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The Economic Value of a College Degree: Evidence from Michigan and the Nation

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Introduction

Many people are questioning the value of a college education. Several recent news stories have highlighted rates of unemployment and “underemployment” for recent graduates, while rising college tuition rates are a concern for families and government policy-makers alike. The value of degrees in the “liberal arts,” in particular, is questioned because of the belief that these degrees do not lead to gainful employment. Since Michigan is a manufacturing-based economy with a relatively unionized workforce (in 2011, 17.5 percent of the Michigan workers—public and private—were union members, the 5th highest percentage in the country¹), one might think that the economic returns to a college education would be smaller in Michigan as compared to the nation.

This paper looks at the evidence concerning these claims and finds that a college education remains a good investment. While there are significant differences in earnings by college major, all college degrees offer the potential for life-time earnings significantly greater than the life-time earnings possible with only a high school education. Moreover, the evidence indicates that a college education offers several types of non-economic benefits that mean a higher quality of life for those who undertake the investment.

Costs of a College Education

The President’s Council, State Universities of Michigan, provides information on tuition and fees for Michigan public universities.² Undergraduate tuition and fees for 2012–2013 ranged from \$12,994 (University of Michigan) to \$8,120 (Saginaw Valley State University). Tuition and fees for West Michigan universities include \$10,780 at Grand Valley State University, \$10,710 at Ferris State University and \$10,282 at Western Michigan University. These costs compare to a national median tuition and fees of \$16,488 for in-state public institutions (The College Board, 2011).

These “sticker prices,” however, overstate average costs faced by many students because of the availability of financial aid. In 2011–2012 undergraduate students received on average \$6,539 in grant aid and an additional \$1,009 in tax credits, deductions and Work-Study aid (The College Board 2011). In addition to these grants, the average federal student loan was \$4,907. Because of such aid, the net tuition at Michigan

public universities in recent years is less than 50 percent of the tuition and fees listed above (Farrell, et al., 2011).

Earnings and Educational Attainment in Michigan

While a college education is expensive, earnings differences by education are large. Table 1 presents median annual earnings for Michigan and for the nation by educational attainment for full-time workers in 2011.⁴ Median high school earnings in Michigan are only 56.7 percent of median college earnings.

Table 1: Median Annual Earning By Education, 2011

	Michigan	Nation
College	\$59,999.00	\$54,227.00
High School	\$34,000.00	\$33,000.00

Source: Author’s calculations using March 2012 CPS

Human Capital Theory offers an explanation for these wage differentials. Basic economic models of labor markets suggest that earnings are determined by worker productivity. Individuals can increase their productivity by investing in “human capital” in much the same way a business can invest in physical capital. Formal education is one way to build human capital.

Figure 1 presents a three-year moving average of the national college-to high school earnings ratio from 1976 to 2011, which shows that the college earnings premium has grown significantly over the past 30 years. Michigan earnings shows a similar pattern, although, the college premium for men has fallen from its peak in 2007 more in Michigan than for the nation overall. These annual earnings differences translate to life-time earnings premia for college-educated workers that swamp the costs of college. In fact, over their career, college-educated workers will, on average, earn well over \$1,000,000 more than high school workers.

What of the belief that certain college majors—the traditional liberal arts and humanities degrees—are not worth the cost? The college earnings premium may be driven, for example, by Technology and Engineering majors. Figure 2 shows life-time earnings by a variety of majors. These statistics are derived from the 2009 and 2010 American Community Surveys (ACS).

¹ Source: www.unionstats.com

² “Report On Tuition And Fees 2012–2013.” <http://www.pcsom.org/Portals/0/docs/Tuition%20and%20Fees%202012-2013.pdf>

³ I don’t include room and board costs as these costs exist for non-college individuals and well as for those attending college.

⁴ For information on the CPS, see <http://www.bls.gov/cps/>. Individuals were considered to be working full time if they worked 50 or more weeks in the year and 38 or more hours per week. Median earnings are for workers between the ages of 22 and 70. CPS data retrieved from <http://www.ipums.org>.

Figure 1: College to High School Annual Earnings Ratio
Men and Women between the Ages 22 and 70

