Higher education institutions are being pulled in a number of directions by diverse constituency groups. In recent years especially, the demand for accountability has alerted institutions (Johnstone, 2004). As Rosenstone (2003) argues, it is important to outline the implications of which of the multiple goals of higher education are being measured, and what that means for those that are not measured. The multi-faceted goals of higher education require consistent reexamination to ensure accountability measures are inclusive and align with the broad purposes of higher education. Closely related to the accountability measures, the conversation about payment of higher education has caused a subsequent conversation about the benefits. Who benefits from higher education determines who pays for higher education. Some argue that the conversation about the benefits of higher education have been skewed toward a primarily private (Bok, 2005) or at least economic (Rosenstone, 2003) benefits. Here, I intend to explore the purposes and benefits of higher education in this crucial time. I will use the framework of higher education purposes outlined by Bowen (1997) to talk about the broad purposes of higher education. To talk about the benefits of higher education, the widely accepted public/private and financial/nonfinancial continuums will be used to frame the conversation. Many authors have used this framework to outline the multiple, complex benefits of higher education, recently Rowley and Gumport (2003)

Bowen (1977) argues that “the goals of higher education are concerned with the development of the full potentialities of human beings and of society" (p. 54). The institutions are in place to serve individuals and society, and based in this they have multiple broad goals, which often contradict one another when they are nailed down too

specifically. When looking at the individual, cognitive learning, emotional and moral development, competence, and direct satisfaction, the enjoyment of education is related to its effectiveness. Thus it is not a frivolous marker. These are all done while avoiding negative outcomes. The social goals can be achieved through education, research or public service. In relation to society, higher education institutions look to advance knowledge, discover and encourage talent and advance social welfare while avoiding negative outcomes.

Framing the conversation about benefits is usually done using a similar heuristic, but with an additional dimension of financial and nonfinancial. Given this framework the financial and non financial benefits are measured for society and for the individual. In some cases this is easy than others. Most of the research points out that an exhaustive list of the social and individual benefits from higher education is difficult, or perhaps even impossible to compile. A popular account of these benefits comes from the 1998 Institute on Higher Education Policy report entitled *Reaping the Benefits: Defining the Public and Private Value of College.* The public financial benefits include increased tax revenue, greater productivity, increased consumption, increased workforce flexibility and decreased reliance on public support. The private financial benefits include increased salary, better employment, higher savings, improved working conditions and personal and professional mobility. The social non financial benefits include reduced crime rates, increased charitable giving, increased quality of civic life and social cohesion and improved ability to use technology. The personal non financial benefits include an improved life expectancy, improved quality of life for the self and offspring, better

consumer decision making, increased personal status and more hobbies and leisure activities.

Rowley and Gumport (2003) extend these benefits slightly when outlining the literature on the nonmonetary benefits of higher education. According to them, public benefits include those listed by IHEP, but also reduced income inequality, improved environmental quality, and increased democratic institutions, human rights and political stability. The private nonmonetary benefits include those listed by IHEP, but also better family planning, better job benefits, increased personal status, lifelong learning, increased organizational involvement, increased culture and value orientation and a reduction of prejudices. They also argue that these benefits have been looked at in three: conceptually, empirically, and policy-driven. I will explore some of the timely and foundational literature for each of these types of benefits.

Private financial benefits

These benefits are often talked about and measured in many ways. Most often, they are looked at by adjusted salary earnings over the course of one's life. There are substantial findings that not only obtaining a degree is beneficial, but there are also some findings that any amount of education is beneficial. It is found that although debt is a serious matter, in many cases (although not all), taking time away from the work force to earn a degree the benefits will outweigh the costs soon after.

Baum and Payea (2005) writing for Collegeboard, a for profit organization that runs most of the admissions test for higher education, publish research about personal financial gain in higher education. Both the Collegeboard and IHEP use national data

sources, such as the Census, the NCES, and the national labor statistics as their sources. The Baum and Payea (2005) research finds that there is a correlation between higher levels of education and higher earnings for all racial/ethnic groups and for both men and women. Perna (2003) confirms this finding with her research on higher education earnings. She finds that although there are differences among groups in earnings based in gender, race and SES, there is a consistently higher returns on investment for bachelor's degree holders across these groups. When looking at state of Minnesota return on investment for college subsidies, Desjardins (2003) calculated the personal return. Individuals in Minnesota earn between 8% (some college) and 17% (professional degree) return on their college investment. Monks-Turner (2005) finds a more substantial difference among students in a nationwide study of students from community colleges and four-year colleges. She analyzes the differences among college entrants 10 years after graduate and finds that the average rate of return for 4-year students is 7.9 percent, and the average rate of return for cc students is 5.4 %. For her the individual return difference is so much that she argues obtaining a two-year degree is a loss.

