

Education Pays in Iowa

*The State's Return on Investment
In Workforce Education*

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May 2009

The Iowa Policy Project

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Acknowledgements

This report is the second in a series of reports by the Iowa Policy Project estimating the public return on investments in work supports. The first report examined child care; future reports will focus on the state earned income tax credit and the Medicaid program. This research project was funded by a grant from the Strategies to Eliminate Poverty (STEP) program of the Seattle Foundation. We gratefully acknowledge the support of David Harrison of STEP in promoting this research.

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The Iowa Policy Project

Formed in 2001, the Iowa Policy Project is a nonpartisan, nonprofit organization based in Mount Vernon, with its principal office at 20 E. Market Street, Iowa City, IA 52245.

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Introduction

Skills and knowledge are not only important drivers of economic growth, they are also central determinants of earning capacity. The positive relationship between income and education has been well-documented.¹ Each successive educational gain beyond high school produces stronger labor market attachments and substantially higher earnings.

The gap in earnings between those with a four-year college degree and those with only a high-school diploma has widened considerably over the past 35 years. In 1973, male college graduates earned 25 percent more than high school graduates; by 2007, the gap had grown to 44 percent. For women, the college wage premium grew from 38 percent to 49 percent over this period.² Earnings are important both for the financial security of Iowa households and for state revenues.

In a world where knowledge is the key to economic growth and opportunity, Iowa will need to explore new policies to reach a brighter economic future. Without postsecondary education, Iowans are significantly less likely to be able to support their families and are therefore more reliant on ongoing state assistance for economic security. It is true that not all Iowans need a four-year college degree in order to be successful and economically secure; however, anyone who believes that Iowa residents can look forward to a prosperous future with only a high school diploma could not be more wrong.

Across the state, wages stagnated or declined from 2000 to 2007. As a result, more Iowans were having a difficult time making ends meet for their families even before the recession hit in 2008. Additionally, due to minimal population growth, Iowa will be facing a labor shortage in the future and the private sector is already reporting a shortage of skilled labor. The rising cost of education makes personally financing postsecondary education increasingly unrealistic for low-wage, less-skilled workers and Iowa is not investing substantially in workforce training.

In order to be competitive, Iowa must move forward to a future of growth fueled by the knowledge and skills of a more highly educated workforce or we will face a future characterized by ever-diminishing economic opportunity, increasing poverty rates, and further wage stagnation. This report analyzes the state's return on investment for workforce education, examining the tax revenues generated over the course of a worker's lifetime from higher wages obtained after the completion of an associate's or bachelor's degree.*

* An effective workforce education system requires a continuum of training opportunities for workers of varying skill sets. Our analysis is limited to the economic returns from completion of a postsecondary degree and as such will only benefit a portion of Iowa's working population. Additional education services including English proficiency, literacy skills, GED completion, and industry-based skills training (among others), are critical to the workforce advancement of some low-wage Iowa workers; however, they are outside the scope of this analysis.

As Wages Shrink, Families Struggle to Get By

At one time a high school diploma or GED provided reasonable access to well-paying jobs and opportunities in Iowa. However, changes in technology, labor markets, and global competition have resulted in the loss of well-paying manufacturing, information and wholesale jobs and an increase in lower-paying employment opportunities. As a result, wages at the lower-education level are shrinking in Iowa and now low-wage workers need to acquire education to obtain higher paying jobs.

Table 1 highlights the widening inequality in Iowa's wage structure. From 1979 to 2007, wages for those with a high school diploma or less actually declined in real terms (adjusted for inflation), while wages of those with some college increased modestly and those with a Bachelor's degree or higher gained substantially. While the table below offers a picture for all Iowans, it is important to note that women earn less than men at every education level and may face greater challenges establishing economic security particularly at lower education levels.³

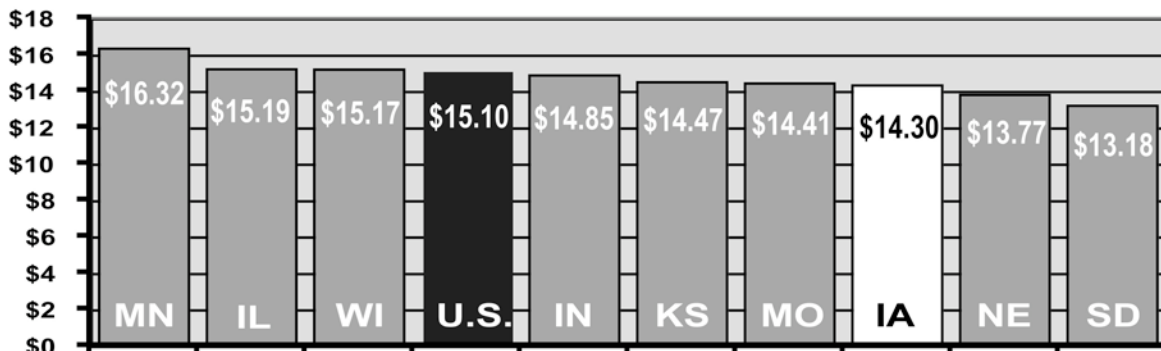
Table 1. Median Wages in Iowa Differ by Education Level, 1979-2007 (2007 dollars)

| | 1979 | 1989 | 1995 | 2000 | 2007 | since 1979 |
|-----------------------|---------|---------|---------|---------|---------|------------|
| All | \$13.64 | \$12.43 | \$12.39 | \$14.32 | \$14.30 | 4.8% |
| Less than high school | \$12.76 | * | * | * | \$9.31 | -27.0% |
| High school | \$13.08 | \$11.42 | \$10.95 | \$12.95 | \$12.77 | -2.4% |
| Some college | \$12.98 | \$11.80 | \$11.72 | \$13.76 | \$13.46 | 3.7% |
| Bachelor's or higher | \$17.18 | \$17.41 | \$18.33 | \$21.02 | \$20.03 | 16.6% |

Source: EPI/IPP analysis of Current Population Survey data. Inflation-adjustment based on CPI-U-RS.
* indicates insufficient sample size.

Both low- and median-wage workers in Iowa saw their real wages fall as the economy recovered from the 2001 recession, while high-wage workers experienced little growth. This was the first business cycle on record in which the median family income did not regain the ground it lost during the recovery, as both men and women at the median wage earned less in 2007 than they did in 2001. Illustrated in Figure 1, Iowa's median wage for all workers is \$14.30, nearly 80 cents less than the national median, which ranks Iowa 34th in the country and ahead of only Nebraska and South Dakota in our nine-state region.

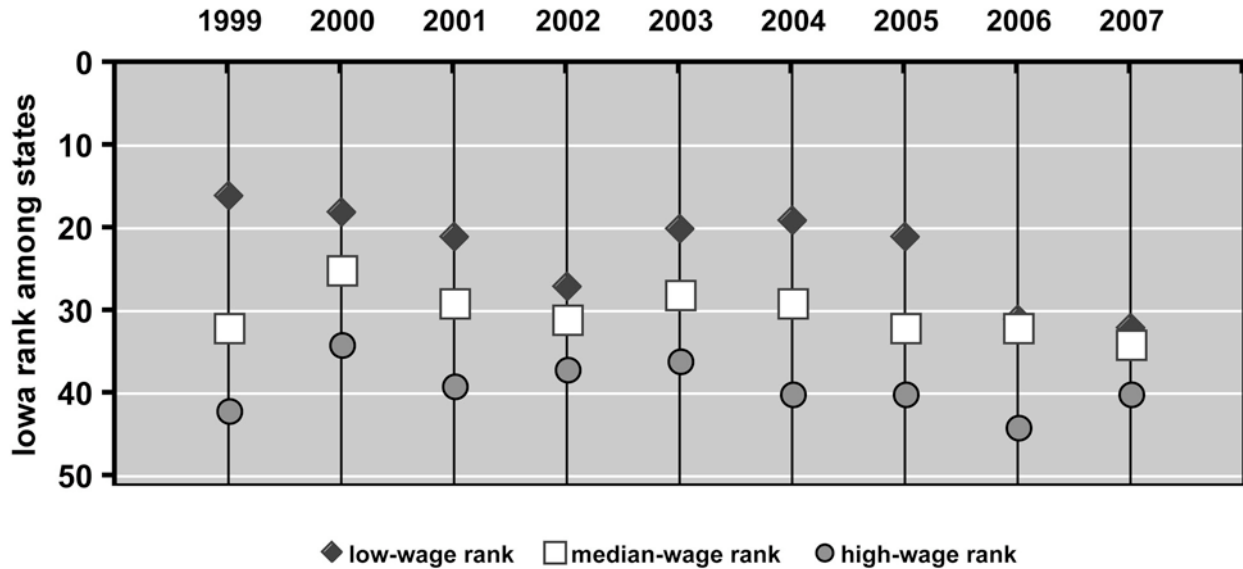
Figure 1. Iowa Median (50th Percentile) Wages Lag U.S., Peers, 2007



Source: EPI/IPP analysis of Current Population Survey data, State of Working Iowa 2008.

The relative standing of Iowa's workers is reflected in Figure 2, which compares state wages at the 20th (low-wage), 50th (median-wage), and 80th (high-wage) percentiles. Iowa's wage ranking has fallen since 2000 and is now among the bottom 20 states at all wage levels. At higher wages Iowa currently ranks 40th in the nation.

Figure 2. All Iowa Wage Rankings Settle Into Bottom 20, 1998-2007



Source: EPI/IPP analysis of Current Population Survey data, *State of Working Iowa 2008*.