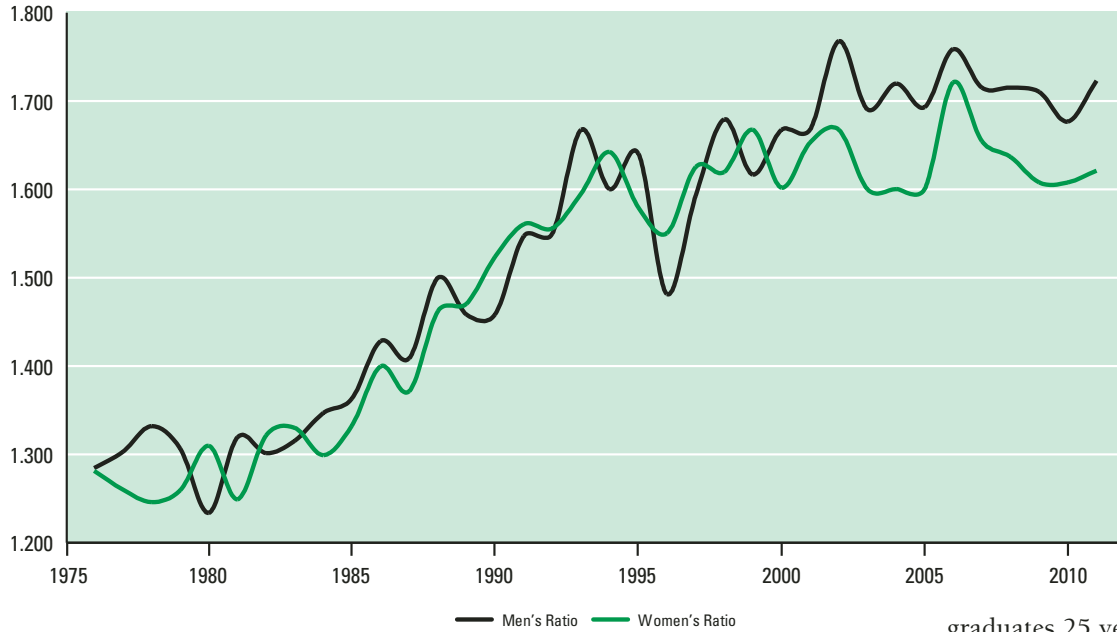
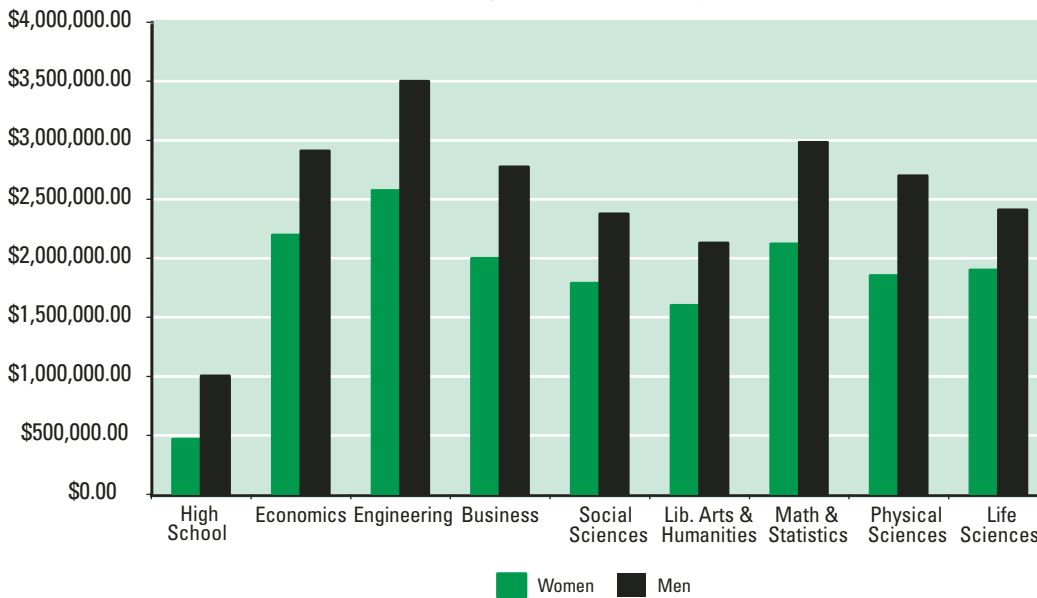


Figure 2: Life Time Earnings for Men and Women by Education and Major



As many suspect, liberal arts and humanities majors have the lowest earnings, yet even men and women with these majors have life-time earnings in excess of \$1,000,000 more than men and women with a high school education.

Unemployment and Education in Michigan

Historically, college graduates have experienced significantly lower rates of unemployment compared to those with a high school education (between 1992 and 2012, the average national unemployment rate for high school

