

Impact of Educational Attainment on Economic Growth: Valdosta MSA

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Introduction

Education has long been linked to economic growth and has consistently been shown to be positively correlated with Gross Domestic Product (GDP), population, and income. Edward Glaeser and Jesse Shapiro (2001) note that “The level of residents’ education and income are consistent predictors of urban growth” (p. 1). They also acknowledge that the tendency of skilled communities to experience growth “has been true for every time period going back to the late 19th century” (p. 9).

Another important concept is education spillovers, which are those positive externalities that result from the existence of an educated workforce in a city. Enrico Moretti (2004), who looks at wages in cities with differing levels of educational attainment, finds that “a percentage point increase in the supply of college graduates raises high school drop-outs’ wages by 1.9%, high school graduates’ wages by 1.6%, and college graduates wages by 0.4%” (p. 175). This suggests that education spillovers have an indirect benefit on other labor market segments.

Based on the numerous studies that been conducted on this topic, all of which are not cited in this paper, it can be said with a high degree of certainty that education plays a critical role in the economic growth and development of a region. Thus, the primary purpose of this paper is to examine the role that education plays in the growth of the Valdosta (Georgia) Metropolitan Statistical Area (MSA).

Educational Attainment and Per Capita Income

This paper examines the relationship between education attainment and per capita income for both the Valdosta MSA and the Auburn-Opelika (Alabama) MSA. The Auburn-Opelika MSA, which comprises Lee County, is compared to the Valdosta MSA, which comprises Brooks, Echols, Lanier, and Lowndes Counties. Both Valdosta and Auburn have similar populations and geographical location; each MSA has a

population of approximately 133,000 and is located in the Southern United States approximately two hours from a major city.

Figure 1 below displays per capita income (in 2008 dollars) and educational attainment, as measured by the percentage of adults, 25 years of age and older who earned a Bachelor’s Degree, for both the Auburn-Opelika MSA and the Valdosta MSA. As indicated in the chart, educational attainment is positively correlated to the inflation-adjusted per capita income for each MSA. Furthermore, the correlation coefficients for the relationship between educational attainment and per capita income are 0.990 and 0.997 for the Valdosta and Auburn-Opelika MSAs, respectively. Please refer to Appendix A for the actual data.

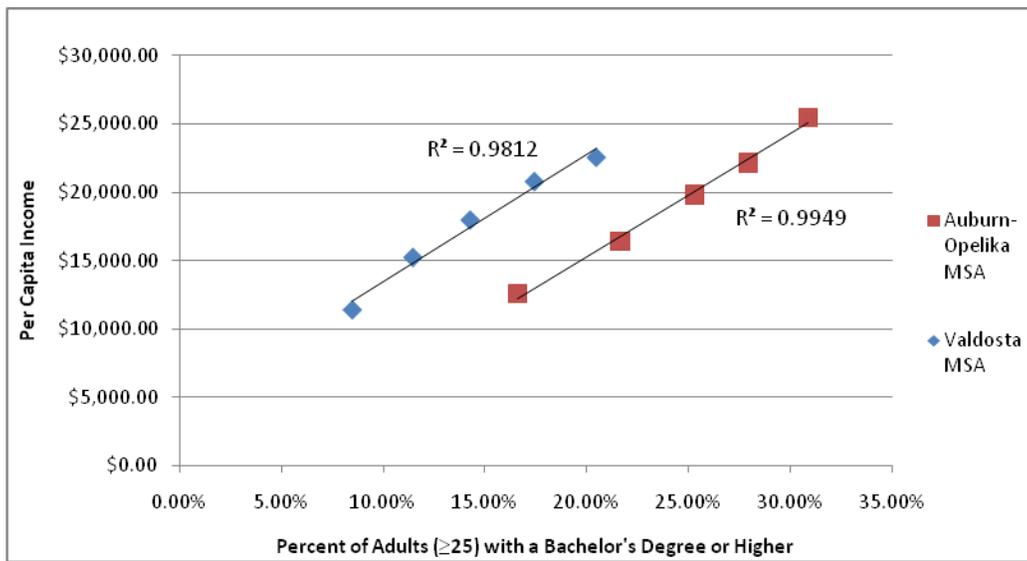


Figure 1. Percentage of Adult Population with a Bachelor’s Degree versus Per Capita Income for 1970, 1980, 1990, 2000, and 2008.

