

The Value of Education

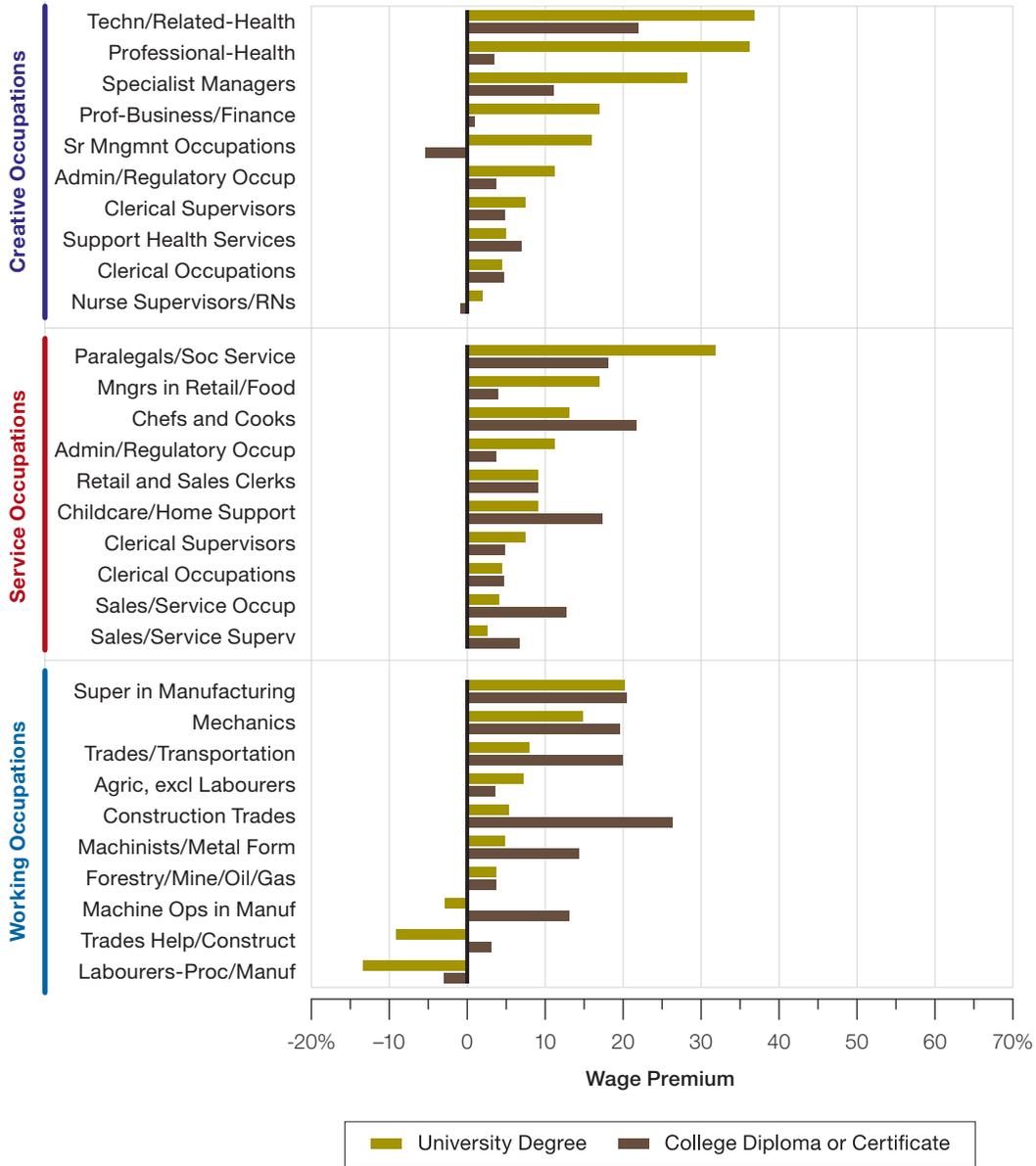
Part 3: Variation in Returns to Education by Occupation

As part of our on-going research into understanding the variation in wages and other working conditions around people whose primary work is service-oriented, what we call the *Service Class*, the Martin Prosperity Institute and the Institute for Competiveness and Prosperity have looked at the impact of completed education on wage levels. We complete our current research into this topic by looking at how returns to education, especially among college and university graduates, vary by specific occupations. And, while the results support the general expectation that more education equals higher income, some unexpected variation among occupations is found.