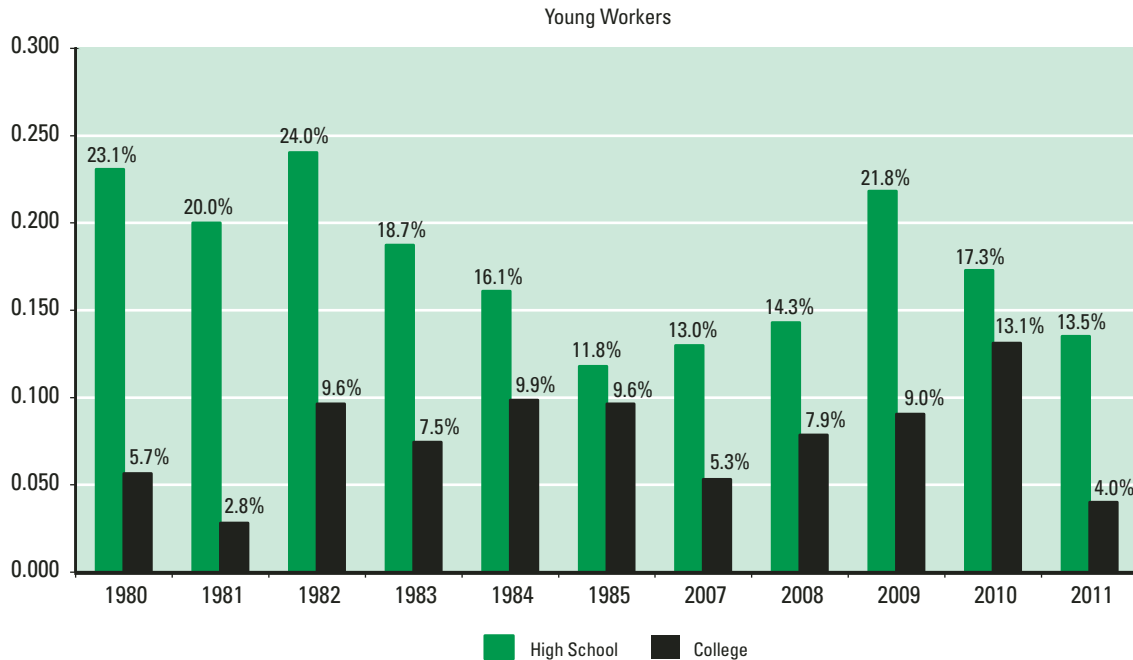
graduates 25 years and over was 5.2 percent as compared to 2.8 percent for college graduates). Nonetheless, there is concern that recent college graduates suffer from high unemployment or “underemployment”—that is, they are in jobs that do not require college-level skills.

It is a mistake to focus only on short-run outcomes, particularly at a time when the labor market is in arguably the worst condition since the Great Depression. One could ask if the current unemployment rate of recent graduates is temporary—a standard business cycle phenomenon—or if the labor market has fundamentally changed for the worse for

college graduates. While this cannot be answered with certainty, one way to shed light on this question is to consider the experiences of young college graduates during previous recessions. In particular, the double recession of the early 1980s was, at that time, the worst recession since the Great Depression. Figure 3 presents unemployment rates in Michigan for recent college graduates (individuals with a college degree between the ages of 22 and 26) derived from the March CPS for the years 1980–1985 and 2007–2012. This allows us to see how the unemployment rate evolved

⁵ Since 1984, the unemployment rate for college graduates older than 26 averaged 2.95 percent. Thus, those who graduated from college during the early 1980s recession, have experienced very low unemployment rates for most of their careers, despite graduating into a deep recession. The average unemployment rate for high school graduates over 26 years old over this same period was 6 percent.

Figure 3: Michigan Unemployment Rates over Two Recessions



before and after the 1980s recession and to compare the pattern to the recent changes in unemployment rates. Two things stand out. First, the variation in the unemployment rate over the most recent recession is similar to that from the early 1980s.⁵ Second, the unemployment rate for young workers with only a high school education has been as much as three times the unemployment rate for young college-educated workers. Apparently, then, a college degree is “needed” for many jobs.

The unemployment rate can be misleading as it can fall either because more people are finding employment or because more people are dropping out of the labor force. For young workers in Michigan, it is a combination of both things—labor force participation rates for young college graduates fell from 89 percent in 2007 to only 78 percent in 2011. Young high school graduates exhibited a smaller decline—from 78 percent in 2007 to 74 percent in 2011. Still, by 2011 the unemployment rate had dropped significantly and there is no reason to expect that unemployment rates for college-educated workers in Michigan will not return to their historically low values, even with increasing labor force participation rates as the economy improves.

In addition to the economic benefits of college, there are other important “returns” to education. For example, research finds that maternal education improves birth outcomes (Currie and Moretti 2003). Also recent trends show that college-educated couples are more apt to get and stay married (Isen and Stevenson 2010). Research even finds that life expectancy is greater for more educated individuals and that the “education gap” in life expectancy is growing (Meara, et al., 2008).

Conclusion

It is certainly true that college is expensive and that the costs are rising quickly. Nonetheless, the notion that a college

education is not worth the cost is misguided. This paper has demonstrated that college graduates in Michigan as well as in the rest of the country enjoy large financial and non-financial benefits relative to those with a high school education—large enough to easily offset the costs of college. ■

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