As wages for less skilled workers shrink, more families struggle to cover basic living expenses. Almost one-third of Iowa workers earn less than \$10.28 per hour – the wage needed for a full-time worker to keep a family of four above the poverty line. This proportion of “poverty-wage” jobs is high for the nation and it has gotten worse in recent years, rising to 27.1 percent in 2007 from 25 percent in 2006 and 22.3 percent in 2001.⁴

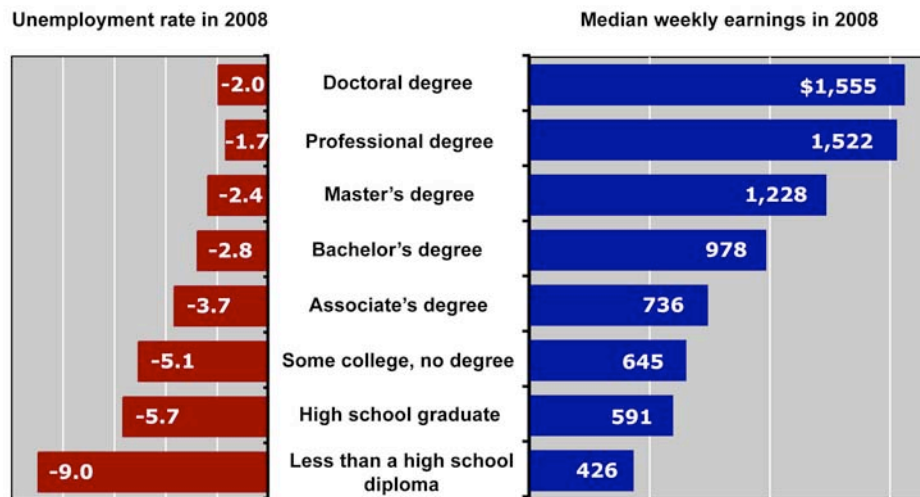
However, poverty levels do not fully account for housing or transportation costs and exclude child care expenses altogether, making them imperfect indicators of how Iowa’s families are faring. Comparing wages in Iowa to the actual cost of living in the state shows that a greater number of families are increasingly unable to make ends meet than poverty statistics indicate.⁵ Consider a two-parent family, where one parent works full time, raising two children. The costs of basic needs for this family total close to \$30,000 per year, which is just over \$14.00 per hour and around the state’s median wage. Fully half of Iowa’s workers then do not earn enough to reach this basic threshold of family support. If both parents work full time, the family’s income will rise, but so will costs, especially for child care. Each parent will then need to earn around \$11.00 per hour, but more than a third of Iowa jobs pay less than this wage.⁶ Moreover, single parents in Iowa face an even greater challenge of securing wages which allow them to fully provide for their families.

Iowa faces an unprecedented challenge and potentially an incredible opportunity to improve the lives of families if investments in workforce training are made today. While Iowa and the nation are currently experiencing high rates of unemployment, it is likely the state will face a labor shortage within a few years when the current economic crisis ends and the state economy recovers. Iowa’s historically stagnant population growth and the impending baby boom retirements, combined with employers’ projected future demands for workers, have led analysts to estimate that Iowa will face an excess of 150,000 more jobs than workers to fill them by 2012.⁷ At the same time our state faces an impending worker shortage, we must also confront a critical skill gap.

Education Pays

Since the early 1980s, it has become apparent that postsecondary education and training have become threshold qualifications for the vast majority of good jobs.⁸ Decade after decade, the U.S. Census illustrates that workers who increase their skill levels ultimately work and earn more (see Figure 3). In a recent study examining 25 years of wage data, the U.S. Census determined that the education advantage remains regardless of work experience and that the economic value of additional years of education continues to grow over time.⁹

Figure 3. U.S. Unemployment Rate & Median Weekly Earnings by Education, 2008



Source: Bureau of Labor Statistics, *Educations Pays*, <http://www.bls.gov/emp/emptab7.htm>

Paralleling the nation, higher education levels are closely associated with both increased earnings and lower unemployment rates in Iowa. Iowans with a bachelor's degree on average earn \$7.26 more an hour than those with a high school diploma. Between 1979 and 2007, the wages of workers with a college degree increased by 17 percent while the wages of workers with less than a high school diploma declined by 27 percent (see Table 1, page 2).¹⁰ Table 2 underscores the importance of education on employment as the unemployment and underemployment rates of Iowa workers without a high school diploma are more than triple the rates among workers with some college education.

Table 2. Iowa's Labor Force Participation by Education, 2007

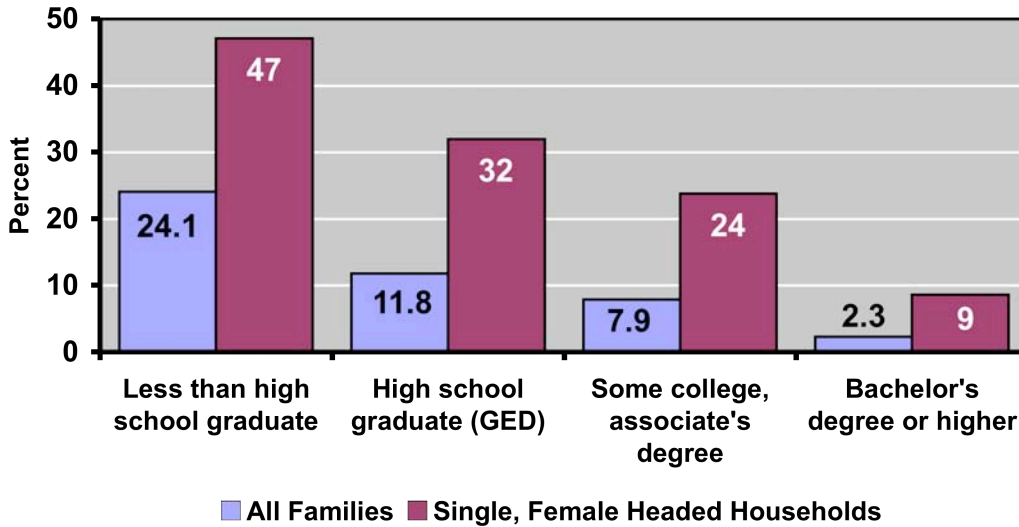
| | Education | | | |
|-------------------------------|---------------|-------------|--------------|------------|
| | < High School | High School | Some College | Bachelor + |
| Share of labor force | 10.1% | 31.6% | 32.9% | 25.5% |
| Unemployment rate | 10.5% | 3.9% | 3.1% | 1.5% |
| Underemployment rate | 17.1% | 8.6% | 5.7% | 2.6% |
| Percent who are: | | | | |
| In the labor force | 52.7% | 67.4% | 78.4% | 81.8% |
| Part-time workers | 50.0% | 23.8% | 24.8% | 17.7% |
| Involuntary part-time workers | 10.0% | 17.5% | 8.8% | (a) |

Source: EPI/IPP analysis of Current Employment Statistics survey data, *The State of Working Iowa 2008*.

Achieving higher levels of education dramatically reduces the likelihood of living in poverty. When comparing across all education levels, the poverty rate among families headed by a college graduate is lowest: just 2.3 percent (Figure 4). Families headed by individuals with less than a high school diploma and those with a high school degree, but no college, had poverty rates of 24.1 percent

and 11.8 percent, respectively. When those families are headed by a single female, poverty rates more than double at nearly every level of education.

Figure 4. U.S. Poverty Rates Among Families by Education, 2007



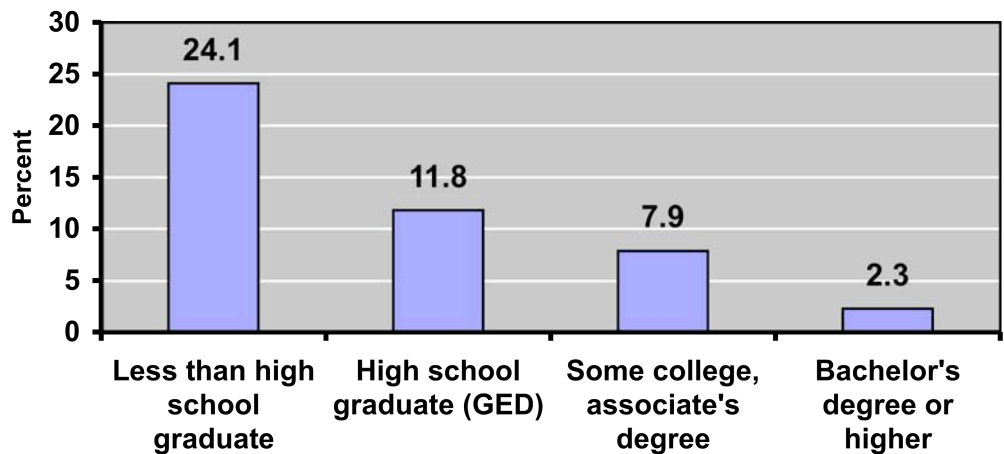
Source: US Census Bureau, 2007 American Community Survey.

Again, Iowa echoes the national trend as poverty rates decrease with each successive level of education. In fact in 2005, Iowa families headed by someone who had not graduated from high school were 2.6 times more likely to be poor than the average family and 13 times more likely to be poor than families headed by college graduates.¹¹ Looking at individuals rather

than families, Figure 5 shows poverty rates for Iowans 25 years and older are lowest among college graduates (2.9 percent), while individuals with less than a high school diploma and those with a high school degree, but no college, have poverty rates of 21 percent and 8.7 percent, respectively.

Whether the indicator is unemployment rates, wages, or poverty, it is undeniable that education pays for Iowans. This holds true even in hard times, as better-educated workers are less likely to fall into poverty when they hit economic difficulties because they spend less time without work after a job loss and are more likely to be re-employed at comparable wages and at jobs that offer health insurance.¹²

Figure 5. Poverty Rates for Iowans 25 Years & Older by Education, 2007



Source: US Census Bureau, 2005, 2006, 2007 American Community Survey.

