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Personal Investment In Higher Education
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Abstract

Since 2005, in Ontario, RPN's have had the option to return to school to obtain their BScN degree in three years of full time study instead of four years. Many of these students are mature and come with prior family and financial responsibilities that add extra challenges to their learning experience. Questioning their choice of investment in returning to post secondary education becomes more evident as they progress through the program and try to meet the large financial demands of university education. This paper reviews literature on personal investment in higher education in an effort to understand how one would begin to make a decision in personally investing in higher education. Recommendations for leaders in higher education are also discussed to encourage support for mature students who return to school.

In Ontario there are two categories of nursing: Registered Nurses (RNs) and Registered Practical Nurses (RPNs). As of January, 2005, entry to practice requirements for RNs became a four year baccalaureate degree, and for RPNs a two year Ontario college diploma (College of Nurses of Ontario [CNO], 2009a). Historically RPNs seeking to further their education to become RNs needed to start from the beginning and complete a four year university program. Recent changes in the educational system now provide the opportunity for RPNs to pursue their Bachelor of Science in Nursing (BScN) in a shorter time frame, usually three years. In addition, according to the Canadian Nursing Association (2009) there will be a tremendous shortage of nurses by 2022 and in response, the Schools of Nursing have developed programs as a strategy to maximize their enrolment to meet the request for more RNs. There are only a few programs in Ontario that offer the RPN to BScN program and they also vary according to the institution. Some programs offer a "transition year" at a college that the RPN is required to successfully complete before applying to a partnered university to complete year three and four of the BScN program. The other option available through a couple of universities, who may also be partnered with a college, is a three year post diploma RPN stream.

As an educator in a large urban city, I have taught in the RPN to BScN program for three years. The RPN to BScN students return to school with prior obligations and responsibilities such as, family and work, and often ask the question, "Is returning to school to obtain their RN degree, financial worth it?" This question has been a recurring in the literature that addresses this group of mature learners (Harrington & Terry, 2009; Melrose & Gordon, 2010; Porter-Wenzlaff & Froman, 2008). In addition, since 2005, financial resources in the health care sector has experienced substantial decline resulting in a shift in the proportion of RN's to RPN's in the labor force. According to CNO (2009b), there was an increase of 17.9 % in the employment rate of RPNs over the last six years. Based upon discussion with some of my RPN students, the shift in the health care sector for the RPN, has for some, augmented their apprehension about financially investing in return to school to get their RN degree. Some RPN students are now concerned that they may not even attain a job as an RN post graduation and may end up after three years of expensive post secondary education (PSE) working as an RPN again. In these changing economic times of limited resources, the RPN students raise a very justifiable question; "Is returning to university full time to become a RN a sensible investment?

To explore the complexities surrounding the question raised by the RPN to BScN students, an understanding of the concept of human capital is required and provides the basis upon which leads into a review of the

literature on how private rates of return on investment in PSE can be calculated. This paper will proceed from a post positivist perspective as the historical roots of investing in human capital originate from very traditional methods of research. According to Creswell (2009), postpositivist's embrace empirical science and through numeric measures of observations an outcome can be determined. As I proceed with a review of the literature on investing in higher education from a monetary standpoint, a clear image of postpositivist's worldview will emerge. This will be followed by an example of how the RPN's could estimate the returns on their investment. In addition, how PSE leaders can support the investment of students attending PSE will be addressed.

Human Capital

To understand the concept of personal investment in PSE, one must first become acquainted with the historical perspective of human capital. The term human capital is primarily an economic term. Economists have over the years spent an immense amount of time developing and quantifying the concept of human capital as an investment (Douglass, 1997). An article that addresses the historical perspective of human capital was effectively written by Kiker in 2005. According to his review of the past literature on human capital, Kiker found basically six primary reasons for placing value on human beings in terms of money:

> "(1) to demonstrate the power of a nation; (2) to determine the economic effects of education… (3) to propose tax schemes…(4) to determine the total cost of war; (5) to awaken the public to the need for life and health conservation…(6) to aid courts and compensation boards in making fair decisions…for personal injury and death." (p. 481).