In addition to the financial return on investment, the Baum and Payea (2005) finds that the income gap between high school graduates and college graduates has increased over time. IHEP (2005) shows that people with a bachelor's degree earn, on average, $23,000 more than those with a high school education. In 2003, the average full-time year-round worker in the United States with a four-year college degree earned $49,900, 62 percent more than the $30,800 earned by the average full-time year-round worker with only a high school diploma. Over their working lives, typical college graduates earn

about 73 percent more than typical high school graduates, and those with advanced degrees earn two to three times as much as high school graduates.

Public financial

Universities are funded through the state both in the form of student tuition subsidies and they receive funding for original research. These do not even take into consideration the multiplier effects found by Leslie and Lewis (2003).

Higher education institutions offer applied and basic research. While both offer financial benefits to society, the easier ones to estimate are those coming from applied research projects, particularly those in the scientific fields. Rosenstone (2003) lists a number of valuable basic research insights that eventually became products that we use today. For example the CAT scan emerged from mathematical formulas from a decade previous and the first laser came from theories developed from Einstein in 1917. Although the immediate cost benefits are not evident, the ideas generated in the basic research environment often lead to breakthrough ideas. Of course this was before the Bayh-Dole act in 1980, which allowed universities to benefit financially from their patents scientific discoveries. Since that time, universities have profited from things like Gatorade and margarine. Bok writes that 2000 was the most profitable year for higher education institutions with more than $1 billion in patent earnings.

In 1977 Bowen used a conservative estimate to find that the 1969 $8.2 billion in R & D growth could be attributable to higher education. This is considering only a less than $1 billion annual spending. The research and development returns in higher education manifest in prestige as well as financially. The United States won more than 1/3 of the

Nobel prizes in the natural sciences up through 1975, and currently they figure about half. Rosenstone (2003) argues that one of the benefits of research in the university setting is that ideas can be pursued regardless of financial gain. Thus, ideas can be measured in how they shape the world, and not how they create a profit. They are about the dissemination of information, where often ideas in the private sector are secret for security of profit (Rosenstone, 2003; Bok, 2005). Although Bok argues, that privacy and security of ideas are challenges that the university faces currently. Although here includes research in the university under financial gain, this is clearly one area where higher education benefit categories overlap. In addition to the overlapping ideas about benefiting in the area of research, currently, the funding structures of higher education are transitioning, and higher education institutions have more competition for research and development in the form of research corporations and think tanks.

In Desjardins' (2003) analysis return on investment for instruction, he finds that the state of Minnesota makes money off of the student subsidies for higher education. In his analysis, however, he only looks at instruction costs and not the entire college cost. Although the return is slightly lower for the state than for the individual, Minnesota still gains between 4% and 11% per student. The Baum and Payea (2005) finds that the average college graduate working full-time year round pays over 100 percent more in federal income taxes and about 78 percent more in total federal, state, and local taxes than the average high school graduate.

IHEP finds that students in college have decreased reliance on public assistance (IHEP, 2005). Baum and Payea's (2005) research concurs, finding multiple economic benefits to society for the highly educated. They find that education corresponds to lower

levels of unemployment and poverty, so while they already contribute more in tax revenues than others do, adults with higher levels of education are less likely to rely on public assistance programs, thus demanding less from public funds. Wolfe and Zuvekas (1997) concur with these findings arguing that those with higher education levels have, on average, higher incomes and demand less public support in the forms of social security and welfare programs. In fact they argue that mothers with higher education levels have daughters that are less likely to receive public assistance, even if qualified. Higher levels of education are correlated with higher levels of civic participation, including volunteer work, voting, and blood donation.

In fact, in addition to Desjardins' (2003) findings about increased income tax revenue, he also finds this number to be underestimated as it does not consider the increases in local sales tax revenues from the additional earnings. Similarly, Leslie and Lewis (2003) find that the University of Minnesota is an "effective engine for growth" in Minnesota. It is a major employer for full and part time positions, hosts visitors from around the state, and has served as an "economic magnet" to brings millions of dollars to the state (p.139). The federal government, the states and the local governments benefits financially from having a higher earning public and donated 50% more of their income than high school graduates, after controlling for income, the other primary determinant of donations.

Private nonfinancial

A wealth of research has been done to analyze the personal benefits from higher education that are not financially related. Across the United States, 82 percent of those

with a high school diploma reported being in "excellent, very good, or good" health, compared to 93 percent of those with a bachelor's degree. College graduates have lower smoking rates, more positive perceptions of personal health, and lower incarceration rates than individuals who have not graduated from college (Baum and Payea, 2005). Although a lot of this research focuses on education in general, and not just higher education, it applies to higher education, and these years are included in the additional years of schooling when people look at health improvements and habits of people with more schooling. Wolfe and Zuvekas (1997) synthesize much of this education research about the nonfinancial benefits to education. They find research to suggest that there is not only improved health with more education, but better healthy habits. They write:

> A related benefit is the development of lifestyle habits that promote good health. Although economists are hesitant to see a causal link, a study in the *Journal of Political Economy* suggests that persons with more schooling are less likely to smoke, and among persons who do smoke, those with more schooling smoke less per day. An additional year of schooling reduces average daily cigarette consumption by 1.6 for men and 1.1 for women. The better educated are also less likely to be heavy drinkers and tend to engage in more exercise per week (about 17 minutes for each additional year of schooling) than the less well educated (Kenkel, 1991).