The Problem: Where Iowa Stands

Iowa Lacks College-Educated Workforce

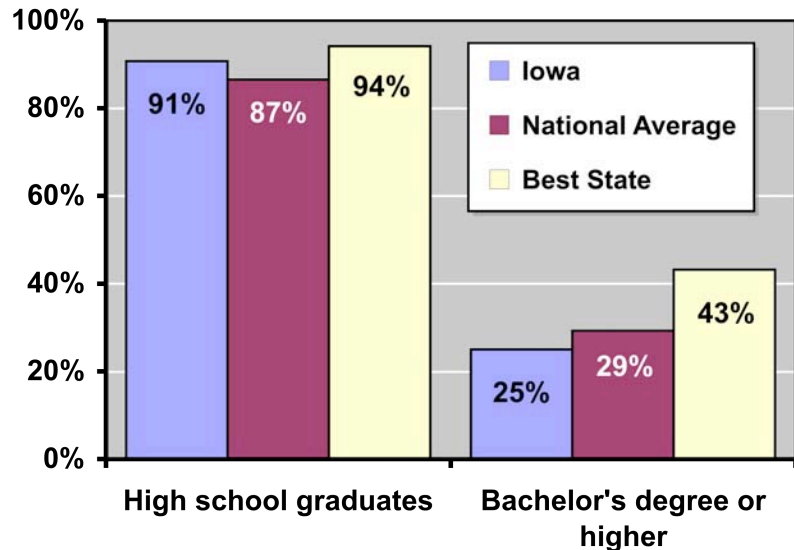
While Iowa leads the nation in many indicators of educational quality, the state falls short when it comes to workforce training. Iowa received a substandard rating in workforce training from the Center for Enterprise Development in 2005, and Iowa is well below the national average for the proportion of

adults with any advanced degree beyond high school, from an associate’s degree upward. Iowa ranks 37th in the nation for the percentage of household heads with at least four years of college.¹³ Figure 6 shows Iowa’s population is more likely to have a high school diploma or GED than the country as a whole, but much less likely to have a college degree (25 percent vs. 29 percent). This gap translates into 56,211 fewer Iowans with postsecondary degrees than if Iowa were at the national average.¹⁴

There is a strong positive correlation between the educational composition of a state’s workforce and its economic vitality. A recent study in Michigan showed that a 5 percent increase in the share of college-educated adults would boost the state’s overall economic growth by 2.5 percent over 10 years, and the real wages of all workers by 5.5 percent.¹⁵ Iowa’s current educational gap not only affects individuals without a college education, it affects all Iowans.

Over the past 30 years, Iowa’s per capita income has decreased relative to the national average, falling from 23rd in 1977 to 32nd in 2007.¹⁶ Iowa

Figure 6. Educational Attainment Among Population 25 Years & Older, 2008



Source: US Census Bureau, Current Population

Table 3. Per Capita Income in Selected States, Ranked by Share of the Population with a Bachelor’s Degree or Higher, 2007

| State | 2007 per capita personal income | Rank | Share of population with bachelor's or higher in 2007 | Rank |
|--------------------------|---------------------------------|-----------|---|-----------|
| <u>Top States</u> | | | | |
| District of Columbia | \$61,397 | 1 | 50.0% | 1 |
| Massachusetts | \$49,142 | 4 | 44.4% | 2 |
| New Jersey | \$49,238 | 3 | 37.8% | 3 |
| Connecticut | \$54,984 | 2 | 37.4% | 4 |
| Colorado | \$41,019 | 12 | 36.8% | 5 |
| US Average | \$38,564 | | | |
| <u>Midwestern States</u> | | | | |
| Minnesota | \$40,969 | 13 | 33.9% | 9 |
| Illinois | \$40,919 | 14 | 30.3% | 15 |
| South Dakota | \$35,664 | 29 | 26.7% | 28 |
| Nebraska | \$36,189 | 26 | 26.5% | 29 |
| Wisconsin | \$36,241 | 25 | 26.2% | 32 |
| Missouri | \$33,984 | 35 | 26.1% | 33 |
| Iowa | \$34,796 | 32 | 24.0% | 41 |

Source: Regional Economic Information System, Bureau of Economic Analysis, U.S. Department of Commerce and U.S. Census Bureau

is now well behind states with the greatest numbers of knowledge industries and highly educated people. Table 3 reflects the strong relationship between a state's proportion of college-educated adults and per capita personal income. Increasingly, the highest per capita incomes emerge in states with the highest rates of college-educated adults. Additionally, among Midwestern states, Iowa has the lowest percentage of college-educated adults and the second lowest per capita income.

As more highly educated workers gravitate toward states and metropolitan areas that have already established themselves as talent centers, the per capita income disparity among states widens. Iowa's strong educational system attracts students from other states to complete their college education here yet does not attract highly educated people to work and live in the state in part due to low wages.

To Grow, Iowa Needs More Highly Educated Workers

With the top 10 fastest-growing Iowa occupations all demanding workers with postsecondary education and training, almost 45 percent of all occupations in the state will require postsecondary education or training by 2012.¹⁷ An opportunity exists in that these growing jobs are also the most likely to provide family-supporting wages.

While the need for more Iowa workers with some form of postsecondary education will grow steadily over the next few years, the shortage of workers with advanced skills has already been identified as a problem. In 2006, the Iowa Works Campaign reported that “[d]emand for skilled workers is outpacing their supply within key industries in local labor markets throughout the state... and [w]ithout skilled workers, Iowa businesses cannot compete, even survive, in a high-tech, globalized economy.”¹⁸

According to a series of surveys administered in 2003 to more than 600 Iowa businesses, employers in targeted industry clusters central to the state's economy found the lack of available skilled workers to be the top workforce factor impeding their ability to grow or expand regionally.¹⁹ In another study conducted during 2003 by the Iowa City/Cedar Rapids Technology Corridor — a seven-county area encompassing approximately 8,000 businesses — 56 percent of employers said their applicant pools were missing the skills they desired and 42 percent reported their current workforce was missing critical skills.²⁰ A 2005 report found that “[t]he biggest challenge facing advanced manufacturing firms in Iowa is the lack of adequate workforce. This involves finding sufficient entry-level workers; replacing workers nearing retirement; and finding workers to fill special needs and skills, many in traditional areas.”²¹

To grow, Iowa must confront the workforce shortage and skill gap it will face as the state recovers from the current recession. Iowa's population is projected to grow by 2 percent from 2005 to 2020, well below the national rate of 14 percent; during the same period, the number of high school graduates is projected to decrease by 8 percent.²² Both trends point to a continuing inability to meet the private sector's demand for skilled labor.

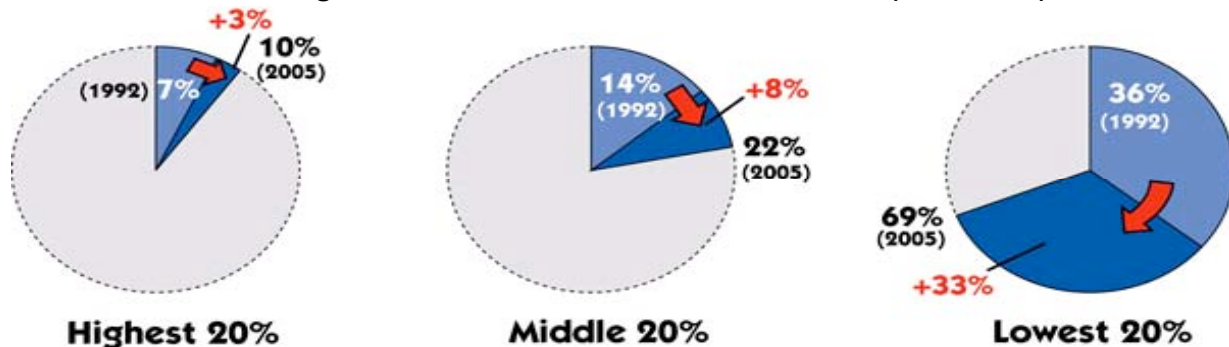
Filling these positions with workers already living in Iowa but currently in low-wage jobs, by providing those workers access to postsecondary education and training, can simultaneously lift thousands of families out of poverty and secure Iowa's economy. Iowa already leads the nation in workforce participation among families with children and typically has an unemployment rate below the national average. As a result, simply working harder will not close these workforce gaps. Rather, Iowa must work smarter by raising the productivity of the incumbent workforce through advanced education and training, as well as ensuring that Iowans who are unemployed, underemployed or otherwise (re)entering the job market have the skills and career pathways necessary to participate successfully.²³

College in Iowa has Become Less Affordable

Higher education has become too costly for many to attend without financial assistance, making it increasingly difficult for Iowans to invest in their own education and training. In *Measuring Up 2006: the State Report Card on Higher Education*, a report issued biannually by the National Center for Public Policy and Higher Education, Iowa received a failing grade on the affordability of postsecondary education due to two factors: 1) the large share of family income needed to attend public two- and four-year colleges, particularly among low- and middle-income students; and 2) the very low state investment in need-based financial aid and the lack of low-tuition college options.²⁴

Over the past several years, the proportion of family income needed to pay for college expenses has increased from 18 percent to 26 percent at community colleges and from 18 percent to 30 percent at the Regent universities, even after financial aid. As Figure 7 illustrates, the financial burden to pay for college varies widely among families at different income levels and attending college in Iowa has become less affordable, particularly among low-income families.

Figure 7. Net Costs to Attend Public Four-Year Colleges Growing as a Share of Income for Iowa Families (1992-2005)*



Source: The National Center for Public Policy and Higher Education, *Measuring Up 2006*.
* Net costs equal tuition, room and board after financial aid.

The net college costs for low and middle income students to attend a community college or Regent university represent 39 percent and 45 percent of their family income respectively, as reflected in Table 4. These two population groups enroll 69 percent of college students in Iowa.