Kiker also examines the history how economists implemented two different types of methods to estimate the economic value of humans, "…the cost-of-production and the capitalized-earnings procedures." (p. 481). A number of variations of these two methods have evolved over the years and were implemented by scholars depending upon whether they believed that human capital be estimated based upon the cost acquired to "produce" a human (cost-of-production) or estimating the current value of a person's future income (capitalized-earnings procedure). Kiker provides a number of mathematical equation that have evolved as well that one could use to calculate and estimated human capital value from either a "capitalized-earnings perspective, or a "cost-of-production" perspective. Both perspectives can be slightly modified depending upon the reason for estimating human capital value and both perspectives have limitations as well.

The limitations expressed by Kiker (2005) are that the cost of production method does not take into consideration depreciation allowances were as the capitalized earnings approach does. Including depreciation values becomes important to include when calculating a young person's capital value verses an older person as the younger person is expected to be productive for a longer period of time. He also notes that cost of production estimations do not demonstrate any connection between the "…cost of producing and item and its economic value" and that "the inseparability of consumption and investment and the difficulty in treating depreciation and maintance…" (p.497), make the cost-of-production equation imprecise. The capitalized-earnings method on the other hand provided the first scientific method framework that is still basically used today.

Kiker (2005) provided an extensive review of historical scholars who have addressed the concept human capital over the years and for different purposes but mainly to estimate and demonstrate the net returns from investing in human capital. The scholars that he reviewed that are relevant to the topic of education are those such as Walsh, Schultz, and Becker who were some of the original researchers examining the economic importance of higher education. Walsh was a pioneer in the 1930's with respect to investigating higher education as an investment. He estimated the investment by using "…the capitalized-gross-earnings approach…" (p. 495), by looking at the average age at the time of graduation, cost of obtaining the educational program and compared the costs to the capital value. In his research he discovered that some programs such as M.D. degrees cost more to take than would be gained in return. He explained that this discrepancy occurred because only the monetary returns were being examined and the non monetary returns were not included in the calculation. Even though his work was criticized by many and according to Kiker is inaccurate, his approach to examining cost of education to capital value established rough methods that have been refined over the years and are similar to what economist follow today when examining rate of return on investments.

Douglass (1997) also shared a historical perspective on the aspect of social and economic benefits of higher education that began around 1960 when empirical research on American economy validated that the output of goods was growing more rapidly than the input. Through research, the discovery and value of added human knowledge was linked to increases in output thus became an interest to economists. This insight further initiate the attempt to estimate mathematically how education created monetary gains from investments in higher education as a means to build human capital. He provides examples of how investing in human capital is equivalent to the traditional concept of investing in physical capital. When describing human capital he explains that like all capital assets, there is only so long for that capital to produce returns that exceed opportunity costs. All individuals who enter the work force will produce goods and eventually they will retire. Some individuals are more productive than others and have longer production lives but ultimately they all "...lose their vitality and usefulness." (p. 361).

Douglass (1997) also introduces the concepts of rate of return on investment in human capital. Like investing in any capital, one needs to ensure that the decision to invest in an asset will produce gains that exceed the cost of purchasing or manufacturing that item. This process of decision making seems fairly simple with respect to physical capital however according to Douglass a more comprehensive view of capital has emerged. Human capital has become a concept that includes abilities acquired through formal and informal education, through experience gained over time the job, in the home and just by experiencing life. Even though the concept of human capital has expanded over the years, Douglass claims that it is still basically viewed from a very narrow perspective by economists who do not include such non-monetary gains as happiness and friendship as they are externalities that cannot be linked to increased earnings and productivity of the economy. Economist believe they exist they just don't include them in their assessments of human capital.

The original question the RPN students raised about investing in furthering their education is not so different than the questions posed many years ago by scholars interested in estimating the value of human capital. Douglass (1997) broadens the definition of human capital and introduces the concept of rate of return on investment. This concept of return on investment is what the underlying basis of the RPN student’s question. The proceeding paper will address literature that examines further how currently investment in higher education in the human capital framework is addressed by scholars.

Review of the Literature

To continue to understand the complexities in estimating investment in human capital, additional background information is required. Investment in human capital has been viewed basically from two perspectives, monetary and non-monetary gains. As previously noted, Walsh (as cited in Kiker, 2005), in the 1930’s through his research began to discover that there was more to gain from higher education than just money, and that there can be public returns as well as private returns. Other more current scholars on the topic of higher education have advocated the importance of recognizing that PSE benefits go beyond purely economic gains (Barton, 2008; Douglass, 1997; Osterman, 2008). Other benefits include quality of life, including health, and job satisfaction which have been shown to be enhanced by PSE.

