

**WHITE PAPER 4**  
**RETURN ON INVESTMENT IN HIGHER**  
**EDUCATION IN NEVADA:**  
**A SUMMARY OF IMPLICATIONS FOR**  
**ECONOMIC GROWTH, ECONOMIC**  
**DEVELOPMENT AND PUBLIC FINANCE**

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Prepared for the:



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**EXECUTIVE SUMMARY**

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**T**his white paper is the fourth and final in a series that discuss the role of higher education in Nevada's future. The white papers were designed to objectively assess and evaluate the role of higher education in meeting Nevada's future economic development targets, based on national research and results in other states.

White Paper 4 summarizes the findings of the first three white papers, which focused on the role of higher education in promoting and sustaining economic growth and development; and on the economic value of higher education to the individual and the community. This paper focuses on what our findings mean for the State of Nevada.

The first three white papers explored why all the states looking for jobs that will drive their future economies are seeing higher education as a critical component in producing the workforce needed for these jobs.

- White Paper 1 presents an overview of both applied and academic research on cluster-based approaches to economic development/diversification, the role of higher education in cluster creation, and the role of industry clusters in regional economic sustainability. It contains a summary of potential specific target clusters identified as having a high probability of success as economic development targets for Southern Nevada.
- White Paper 2 includes key findings on the relationship between higher education and state economic growth, and analyzes the relationship between worker education levels and basic economic indicators (e.g., unemployment rate, wages) in Nevada.
- White Paper 3 studies the relationship between higher education expenditures and personal, local economic and societal benefits. Data on higher education enrollment, educational attainment and financing in Nevada are also discussed in this paper.

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White Paper 4, with a special focus on the State of Nevada, should be useful to public policy makers, business leaders and others seeking to understand the connection between higher education and economic development and diversification, and public finance.

As further discussed below, our research on the interrelationship between higher education and economic growth and development, and public finance found that:

- Business clusters that are crucial for economic development and diversification, both nationally and in Southern Nevada, require a skilled workforce and that higher education is a critical foundation for improving the state's human capital to support this development.
- Research on linkages between positive economic growth and education, as well as various states' experiences, is consistent with, and reinforces the need for a robust higher education component.
- Individuals with higher levels of education consistently earn more and, in addition, are more likely than others to remain employed during economic downturns, all directly contributing to the economic vitality of the region.
- States still provide the largest share of public higher education revenues (although this share has shrunk during the recent recession).
- Higher tax collections, lower demands for public services, and other social measures all contribute to the positive returns associated with higher education.
- Nevada's estimated return on the state's investment in higher education of 16.46 percent is significant and compares well to other states utilizing a consistent measure (such as 15.13 percent for New Mexico and 14.36 percent for Missouri) (see Chart 1). In essence, the data show that Nevada gets a very healthy or efficient return on its higher education investment.

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**ROLE OF HIGHER EDUCATION IN ECONOMIC GROWTH AND DEVELOPMENT:**  
**MAIN FINDINGS**

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*Role of Education in Economic Growth and Development*

There is general agreement among economists that investments in education are an important source of economic growth and, more importantly, future economic and business development. Many believe that investments in education will become even more important in the future as we continue to evolve as a knowledge-based economy<sup>1</sup> (see White Papers 1, 2, and 3).

Research on the topic suggests that state growth is directly impacted by education levels, both in terms of quality and quantity; wages are positively impacted by education (see Chart 2 in the Appendix section of this paper); and unemployment is significantly reduced with educational attainment (see Chart 3 at the end of the paper).

*Benefits of Higher Education to Individuals and Society*

A variety of studies reviewed for the white papers demonstrate that students who attend institutions of higher education obtain a wide range of personal, financial and other lifelong benefits. And that the benefits to an individual from a university education vary with the quality of the institution attended.<sup>2</sup> Individual earnings are strongly related to education attainment. Individuals with higher levels of education are more likely to have higher earnings, and more likely to work full-time year-round.

National data show that higher (or “postsecondary”, used interchangeably throughout this paper) education provides significant accumulated earnings over a worker’s lifetime. A Bachelor’s degree is worth about \$1.1 million more than an Associate’s degree. A Master’s degree is worth \$457,000 more than a Bachelor’s degree. A Doctoral degree is worth about

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<sup>1</sup> Dickens, W. T., Sawhill, I, and Tebbs, J. *The Effects of Investing in Early Education on Economic Growth*. April 2006. The Brookings Institution.

<sup>2</sup> *Ibid.*

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\$193,000 more than a Master's degree<sup>3</sup>. For example, the expected lifetime earnings of a person with a bachelor's degree are estimated to be 1.66 times higher than those of high school graduates (see Chart 4 at the end of this paper).

Taxpayers and society as a whole "derive a multitude of direct and indirect benefits when citizens have access to postsecondary education"<sup>4</sup>. Accordingly, the benefits of higher education to society can be monetary as well as non-monetary.

The top 10 states, in terms of personal income per capita, are 18 percent above the national average in the share of their workforce with a Bachelor's degree or higher — while the bottom 10 states, in terms of personal income, are 17 percent below the national average in the share of their workforce with a Bachelor's degree or higher<sup>5</sup>. Nevada, for instance, is 27.1 percent below the national average in the share of its workforce with at least a Bachelor's degree. In addition, the median total tax payments of full-time workers with a Bachelor's degree are much higher than the median tax payments of high school graduates working full-time (see Chart 5) (the topic is discussed in more detail in White Paper 3).

Among non-monetary benefits of investing in higher education, the following are most commonly cited: lower crime rates in a community, greater and more informed civic participation, more rational consumer choices, higher savings rates, increased quality of working conditions, more research and development activities, higher charitable giving, healthier lifestyles, reduced health care costs and less dependence on public support programs. Also, as several<sup>6</sup> studies concluded, degree attainment today means higher probabilities of degree attainment in future generations<sup>7</sup>.

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<sup>3</sup> Source: Bureau of Labor Statistics, *Current Population Survey*. Georgetown University Center on Education and the Workforce.

<sup>4</sup> Baum, S., Ma, J., Payea, K. *Education Pays 2010: The Benefits of Higher Education for Individuals and Society* College Board Advocacy and Policy Center.

<sup>5</sup> Shaffer, D. F. and Wright, D. J. *A New Paradigm for Economic Development*. The Nelson A. Rockefeller Institute of Government. University of Albany, State University of New York. March 2010.

<sup>6</sup> For example:

(1) Murnane, R. J. (1981). *New Evidence on the Relationship between Mother's Education and Children's Cognitive Skills*. *Economics of Education Review*, 1 (2), pp. 245–52.

(2) Sandefur, G. D., McLanahan, S. and Wojtkiewicz, R. A. (1989). *Race and Ethnicity, Family Structure, and High School Graduation*. Discussion Paper 893-89, Institute for Research on Poverty, University of Wisconsin–Madison.

(3) Dawson, D. (1991). *Family Structure and Children's Health and Well-Being: Data from the 1988 National Health Interview Survey on Children's Health*. *Journal of Marriage and the Family*, 53 (3), pp. 373–84.