Data from 1970 through 2000 were obtained from the decennial Census; 2008 data were obtained from the American Community Survey (ACS). As is common with federal statistics, different data collection methodologies result in different estimates. For 2008, only ACS estimates are available. However, the 2008 per capita income estimates reported here equal a four percent increase over the 2008 ACS estimates because the Census 2000 income estimates were four percent higher than the 2000 ACS income estimates. Per capita income for each year is in 2008 dollars, which were adjusted using the CPI Inflation Calculator on the www.bls.gov website.

As indicated in the chart above, the Auburn-Opelika MSA has a substantially larger educational attainment rate and subsequently a greater per capita income than the Valdosta MSA. What impact does this have on the Auburn-Opelika economy? Has an educated workforce allowed the Auburn-Opelika MSA to experience greater economic growth and development? The answers to these questions lie in the similarities and differences that exist between the two MSAs. Though the populations of the two MSAs are similar today, past Census data reveal a greater percentage increase in population for the Auburn-Opelika MSA than for the Valdosta MSA. Between the years of 1970 and 2008, the Auburn-Opelika MSA experienced a 117.1% increase compared to a 76.3% increase for the Valdosta MSA. Additionally, the percentage growth in GDP, real GDP, and per capita real GDP in the Auburn-Opelika MSA from 2001 to 2008 (62%, 34%, and 18%, respectively) are higher than the Valdosta MSA (34%, 9%, and -2%, respectively). Please see Appendix B for these data. Clearly, the Auburn-Opelika MSA has experienced greater economic growth over the past several years.

With regard to economic development, the U.S. Census Bureau's County Business Patterns reveal that the Auburn-Opelika MSA has experienced a 23% increase in the number of professional, scientific, and technical services jobs between 2004 and 2007, whereas the Valdosta MSA has only had a 4.9% increase over the same time period. These statistics suggest that the Auburn-Opelika MSA, which has a greater percentage of adults with bachelor's degrees, has experienced greater technological growth than the Valdosta MSA. Thus, the Auburn-Opelika MSA's growth in professional, scientific, and technical services jobs is consistent with Glaeser and Salz's (2004) findings that the share of bachelor's degrees in these sectors "is an important predictor in technological growth" (p. 79).

With education attainment and economic growth as the primary differences between the two MSAs, one might argue that the high educational attainment rate in the Auburn-Opelika MSA is a contributing factor to its growth and development. This suggests that the Valdosta MSA should focus on producing, attracting, and retaining an educated workforce as a means of fostering economic growth.

Attracting and Producing an Educated Workforce

The Valdosta MSA, like the Auburn-Opelika MSA, has the advantage of being home to a university, which allows the region to increase its educational attainment if university graduates remain in the area. The Valdosta MSA also has local colleges and technical colleges that help keep "brain drain" from being a major problem. "Brain drain" typically refers to the relocation of college graduates to areas outside the MSA after graduation. Fortunately, this does not appear to be a major issue for

the Valdosta MSA, as a survey of recent Valdosta State University graduates suggests. However, we do acknowledge that underemployment (the employment of workers in jobs that do not require the full use of their skill sets) may become a serious issue if the region does not continue to attract the kinds of jobs required to keep these university graduates local. Table 1 indicates that a majority of VSU graduates remain in the Valdosta MSA after graduation.

Table 1. Valdosta State University Alumni Survey Results on Relocation

Indicator	1 Year Out^a	5 Years Out^b
% Did Not Relocate	58.2%	53.3%
% Relocated within Georgia	26.6%	31.7%
% Relocated to another state	11.4%	13.3%
% Relocated to another country	3.8%	1.7%

Note: Data are from Valdosta State University’s Strategic Resources 2009 Alumni Survey.