When making an informed decision about investing in higher education, both monetary and non monetary returns should be included in that decision making process. However, even though non-monetary gains are extremely valuable, the unpredictable and changing benefits associated with PSE can be unfeasible to measure or quantify thus including them in a calculation is impossible. From a public or social perspective, it is more feasible to measure non monetary returns but from an individual perspective, both monetary and non monetary private returns need to be considered. Although examination of non monetary returns is essential, the intent of this paper will focus on discussing private monetary returns only.

Monetary Benefits of Higher Education

The literature that address the benefits of higher education within the human capital framework are expressed often in two ways, from an annual earnings whereby the average earnings of individuals from a subset group such as high school diploma is compared to the average earnings of a subset of individuals with a college diploma. Using the annual earnings approach, one estimates future earnings on the starting salary upon the time of graduation. The other approach often called life time or internal rate of return

benefits calculates the rate of return on the investment to higher education by taking into consideration the cost of education such as tuition and foregone wages while in school, and then the frequency of employment in predicting potential future earnings over a working life. Before proceeding to research studies that have utilized both annual rates and lifetime rates of return, a brief discussion that addresses issues with these methods are warranted.

Examination of rate of return to higher education by scholars began around the mid 50's and 60's noting that PSE led to around 12 to 15 % higher earnings than just having a high school diploma (Douglass, 1997). In the late 60's to 70's the rates of returns reported by researchers at that time generally claimed that obtaining a four year college degree would on average earn you 9.6% to 13.6 % more earnings than a high school diploma. These results strongly suggested supporting and encouraging individuals to attend PSE, however, there are more factors to consider that add complexity to examining rates of return.

Douglass (1997) explains that study results on rates of return calculations can vary depending upon a number of variables such as, whether or not researchers utilized hourly wages or annual wages in their calculations. As well, depending upon the institution one graduates from, there can be differences found in the amount of earnings gained within the same field of study one graduates from. He also notes that numerous evidence is present in the literature that shows that the differences in the amount of return gained depends partly on "…(a) learning experiences after completing school and (b) grading and labeling (or screening) of students." (p. 371). These factors became foundational to Mincer's perspective on the development of human capital beginning in the early 60's (as cited in Douglass, 1997). According to Mincer, 25% of the earning differences between high school and PSE graduates is a result of human capital gained through formal education while another 25 % can be a result of on human capital gained through job experience.

Another important factor noted by Mincer (as cited in Douglass, 1997) in calculating rates of return is the screening or labeling affect. In theory, this phenomenon implies that rates of return are in part a result of the employer's requirement to hold a certain PSE credential. This means that the high school graduate without further education does not have enough human capital to warrant earnings higher than those with a PSE credential, all other factors being equal. Douglas explains that PSE teaches various desirable cognitive attributes, but also provided the employer with a means to identify an efficient employee without going through a trial and error process. Screening then can have a large impact on the differences in wages granted by the employer. "…The shortfall of income earned by non college workers might not reflect true inferiority of productive capacity, as assumed by the theory of human capital, but exclusion by employers from access to some higher-paying occupations." (p. 372). Thus, when interpreting results of research on rates of return to higher education, the screening phenomena should be reflected upon.

Douglass (1997) noted the flaws in the calculations of rate of return to higher education over the years have occurred because of weak data that limits a researcher's ability to calculate rates of return differentials. The availability of data and the more advanced methods used in more recent years have provided a more accurate picture of return rate differentials however, scholars are still not able to take into account important variables such as motivation, fringe benefit and socioeconomic attributes which leaves many uncertainties with any estimation of future earnings gained by higher education. The data often reflects only past and present incomes but not future or deferred income, and do not address income related to age for the future earnings which have been discouraging issues for scholars trying to estimate true rates of return to higher education. Douglass claims that to date there has been studies that have been able to completely control for background attributes thus "…bias in calculated returns to educational attainment."(p.368) still exist and thus when reviewing studies conducted by researchers these factors must be taken into consideration when interpreting their results.

Annual and Life time Rates of Return to Higher Education

There are vast numbers of research studies demonstrating a direct correlation between education and earnings. A few of these current Canadian studies will be reviewed to provide insight into the earning differences in attending PSE noted by researchers over the years. It is imperative to point out that the intent of this review is not to describe all of the findings from the studies but provide a brief overview. The authors do provide an extensive explanation of their work conducted.