(4) Haveman, R. H., Wolfe, B. L. and Spaulding, J. (1991). *Childhood Events and Circumstances Influencing High School Completion*. *Demography*, 28 (1), pp. 133–57.

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It is also important to keep in mind that the associations described above are found to be the result of increased educational attainment, not just of individual characteristics<sup>8</sup>.

*Return on Investment in Higher Education*

The concept of rate-of-return analysis in education has been subject to criticism (critics of this concept state that the presentation of exact numbers produces an illusion of precision; and that rates of return calculated on past data cannot necessarily predict what will happen in the future). It is still, however, a helpful tool in understanding the value of investments in education, and the reasons for earnings differentials at different levels of education<sup>9</sup> (further discussed in White Paper 2).

***If the value of a college education is expressed on the same basis as the return on a financial investment, the net return is on the order of 12 percent per year, over and above inflation. This compares favorably with annual returns on stocks that historically have averaged seven percent.***<sup>10</sup>

According to the study by Courtright and Fry (2007) that estimated the FY 2000-01 states' rates of return on investments in higher education, Nevada's return on investments in higher education was 16.46 percent.<sup>11</sup> The rate of return on Nevada's investment in higher education is higher than comparable figures for states such as Colorado, Kansas, South

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(5) Haveman, R. H. and Wolfe, B. L. (1994). *Succeeding Generations: On the Effects of Investments in Children*. New York: Russell Sage.

<sup>7</sup> (1) Wolfe, B. and Haveman, R. *Accounting for the Social and Non-Market Benefits of Education. The Contributions of Human and Social Capital to Sustained Economic Growth and Well-Being*, ed. J. Helliwell, *International Symposium Report, OECD and HRDC*, pp. 221-250, 2002. and

(2) Macerinskiene, I. and Vaiksnoraitė, B. (2006). *The Role of Higher Education to Economic Development*. *Vadyba/Management*, 2 (11).

<sup>8</sup> Baum, S., Ma, J., and Payea, K. *Education Pays 2010 : The Benefits of Higher Education for Individuals and Society*. College Board Advocacy and Policy Center.

<sup>9</sup> Asian Development Bank *Education in Developing Asia. Economic Justification for Investment in Education*. Available online at:

[http://www.adb.org/Documents/Books/Education\\_NatDev\\_Asia/Costs\\_Financing/economic\\_justification.pdf](http://www.adb.org/Documents/Books/Education_NatDev_Asia/Costs_Financing/economic_justification.pdf)

<sup>10</sup> Hill, K., Hoffman, D., and Rex, T. *The Value of Higher Education: Individual and Societal Benefits (With Special Consideration for the State of Arizona)*. L. William Seidman Research Institute. W. P. Carey School of Business. Arizona State University. October 2005.

<sup>11</sup> *In our opinion, these types of studies provide general indicators and should not be considered as precise calculations. For example, enrollment in private institutions in a State can often be difficult to disentangle in the enrollment numbers so highly technical private institutions tend to skew the numbers in a positive direction (as Massachusetts).*

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Carolina, New Mexico, Missouri, Nebraska, etc.<sup>12</sup> (see Chart 1 at the end of this paper). The data show that Nevada gets an efficient return on its higher education investments.

**ROLE OF HIGHER EDUCATION IN ECONOMIC GROWTH AND DEVELOPMENT:**  
**NEVADA ANALYSIS**

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*Demographic and Economic Trends in Nevada*

The following demographic and economic trends in Southern Nevada have impacted and continue to impact the region's economic development and growth.

- In 2009, Nevada's workforce had far fewer college degrees than the nation as a whole and substantially less than the most educated states. The state ranked 46<sup>th</sup> for 25+ year olds with bachelor degrees or higher.
  - About 16.1 percent of 25+ year olds had less than a high school education and about 25.8 percent had only some college education but no college degree<sup>13</sup>.
  - Only 29.4 percent of Nevada residents 25 years and over in 2009 had a college degree compared to 33.3 percent in Arizona, 37.5 percent in California and 37.6 percent in Utah.
- Historically, the majority of persons moving to Nevada had just high school or some college education, with a high percentage of persons having less than high school education. On the other hand, people leaving the state had at least a high school education, with a significant percentage having some college, Bachelor's or graduate degrees<sup>14</sup> (for further discussion of these findings, see White Paper 1).

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<sup>12</sup> It should also be noted that these types of analyses are often based upon total expenditures across all supported colleges and universities in a State by headcount without taking into account any differential programs at designated research universities. For example, Texas has a large number of supported institutions and students, but directed money to research programs at The University of Texas are simply lumped into the totals.

<sup>13</sup> U.S. Department of Labor Statistics.

<sup>14</sup> Based on the U.S. Census Bureau's 2000 data.

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- Consistent with national trends, the highest unemployment rate in Nevada in 2009 was among those who had less than a high school diploma (16.7 percent) and the lowest unemployment rate was recorded among those with a Bachelor's degree or higher (6.3 percent of the labor force)<sup>15</sup> (see Chart 6 at the end of this paper).
  
- An analysis of median earnings in the past 12 months (in 2009 inflation-adjusted dollars), by education attainment, shows that in Nevada, a person with less than a high school education made, on average, \$22,774, where as a person with a Bachelor's degree made 97.2 percent more than that, or \$44,918. And, a person with a graduate/professional degree made 2.7 times more than a less than high school graduate (or \$60,497) (see Chart 7 in the Appendix section of the paper). The trend is also consistent with national findings.

*Cluster-Based Economic Development Strategies for Nevada*

The "cluster"-based economic development approach views the foundation of a regional economy as a group of clusters, not a collection of unrelated firms. A cluster is defined as a geographically proximate group of interconnected companies and associated institutions in a particular field.

Due to its location, business-friendly environment, climate and the well-established and renowned hospitality cluster (employs the largest number of employees but has the lowest average annual wages in the state, as shown in Chart 8 in the Appendix section of the paper), Southern Nevada has a unique opportunity to develop and attract a diverse set of additional and independent clusters. Accordingly, local governments in Nevada, working through the Southern Nevada Regional Planning Commission ("SNRPC"), have adopted a set of industry clusters as targets for economic development and diversification<sup>16</sup> (a detailed discussion on cluster-based economic development strategies for Nevada are presented in White Paper1).

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<sup>15</sup> Source: 2009 American Community Survey.

<sup>16</sup> This list of target industry clusters in Southern Nevada presented in this paper is based on the research undertaken for the Southern Nevada Regional Economic Study prepared by Theodore Roosevelt Institute for the Southern Nevada Regional Planning Coalition in 2006.