Table 4. Cost of Iowa Education by Institutional Type as a Percent of Family Income, 2006

| A CLOSER LOOK AT FAMILY ABILITY TO PAY | Average Family Income | Community Colleges | | Public 4-year Colleges/Universities | | Private 4-year Colleges/Universities | |
|---|-----------------------|--------------------|--|-------------------------------------|--|--------------------------------------|--|
| | | Net College Cost* | Percent of income needed to pay net college cost | Net College Cost* | Percent of income needed to pay net college cost | Net College Cost* | Percent of income needed to pay net college cost |
| Income groups used to calculate 2006 family ability to pay | | | | | | | |
| 20% of the population with the lowest income | \$13,500 | \$8,297 | 61% | \$9,367 | 69% | \$19,190 | 142% |
| 20% of the population with lower-middle income | \$30,203 | \$8,797 | 29% | \$10,114 | 33% | \$19,411 | 64% |
| 20% of the population with middle income | \$49,548 | \$9,235 | 19% | \$11,078 | 22% | \$19,564 | 39% |
| 20% of the population with upper-middle income | \$70,201 | \$9,371 | 13% | \$11,274 | 16% | \$19,791 | 28% |
| 20% of the population with the highest income | \$109,700 | \$9,399 | 9% | \$11,371 | 10% | \$20,260 | 18% |
| 40% of the population with the lowest income | \$21,852 | \$8,547 | 39% | \$9,741 | 45% | \$19,301 | 88% |

* Net college cost equals tuition, room, and board minus financial aid.

Source: The National Center for Public Policy and Higher Education, *Measuring Up 2006*.

The National Center for Public Policy and Higher Education reports Iowa’s investment in addressing affordability through need-based financial aid is very low when compared with other top-performing states and that we do not offer low-priced college opportunities. One source of need-based financial aid is Iowa’s Work-Study program. Established in 1987 and patterned after the Federal Work-Study program, this program assists students with college costs while providing practical on-the-job training. Table 5 shows state appropriations for Work-Study have declined dramatically since its highest level in FY1991, when \$3,085,584 provided 4,995 awards. In FY2007, the state appropriated only \$144,000, which provided 182 awards.

Table 5. Historical Iowa Work-Study Appropriations and Students Served (FY1990-2009)

| Fiscal Year | Iowa Work-Study Awards | Iowa Appropriations |
|-------------|------------------------|---------------------|
| 1990 | 5,126 | 3,000,000 |
| 1991 | 4,995 | 3,085,684 |
| 1992 | 5,050 | 2,976,542 |
| 1993 | 4,686 | 2,898,840 |
| 1994 | 4,951 | 2,898,840 |
| 1995 | 4,803 | 2,898,840 |
| 1996 | 4,974 | 2,950,000 |
| 1997 | 4,954 | 2,950,000 |
| 1998 | 4,555 | 2,950,000 |
| 1999 | 4,579 | 2,950,000 |
| 2000 | 4,315 | 2,950,000 |
| 2001 | 4,308 | 2,750,000 |
| 2002 | - | - |
| 2003 | - | - |
| 2004 | - | - |
| 2005 | - | - |
| 2006 | 220 | 140,000 |
| 2007 | 182 | 140,000 |
| 2008 | 294 | 295,000 |
| 2009 | ** | 999,925 |

** The number of FY 2009 awards will not be available until the close of the Fiscal Year.
Source: Iowa College Student Aid Commission, 2009.*

Iowa appropriations were discontinued after FY2001 when state officials expected the federal appropriation for Work-Study to increase substantially, which did not occur. As a result, there was a decline of 5,488 Work-Study jobs from FY2001 to FY2007. This was a 28 percent reduction in the total number of Iowa students assisted when combining the federal and state Work-Study programs together.²⁵ While there had been an increase in state allocations for FY2008 and 2009, last month the Legislature appropriated zero state funds for FY2010.

There remains considerable unmet need for Work-Study, as the percent of applicants statewide receiving aid declined from 27 percent in FY2002 to 19 percent in FY2007 at the same time as education costs were rising. Among Regent universities, 18 percent of those who applied for Work-Study received assistance. Among community colleges, only 7 percent of interested students were awarded assistance. The Iowa College Student Aid Commission estimates with an average award of \$1,066 in 2005 (including federal and state assistance) that a typical award would have supported approximately 5 percent of typical tuition and fees.

To summarize Iowa's current challenges, the state is experiencing declining wages, has an existing skills gap, and will face workforce shortages. Even though evidence shows that educational advancement will boost wages, current workforce training resources are inadequate and many people can't afford to go to college without assistance. Now is the time for Iowa to proactively explore how to bridge our state's education gap.

Research Related to Bridging Iowa's Education Gap

The Employment Effects of Workforce Education

The economic returns associated with a year or more of postsecondary education appear to be strong. Using national datasets and controlling for differences in ability and family background, econometric studies show that completing one year of college even without obtaining a degree increased earnings by 5 percent to 10 percent. Those who complete an associate's degree earn 20 percent to 30 percent more than individuals with a high school diploma.²⁶ More recent studies show even stronger returns: men with vocational associate's degrees earned 30 percent more, and women with academic or vocational degrees 40 percent to 47 percent more, than their counterparts without degrees.²⁷

While these national studies reflect the earnings impact of postsecondary education among the general population, there have also been numerous studies on the outcomes of state programs that show significant training-generated employment and earnings gains for low-income adults. In many cases, these outcomes outpace the results of other workforce attachment strategies.

For instance, a 2004 report by the Kentucky Legislative Research Commission determined that TANF* recipients who received more than one year of postsecondary education and training had the best outcomes, with four out of five participants becoming employed and 30 percent remaining employed for a year. Participants in long-term postsecondary education also had the highest wages of those employed for four quarters, about \$3,500 more than those in any other activity.²⁸

Among TANF recipients and other low-income students, postsecondary education has been shown to increase earnings dramatically, putting families on the road to self-sufficiency and helping to reduce welfare dependency.²⁹ For example, one study of welfare recipients who attended California community colleges found that by their second year out of school, median annual earnings of women with associate's degrees increased by 403 percent compared to earnings prior to entering training (rising from \$3,916 to \$19,690).³⁰ This dramatic increase was attributed to both higher earnings and more hours of work. In Maryland, former TANF recipients who attended Baltimore City Community College under a pilot project earned significantly more in the year following the program than did former recipients who did not attend school (\$12,307 compared to \$8,438).³¹ Among welfare recipients who attended college in New York, 87 percent of the graduates left welfare, 89 percent had been employed since graduation, and almost half the respondents were earning \$20,000 per year. When the study was replicated in five additional states, researchers found that, on average, 42 percent of welfare recipients who graduated from college earned over \$20,000.³²

Training and education for low-income adults also leads to greater employment stability³³ and increased access to jobs with employer-provided benefits.³⁴ The ASPEN Institute determined that 69 percent of workers who had received training were employed year-round a full two years after completing their program, compared to only 16 percent before training.³⁵ Further, 92 percent of former TANF recipients

* Temporary Assistance for Needy Families (TANF) provides cash assistance, along with employment and training services, to low-income families with children while they strive to become self-sufficient. To qualify for TANF, families must have very few assets and little or no income.

who obtained college degrees through Maine's Parents as Scholars program reported that their employers offered such benefits as health insurance, paid sick and vacation leave, life insurance, disability insurance and compensatory time.³⁶

Public Returns on Investments in Workforce Education

There is considerable evidence of the effectiveness of education and training in helping low-income adults enter jobs with better pay, benefits and stability than they could have found without training or with job search assistance alone. Studies have shown that well-funded training programs for both dislocated and incumbent workers can yield a significant return for state governments.³⁷

Two states have recently undertaken a cost-benefit analysis of their workforce training programs and both show a positive return for state expenditures. Utilizing an input/output model to examine the return on investment generated by the Workforce Investment Act, secondary school programs, technology centers, and community college career and technical programs, Tennessee determined their secondary and postsecondary career and technical education has a benefit-cost ratio of nearly 2:1, generating increased earnings and tax benefits that were double the cost of operating the programs. An even greater benefit-cost ratio was found for returns to the state economy more broadly. For every \$1.00 invested in secondary and postsecondary education, \$5.37 is returned to the state economy in direct earnings as well as through indirect and induced employment and industry outputs, additional labor income and taxes. The total employment created or impacted by those expenditures and earnings included over 16,000 jobs.³⁸

During the first five years after participation in Washington's Workforce Training and Education programs, individuals in publicly funded workforce development programs earned \$4.10 for every dollar spent in public money. After only seven to nine months, the average newly trained workers from a community and technical college job preparatory program in Washington earns \$13.37 an hour and can expect his or her lifetime earnings to increase by more than \$90,000, generating \$15,603 in state revenue through taxes. This return is just over double the program cost of \$7,560 per person; resulting in \$2.06 for every dollar Washington invests in workforce training and education programs.³⁹

Why Assumptions that 'State Investments in Training Don't Work' are Wrong

In light of the evidence that higher education yields higher wages, greater workforce participation, and increased overall economic growth for a state, why are there fewer educational opportunities for low-income, low-skilled workers today than there were a decade or two ago? Since welfare reform in 1996, work requirements under the TANF program are more restrictive and accompanied by fewer opportunities for education. In addition, funding for workforce education has decreased outside of TANF. For example, Workforce Investment Act allocations that provide training and re-employment services for adults and dislocated workers decreased by 12 percent between 2000 and 2007.⁴⁰

This funding and policy shift away from training and educational services toward "work first" employment strategies occurred in part because research conducted 20 years ago was interpreted to show that workforce investment did not generate a big payoff. Specifically, a few major government-sponsored studies conducted by Manpower Research Demonstration Corporation – the National Job Training Partnership Act (JTPA) Study, the California Greater Avenues to Independence (GAIN) Evaluation, and the National Evaluation of Welfare-to-Work Strategies (NEWS) – were interpreted to show that low-income adults who received training under federal welfare or workforce development programs fared no better in accessing jobs or increasing earnings than similar individuals who did not receive training services or who only received job search assistance.