Ferrer and Riddell (2002) utilized data from the Canadian 1996 Census to calculate earning premiums using the annual earnings approach. They contend that the Census data provides a reasonable source of information and consists of data on both the years of education, the degrees or diplomas achieved, and the field of study. In addition to examining annual earnings, they focused on investigating if credentials impact wages by controlling for the years of schooling. This reflects the screening phenomena discussed earlier. The researchers are attempting to separate the years of education from credentials awarded to discover if employers grant higher wages for years of education, or for credentials attained, or both.

They provided results for a number of different mixes such as male verse female, high school compared to university and college combined, Master's and PhD degrees and field of study. The general results showed that the college graduates gained around 11 – 12% greater wage differential than a high school graduate. Graduating from university with a degree showed a 37 % greater wage difference than college graduates and 54% greater wage difference than a high school diploma. The results strongly suggested years of education as well as credentials both affect earnings, and by examining both, the importance of completing a degree became visible. By completing a degree or diploma and attaining a credential one could increase the rate of return on their investment to PSE than if they did not attain the credential.

Berger and Parkin (2009), also examined annual returns to higher education using the Canadian Census data noted that college diploma graduates earn around 15% more than a high school graduate and those with a university bachelor's degree earned more than 50% compared to a high school graduate. They also calculate the earnings difference over 40 years by using estimates of earning reported amongst 25 to 64 year olds and claim the earnings gained by a college diploma or university degree are even more substantial when examined over time. For example, a university bachelor's would gain a "…premium of $745, 800…" more than a high school graduate over 40 years of full time employment. (p. 10).

In their review of the Census data, they determined that there is an upward trend reflecting that the labor market has become more inclined to value a college or university degree as opposed to just a high school diploma over the years. Ferrer and Riddell (2002) also noted this exponential trend when they analyzed the 1996 Census data. If trend continues in this direction, the RPN's returning to school to obtain their RN degree could be making a good decision as it appears that the labor market is leaning towards rewarding those with more years of schooling, depending on their ages when they re-entered the labour market after earning the BScN (RN).

Boothby and Drewes (2006) also used the Census data to investigate the annual earnings premium obtained by PSE graduates over a 20 year period from 1980 to 2000. They calculated annual earnings for a variety of subgroups such as gender differences to those who held multiple diplomas, certificates and degrees. Overall they noted an upward trend in annual wage earnings by college and university graduates with the latter gaining the largest earnings over the years. They did however caution that the greater gains received by university graduates need to be interpreted with care as the estimates are based upon annual earnings and not lifetime rates of return approach that take costs into account. Another result noted over the years in annual earnings was found when examining the age subgroup. They found that the upward trend in wages since the 1980's in wage benefits were gained more by younger individuals aged 25 to 34 who completed college and or university as opposed to those who graduated from PSE at an older age. This result is of particular relevance to the RPN to RN graduate as they return to school at an older age.

Drewes (2006) also conducted a lengthy analysis of monetary gains of higher education by using data from the National Graduate Surveys (NGS) collected by Statistics Canada in 1990, 1995, and 2000. The data is actually collected two years after students have graduated thus the surveys are implemented by Statistics Canada in 1992, 1997, and 2002. He examined a variety of different factors such as college earnings over the cohorts, earning differences between field of study and differences between male and female graduates. The overall findings suggest that university bachelor's degree graduates gain substantially greater earnings than college graduates. The percentage of greater earnings found in the three cohort range from 30% greater earnings in 1992 to an average of 43% greater annual income in 2002 for university graduates compared to college graduates.

The substantial wage differences noted by Drewes (2006) between a university graduate and college graduate prompted his discussion about calculating PSE premiums based upon the life time approach.

According to Drewes, to calculate a life time rate of return estimate to higher education "…requires information on the life-cycle of his or her earnings, information on what his/her earnings would have been had the education investment stopped at high school, and the costs of acquiring…" that chosen education. (p. 29). This approach is also supported by Berger and Parkin (2009) who point out that this approach allows for a more accurate estimate of earnings as "it represents the net worth of education once costs are considered, including upfront costs like tuition and books as well as costs such as forgone income." (p. 17).