^a For 1 year out data, surveys were sent to alumni who graduated in Fall 2006, Spring 2007, and Summer 2007. Response rate was 6% for the one year population.

^b For 5 years out data, surveys were sent to alumni who graduated in Fall 2002, Spring 2003, and Summer 2003. Response rate was 5% for the five year out population.

Aside from retaining university graduates, another means of creating an educated workforce lies in primary and secondary education, where the schools instill in the students a desire to learn and further their education. In the City of Auburn 2009 Community Profile, Auburn City Schools boast of having a high school in the top two percent in the nation, having more than 68% of teachers and administrators with advanced degrees, and having an average teacher salary of \$46,000. For comparison, according to the 2006-2007 school system report cards, the Valdosta/Lowndes County school systems report that 57.8% of teachers and administrators have advanced degrees and the average teacher salary is \$48, 143. Is this a factor that plays into their attraction and production of educational attainment? The short answer is yes, as this not only provides students with a strong educational background but also it motivates an educated workforce to relocate to the area due to the quality schools for their children. This actually reinforces a new labor market trend observed by some urban growth researchers – locate to the city in which you want to live and *then* find a job.

In addition to creating an educated workforce, a city can increase its educational attainment by attracting an educated workforce. The attraction of an educated

workforce can be achieved by the creation of skilled jobs and the development of amenities. Timothy Schiller (2008) echoes this notion in his paper “Human Capital and Higher Education: How Does Our Region Fare”:

States and metropolitan areas seeking to increase their college-educated populations need to consider two major aspects of the demand side: the amenity aspect, which relates to which features of an area are attractive to college graduates, and the economic aspect, which relates to which areas have high demand for college-educated workers. The amenities most prominently highlighted by survey research and analyses of population movements are associated with cultural and recreational opportunities and warm, dry climates. The economic aspect is related to job opportunities and salaries. (p. 21)

Thus, in order to attract and retain an educated workforce, the Valdosta MSA needs to consider recruiting companies that will provide job opportunities to an educated workforce while simultaneously investing in its amenities.

Conclusion

As indicated by both research studies and economic growth in the Auburn-Opelika MSA, an educated workforce is strongly linked to both economic growth and economic development; and the Valdosta MSA is no exception. With the growth in educational attainment over the past 37 years, the inflation-adjusted per capita income in the Valdosta MSA has increased by approximately 99%. One caveat is that the Valdosta MSA includes four counties whereas the Auburn-Opelika MSA includes only one county. One might argue that the counties other than Lowndes are sufficiently different to warrant their exclusion from the comparison. But, with population and per capita income being the similarities that warrant the comparison of these two regions, the inclusion of all counties in the Valdosta MSA is justified; Valdosta and Lowndes County would not be classified as an MSA without the population contributions of the other surrounding counties.

Because of education’s role in the achievement of economic growth, the Valdosta MSA should focus on both producing and attracting an educated workforce by examining the level of education provided by local school systems, advertising the strengths of the local school systems, and bringing skilled jobs and cultural and recreational amenities to the local area.

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Appendix A: Educational Attainment and Per Capita Income

Table A1. Educational Attainment and Per Capita Income: Valdosta MSA

Year	% of Adult Population with a Bachelor's Degree or Higher^a	Per Capita Income (2008 Dollars)^b
1970	8.46%	\$11,366.97
1980	11.44%	\$15,227.86
1990	14.25%	\$17,979.66
2000	17.41%	\$20,805.82
2008	20.45%	\$22,581.52

Note: Data from 1970 through 2000 was obtained from the Decennial Census. 2008 data were obtained from the American Community Survey. The 2008 per capita income was increased by four percent, as the income collected in Census 2000 was found to be four percent higher than that in the American Community Survey.

^a For 1970 and 1980, the percentage of adults with at least four years of college education was used in place of the percentage adult population with a bachelor's degree or higher, as the latter information was not available.

^b Per capita income for each year is in 2008 dollars, which were calculated using the CPI Inflation Calculator on the bls.gov website.

