their education. For the graduating class of 2006, those who did not go on to college made on average $14,972 in 2011. When one considers that many of those 2006 graduates now have children, the economic outlook for those families is somewhat bleak. However, if they can find the means to continue their education, they can expect a return on that investment.

Economic Future Tied to Education

Much more research is needed around these topics. As Governor Mike Beebe continues to stress, the economic future of Arkansas is tied to the education of its citizens, which this report helps echo. While there are a number of efforts in the state to increase the number of college graduates, Arkansas still ranks 49th in the nation for the percentage of adults which have a bachelor's degree. Every high school student should be made aware, in as practical terms as possible, exactly what their economic future will look like if they do not graduate high school and they do not continue their education. Arkansas should be committed to encouraging current workers to continue their education as well.

The Arkansas Research Center (ARC) was founded in 2009 by a grant from the Institute of Education Sciences to the Arkansas Department of Education. ARC's goal is to support students, teachers, and school administrators by using student longitudinal data to provide essential information. Research is ongoing and enables top-notch curriculum development and learning opportunities for educators within the state. ARC currently works with the Arkansas Departments of Human Services, Education, Higher Education, Career Education, and Workforce Services to be a hub of P-20W information for the state.

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