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The cluster study for the SNRPC was led by Dr. Schlottmann and identified the following set of existing and prospective clusters for the region:

- *Hospital and Health Related Cluster: Service Provision and Manufacturing*
- *Regional Offices Cluster: Southwestern and Other Headquarter Functions*
- *Homeland Security Cluster: Complementary Services and Manufacturing*
- *Research and Development Cluster: Synergistic & Complementary to Other Clusters*
- *Education and Training Institutions Cluster*
- *Information and Communications Technology Cluster*
- *Life Sciences Cluster*
- *Selected Sustainability Technologies: Future Cluster Potential*

Successful cluster development requires a critical foundation of higher education and the associated commitment of public policy-makers. Higher education is uniquely positioned to bring together the necessary decision-makers from diverse business, community and governmental groups to create the collaborations needed to develop those clusters that ensure the long-term sustainability of the Southern Nevada and Nevada economies<sup>17</sup>. The state's 2008-2018 employment projections, by industry, are summarized in Chart 9. These projections complement the need for a cluster-based focus for our region and the state.

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**OTHER STATE EXAMPLES**

**E**conomic development and higher education strategies discussed in our white papers are already successfully working in some other states. Here are just some specific examples of how states use higher education institutions to address their economic challenges and capture additional opportunities<sup>18</sup>:

**North Carolina:** The state benefits from the Research Triangle Park, founded by the state's three universities — North Carolina State University, Duke University, and the University of North Carolina at Chapel Hill. Researchers at the Park note that 51 percent of businesses in

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<sup>17</sup> *The Role of Higher Education in Economic Development. Higher Education Alliance for the Rock River Region. Prepared by NIU Outreach. May, 2005, p. 8.*

<sup>18</sup> *Shaffer, D. F. and Wright, D. J. (March 2010). A New Paradigm for Economic Development. The Nelson A. Rockefeller Institute of Government. University at Albany. State University of New York.*

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the entire region are now in “new-line” industries (such as chemicals, electronics, communications, business services, educational services, and engineering and management services) versus fewer than 15 percent when the park was created<sup>19</sup>.

**Georgia:** Georgia has created a coherent program that combines new research infrastructure, assistance to entrepreneurs, and customized training programs to help employers improve their productivity. Georgia Research Alliance (“GRA”), a private, nonprofit corporation run by a Board of Trustees, has attracted some 60 researchers and invested some \$510 million, which it calculates has leveraged another \$2.6 billion in federal and private research grants (a return of more than \$5 for every \$1 invested), creating more than 5,500 new science and research jobs and establishing more than 150 new companies<sup>20</sup>.

**Wisconsin:** In 1984, the University of Wisconsin at Madison established its own University Research Park that offers tenants wet lab and office space, unlimited library access, conference facilities, and career services. Madison’s park currently has 1.8 million square feet of office and laboratory space in 37 different buildings, housing more than 110 companies; the university currently counts some 3,500 people employed there. Wisconsin is now working on a Phase 2 expansion of the park that is expected to more than double its size<sup>21</sup>.

These changes in higher education are happening all over the country and they are happening at such a fast pace that “nobody can yet document exactly what works best”. These few examples demonstrate, however, that higher education institutions can become centers for discovering and developing next-generation ideas and technologies, growing the local economy and creating new jobs<sup>22</sup>.

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<sup>19</sup> Weddle, R. L., Rooks, E., & Valdecanas, T. (June 2006) “Research Triangle Park: Evolution and Renaissance.” Presentation to the IASP World Conference, 6-7.

<sup>20</sup> Georgia Research Alliance, “About GRA,” [www.gra.org/AboutGRA/Origins.aspx](http://www.gra.org/AboutGRA/Origins.aspx).

<sup>21</sup> <http://vabiotech.com>.

<sup>22</sup> Shaffer, D. F. and Wright, D. J. (March 2010). *A New Paradigm for Economic Development*. The Nelson A. Rockefeller Institute of Government. University at Albany. State University of New York.

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**CONCLUSIONS & OBSERVATIONS**

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It is generally accepted that the Great Recession is accelerating the shift to jobs requiring postsecondary education. According to one study,<sup>23</sup> we reviewed, at the national level, by 2018:

- The economy will create 46.8 million openings, of which 13.8 million will be brand-new jobs and 33 million will be “replacement jobs”<sup>24</sup>.
- Approximately 63 percent of these 46.8 million jobs are estimated to require workers with at least some college education.
  - About 33 percent will require a Bachelor’s degree or better;
  - Another 30 percent will require some college or a two-year Associate’s degree; and
  - Only 36 percent will require workers with just a high school diploma or less.

As a result of the current recession, thousands of jobs in Southern Nevada (especially low-degree jobs) have been lost or are at risk of being lost, many permanently. The jobs that will replace them will be very different kinds of jobs, requiring different kinds of workers and very different and more comprehensive kinds of worker skills and education.

Our findings in the first three white papers demonstrate that higher education in Southern Nevada is a gateway to the region’s successful development of those clusters needed to enhance the sustainability of the region’s economy. Cluster development leads to a more developed or “higher quality” economy, improved competitiveness and sustained economic growth in the region.

The main findings described in the studies we reviewed support the view that both public and private returns on investment in higher education are positive—at the individual and

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<sup>23</sup> Carnevale, A. P., Smith, N., and Strohl, J. (June 2010). *Projections of Jobs and Education Requirements Through 2018*. Georgetown University, Center on Education and the Workforce.

<sup>24</sup> “Replacement jobs” are defined in the above mentioned study as “positions vacated by workers who have retired or permanently left their occupations”.

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economy-wide levels<sup>25</sup>. More educated workers organize differently, manage differently, choose technologies and equipment differently, and adjust better to changes<sup>26</sup>. The evidence suggests that “postsecondary education not only provides valued credentials, but also increases skills and knowledge and changes the way people approach their lives”.<sup>27</sup>

Higher education does not exist in isolation from Nevada’s economic development strategy or from its future rate of growth. As discussed in more detail in our White Paper 3, there is no evidence that the local production of higher education graduates, in isolation, is an effective economic development strategy.

A portfolio approach can potentially yield the highest returns if it incorporates higher education and is aimed at:

- developing Southern Nevada’s human capital,
- continued investments in quality public infrastructure,
- addressing quality of life/amenity opportunities and challenges and
- attaining and maintaining a business climate conducive to attracting quality employment opportunities<sup>28</sup>.

Therefore, higher education has to become the focal point Nevada’s efforts to succeed in the knowledge economy.

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<sup>25</sup> Fadel, C. and Miller, R. *Education and Economic Growth*. Commissioned by Cisco Systems, Inc.

<sup>26</sup> *Ibid.*

<sup>27</sup> *Ibid.*

<sup>28</sup> Hill, K., Hoffman, D., and Rex, T. *The Value of Higher Education: Individual and Societal Benefits (With Special Consideration for the State of Arizona)*. L. William Seidman Research Institute. W. P. Carey School of Business. Arizona State University. October 2005.