Table A2. Educational Attainment and Per Capita Income: Auburn-Opelika MSA

Year	% of Adult Population with a Bachelor's Degree or Higher^a	Per Capita Income (2008 Dollars)^b
1970	16.60%	\$12,569.18
1980	21.62%	\$16,402.96
1990	25.28%	\$19,809.61
2000	27.91%	\$22,173.88
2008	30.86%	\$25,476.88

Note: Data from 1970 through 2000 was obtained from the Decennial Census. 2008 data were obtained from the American Community Survey. The 2008 per capita income was increased by four percent, as the income collected in Census 2000 was found to be four percent higher than that in the American Community Survey.

^a For 1970 and 1980, the percentage of adults with at least four years of college education was used in place of the percentage adult population with a bachelor's degree or higher, as the latter information was not available.

^b Per capita income for each year is in 2008 dollars, which were calculated using the CPI Inflation Calculator on the bls.gov website.

Table A3. Educational Attainment and Per Capita Income: State of Alabama

Year	% of Adult Population with a Bachelor's Degree or Higher^a	Per Capita Income (2008 Dollars)^b
1970	7.85%	\$12,661.21
1980	12.18%	\$17,147.84
1990	15.68%	\$19,943.31
2000	19.03%	\$23,506.28
2008	21.99%	\$24,269.44

Note: Data from 1970 through 2000 was obtained from the Decennial Census. 2008 data were obtained from the American Community Survey. The 2008 per capita income was increased by four percent, as the income collected in Census 2000 was found to be four percent higher than that in the American Community Survey.

^a For 1970 and 1980, the percentage of adults with at least four years of college education was used in place of the percentage adult population with a bachelor's degree or higher, as the latter information was not available.

^b Per capita income for each year is in 2008 dollars, which were calculated using the CPI Inflation Calculator on the bls.gov website.

Table A4. Educational Attainment and Per Capita Income: State of Georgia

Year	% of Adult Population with a Bachelor's Degree or Higher^a	Per Capita Income (2008 Dollars)^b
1970	9.21%	\$14,427.04
1980	14.59%	\$18,562.94
1990	19.32%	\$23,667.70
2000	24.30%	\$27,338.05
2008	27.50%	\$26,775.84

Note: Data from 1970 through 2000 was obtained from the Decennial Census. 2008 data were obtained from the American Community Survey. The 2008 per capita income was increased by four percent, as the income collected in Census 2000 was found to be four percent higher than that in the American Community Survey.

^a For 1970 and 1980, the percentage of adults with at least four years of college education was used in place of the percentage adult population with a bachelor's degree or higher, as the latter information was not available.

^b Per capita income for each year is in 2008 dollars, which were calculated using the CPI Inflation Calculator on the bls.gov website.

Table A5. Educational Attainment and Per Capita Income: Nation

Year	% of Adult Population with a Bachelor's Degree or Higher^a	Per Capita Income (2008 Dollars)^b
1970	11.04%	\$17,043.66
1980	16.23%	\$21,224.71
1990	20.34%	\$25,037.66
2000	24.40%	\$27,879.63
2008	27.67%	\$28,692.56

Note: Data from 1970 through 2000 was obtained from the Decennial Census. 2008 data were obtained from the American Community Survey. The 2008 per capita income was increased by four percent, as the income collected in Census 2000 was found to be four percent higher than that in the American Community Survey.

^a For 1970 and 1980, the percentage of adults with at least four years of college education was used in place of the percentage adult population with a bachelor's degree or higher, as the latter information was not available.

^b Per capita income for each year is in 2008 dollars, which were calculated using the CPI Inflation Calculator on the bls.gov website.

Table A6. Correlation between Educational Attainment and Per Capita Income

Region	Correlation Coefficient
Valdosta MSA	0.9906
Auburn-Opelika MSA	0.9974
State of Georgia	0.9739
State of Alabama	0.9896
Nation	0.9890

Note: Correlation coefficients were calculated for the percentage of adults (age 25 and above) with a bachelor's degree or higher and per capita income for the following years: 1970, 1980, 1990, 2000, and 2008.