Far from dismissing training, the often-cited evaluations identified numerous programs in which pre-employment training significantly improved employment outcomes for low-income adults. Unfortunately, such results have been overlooked or misinterpreted. In some cases, the researchers have publicly challenged those who have used their studies to argue that training does not work.⁴¹

There are several reasons why the results of the JTPA, GAIN and NEWWS studies have been misread to conclude that work first strategies hold more promise than training and education. First, investments in training per person in the programs studied were modest and limited in duration (usually less than six months). Second, occupational training was not distinguished from other types of education, including the often prescribed adult basic education programs that were not designed to have immediate employment outcomes (e.g. basic literacy, ESL or GED classes). As a result, different approaches were lumped together under the “education” category, averaging the impact across all training programs to produce a negligible impact and obscuring the gains attributable to postsecondary education strategies. Third, the most successful programs actually made substantial use of education and training, but that fact was overshadowed when researchers categorized them as “employment-focused” due to their orientation toward moving clients into jobs.

These studies were never intended to examine the effectiveness of occupational training or postsecondary education specifically, despite the fact that they have been used that way in public dialogue and policy formation. Many interpreted the studies as direct comparisons of job training and job search, but they were not.

Rather than dismissing education and training, the studies in fact revealed that the most successful welfare-to-work sites employed education and training as one of several strategies to help low-income adults enter and advance in the labor market. In the GAIN study, the most successful site was touted as a model “work first” strategy; however, much of the site’s success was attributable to the fact that 60 percent of its participants received education and training as part of their plan for entering the labor market.⁴² In NEWWS, the most successful site was also labeled as employment-focused, but it also provided significant pre-employment education and training, including occupational training developed in partnership with local community colleges.⁴³ This combination of basic education and training lasted about a year and allowed Portland’s JOBS clients to enter skilled jobs with wages, benefits and stability that put the program significantly ahead of the other sites in the NEWWS evaluation.⁴⁴ This length of training was longer than the 6 months typically offered in the “education focused” sites. Portland’s program demonstrated the greatest earnings impacts among the 11 welfare-to-work programs surveyed by NEWWS, and it was also the only program that increased the proportion of high school non-graduates who received a trade license or certificate, or a postsecondary credential, in addition to a GED.⁴⁵

Additionally, “in a separate and less visible study, the NEWWS researchers did discover impressive earnings impacts when training and higher education were isolated: high school non-graduates who participated in basic education followed by postsecondary training or education earned 47 percent more over three years than those who participated in basic education alone.”⁴⁶ In other words, these often-cited studies reinforce the positive impact of education and training on workforce outcomes rather than diminish them.

Iowa’s Return on Investment in Workforce Education

Economic Returns

The need for a more educated workforce to meet the demands of a knowledge-based economy, as well as the large wage gains that accrue to those who obtain postsecondary education, call for more state

investment in education, both as an economic development strategy and as a way to improve the well-being of the Iowa population. The increased wages that will be earned by those completing postsecondary education will in turn generate more in state revenue over the course of their working lives.

In order to estimate the return on the state’s investment in workforce education, this report compares the cost of educating more students to the benefits of increased tax revenues. This analysis simulates providing current low-income working adults free tuition at any of Iowa’s community colleges or four-year public institutions to complete an associate’s or bachelor’s degree.

The state cost of educating a student with a tuition scholarship at a community college or a Regent university has two components: tuition and state general support. State costs for fiscal year 2007 are shown in Table 6, averaged over all institutions.* A portion of these costs will then be offset by federal student aid. We assume students will still pay fees.

Table 6. State Cost of Educating an Additional Student with a Tuition Scholarship at an Iowa Community College or Public Four-Year Institution

| Costs | <u>Comm Coll</u> | <u>4-year</u> |
|--|------------------|-----------------|
| Average tuition per year | \$3,053 | \$5,094 |
| State general aid per student per year | \$1,803 | \$4,321 |
| Less: Federal aid | (\$2,701) | (\$3,230) |
| Net state cost per student per year | \$2,155 | \$6,185 |
| Total cost per student for degree | \$4,310 | \$24,740 |

Estimates of increased tax revenues from a more educated Iowa resident are based on the effect of postsecondary education on lifetime earnings. In 2006-07, the average Iowa worker age 25-29 with only a high school degree earned \$27,342. Those in the same age bracket with an associate’s degree earned \$32,329, and with a bachelor’s degree \$35,092.† These earnings differentials increase with age, especially for those with a four-year degree.

Using historical data from the Census Bureau’s Current Population Survey to construct age-earnings profiles, this analysis incorporates the pattern of earnings changes over a lifetime.‡ Results are shown in the figure below, where annual earnings at each five-year age interval are expressed as a ratio to earnings at age 25-29 of those with only a high school degree. For example, someone age 25-29 with a bachelor’s degree already earns 1.7 times what a high school grad earns at that age. Moreover, high school graduates’ earnings peak at age 45-49 at a level about 1.8 times what they earned when young, while college graduates’ earnings continue to rise through age 50-54, when they are making four times

* For community colleges, the methodology assumes that property taxes, which contribute a small share of total revenues, will not need to be raised to accommodate the relatively small increases in enrollment anticipated. Tuition rates and state general aid for the community colleges were obtained from *The Condition of Community Colleges 2007 Report*, while tuition rates and state costs (undergraduate unit cost of instruction minus base tuition and fees) for the Regent institutions were obtained from the *Approval of 2007-08 Tuition & Fees* and *FY 2007 Unit Cost of Instruction* from the Iowa Board of Regents. Federal Aid, in the form of Pell and Federal Supplemental Educational Opportunity grants, were obtained from the *Iowa College Student Aid Commission Annual Financial Aid Report* for academic year 2006-07.

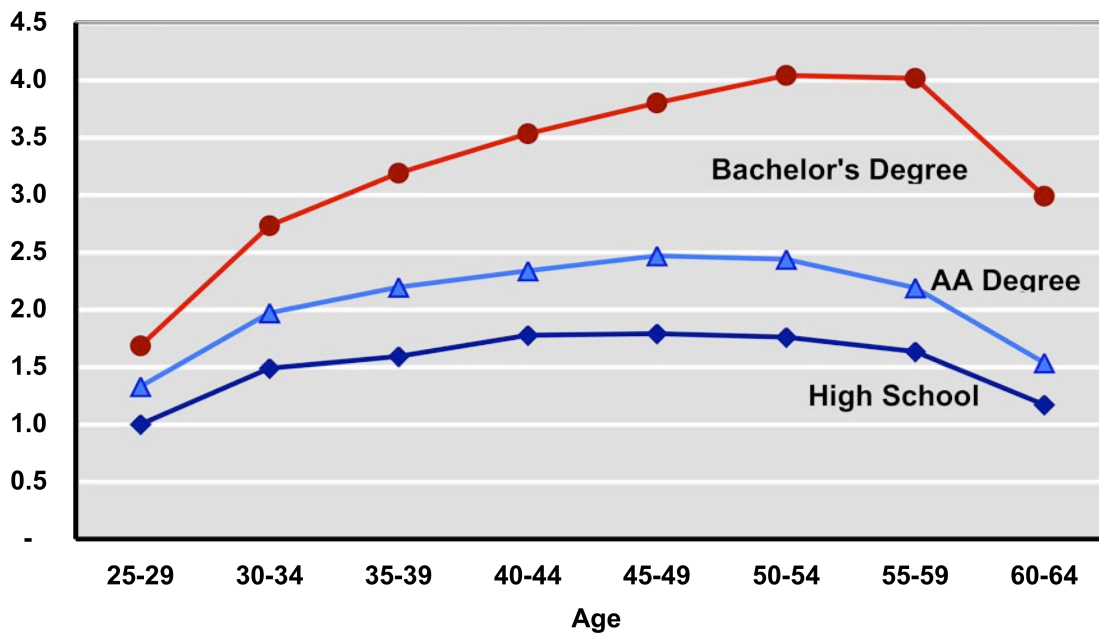
† These figures are based on the 2006 and 2007 American Community Survey. Because of sample size limitations, the age groups by education for Iowa spanned 10 years (age 25 to 34). These earnings figures were then scaled down to an estimate of earnings for those age 25-29 based on the national ratio of earnings at age 25-29 to earnings at age 25-34.

‡ These were constructed by following cohorts at five-year age intervals. For example, the analysis compared the annual earnings of those who were age 35-39 at the time of the 1993 CPS and who had a bachelor’s degree with the annual earnings of this same group five years later (from the 1998 CPS), when they were age 40-44. The resulting increase in earnings as a result of being five years older becomes part of the “age-earnings profile” for persons with a bachelors degree.

what a high school grad did at age 25-29 in real (inflation-adjusted) earnings, and 2.4 times what the college grad earned at that age.

While earnings for all groups rise through the prime earning years of 45-54, there is a sharper drop-off in earnings in the 60-64 age group for those with more education. This no doubt reflects the ability of persons with higher earnings histories and hence more savings, and better pension plans as well, to retire early. (Earnings mean wages and salaries; the average earnings in the higher age groups are brought down by the inclusion of retirees with no earnings at all.)

Figure 8. Ratio of Earnings at Five-Year Age Intervals to Earnings at Age 25-29 of a Person with a High School Diploma Only, U.S.



Source: Authors' estimates based on the U.S. Census Bureau's Current Population Survey for 1993, 1998, 2003, and 2008.

The ratios illustrated in Figure 8 above were applied to the current earnings of Iowans at age 25-29 to construct a pattern of lifetime earnings for each education level. Higher earnings translate into higher state sales taxes, excise taxes and individual income taxes. Those with incomes in the \$16,000 to \$50,000 range pay about 7.1 percent of their income in these state taxes, while those with higher incomes pay a somewhat smaller percentage.⁴⁷ Applying these tax rates to the earnings of those with postsecondary education versus high school graduates, we were able to estimate the additional annual taxes paid as a result of getting a degree, as shown in Table 7.

