

How do various types of post-secondary degrees and certifications impact employment?

This paper is one in a multi-part series using data produced from the pilot Michigan Workforce Longitudinal Data System (WLDS). The WLDS is created by combining administrative records from multiple state databases, covering topics such as workforce development, education, and unemployment insurance. Once matured, WLDS data can be leveraged to answer a number of important questions related to the workforce and education, from the employment outcomes of Michigan's students to the effectiveness of state assistance programs.

In this part of the series, the relationship between post-secondary education and employment success will be examined. This paper will discuss the educational outcomes of this population in relation to median annual earnings, as well as the impact that an education has on the time from graduation to employment.

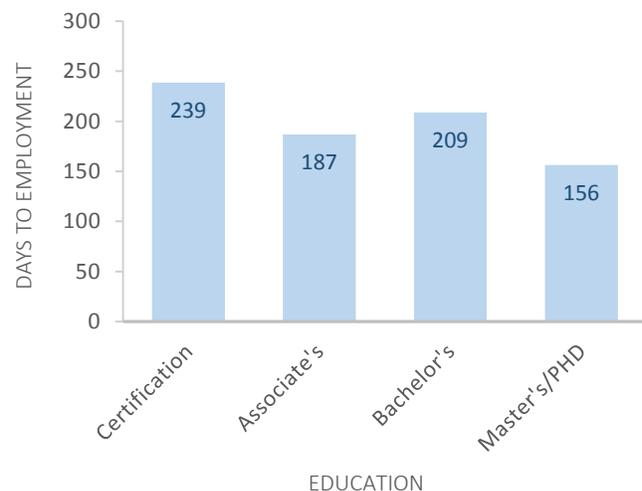
As a technical note, the initial run of WLDS data used a small, select population of Michigan Works! customers as the base upon which the pilot data system was built. All individuals included in the test population had to meet two criteria: they had to exit an education program during the study's target period of July 1, 2009 to June 30, 2011, and they had to be registered as a Michigan Works! customer at any point between December 10, 1999 and June 30, 2014. Due to circumstances under which an individual typically visits a Michigan Works! office, this test population is not representative of the state population as a whole. For instance, employment outcome data for this group is often less positive than for the population due to employment barriers faced by a number of Michigan Works! customers. **Consequently, none of the data presented in this paper should be viewed as a valid representation of the**

Michigan population. Rather, this paper is meant to provide an illustration of the types of information that can be made available when the WLDS is fully expanded.

Time to Employment

One of the primary questions that the WLDS can answer is how long it takes different types of degree-holders to find work after graduating, and Figure 1 provides an example of how this information can be presented. Using the test

Figure 1: Average Days to Employment by Education



population of individuals who have received a service from a Michigan Works! Service Center, Figure 1 displays the average number of days it took for these individuals to find paid work by educational attainment. Looking at the figure, there appears to be a positive correlation between highest degree earned and employment success: as the level of education increases, the time needed to find a job goes down. Those whose highest educational attainment is that of a master's/PhD have the lowest time to employment, with 156 days being the average. Inversely, those whose highest attainment is a certification have the highest average time to employment of 239 days, a 53% longer time to employment than those who obtained a master's/PhD.

However, this relationship between educational attainment and employment does not hold for all education categories. Interestingly, those who obtained a bachelor's degree have a higher average time to employment of 209 days compared to those with an associate's degree, who took 187 days on average to find work. While it may indeed be the case that this finding applies to the entire student population, it may only apply to this specific data set of Michigan Works! customers. It is not possible to know using the pilot data set. Once the WLDS is expanded to include the wider student population, however, the true relationship between education and time to employment will be revealed.

Earnings

Another important question that the WLDS can help answer is how earnings differ across different types of degrees, and Figure 2 demonstrates the relationship between educational

attainment and wages in the test population. As with time to employment in Figure 1, Figure 2 shows that there is a positive correlation between education and earnings, which is evident when comparing the wage levels of those with certifications to that of those with a master's/PhDs. Of the four levels of educational attainment shown, those who obtained a certification have the lowest median annual earnings of \$23,785, while those who obtained a master's/PhD have the highest at \$42,349. This represents a 78% increase in when comparing these two groups. However, as with time to employment, those with a bachelor's degree represent a break in the positive correlation between education and employment outcomes. Those who obtained an associate's degree make median annual earnings of \$30,306, which is marginally higher than those who obtained a bachelor's degree, who annually make \$30,035.

When comparing the median annual earnings by education level from the WLDS data to that of the Census Bureau, the latter being the best benchmark for Michigan earnings data in the overall state population, some key differences appear. For example, all education levels and their respective wages shown in the WLDS data are lower than that of the median annual

Figure 2: Median Annual Earnings by Education



earnings found within the Census Bureau's data, and some are substantially lower. For instance, the median annual earnings for those in the WLDS test population who have earned bachelor's degrees is \$30,305, while the Census Bureau reports median annual earnings for those with bachelor's degrees to be \$46,045.

This difference in earnings between the two data sets demonstrates the inherent bias of examining only Michigan Works! customers, and consequently the importance of expanding the WLDS to include the broader student population.

Conclusion

Once expanded, Michigan's WLDS will provide critical information that helps students and other stakeholders understand how education choices influence labor market success. It will not only provide earnings and employment information for various types of degrees, but this information can also be disaggregated in a number of ways, such as by major or prosperity region. Moreover, the WLDS can also evaluate how earnings change over time and be linked with data that details the cost of various degree programs, informing students of the financial tradeoffs associated with different career paths. In summary, while existing information is currently limited, future development of the WLDS will allow stakeholders to answer a number of important questions related to the economic outcomes of Michigan's students.

This paper is the product of a partnership between multiple state agencies. The WLDS is managed by the Michigan Workforce Development Agency, while all research and analysis is conducted by the Michigan Bureau of Labor Market Information and Strategic Initiatives. Data for the WLDS is provided by the Michigan Workforce Development Agency, Michigan Center for Educational Performance and Information, and Michigan Unemployment Insurance Agency.