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**Appendix**

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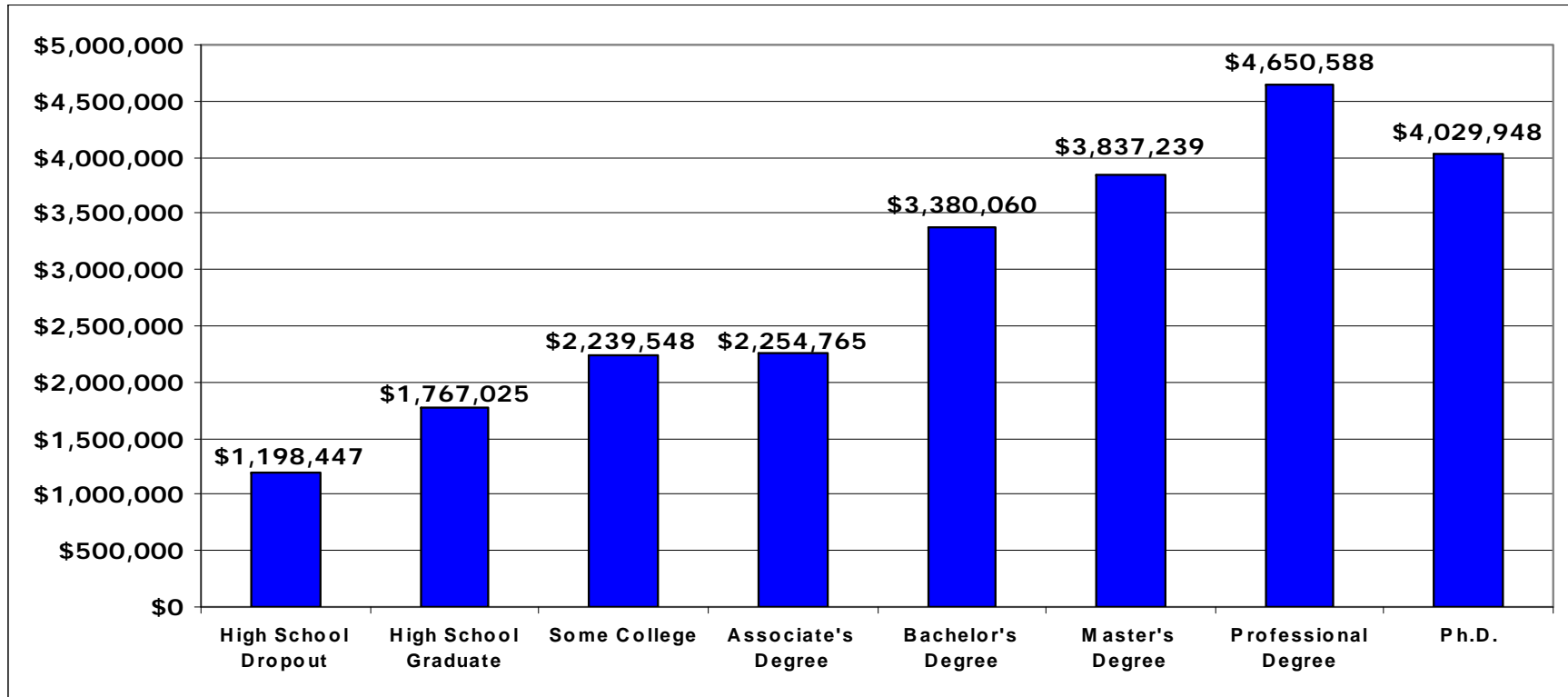
**CHART 1: RATES OF RETURNS ON INVESTMENTS IN HIGHER EDUCATION,**  
**BY STATE: 2000-2001**  
*(USING INCOME DIFFERENTIALS, TOTAL TAX RATES AND MIGRATION-ADJUSTED COLLEGE*  
*GRADUATE POPULATION)*

State	Total Monetary Return	Total Expenditures	Estimated Rate of Return
Alabama	\$320,600,970.73	\$2,720,196,000	11.79%
Alaska	6,167,616,445.05	487,283,000	12.66
Arizona	47,318,457,319.21	2,702,906,000	17.51
Arkansas	19,549,495,387.57	1,438,001,000	13.59
California	637,420,121,967.14	20,375,753,000	31.28
Colorado	46,710,065,417.75	2,856,236,000	16.35
Connecticut	72,935,024,617.46	1,554,972,000	46.90
Delaware	13,648,445,620.61	629,493,000	21.68
Florida	122,857,165,691.87	5,791,614,000	21.21
Georgia	94,286,641,465.45	3,890,955,000	24.23
Hawaii	19,670,819,749.60	792,210,000	24.83
Idaho	12,294,529,665.13	692,076,000	17.76
Illinois	152,845,313,000.50	6,506,274,000	23.49
Indiana	46,286,306,144.66	3,614,096,000	12.81
Iowa	21,365,862,267.64	2,327,927,000	9.81
Kansas	26,195,917,070.85	1,770,463,000	14.80
Kentucky	31,831,873,165.95	2,402,629,000	13.25
Louisiana	28,890,086,377.43	2,092,465,000	13.81
Maine	11,989,195,641.75	559,307,000	21.44
Maryland	89,062,555,396.79	3,531,280,000	25.22
Massachusetts	121,645,388,497.63	2,516,945,000	48.33
Michigan	134,905,862,902.45	7,296,108,000	18.49
Minnesota	72,257,955,011.87	2,946,707,000	24.52
Mississippi	18,089,673,714.90	1,841,358,000	9.82
Missouri	37,992,726,392.91	2,645,247,000	14.36
Montana	5,826,305,286.76	506,367,000	11.51
Nebraska	13,503,468,617.42	1,192,051,000	11.33
<b>Nevada</b>	<b>13,339,075,551.99</b>	<b>810,417,000</b>	<b>16.46</b>
New Hampshire	10,276,981,926.23	560,879,000	18.32
New Jersey	154,999,147,840.16	4,027,545,000	38.48
New Mexico	22,119,486,162.61	1,461,831,000	15.13
New York	290,876,815,562.95	7,982,926,000	36.44
North Carolina	52,957,271,018.56	5,147,632,000	10.29
North Dakota	4,593,149,471.53	510,270,000	9.00
Ohio	100,240,201,121.52	5,833,807,000	17.18
Oklahoma	26,098,812,315.79	2,227,866,000	11.71
Oregon	30,451,470,080.74	2,538,085,000	12.00
Pennsylvania	130,411,801,252.73	5,770,486,000	22.60
Rhode Island	13,073,475,480.03	479,719,000	27.25
South Carolina	28,959,823,123.31	2,130,103,000	13.60
South Dakota	3,283,474,095.23	362,050,000	9.07
Tennessee	38,122,911,504.10	2,957,768,000	12.89
Texas	173,907,931,358.80	12,481,739,000	13.93
Utah	23,522,667,744.72	2,131,325,000	11.04
Vermont	7,447,347,545.37	428,518,000	17.38
Virginia	116,277,784,316.54	4,154,135,000	27.99
Washington	64,902,164,156.53	3,982,261,000	16.30
West Virginia	12,646,841,117.16	1,000,161,000	12.64
Wisconsin	53,899,897,936.76	3,710,116,000	14.53
Wyoming	3,032,184,592.32	360,402,000	8.41

Source: Courtright, S. H. and Fry, C. G. (August 2007). *Public Rates Of Return On Higher Education Investments, By State. Journal of College Teaching & Learning* , Vol. 4 (8).