Drewes (2006) estimates premiums based upon the life time approach however does emphasize the difficulty in gathering the detailed data that is required to utilize the formula. He claims that no data exists that are able to truly predict what an individual may have earned if they choose an alternative path. As well, the ability to estimate life cycle earnings also is difficult as that data set may not be available. His estimates using the life time earnings approach showed that the rates of return on investment for college graduates are 11% and similar to those of university graduates which resulted in 13% return rate. He explains that the return rates look more similar because the tuition cost and length of schooling required for a university degree is much higher than costs of obtaining a two college diploma. The results of the life time earnings approach results in much lower rates of return because it is net rate where as the annual calculation if a gross rate of return.

Like Drewes (2006), Hansen (2006) also conducted an extensive analysis using data from the NGS in 1992, 1997, and 2002. Hansen however adds to his work an investigation around the relationship between higher education and unemployment rates, in other words frequency of employment. In addition, he included data from the Canadian Census reports from 1991, 1996, and 2001 to estimate wage profiles over a life-cycle and obtain tuition costs so that life time earnings or internal rates of return could be calculated.

The results of the annual earnings approached demonstrated similar results as previously noted in other studies. The overall results again demonstrate that university degree earnings are greater than a college diploma by an average of 21% over the years explored. He also investigated the differences in university education between fields of study and noted that one of the highest annual returns was found in the Health and Sciences. The overall results from the life time approach demonstrated that the rate of return for a university degree was on average 10% which is lower as expected than the annual earnings calculation that does not consider foregone losses and tuition costs.

In conclusion, literature reviewed provides a generalized theme that investing in higher education by calculating differences between annual earnings demonstrates that one would obtain greater premium than by just completing a high school diploma. When using the more complex lifetime rate of return approach, one still gains more earnings over a high school diploma, however, the difference between wages earned from a college diploma and university degree do not appear as appealing.

Critique and Application of Literature

The annual earnings approach is often conducted as the data to calculate this method is readily available from databases such as Statistics Canada and NGS. The data allows researchers to calculate differences in wages for many variables such as age, gender, and field of discipline. As well as noted by Hansen (2006) the likelihood of obtaining fulltime employment can also be estimated. The results in the literature reviewed have demonstrated annual earnings gained with a college diploma from 15% to 35% more than high school diploma and university degrees gain around 50% greater earnings. The results strongly support an investment in PSE. However, the results must be interpreted with caution as there are a number of drawbacks that influence the results.

Even though large databases are available to examine, there are still flaws in the surveys utilized to collect the data. Drewes (2006) expressed concerns with using the NGS data set as the survey only collects information from individuals who have completed PSE, and even for those persons, only for a brief post-graduation period. This allows for an analysis in trends in earnings for PSE graduates but do not allow for comparisons to high school graduates as that information is not available. Hansen (2006) also expressed this same complaint in his report about using NGS data. Another issue with surveys utilized by others such as Statistic Canada according to Boothby and Drewes (2006) is that the data is subject to selection bias and reporting bias. These biases could influence the analysis to over or under estimate premiums.

The fundamental limitations in the annual earnings approach is that they do not take cost of attending PSE into account which can be enormous depending upon the field of study chosen. This approach also only provide estimates of annual premiums for full time employed individuals, as well, most survey data utilized only contains information regarding recently graduated individuals. In addition, the databases available do not consider students who have an existing PSE diploma and return to school for additional diplomas or degrees. The other variables not considered are information on promotions, part-time employment earnings or taxes. All of these factors are extremely significant when contemplating whether or not to attend or return to PSE is a financially worthwhile investment.

The lifetime approach or internal rate of return calculation on the other hand tries to take into consideration at least the debt incurred in one's investment in PSE. According to Heckman (as cited in Hansen, 2006), literature strictly addressing internal rates of return to higher education are not commonly found compared to research utilizing the annual earnings, mainly because the data available to compute life time earnings is much more difficult to attain. This is one of the greatest limitations in this approach as detailed data required to conduct the calculation is often not available. Haider and Solon (2006) explain this issue and claim that many studies on the economic gains are calculated using current income to estimate career long income which often results in an overestimation of lifetime earnings. They argue as well that most researchers often use datasets that are not complete and detailed enough to provide a proxy for lifetime earnings as historical time series on income for specific occupations are not available. Drewes (2006) also expressed the same frustration in trying to estimate lifetime earnings. A significant component in calculating the lifetime approach is having life-cycle earnings and if estimates of these earnings are overestimated or underestimated, the internal rate of return calculation will be misleading.