Table 7. Additional State Taxes Paid Each Year by a College-Educated Iowa Resident Compared to a Person with High School Diploma Only*

| Age: | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 |
|----------------|-------|-------|---------|---------|---------|---------|---------|---------|
| With AA degree | \$356 | \$518 | \$405 | \$272 | \$458 | \$465 | \$312 | \$381 |
| With BA degree | \$553 | \$836 | \$1,265 | \$1,375 | \$1,677 | \$2,057 | \$2,270 | \$1,809 |

* In 2007 dollars and with 2008 tax rates. See appendix for more detail and for data sources.

Table 8 compares the state’s cost of providing a college tuition scholarship for a low-income working adult with the additional state tax revenue that person would pay over the subsequent 40 years of work life due to greater earnings.

Table 8. State Cost of Providing a Tuition Scholarship Compared to Increase in Future State Tax Revenues, Per Student

| | State Cost | Additional Taxes | Net Gain to State | Revenue/Cost Ratio |
|---------------------------|-------------------|-------------------------|--------------------------|---------------------------|
| Associate’s degree | \$ 4,310 | \$ 15,830 | \$ 11,520 | 3.7 |
| Bachelor’s degree | \$ 24,740 | \$ 59,210 | \$ 34,470 | 2.4 |

These estimates are consistent with the best available evidence from past training evaluations, which show positive impacts from workforce advancement expenditures. Econometric studies indicate that an associate’s degree yielded a 20 percent to 30 percent increase in earnings among the general population in the 1990s.⁴⁸ The best programs financed under pilots during welfare reform show rates of return of up to 35 percent.⁴⁹ An examination of our earnings estimates (see appendix) shows that we are assuming that, on average, those with an associate’s degree earn about 20 percent more than those with a high school degree. This is at the low end of previous estimates for such education programs, so our revenue estimates therefore may be conservative particularly given evidence that returns to education are higher than average for relatively disadvantaged groups when compared with the population as a whole.⁵⁰

Does the above analysis mean that every new community college student who receives an associate’s degree as a result of a tuition scholarship program will ultimately return to the state 3.7 times the state’s investment, in the form of higher taxes? Not necessarily. First of all, the analysis assumes that the individual would not otherwise have received any further education but would have continued to work at a succession of jobs available to someone with only a high school degree. In other words, we assume that the offer of a free education is a necessary enticement to get low-wage workers into a degree program who cannot now afford to do so.

More importantly, the above analysis assumes that the recipients of tuition scholarships remain Iowa taxpayers for their entire working lives. This of course is unrealistic. Some portion will remain, some will leave never to return, some will leave and return in their 30s or 40s and end up retiring in Iowa. But one way of looking at this issue is to ask: How long would a graduate have to work in Iowa to repay the cost of education? For someone obtaining an associate’s degree, the answer is: just 10 years after graduation. Obviously, leaving at graduation and returning later would require even a shorter period of working because annual earnings would be higher. For a college graduate, the state’s cost would be returned in about the first 24.5 years. On the other hand, someone who left upon getting a bachelor’s degree would pay more taxes to the state than the cost of their education if they returned to the state by age 51 and worked just another 14 years. Looking at it another way, the state would recoup its costs if 42 percent of the bachelor’s degree graduates remained in the state throughout their working lives.

Census data suggest that a substantial portion of those born and raised in Iowa will also spend most of their working years in Iowa. In 2005-07, there were about 640,000 U.S. residents aged 45 to 55 who were born in Iowa. Of these, 53 percent still lived in Iowa, or had returned to the state. For those now age 35-44 who were born in Iowa, 55 percent resided there in 2005-07.* If these proportions hold for

* These figures understate the retention rates for college graduates to the extent that many of those who had left the state by age 35, for example, had left by the time they graduated from high school, so that those remaining in Iowa represented a higher proportion of those still living there at age 18, which is the population a scholarship program would be drawing from.

those with postsecondary degrees, then they are well above what would be needed for a state investment in the full cost of a community college or four-year college degree to pay for itself, particularly for an associate's degree. Even with the higher cost of education at a Regent university, if half of the graduates immediately left the state upon graduation, and the other half remained through age 65, the state would recoup its investment.

Statistics on five-year migration rates shed additional light on this question. From the 2000 Census, we know that of all those age 25-29 at the time of the census who had resided in Iowa five years earlier (that is, at age 20-24) and who had an associate's degree, 80 percent still lived in Iowa. Looking at a younger age cohort of community college graduates — those age 21-25 in 2000 (and therefore age 16-20 five years earlier) — 77 percent remained in Iowa. These findings suggests that community college graduates overwhelmingly remain in the state upon graduation. For college graduates, the analysis is complicated by the presence of many out-of-state students, but the data suggest that over 60 percent of Iowa residents who attend an Iowa college remain in Iowa immediately upon graduation.*

In some respects, the figures in Table 8 understate the fiscal benefit to the state of investments in education. First of all, they assume that contributions to the state treasury end upon retirement. While Iowa does tax retirees very lightly, they do pay some income tax, and continue to pay sales and excise taxes. The incomes and the spending of retirees are undoubtedly higher as a result of obtaining more education and earning substantially more throughout their working years. Those with postsecondary education are more likely to be in jobs that have good retirement benefits, will have contributed more to the social security system and will receive more benefits, and will have greater savings. The additional tax revenues in the retirement years could be quite substantial.

Additionally, our approach may underestimate earnings gains because we are assuming the current earnings differential due to schooling attainment will remain constant in the future. Returns to additional education have been increasing for the last several decades and this trend may continue in the future due to the increasing demand for educated workers. Should this trend continue, the earnings gain would also increase.

The analysis of returns also does not consider any secondary effects from raising the incomes of a portion of the Iowa population. First of all, there would be some “multiplier effects” from the increased spending of college graduates that in turn supports more local retail and service activity. Second, obtaining more education not only raises incomes, but enhances job stability and the likelihood of having good health insurance, all of which reduces the likelihood that an individual will at times need to rely on public assistance and health care programs. Third, raising family incomes lowers the poverty rate, which in turn creates more positive outcomes for children who would otherwise have been grown raised in a poor family. Estimates of the long-term positive fiscal effects of reducing child poverty are provided in the appendix, though we found these that effects are not large.

Lastly, our simulation assumes a solely state-funded tuition assistance program. The state's cost for training, however, could be reduced by federal dollars in the form of WIA, TANF or stimulus funds for

At the same time, it is likely that those with postsecondary education are more mobile than those with a high school degree or less, which implies that the proportions are overstated.

* For college graduates the analysis is complicated by the fact that a substantial percent of those with bachelor's degrees who lived in Iowa during their college years were out-of-state students at Iowa colleges, while the tuition-free program we are simulating would be available only to Iowa residents. Presumably out-of-state students are more likely to seek work outside of Iowa upon graduation. To get around this problem we looked at those age 22 who had a BA degree and lived in Iowa five years earlier (at age 17); of these, 62 percent currently lived in Iowa. This understates the retention rate, however, since the other 38 percent include those who left Iowa to attend college out of state as well as those who attended an Iowa college and then left.

some low-wage workers. Where federal resources are available, this would reduce state costs and produce a higher rate of return to the state's investment.

Other Benefits to the State

While the discussion to this point has focused on state fiscal returns, the rewards of education are not limited to increased earnings and taxes alone. Postsecondary education also affects non-market outcomes, such as one's health, civic participation, and the cognitive development and academic achievement of one's children, which all benefit the state.

Adults with postsecondary education are more likely to participate in civic activities outside of work, serve as members of community organizations, make charitable contributions and vote.⁵¹ Higher levels of education also correspond to improved levels of health and well-being and lower levels of mortality.⁵² Further, higher education is associated with lower rates of crime and non-marital births.⁵³

Research has also consistently shown that parent education levels correlate positively with their children's health and cognitive abilities and are important in predicting children's achievement.⁵⁴ Recent research suggests that a portion of the connection is causal. Scholars now estimate that an additional year of father's education reduces the probability that a child is held back in school by 10 percent to 20 percent and an additional year of mother's education reduces the probability of low birth-weight by roughly 10 percent.⁵⁵ Not surprisingly, the 2006 Child Well-Being Index points to Pre-Kindergarten participation and parents' education as the leading indicators of higher academic performance among American students.

Policy Recommendations

When low-income adults have access to increased education and training, their lifetime earnings increase substantially, generating tax revenue for the state that more than offsets the cost of investing in this access. To garner the largest fiscal returns and set the state firmly on the path toward economic growth, Iowa must ensure that low-income workers get the education, training and supports they need to gain the skills and credentials required to access good jobs with family-sustaining wages. Based on a review of relevant research and our return on investment findings, Iowa should:

- ❖ Expand financial aid to help low-income working adults pay for postsecondary education;
- ❖ Promote education and training within Iowa's TANF program (Promise Jobs); and
- ❖ Modify Iowa's WIA plan to enhance Recovery Act training provisions.

Expand Financial Aid to Help Low-Income Adults Pay for Postsecondary Education

Expanding and creating programs that offer low-income adults ways to afford postsecondary education are important steps toward allowing low-income adults to reap the benefits associated with increased education and training. Two important strategies include:

- Creating a tuition scholarship program for low-income workers; and
- Fully funding Iowa Work-Study at its standing-limited appropriation of \$2.75 million.