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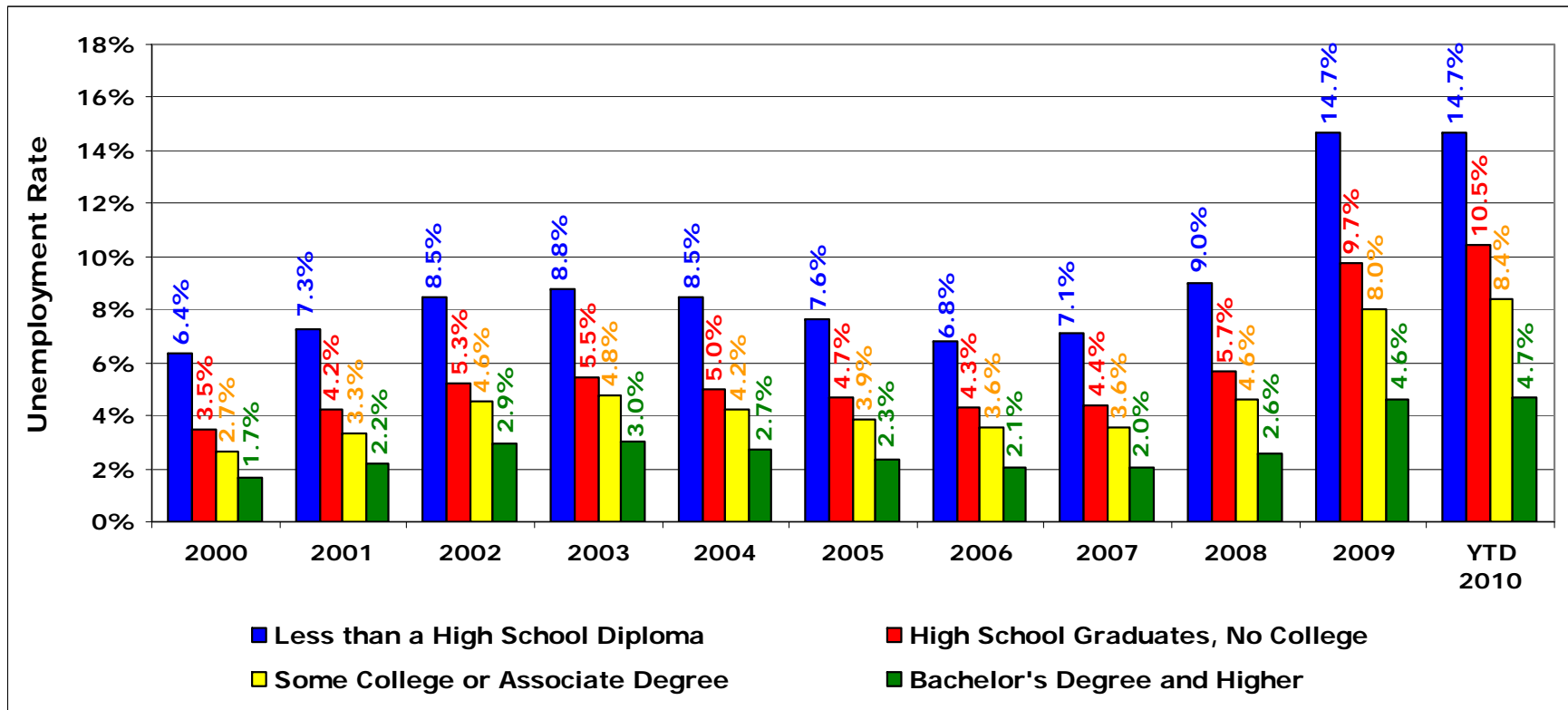
**CHART 2: U.S. ESTIMATED AVERAGE LIFETIME EARNINGS BY EDUCATION LEVEL**  
**(IN CURRENT DOLLARS)**



Source: Bureau of Labor Statistics, Current Population Survey. Georgetown University Center on Education and the Workforce.

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**CHART 3: U.S. AVERAGE UNEMPLOYMENT RATE BY EDUCATION ATTAINMENT**  
*(SEASONALLY UNADJUSTED DATA)*  
**2000-2010YTD**



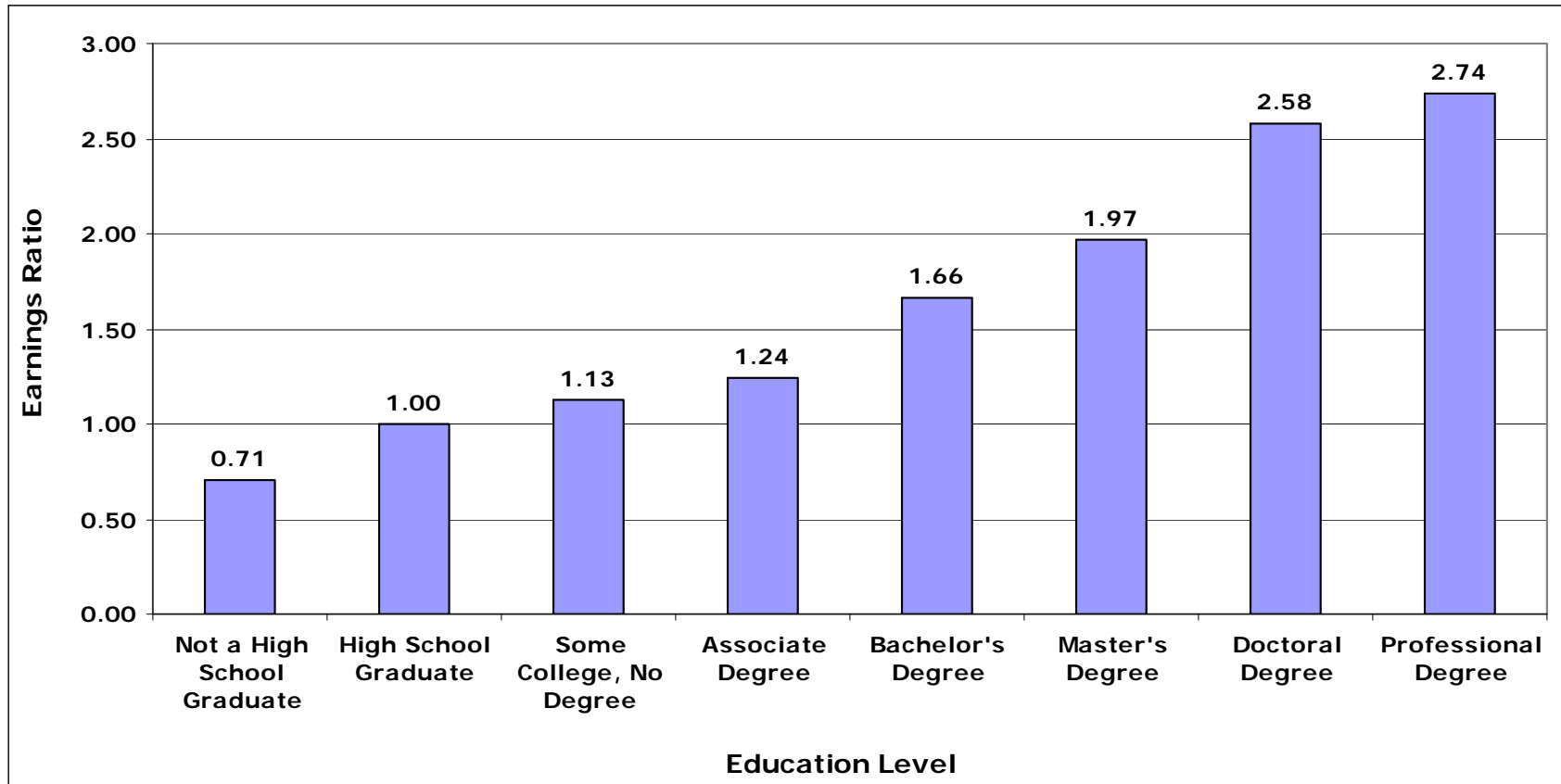
Source: U.S. Bureau of Labor Statistics.