Another influence on estimating personal investment in higher education is tuition costs. Over the years Ontario has seen great increases in tuition and this could very well continue as resources become scarcer. If tuition continues to explode and public subsidy declines then the private cost of higher education may exceed the benefit as the rates of return become weakened. Using present tuition costs to estimate internal rates of return can look very different if tuition costs rise in the future. Deciding to return to school in a few years from now could dramatically weaken return on investment with inflated tuition fees and decreased public subsidy. Drewes (2006) expressed similar concerns and noted that if tuition fees continue to rise then the benefits of going to PSE will continue to diminish and be less attractive for individuals to invest in.

The research reviewed both annual and lifetime approaches to investment in higher education and provides an overall view of gains obtained. However, the studies do not provide specific insight for the RPN cohort. A few studies reviewed identify fields of study and demonstrated annual premiums increased for university degrees compared to college diplomas in the "health sciences" field. The problem is by using broad categories to define the field of study such as "health sciences" or "professions" is very restrictive and does not allow for interpretation of the potentially huge earning differences in what for example, a pharmacist, a physician and or a RN would make. The annual wage of a pharmacist could demonstrate a large rate of return compared to a RN or another profession. Similar issues were raised by Hansen (2006) and Drewes (2006) who both described limitations in using the NGS data and criticized the categories for the inability to provide more distinguishable wage differences between professions. On a positive note, for the RPN cohort, most of the results noted that health focused programs have demonstrated a greater rate of return on investing in higher education than other fields such as arts (Boothby & Drewes, 2006; Hansen, 2006).

Another finding that is worth mentioning was found by Ferrer and Riddell (2002). They discovered in their analysis that no difference in wages were found in the group of individuals who obtained a college diploma first and then obtained a degree suggesting that the labor market placed no value on the combination of credentials. Which implies that for the RPN to RN group, the signaling phenomena is not in existence for this group. Boothby and Drewes (2006) also confirmed this phenomenon in their research. They found that individuals with both a bachelor's degree and college diploma do not provide additional wage increase over individuals who just hold either a degree or diploma alone. This phenomenon may be relevant when evaluating the monetary advantage of returning to PSE. For the RPN cohort, previous attainment of a college diploma could have no positive effect on their rate of return once they complete their university degree. In addition, their previous years of schooling and job experience could have no affect on their entry level wage as a RN so once they graduate as a RN, the RPN who may have been at the top of the pay scale will receive very little wage differences in their entry level wage as a RN.

A shortfall of the literature reviewed is the topic of full time and part time employment. All the studies reviewed based their calculations on upon full time employment wages. Two of the studies reviewed addressed employment status but only in relationship to being employed or not and one is more likely with PSE to be employed (Berger & Parkin, 2009; Hansen, 2006). The rates of return could look much different if part time wages were examined but those individuals were not included in the datasets utilized.

In addition, the studies did not address the issue of unemployment rates resulting from lack of labor market demand. The lifetime earnings approach does take frequency of employment into account, however the studies reviewed in this paper were mainly showed a positive return on investing in higher education for those working full time only. If the labor market demand slows or diminishes for the PSE credential chosen by an individual, then the chances of working in that field to gain returns will not be possible. Rubenstien (1998) presented a strong advocacy view in his paper when discussing his concerns around PSE and getting a job. He began by presenting what he believes is the perception of the general population in the United States that to achieve a great future the only optimal choice is to attend college. He however abruptly provided an alternative point of view. He referenced to a report published in the Monthly Labor Review by the U.S. Department of Labor in November, 1997. This report focused on the prediction of the most prevalent occupations required for 2006 and very few required PSE to do. The top ten occupations noted to have the largest job growth are cashier "...retail sales clerks, truck drivers, home health aides, teacher and nurses' aides, and receptionists…" (para. 6). Barton (2008) also shared predicted occupational jobs for the future (2004 to 2014) provided by the U.S. Bureau of Labor Statistics (BLS) substantiating Rubenstien's view and noted that 61% of the top 10 fastest growing jobs will not require PSE.

Rubenstien (1998) continued his opposing perspective on the benefits of college education and referred to addition literature that supported his view. He claimed that most studies that calculate rates of returns based upon annual premiums substantially overestimate any returns gained by college graduates and "...if you don't go on to graduate school...chances are your sky high tuition is buying you no economic advantage whatsoever." (para. 9). He concluded with saying that "....The four years spent in pursuit of a B.A. are years the student could have spent in on-the-job training, earning money while learning skills, rather than spending money to acquire a degree." (para 22).