Despite their note about researcher's hesitation, Lleras-Muney (2005) does make a causal claim about the relationship between education and mortality arguing that each additional year of education lowers the chance of dying in the next ten years by 3-6%; this is a larger amount that most other research has found.

The intergenerational benefits of higher education have been established also. As Greenwood writes "Children whose parents have achieved more education tend to do better in school, have less trouble with the law and society, and have better health, even

when the higher income of their parents is controlled" (p.501). Parents that obtain more education increase the likelihood of their children to have higher life quality. They increase the spending per child, and they are more likely to seek out alternative ways to raise children, where less educated parents are likely to use the same methods as their parents (Greenwood, 1997).

Public nonfinancial

The public social benefits of higher education are probably the most complex and difficult to measure. Dee (2004) notes that for some time, political science researchers have been exploring the relationship between higher education and voter turnout. IHEP (2005) notes that in November 2000, 56 percent of U.S. citizens who were age 25 and older and had a high school diploma responded that they had voted in the 2000 presidential election, compared to 76 percent of bachelor's degree recipients. Dee (2004), while looking at voter turnout extends the conversation about educational impact to easier to process complex political information and by inculcating democratic values in students. In researching a national database, he finds that there is a substantial increase in voter turnout for those obtaining only two years of postsecondary education. Much of his civic attitudes research looks at the years prior to college. Dee (2004) writes "The apparent existence of these civic returns implies that much of the long-lived hyperbole about the important role of education in a functioning democracy may be accurate" (p. 1717)

Individual involvement in the community, concern for the quality of life, and caring for the social well-being of America benefit society as well as the individual.

Chang et al. (2004) find that interracial interaction promotes racial understanding, intellectual self confidence, keeping up with political affairs, increased volunteer work, among many other social and intellectual benefits. Rowley and Gumport (2003) extend the human capital argument to social capital gains through higher education by looking at importance of civic participation. They cite several studies claiming benefits that include an extension of interest in social and political issues, knowledge acquisition and skills, self-awareness, altruism, complex thinking skills, information diffusion, finding political allies, and learning about people from different backgrounds. They write "Universities, in particular, provide tremendous opportunities for social and academic engagement and the formation of peer social networks through residence halls, extracurricular activities, and academic programs" (p.219). The continue to cite a number of partnering programs with the University of Minnesota that fosters growth and development, and at the same time a sense of community connectedness.

According to IHEP (2005), 21 percent of the U.S. population age 25 and older with a high school diploma reported volunteering. Approximately 36 percent of those with a bachelor's degree or higher reported volunteering. According to Wolfe and Zuvekas (1997), evidence suggests that the amount of volunteer time is positively associated with the amount of schooling one has. For example, they cite a study by Hodgkinson & Weitzman, (1988) that found that college graduates volunteered nearly twice as many hours. Dee (2004) finds similarly. He finds that there is a small, but significant difference in the volunteering habits of a student that entered a two-year postsecondary program based in the longitudinal data.

Gurin et al's (2004) work shows nonfinancial outcomes as well. Although their research is in intergroup interaction, these are interactions that take place in higher education to promote learning outcomes. In looking at intergroup relations in a course on diversity, Gurin et al. find that students in these courses were better able to function in a diverse democracy and more involved politically. More specifically, they find that "the IGR had fostered an appreciation of both group differences and commonalities" (p. 14). They also found that students in these groups were more likely to find conflict as a normal part of life, and in some cases embrace it. Specifically on civic engagement, Table 1 further indicates that the participants were more interested in politics and also had participated more frequently in campus political activities. In this case, students were more involved politically, and were more tolerant students. This course increased the critical thinking outcomes for students.

Conclusion

There is no denying the multiple and diverse benefits of higher education. Many researchers have looked at the different ways that higher education institutions benefit individuals and society. In many cases, the purposes of higher education and the benefits are closely aligned, as they should be. A number of Bowen's theories about the aims of higher education have been tested, and the evidence suggests that his ideas about university benefits are upheld. Higher education has social and individual benefits.