Note: Data relate to unemployment rate of people 25 years and older.

YTD 2010 data includes data for Q1 2010 through Q3 2010.

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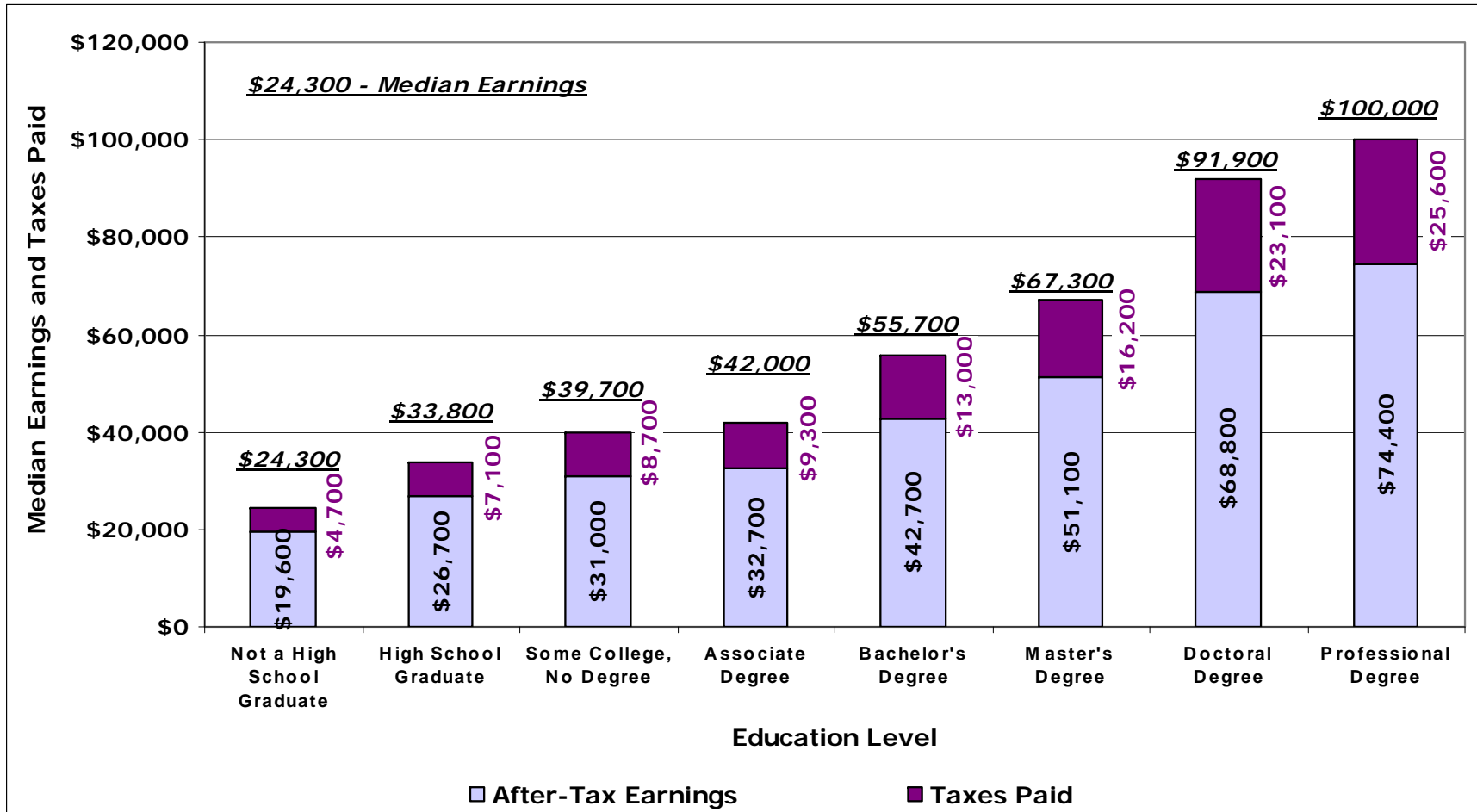
**CHART 4: EXPECTED LIFETIME EARNINGS RELATIVE TO HIGH SCHOOL GRADUATES,  
BY EDUCATION LEVEL, 2008**



Source: U.S. Census Bureau, 2009; CollegeBoard Advocacy and Policy Center - "Education Pays 2010: The Benefits of Higher Education for Individuals and Society".

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**CHART 5: MEDIAN EARNINGS AND TAX PAYMENTS OF FULL-TIME YEAR-ROUND WORKERS AGES 25 AND OLDER, BY EDUCATION LEVEL, 2008**