Iowa should create a scholarship program to provide college tuition for low-income adults to pursue an associate or bachelor's degree at one of Iowa's public colleges. Following the example of Michigan's *No Worker Left Behind (NWLB)* program, Iowa should develop a free tuition program to prepare the state's workforce for success in this changing economy.⁵⁶ NWLB aims to help adult workers who are

unemployed or working in low-wage jobs get the right skills and credentials for jobs in advanced manufacturing, health care, biotechnology, renewable energy and other growing sectors.*

Iowa should also fully fund the standing-limited appropriation of \$2.75 million for the Iowa Work-Study program. Restoring appropriations to the FY2001 level, prior to the initial discontinuation of state funding in anticipation of a federal increase, will both help low-income students gain financial support for college and on-the-job experience as well as improve Iowa's poor standing among states in the provision of need-based aid. Fully funding this program will also make it more feasible for TANF recipients to fulfill work requirements and attend school simultaneously.

Promote Education & Training within Iowa's TANF Program (Promise Jobs)

In order to increase the number of TANF recipients who take advantage of all education and training opportunities, Iowa should:

- Direct TANF program administrators and case managers to promote education as a pathway to self-sufficiency and maximize training opportunities in the development of Family Independence Agreements with Promise Jobs clients.
- Utilize the new TANF Emergency Contingency Funds, available through the American Recovery and Reinvestment Act (ARRA), to provide a greater number of TANF participants support for education and training.

On February 5, 2008, the U.S. Department of Health and Human Services (HHS) published final rules that allow greater flexibility in offering education and training services under TANF. While the rules do not affect the overall statutory limitations on counting education and training toward the work participation rates, they do lift some of the previous restrictions included in the interim final rule and subsequent state guidance, sending a message to states that education and training services must play a more active role in transitioning families from TANF to self-sufficiency.⁵⁷

While HHS had explicitly excluded education leading to a baccalaureate or advanced degree from the definition of vocational educational training, their final rule overturned that restriction. Additionally, earlier guidance from HHS included a statement that TANF was not intended to be a scholarship program; however, in the final rule HHS explicitly confirmed that expenditures for higher education are an allowable use of TANF funds. These revisions reflect a change in HHS' tone regarding program guidance and provide an opportunity for Iowa to upgrade its TANF program in ways that increase access to education and extend assistance to more working-poor families. Iowa should explore how DHS can better promote education and training among Promise Jobs participants given greater federal flexibility.

Iowa has already taken some positive steps to restore educational opportunities to the Promise Jobs program: the state allows 24 months of support while attending education or training, and permits bachelor's degree completion where there is a demonstrated demand in the labor market). Still, DHS places more emphasis internally on "making participation rates" through work-related activities than on promoting educational opportunities that delay workforce participation but could lead to greater self-sufficiency over time. The state should direct TANF administrators and case managers to look for ways to maximize training opportunities for Promise Job clients. With lifetime limits of 60 months for TANF assistance, it is critical to get TANF parents what they need to be successful in the long term.

* Any person who is currently employed, has received a notice of termination or layoff from employment, or is an employed person whose family income is \$40,000 or less is eligible to participate in the program. To target the program to working adults, Michigan requires that applicants are over 18 years old, have completed high school more than two years earlier, and are not already full-time college students (for those 18-23 years old only).

Additionally, the new Emergency Contingency Fund (part of the federal stimulus package) allows Iowa to draw down federal funds for basic assistance, subsidized employment, and non-recurrent short-term expenses in the TANF program. While receiving additional money for basic assistance expenditures requires a caseload increase, drawing down new money for subsidized employment and non-recurrent short-term expenses does not. This provides Iowa the resources to expand training and education services to existing TANF clients at a time when the need for skill-building services could not be higher. For example, these funds could be used to expand the number of work-study positions for TANF clients under subsidized employment or pay for training and training-related costs directly under the non-recurrent short-term category.

Modify Iowa's WIA Plan to Enhance the Recovery Act Training Provisions

In modifying its WIA plan, Iowa can use new funding and flexibility under ARRA to implement workforce education strategies to help low-income adults gain the skills and credentials they need to support their families and grow our state's economy.

Iowa should:

- Set a minimum percentage of local formula funds that must be spent on training and training-related activities to ensure eligibility for additional discretionary funds; and
- Use discretionary funds to advance postsecondary educational opportunities.

Iowa has the authority to set a minimum percentage of local formula funds that must be spent on training and training-related activities. Maine, for example, is setting an 80 percent threshold for the expenditure of new ARRA funds (which includes training, support services, and needs-based payments), and Minnesota is planning to set a 70 percent floor.⁵⁸ To be eligible for regular discretionary funds, statewide ARRA discretionary funds, or state endorsement for U.S. Department of Labor competitive grants, local workforce investment boards must expend 70 percent of ARRA WIA Adult and Dislocated Worker funds and 35 percent of formula WIA Adult and Dislocated Worker funds on training. Some states are using their discretionary allocations to support access to higher education specifically. Wisconsin, for example, is using \$1.5 million in WIA discretionary grants for *Opportunity Grants* to pay for short-term postsecondary training that is not covered by financial aid, and an additional \$300,000 of WIA discretionary funds for *Skills Jump Start Grants* to help individuals who lack a high school diploma complete their basic education and concurrently receive job training at technical colleges for employment in high-demand sectors. Maine is using WIA discretionary funds to support a competitive skill scholarship program for low-income students.⁵⁹

The ARRA includes language designed to expand access to training and related services for workers, including a provision to allow local areas to contract for training services with institutions of higher education and other training providers rather than relying on individual training accounts. The act also emphasizes the provision of support services and needs-based payments to help individuals participate and succeed in training. To ensure that Iowa is meeting these goals of ARRA, the state plan (which must be submitted June 30th, 2009) should:

- Describe how local workforce development boards will contract to increase the number of individuals receiving training, expand training capacity and curricula, and ensure that the public workforce system is fully connected to the full range of education and training providers;
- Describe how local areas will utilize needs-based payments, supportive services, and other income supports to ensure that participations can access and successfully complete in quality long-term training aimed at securing family-supporting, middle-skill jobs, rather than following a "work-first" approach to service delivery; and

- Provide clear guidance on the expected level of both Recovery Act and regular WIA formula funding that the state and local areas must allocate directly to training related activities.

Conclusion

Iowa is already struggling with declining wages and will face a workforce shortage and a critical skills gap when the economy recovers. Even though we know that education boosts wages, current workforce training investments are inadequate to meet the population's needs and people can't afford to go to college without assistance. Without skills, Iowa workers face increasing difficulties in securing a family supporting wage. Without skilled workers, Iowa businesses can not grow and the state's economy will continue to sputter. By enabling low-income adults to participate in the education and training activities needed to successfully compete in the labor market, Iowa can help to improve workers' long-term employment and earnings outcomes, as well as generate additional revenue for the state's budget.

Higher education provides benefits not only for individuals but for Iowa as a whole. College graduates are more likely to receive employer-provided health insurance and pensions, pay more taxes, are healthier and less likely to be unemployed or poor, foster higher levels of educational attainment in their children, use fewer public resources, and are more likely to volunteer, vote and make charitable contributions. Our analysis finds that a providing a scholarship program for low-income workers to obtain an undergraduate degree yields a positive fiscal return. Looking at tax generation from the newly educated workers alone, without consideration of broader economic growth Iowa may experience from a more educated workforce, we conservatively estimate that for every dollar invested in a tuition-free associate's degree program for low-income adults the state would generate \$3.70 in tax revenue, returning more than double what was invested in the program. A tuition-scholarship bachelor's degree program would return \$2.40 to the state's budget for every dollar invested and result in a substantially higher earning potential for Iowa's workers.

Now is the time to make these investments. Expanding access to education and training for low-wage workers is particularly important at a time when economic prospects are dim and unemployment rates for less skilled workers are rising. When the economy is strong and low-skilled workers are working — often with irregular hours, in split shifts or in more than one job to make ends meet — they don't have the time to go to school to gain the skills they need to get better, more stable jobs. During a recession, unemployed workers and suddenly underemployed workers, who are working reduced hours, are more likely to be able to participate in skill development activities. An investment in workforce skills would benefit individual workers as well as prepare our workforce for the jobs of the future and contribute to rebuilding our economy. With stimulus funding available to serve more families, under both TANF and WIA, now is the time to make investments for Iowa's growth.

Appendix: Estimating the Return on Investment in Workforce Education

In this appendix we explain in more detail how we estimated the increase in state sales and income tax revenue that would follow from state investments in a program of tuition scholarships for low-wage workers at a community college or four-year college in Iowa.

Estimates of increased tax revenues begin with the effect of postsecondary education on lifetime earnings. These effects were estimated using current earnings of young adults in Iowa and then projecting earnings growth over the working lifetime. In 2006-07, the average Iowa worker age 25-29 with only a high school degree earned \$27,342. Those in the same age bracket with an associate's degree earned \$32,329, and with a bachelor's degree \$35,092.* In Iowa, the premiums in earnings for those with a postsecondary degree are lower than they are in the U.S. as a whole. In 2006-07, someone with an associate's degree earned about 18 percent more than the average high school graduate in Iowa, compared to 33 percent more nationally. With a bachelor's degree, earnings were just 28 percent higher than a high school grad in Iowa (compared to a 68 percent premium nationally).

To project lifetime earnings from these different starting points, we needed to know how earnings typically increase with age, for each education level. Using U.S. Census Current Population Survey data for 1992, 1997, 2002 and 2007 we constructed ratios of average earnings during five-year age intervals to earnings at age 25-29. At age 55-59, for example, the average high school grad and community college grad are both earning about 63-65 percent more than they earned at age 25-29. But the community college grad started out earning more than the high school grad, and continues to earn more than the high school grad at every age level. For those with a bachelor's degree, earnings start out higher and the gap widens considerably with age.