Barton (2008) also shared some insight into the question of the benefits of investing in higher education. He also reviewed literature that provided evidence that a high percentage of degree graduates are either unemployed or working in jobs that did not require PSE thus their return on investing in higher education is not a beneficial one. This is confirmed as well by Vedder, Denhar and Robe (2010) who noted that 60% of PSE graduates over the last 12 years are underemployed. They also add that the cost of PSE and the debts associated with attending PSE institutions may not provided greater wage returns if graduates cannot find a job. Their conclusion attested to the idea that more often than not, individuals find themselves more indebt than making any type of monetary gains from PSE when considering the lifetime earnings approach to private investment.

The economy and labor market demands are the principal drivers that influence wages gained as they are the ones who decide what monetary value is given for PSE credentials. The ability to predict the labor market and whether or not jobs will be available in the future for PSE graduates is difficult to determine. According to Osterman (2008), projected occupations provides some verification however he cautions that they tend to be based more upon expert opinion as there is no sure method to predict what the future holds for any occupation. He does advocate that the trends over the years highly suggest that the economy is still moving in the direction of requiring more education. However that does not mean that the demand for certain types of PSE fields will be required. This is significant issue that the RPN's deciding on returning to school need to consider before investing in university as they may find themselves without a job as a RN in the future. Both Rubenstien (1998) and Barton (2008), mentioned that one of the fastest growing jobs in the future will be a nurses'aide. This role is not exactly like that of a RPN role but is a role that has less education than a RN. The CNO Statistic Report (2006) noted that there was a substantial increase of 17.9% in employment for RPN's from 2004 to 2009. If this trend continues then perhaps returning to school to become a RN may not be a good investment as there may be a decrease demand for them. Osterman (2008) validates this and warns that one must keep in mind that if the market demand slows for certain PSE credentials, graduates could find themselves working in jobs that don't require their level of skill and will be earning much less wages than they had originally thought.

A further cause for concern when addressing rates of return to higher education was pointed out by both Drewes (2006) and Douglass (1997). They both discussed that as the cost of higher education climbs and in considering that wages are expected to increase as one gains experience, when estimating the rate of return to higher education there will be a notable difference for someone who is 18 years old compared to an older person. The average age of the RPN student returning to university is generally much older so will benefit for a much shorter period of working life than if they graduated at a younger age. In addition, the amount of money lost or foregone wages for the RPN student assuming they would not be working while attending university is much greater than that lost by a student who is 18 to 20 years old. This is an important factor that the lifetime earnings approach will take into account that the annual earnings approach will not.

To answer the original question raised by the RPN's about the financial benefits of returning to school is a very complex and many factors affect the ability to answer it. An overview of the study results clearly demonstrate that using the annual earnings approach can overestimate what one would gain from going to PSE. For example, Ferrer and Riddell (2002) noted a 54% wage earnings increase for a university graduate over a college graduate. However when estimating using the lifetime approach as noted by Hansen (2006), the gain between college and university is around 10% which is a significantly lower rate of return. This clearly provides evidence that to determine a net rate of return on private investment in higher education, the RPN should do so by utilizing the lifetime or internal rates of return calculations. Since there is no alternative for the RPN student who wishes to advance in the nursing profession, returning to university to obtain their RN degree could generate a return rate of around 10%, which is a good investment.

To calculate the internal rate of return specific to the nursing profession, the formula utilized by Drewes (2006) can be applied. The initial data required would be to calculate life cycle profiles by obtaining entry practice wages for the RPN, the RN, and the average industry wage of a high school graduate. The larges challenge will be to obtain a life cycle wage profile for the RPN. The 2 year diploma RPN has only been in existence since 2005 and thus historical wage earnings would not be available. Next the tuition fees for the 2 year RPN program and the 4 year RN program would be required. Several assumptions that would need to be made are; a high school graduate will be 18 yrs old, RPN will enter college immediately and graduate in 2 yrs thus be 20 years old and the RN will enter right from high school and graduate at 22 years old. The assumption will also be made that they will work full time post graduation until the age of 65. With this particular data, we could estimate a lifetime earnings profile, calculate total tuition costs and foregone wages to be inputted into the formula. It is very likely that the results will be similar to the internal rates of return noted by Hansen (2006) of around a 10% increase in gains for the RN compared to the RPN.