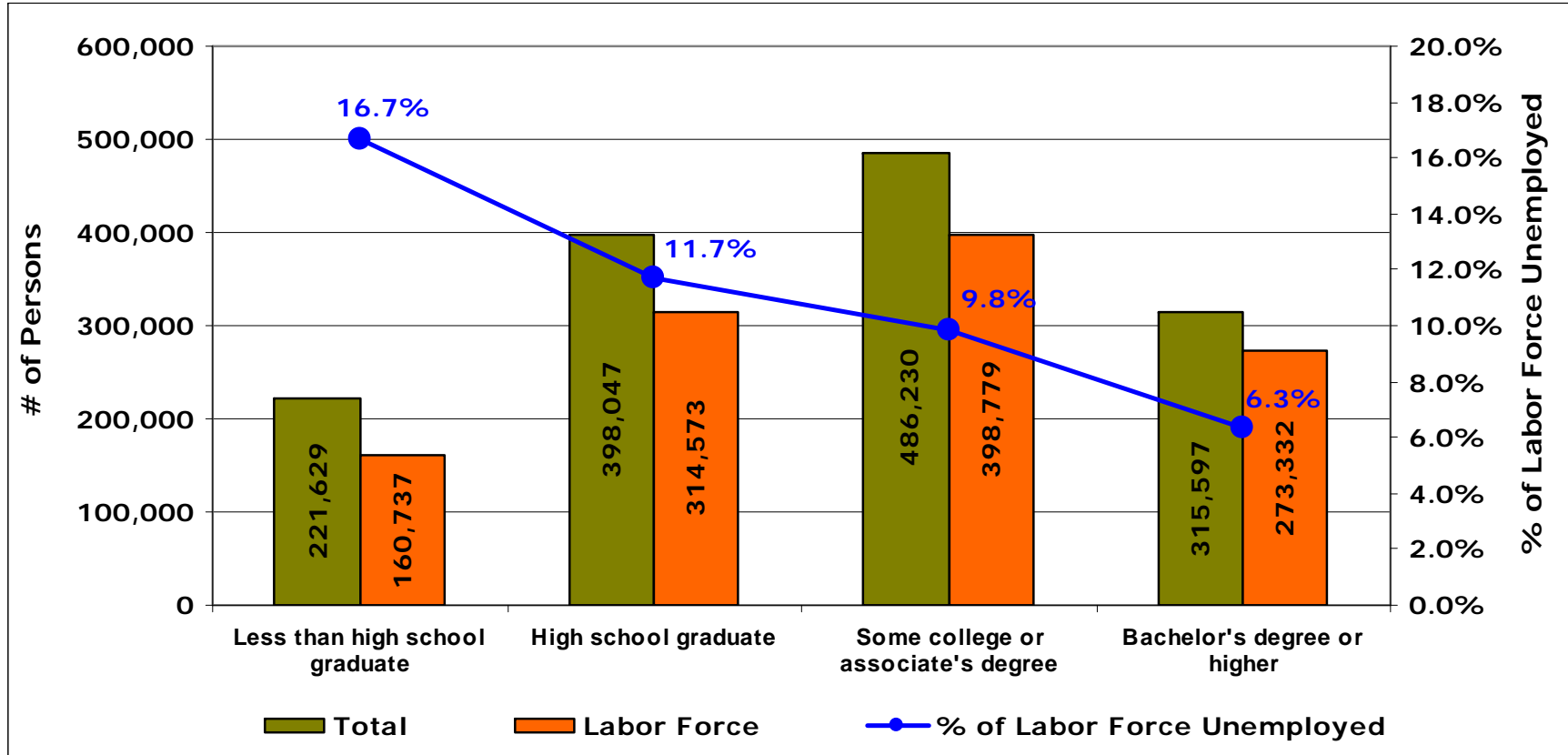


Source: U.S. Census Bureau, 2009; Internal Revenue Service, 2008; College Board Advocacy and Policy Center - "Education Pays 2010: The Benefits of Higher Education for Individuals and Society".

Note: Taxes paid include federal income, Social Security, Medicare, state and local income, sales, and property taxes.

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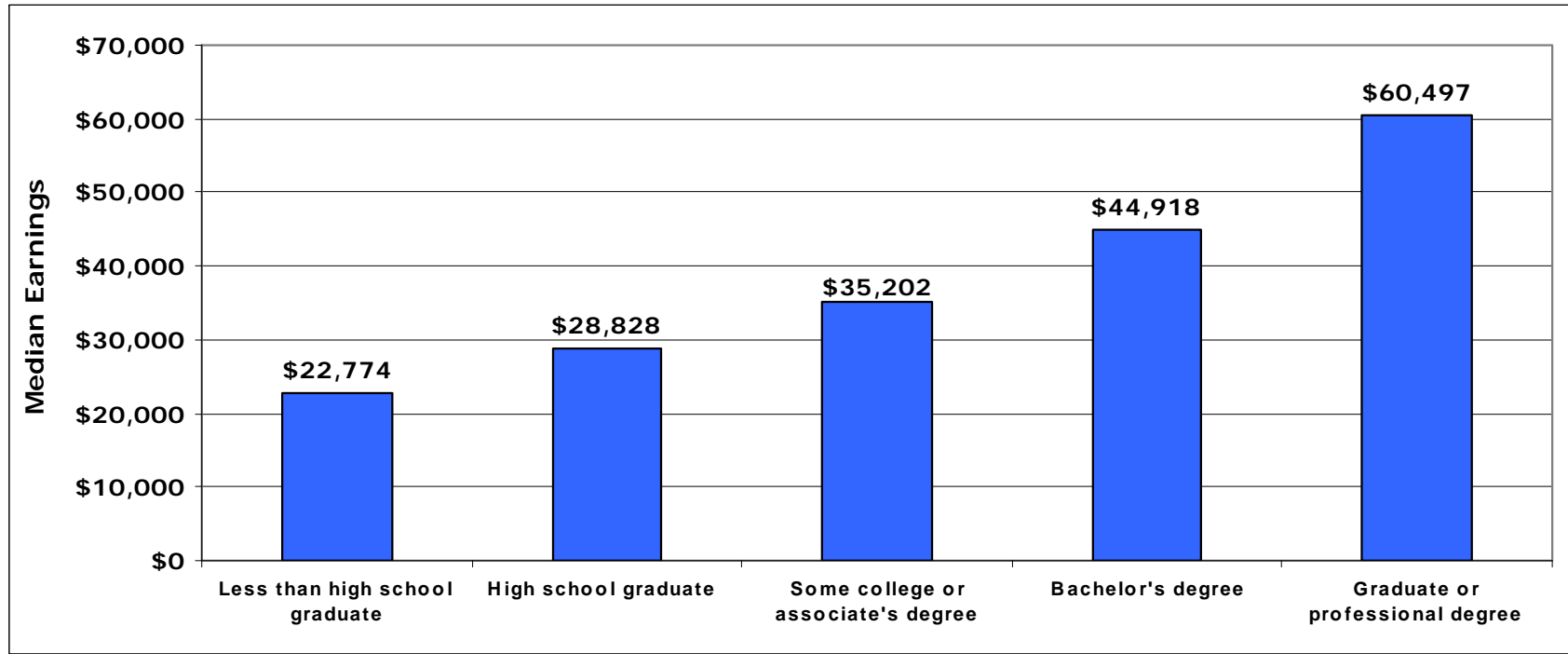
**CHART 6: EDUCATIONAL ATTAINMENT BY EMPLOYMENT STATUS: NEVADA**  
**2009**



Source: 2009 American Community Survey.  
 Note: For persons 25 to 64 years.