In looking at the returns to education by occupation, we have only considered the differential impact (almost always an increase) between having just a high school diploma and having a college degree and between having just a high school diploma and having a university degree. The comparison was made using average hourly wages actually earned by people working in that occupation and having the appropriate level of education. The longer the bar is, the greater the increase in wages for completing that level of education. For example, people working in the Health Technician occupational group, earned 22% more by completing a college degree or certificate and 37% more for completing a university degree. Each is compared relative to the average of those who only have a high school diploma.

Exhibit 1 shows the results for selected occupational groups in each of the creative, service, and working classes. The occupations were selected to be representative of the overall pattern seen for each class. Within each class the occupations are sorted in order of decreasing returns from a university degree. While across all occupations, the results conform to those reported in the earlier two Insights in this series — a university degree generally offers a higher return for education than a college degree, there are clearly some exceptions in the service class where a college-degree is more valuable and in the working class where a college certificate or degree is usually more valuable than a university degree, but sometimes a high school diploma is best.

Looking at **Exhibit 1** for those in the creative class, generally a university degree provides double the benefit of a college degree. There are, of course, exceptions, but overall the 2-to-1 pattern holds. What varies more is the range of the wage benefit. Healthcare can provide wage increases 20% (college) to 40% (university) over a high school diploma while those in clerical occupations only see about a 5% increase. Many occupations show an average wage increase of around 20% for a university degree and 10% for a college degree. It should be noted that often either a college degree or certificate or a university degree is an initial requirement for a job. So, these increases may in some cases be artificial since no one with only a high school diploma would be able to hold a job with such an occupation.



Source: Labour Force Survey (2010)
 Design by Michelle Hopgood, Martin Prosperity Institute

Service work wage returns to education fall into two general categories, and about half of the occupations in the service class are in each category. The first category is jobs where holding a university degree provides a greater wage bonus than holding a college degree – both are better than just having a high school diploma. Jobs in areas like clerical supervision, administrative or regulatory occupations, retail management, and paralegals all have a roughly 2-to-1 benefit from a university degree versus a college degree. Again, the size of that benefit varies from job to job, but as with creative occupations, the university degree is the route to higher wages. However, that is only about half of the service jobs. For the second category of service workers, holding a college degree provides a roughly 2-to-1 benefit over holding a university degree – again both provide a wage benefit over holding just a high school diploma. For these jobs in areas like chefs and cooks,

sales/service occupations, childcare, or sales supervision, the college degree provides a much larger return to average hourly wages than the university degree. For many of these jobs, colleges offer specialized training or there are specialized certificates that are needed to hold the job. Employees are rewarded for having these specialized skills over the more general university degree. It is also quite likely (though untestable with the LFS data used here) that many of those in these occupations with university degrees may be under-employed or may have a university degree that is not suited to their current employment. Nevertheless, chefs can see a 22% increase in average wage from a college degree and only a 13% increase from a university degree. Childcare workers with a college degree earn on average 17% more than those with just a high school diploma while childcare workers with a university degree only earn 9% more.

For the working class, the results are completely mixed. In some cases, those with just a high school diploma earn more on average than those with either a college or university degree (labourers, manufacturing workers). This is likely from high school graduates spending more time at work on the job while college and university graduates lost work experience by taking time to get a degree that doesn't help them in their current occupation. Manufacturing supervisors and forestry and extraction workers do have higher average wages for having a college or university degree, but the increase of 4% over someone with just a high school diploma is the same for college or university graduation. For roughly half the occupations in the working class, a college degree or certificate increases average wages by about three times the increase seen by a university graduate. In effect, mechanics, machinists, utility workers, construction workers, and those in the trades and transportation see an increase in their average wage of 15% to 25% if they have a college degree or certificate. Again, as with some of the service class jobs, specialized training, which doesn't require a university degree, is rewarded in occupations that can benefit from that specialized training.

As part of our on-going research into understanding the variation in wages and other working conditions in the *Service Class*, we have looked at the impact of completed education on wage levels. We started with a look at how returns to education have varied in Canada over time. We continued by looking at variation in wages by age and occupational class (creative, service, working). We concluded by looking at the wage premium for holding a college certificate or degree or a university degree by specific occupations. While most occupations experience a premium for college and a greater premium for university degrees, that is not always the case. The holders of many jobs, especially in the service and working classes, benefit more from college than university. Education remains an important factor in determining annual income or hourly wage, but the detail offered by these insights shows some of the potentially complicating factors. And, while the results support the general expectation that more education and experience equals higher income, some interesting trends have developed over the past 35 years.

The Martin Prosperity Institute at the University of Toronto's Rotman School of Management is the world's leading think-tank on the role of sub-national factors—location, place and city-regions—in global economic prosperity. We take an integrated view of prosperity, looking beyond economic measures to include the importance of quality of place and the development of people's creative potential.