This calculation is not straight forward when addressing the RPN now deciding on whether to return to university and attain their RN is worth the investment. The first issue to address is that the average age of a RPN returning to university is around 35, and most students according to the literature do decide to quit work while attending university (Porter-Wenzlaff & Froman, 2008). Returning to school at 35 years old will result in a graduation age of 38 years old given that most RPN to BScN programs accredited 1 year for past PSE. This will only enable them to begin to earn the higher wage of a RN at age 38. In addition, their foregone wage loss will be significantly higher because the wages they receive as a RPN will be that much higher than a high school graduate. To illustrate the impact this could have on a life time earnings calculation, the wage of a RPN is reported by CUPE in 2005 was on average $42,719 annually. If the RPN chooses to quit work while attending university this would equate to forgone wages of $128,157 over the 3 years of the RPN to BScN program. Tuition costs on average for university undergraduate programs reported by Statistics Canada are around $6,000 which would add up to $18,000 over the 3 years. Thus the accumulated foregone and tuition debt could be approximately $146,157. Considering they could only have 27 years, before they retire at age 65 to make up for the financial loss, they would benefit from their investment for substantial less years than if they obtained their RN degree at a younger age.

Conclusion

In conclusion, many years ago, scholars became interested in examining and quantifying the concept of human beings as an investment. Preliminary equations utilized by economists were known as cost-of-production and capitalized-earnings. As time evolved, more scientific techniques to calculate returns within the human capital framework, such as annual premiums and lifetime or internal rates of return became the methods of choice in determining whether or not investing in PSE was a beneficial one. The literature

reviewed consistently established that investing in PSE will result in higher earnings than a high school diploma, and there is a greater earnings as well, if one graduates with a university degree verses a college diploma. The amount of wage increase differences between college diploma and university degree highly depends upon the analytical approach taken by the researchers. Using the annual premiums demonstrates substantial gains for university degrees while the life time approach provides a more conservative advantage which would suggest the latter to be used as a better guide in making a decision to attend PSE. Unfortunately the type of data required to calculate a life cycle earnings profile required for the formula is often insufficient or unavailable. Douglas states that"…literature on investment in human capital clearly does not produce a simple conclusion as to whether education is worth what it costs." (p. 382). However, there is a consistent theme that suggests higher education is a good investment.

While this paper focused on monetary returns on investment in higher education, one must also ensure to investigate the non monetary returns as well. Although a newer concept, examining nonmonetary benefits is crucial in providing an inclusive understanding of the benefits to investing in higher education. Many scholars noted the importance in recognizing that PSE benefits go beyond purely financial gains (Douglass, 1997; Osterman, 2008). Other benefits include quality of life, job satisfaction and promotions, and opportunities to practice at civil engagement are enhanced by PSE.

The decision for RPN to return to university to obtain their RN degree would place these individuals at greater risk of debt as they come from a background of other financial responsibilities and their forgone wage lost while attending university is much greater as well. However, the private rate of return on their investment could average around 10% which is an admirable investment. The sooner they decide to return to school will allow them greater working life to acquire the gains on their investment. Ensuring they have knowledge around understanding the expense of returning to school and personal investment returns on their choice is critical in guiding their decision to pursuit a university degree. Although the answer to the RPN's question has not been clearly resolved, this paper provides some fundamental understanding of how one would initially begin to acquire knowledge regarding personal investment in higher education.

Investing in higher education requires a great deal of consideration from a personal perspective to decide it is worth it or not. This question has implications that need to be addressed by PSE leaders who are obligated to be responsive and concerned about student's financial investment as well. They need to be aware of how increasing tuition affects rates of returns for graduates and that if the cost to attend PSE does not balance the gains then they need to become more proactive in keeping tuitions costs down. In addition, as noted by Boothby and Drewes (2006) and Hansen (2006) the older the individual is in attending PSE, the less financial benefits they received because foregone income rises for them and weigh heavily against future earnings benefits. Educational leaders need to be aware of this phenomenon and ensure that they provide strategies to encourage individuals to attend or return to PSE at a younger age so they can benefit more from the investment or advocate for mature student scholarships. They also need to be consciously aware of the labor market demands to ensure that they are supporting programs that will lead graduates to full time, higher paying jobs.

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