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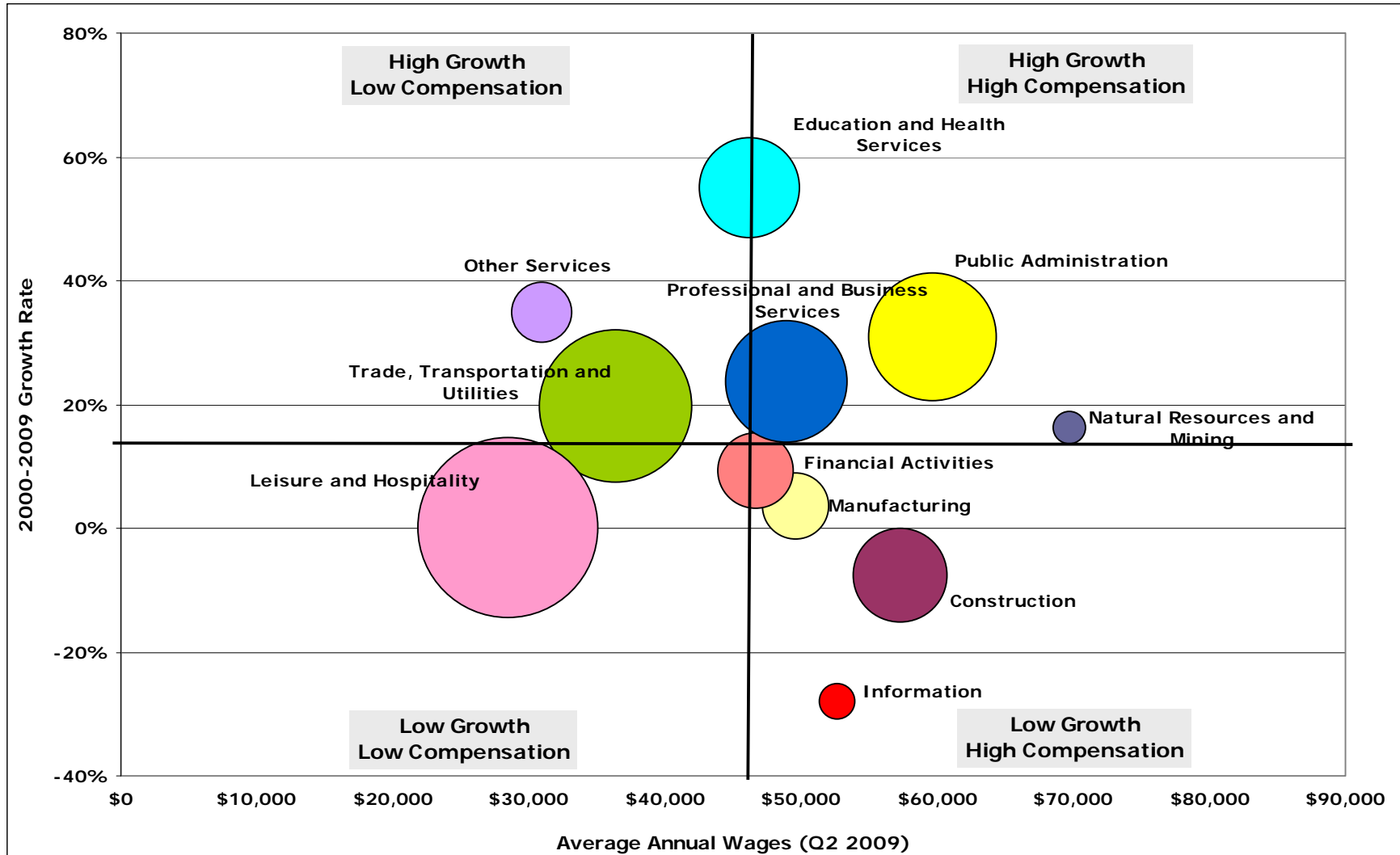
**CHART 7: MEDIAN EARNINGS IN THE PAST 12 MONTHS (IN 2009 INFLATION-ADJUSTED DOLLARS)**  
**BY EDUCATIONAL ATTAINMENT: NEVADA, 2009**



Source: 2009 American Community Survey.  
Note: For persons 25 years and over.

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**CHART 8: NEVADA INDUSTRIES BY GROWTH RATE, NUMBER OF EMPLOYEES AND AVERAGE ANNUAL WAGES**



Source: DETR, RCG.

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**CHART 9: NEVADA INDUSTRIAL EMPLOYMENT AND PROJECTIONS, 2008-2018**  
*(SORTED IN DESCENDING ORDER IN THE "AVERAGE ANNUAL GROWTH RATE" COLUMN)*

NAICS Industry Code	Industry Title	2008	% of All	2018	% of All	2008 - 2018	2008 - 2018	Average
		Employment	Industries - Year 2008	Employment	Industries - Year 2018	Total Change	Percent Change	Annual Growth Rate
	<b>Total Employment, All Jobs</b>	<b>1,353,942</b>	<b>100.0%</b>	<b>1,447,840</b>	<b>100.0%</b>	<b>93,898</b>	<b>6.9%</b>	<b>0.7%</b>
21	Mining	12,116	0.9%	14,614	1.0%	2,498	20.6%	2.1%
62	Health Care and Social Assistance	96,115	7.1%	114,214	7.9%	18,099	18.8%	1.9%
42	Wholesale Trade	37,343	2.8%	43,128	3.0%	5,785	15.5%	1.5%
54	Professional, Scientific, and Technical Services	52,980	3.9%	60,101	4.2%	7,121	13.4%	1.3%
44	Retail Trade	138,316	10.2%	156,808	10.8%	18,492	13.4%	1.3%
31	Manufacturing	48,116	3.6%	54,184	3.7%	6,068	12.6%	1.3%
48	Transportation and Warehousing	49,322	3.6%	53,852	3.7%	4,530	9.2%	0.9%
11	Agriculture, Forestry, Fishing and Hunting	10,223	0.8%	11,010	0.8%	787	7.7%	0.8%
56	Administrative and Support and Waste Management and Remediation Services	78,508	5.8%	84,292	5.8%	5,784	7.4%	0.7%
81	Other Services (Except Government)	36,091	2.7%	38,564	2.7%	2,473	6.9%	0.7%
61	Educational Services	75,563	5.6%	79,613	5.5%	4,050	5.4%	0.5%
72	Accommodation and Food Services	303,459	22.4%	315,466	21.8%	12,007	4.0%	0.4%
55	Management of Companies and Enterprises	17,715	1.3%	18,199	1.3%	484	2.7%	0.3%
91	Total Federal Government Employment	15,104	1.1%	15,357	1.1%	253	1.7%	0.2%
53	Real Estate and Rental and Leasing	26,058	1.9%	26,294	1.8%	236	0.9%	0.1%
52	Finance and Insurance	35,134	2.6%	35,414	2.4%	280	0.8%	0.1%
71	Arts, Entertainment, and Recreation	29,060	2.1%	28,908	2.0%	-152	-0.5%	-0.1%
93	Local, Excluding Education and Hospitals	46,039	3.4%	45,728	3.2%	-311	-0.7%	-0.1%
23	Construction	115,929	8.6%	114,021	7.9%	-1,908	-1.6%	-0.2%
22	Utilities	4,584	0.3%	4,488	0.3%	-96	-2.1%	-0.2%
51	Information	14,919	1.1%	14,447	1.0%	-472	-3.2%	-0.3%
92	State, Excluding Education and Hospitals	18,870	1.4%	18,119	1.3%	-751	-4.0%	-0.4%

Source: DETR.