Bowen's purposes of higher education are mentioned earlier and when looked at again, it is obvious that some are measured better than others. When looking at the individual, cognitive learning, emotional and moral development seem to be thoroughly

measured. However, it seems that looking at actual skill-related competence and direct satisfaction are under analyzed by researchers. Assessing the skill development for students looking toward that goal is important in the name of institutional competitiveness. Perhaps this research is done at an institutional level, but overall, it seems more difficult to come by, at least in the benefits research. The same seems true for student satisfaction. Similarly, there is little research on the negative outcomes outcomes of college just like student satisfaction is hard to come by, student dissatisfaction research is as well. If institutions are looking to satisfy students, then knowing what not to do could be more important than knowing what to do.

As Bowen (1977) mentioned, the social goals can be achieved through education, research or public service. Scholars are more actively researching some areas than others, especially lately. In relation to society, higher education institutions look to advance knowledge and this is researched through how research money is spent and what it produces, but that seems harder to nail down today than it once was. The discovering and encouraging of talent is difficult to measure, but there is research that looks at higher education and careers. The advancement of social welfare is researched in relation to issues of tolerance and diversity. There is some research that looks at the negative outcomes of liberal bias, but it does not extend this to the social consequence beyond the institution.

It seems that in general the benefits of higher education are researched, but the social and nonfinancial benefits, which are the more difficult ones to analyze are studied less thoroughly. They are difficult to name, and more elusive to research than individual nonfinancial benefits. Also, the financial and social benefits in the form of research are

not recently documented. They are looked at in relation to the changing structure of higher education, but the benefits to higher education institutions and society are not well documented. This is pivotal information to retain that part of the higher education financial structure.

References

Baum, S. and Payea, K. (2005). Education Pays: The benefits of higher education to individuals and society. Retrieved on December 1, 2006 at http://www.college board.com/prod_downloads/press/cost04/EducationPays2004.pdf

Bok, D. (2005). The university and the marketplace: the commercialization of higher education. Princeton, NJ: Princeton University Press.

Bowen, H.R. (1977). Investment in learning: The individual and social value of American higher education. Jossey-Bass Publishers.

Chang, M. J., Astin, A. W. and Kim, D. (2004). Cross-racial interaction among undergraduates: Some consequences, causes and patterns. *Research in Higher Education, 45,* 5.

Dee, T.S. (2004). Are there Civic returns to education? *Journal of Public Economics, 88*, 1697-1720.

Gurin, P., Nagda, B. A. Lopez, G. E. (2004). The benefits of diversity in education for democratic citizenship. *Journal of Social Issues,60,* 1.

Rowley, L. and Gumport, P. (2003). The Non-Monetary Benefits of Higher Education. In D. R. Lewis and J. Hearn (Eds.) The public research university: serving the public good in new times. Lanham: University Press of America.

Desjardins, S. (2003) The monetary returns to instruction. In D.R. Lewis and J. Hearn (Eds.). The public research university: Serving the public good in new times Lanham, Maryland: University Press of America.

Greenwood, D. (1997). New developments on the intergenerational impact of education. *International Journal of Educational Research, 27* (6).

Gurin, P., Nagda, B. A. Lopez, G. E. (2004). The benefits of diversity in education for democratic citizenship. *Journal of Social Issues,60,* 1.

IHEP. (2005). The investment payoff: A 50-state analysis of the Public and Private benefits of higher education. Retrieved on December 1, 2006 at http://www.ihep. org/Pubs/PDF/InvestmentPayoff2005.pdf

IHEP. (1998). Reaping the Benefits: defining the public and private value of going to college. Retrieved on December 1, 2006 at http://www.ihep.com /Pubs/PDF/Reap.pdf

Johnstone, D. B. (2004). The economics and politics of cost sharing in higher education: comparative perspectives. *Economics of Education Review, 22,* 403-410.

Leslie, L. and Lewis, D. R. (2003). In D.R. Lewis and J. Hearn (Eds.). The public research university: Serving the public good in new times Lanham, Maryland: University Press of America.

Lleras-Muney, A. (2005). The relationship between education and adult mortality in the United States. *Review of Economic Studies, 72*, 189-221.

McMahon, W. W. (1997). Recent advances in measuring the social and individual benefits of education. *International Journal of Educational Research, 27,* 6.

Monk-turner, E. (1994). Economic returns to community and four-year college education, *Journal of Socio-economics*, 23, 4.

Perna, L. W. (2003). The Private Benefits of Higher Education: An examination of the earnings premium, *research in higher education, 44(4).*

Rosenstone, S. J. (2003). The idea of a university. In D.R. Lewis and J. Hearn (Eds.). The public research university: Serving the public good in new times Lanham, Maryland: University Press of America.

Rowley, L. and Gumport, P. (2003). The Non-Monetary Benefits of Higher Education. In D. R. Lewis and J. Hearn (Eds.) The public research university: serving the public good in new times. Lanham: University Press of America.

Wolfe, B. and Zuvekas, S. (1997) Nonmarket outcomes of schooling. *International Journal of Educational Research, 27* (6).