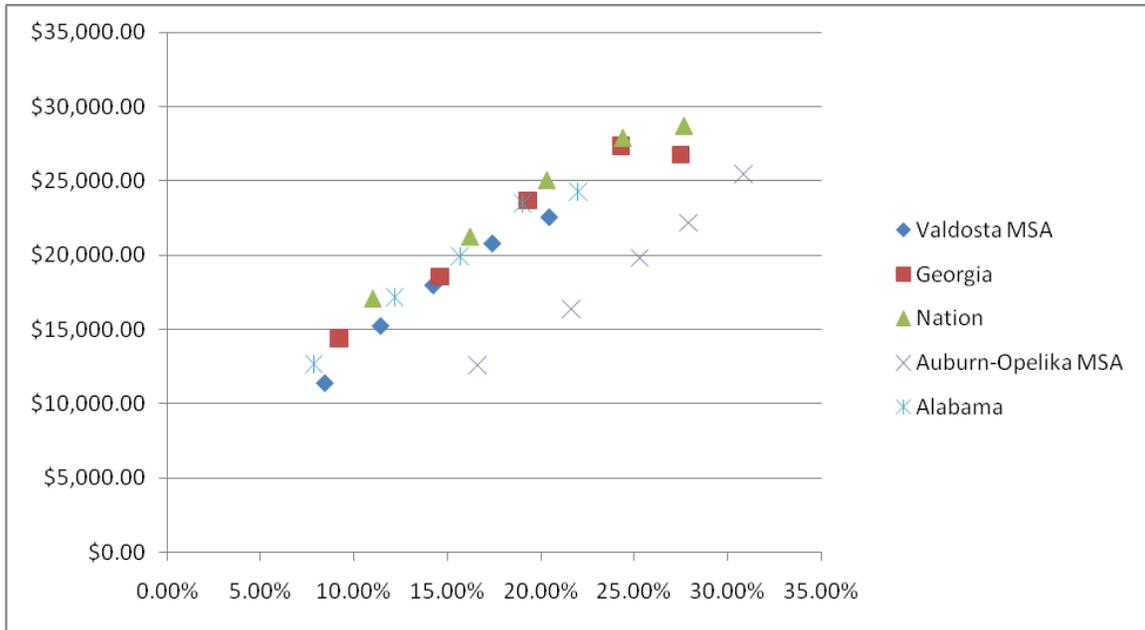


Figure A1. Percentage of Adult Population with a Bachelor's Degree versus Per Capita Income for 1970, 1980, 1990, 2000, and 2008.

Appendix B: GDP, Real GDP, and Per Capita Real GDP

Table B1. GDP, Real GDP, and Per Capita GDP: Valdosta MSA

Year	GDP^a	Real GDP^b	Per Capita Real GDP^c
2001	3,004	3,004	25,084
2002	2,922	2,840	23,379
2003	3,086	2,915	23,817
2004	3,185	2,905	23,345
2005	3,410	3,025	23,985
2006	3,605	3,088	24,074
2007	3,770	3,134	24,114
2008	4,030	3,272	24,539

Note: Data were obtained from the Bureau of Economic Analysis.

^a GDP is in millions of current dollars.

^b Real GDP is in millions of chained 2001 dollars.

^c Per capita real GDP is in chained 2001 dollars.

Table B2. GDP, Real GDP, and Per Capita GDP: Auburn-Opelika MSA

Year	GDP^a	Real GDP^b	Per Capita Real GDP^c
2001	2,198	2,198	22,224
2002	2,276	2,220	22,185
2003	2,505	2,393	22,206
2004	2,786	2,589	21,849
2005	3,021	2,734	21,301
2006	3,249	2,841	20,020
2007	3,402	2,896	18,792
2008	3,559	2,956	18,828

Note: Data were obtained from the Bureau of Economic Analysis.

^a GDP is in millions of current dollars.

^b Real GDP is in millions of chained 2001 dollars.

^c Per capita real GDP is in chained 2001 dollars.