Table A.1 Ratios of earnings at five-year intervals to earnings at age 25-29, U.S.

| Education | Age | | | | | | | |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 |
| High School diploma | 1.00 | 1.49 | 1.59 | 1.78 | 1.79 | 1.76 | 1.63 | 1.17 |
| Associates degree | 1.00 | 1.48 | 1.65 | 1.76 | 1.86 | 1.84 | 1.65 | 1.16 |
| Bachelor's degree | 1.00 | 1.62 | 1.89 | 2.10 | 2.26 | 2.40 | 2.38 | 1.77 |

Source: Author's calculations from Current Population Survey data on age and earnings.

The ratios illustrated above were applied to the current earnings of Iowans at age 25-29 to construct a pattern of lifetime earnings at five-year age intervals for each education level. For example, earnings of an Iowan with an Associate's degree at age 35-39 were estimated at \$53,424, which is 1.65 times \$32,329. In other words, the lifetime progression of earnings for an individual is expected to follow national patterns, even though the individuals start at a lower level in Iowa. The results are shown in Table A.2

Table A.2 Projected Annual Earnings of Iowans Currently Age 25-29 over Their Working Lives, by Education Level, in 2007 dollars

| Age: | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 |
|---------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| High school diploma | \$27,342 | \$40,707 | \$43,529 | \$48,539 | \$48,939 | \$48,141 | \$44,675 | \$32,021 |
| Associate's degree | \$32,329 | \$47,953 | \$53,424 | \$56,850 | \$60,101 | \$59,345 | \$53,249 | \$37,360 |
| Bachelor's degree | \$35,092 | \$56,911 | \$66,496 | \$73,617 | \$79,245 | \$84,205 | \$83,675 | \$62,273 |

Source: Author's estimates based on data in Table A.1 and earnings data from the American Community Survey.

* These figures are based on the 2006 and 2007 American Community Survey. Because of sample size limitations, the age groups by education for Iowa spanned 10 years (age 25 to 34). These earnings figures were then scaled down to an estimate of earnings for those age 25-29 based on the national ratio of earnings at age 25-29 to earnings at age 25-34.

We assume a 40-year working life (retirement at age 65). We recognize that some of the participants in an education program for TANF recipients would be older, and therefore would experience higher earnings over a shorter period if they retired at age 65. On the other hand, some will enter a two-year community college program in their late teens or early 20s and some will retire later, experiencing the income gains over a period longer than 40 years.

An examination of our earnings estimates shows we are assuming that, on average over all ages, those with an AA degree earn about 20 percent more than those with a high school degree. The earnings differentials in the table, comparing those with an associates degree and those with a high school degree, ranged from 17 percent to 23 percent, by five-year age intervals, and averaged 20 percent higher over the entire 40 years of working life.

State taxes paid at each age and income level are estimated based on Iowa’s current tax system, which is assumed to continue as is throughout the working lives of the participants in the education program being simulated here. We consider only the direct, personal taxes paid to the state: state sales taxes, excise taxes and individual income taxes. These are the tax revenues that would rise because of an increase in income and therefore spending. The average state tax rate comes from the Institute on Taxation and Economic Policy’s recent study of who pays taxes in Iowa; the data are shown in Table A.3 below.

Table A.3 Effective Tax Rates in Iowa, by Income Range, 2008

| Income Range | Less than \$16,000 | \$16,000 - \$33,000 | \$33,000 - \$50,000 | \$50,000 - \$78,000 | \$78,000 - \$127,000 |
|------------------------------|--------------------|---------------------|---------------------|---------------------|----------------------|
| Average Income in Group | \$8,600 | \$24,500 | \$41,300 | \$62,600 | \$96,500 |
| General sales -- individual | 4.2% | 3.6% | 3.1% | 2.5% | 2.0% |
| Other sales and excise taxes | 1.5% | 0.9% | 0.7% | 0.5% | 0.3% |
| Personal income tax | 0.4% | 2.6% | 3.4% | 3.6% | 4.2% |
| Total | 6.1% | 7.1% | 7.1% | 6.6% | 6.5% |

Source: *Who Pays Iowa Taxes?* (see endnote 47)

Applying the tax rates in Table A.3 to the annual incomes shown in Table A.2 above provides us with an estimate of annual state tax revenue through the working years. These estimates are shown in Table A.4 below.

Table A.4 Annual Direct State Taxes Paid in Iowa, by Education and Age

| Education | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 |
|--------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| High school diploma only | \$1,953 | \$2,908 | \$3,109 | \$3,467 | \$3,496 | \$3,439 | \$3,191 | \$2,287 |
| Associate's degree | \$2,309 | \$3,425 | \$3,514 | \$3,739 | \$3,953 | \$3,903 | \$3,502 | \$2,668 |
| Bachelor's degree | \$2,507 | \$3,743 | \$4,374 | \$4,842 | \$5,172 | \$5,496 | \$5,461 | \$4,096 |

Source: Author’s estimates based on data in Tables A.2 and A.3.

Additional Returns Follow from a Reduction in Child Poverty

The higher lifetime earnings accruing to those with a post-secondary degree not only produce higher tax contributions by the degree recipient but also reduce poverty rates, and this in turn means fewer children in poverty. The consequences of growing up in poverty have been well documented.⁶⁰ Children growing up below the poverty line have poorer health outcomes, lower educational attainment and are more likely to become involved with the criminal justice system compared to children growing up in higher-income families. These consequences often carry into adulthood. Relative to adults who grew up in middle- or upper-income families, adults who grew up in poverty are more likely to complete less schooling, earn lower wages, experience physical and mental issues, face criminal charges and become a teen parent.

The costs of poverty are not limited to the individual level. In addition to the social costs for children and families, poverty has the potential to decrease a state's economic productivity. Recent estimates suggest that growing up in poverty costs Iowa \$3.6 billion annually in the form of forgone earnings, criminal activity and costs associated with poor health.⁶¹

Childhood poverty drains public resources into the future as poor job skills, limited participation in the labor force and early childbearing reduce potential tax revenues and increase the likelihood of food stamp and TANF cash assistance. At the national level, it is estimated that eliminating poverty from the prenatal year through age five provides more tax revenues (between \$10,600 and \$20,000 per child), as well as fewer expenditures on food stamps (\$2,000 per child) and TANF assistance (\$1,600 per female child). The total federal and state taxpayer benefits of raising children out of poverty range from \$14,200 - \$23,600 per child.⁶² Additionally, the benefits of bringing a poor child's family income up to 150 percent of the poverty level is correspondingly greater, with increased tax revenue accounting for most of the increase and reductions in TANF adding smaller sums.

National census data shows that persons who obtain post-secondary education lower their probability of being poor during their adult lives (see Table A.5 below). The data suggest that for every 1,000 high school graduates who go on to get an associate's degree, there will be 21 fewer who are poor as adults. If we assume 75 percent of those grads will remain in Iowa, and that there are on average 1.5 children per adult,^{*} this means that there will be 24 fewer children growing up poor in Iowa as a result of a parent receiving an associate's degree. Similarly, for every 1,000 high school grads who go on to get a four-year degree (or more), there will be 58 fewer who are poor. If we assume half of them remain in Iowa, and again an average number of children per adult of 1.5, this implies 44 fewer children growing up poor for every 1,000 adults getting a B.A.

Table A.5 Post-secondary Education Reduces Poverty Rate
(Poverty rates of U.S. adults age 25 or older)

| Education level | Poverty Rate | Reduction in Rate** |
|------------------------------------|--------------|---------------------|
| High school graduate | 8.7% | |
| Some college or associate's degree | 6.6% | 2.1% |
| Bachelor's degree or higher | 2.9% | 5.8% |

Source: American Community Survey, 2005-07

*Reduction in incidence of poverty as a result of attaining post-secondary education, compared to having only a high school diploma.

Eliminating poverty for a child under the age of 6 will, according to research, increase earnings as an adult by 28.7 percent per year, for a lifetime earnings increase of between \$53,000 and \$100,000 (depending on the length of time over which the earnings increase is sustained).⁶³ This gain in earnings would produce additional state income and sales tax revenue in Iowa of about \$400 per year for each person. Research also shows that there are significant public sector cost savings in the form of reduced spending on Food Stamps and TANF benefits.⁶⁴ Female children who were raised in poor families when they were under age 6 on average received \$1200 per year more in TANF benefits as an adult than their non-poor counterparts. This translates into a state savings of \$449 per year for each female child lifted out of poverty in Iowa.

* The 2008 Current Population Survey shows that the average family size for married couple families was 3.7, for single females 2.5, and for single males 1.8, for the U.S. The weighted average number of children was 1.5.

We assume that half of the children who escaped being raised in a poor family because a parent received education past high school will remain in Iowa through 30 years of adult work, or to age 55, while the other half will migrate elsewhere before reaching age 25, which is a somewhat conservative assumption based on census migration data. The resulting increases in state tax revenues, and savings in TANF benefits, over the lifetimes of the children who escaped poverty because of a parent getting further education, and who remain in Iowa for 30 years of their working lives, are shown in Table A.6 below.

Table A.6 Effect of more parent education on poverty rates of children and tax revenues of those children as adults

| For every 1,000 high school grads who go on to receive: | Number staying in Iowa | Total Children | Children escaping poverty | | State Revenue Gain | |
|--|---------------------------|-------------------|---------------------------|--------------|--------------------|-----------|
| | | | Total | Remain in IA | Annual | Lifetime |
| An Associate's Degree | 750 | 1,125 | 24 | 12 | \$7,424 | \$222,723 |
| A Bachelor's degree | 500 | 750 | 44 | 22 | \$13,611 | \$408,325 |

Source: Author's estimates based on Census data and the findings of Duncan, Kalil, and Zoil-Guest.

Because the figures in Table A.6 are based on 1,000 adults induced to attain a post-secondary degree because of a free tuition program, we must divide the lifetime revenue gains in the table by 1,000 to obtain the average additional fiscal benefit to the state from an investment in an education for one adult. The results are rather small: \$223 per community college grad, \$408 per four-year college grad. These figures that could be added to the net gain to the state in Table 8 in the text of this report.

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