

Research Article

Post-Secondary Education In Canada: Trends And Characteristics

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Abstract: During the 12-year period from 2006 to 2017, Canadian student enrolments in post-secondary institutions have shown mixed trends, but the international enrolments have increased drastically. The international tuition fee per year is at least thrice that of Canadian student tuition fee. Post-secondary education institutions are increasingly relying on tuition fee for revenue. Though most provinces follow similar trends in international enrolments and tuition fee, gender proportions of enrolments and employment, the patterns and numbers are varied for institution funding and employment rate. Even though Canadian post-secondary education system is strong, the overall cost and employment outcome is not getting better.

Key words: Post-secondary education in Canada, Post-secondary enrollment, Tuition and fee, Employment rate

1. INTRODUCTION

Canada has a very robust post-secondary education system in place and continues to rank the best among the organization for economic co-operation and development (OECD) countries in the proportion of college and university graduate [2]. According to the 2016 census, 54% of Canadians aged between 15 and 64 had completed a college or university post-secondary education. Post-secondary education is a critical element for Canada's socio-economic prosperity with its growing aging population and labor market demands. Higher level of education not only enhances individuals' capability for a better-quality living but also boost up the economy and society. In addition, it plays a prominent role is building moral, cultural and political unity and maturity of the society.

The time, effort and resources invested for attaining post-secondary education is immense. So, the students should be well equipped with the factors that relates to post-secondary education and its payoffs to select the right choice

in the right place. The accessibility to a post-secondary education environment has close association with the tuition and fee a student pays in order to enhance the skills and values for a better career and life. The technological demand and globalization are two major factors that affects the relative demand of post-secondary graduates [1]. The employment outcome for recent post-secondary graduate may heavily depending on the economic cycle, but the cumulative median income of post-secondary graduates is observed higher [1]. This may appeal more individuals to enroll into post-secondary education programs.

The data regarding the enrollments, tuition fee, funding and employment are available through government open data portals but the availability of resources that give an overall perspective, trend and comparison of these different features composed that are closely related to the post-secondary education is scarce. Such a review is required in order to gain insight of the important factors related to the post-secondary education in Canada.

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This study examines the participation, expense and outcomes of post-secondary education in Canada during recent years. Trends and characteristics are explored for data from 2006 to 2017 period to better know the nature of the arrangements. Thus, making it possible to understand how affordable the post-secondary education attainment is, and how employable is post-secondary graduates in Canada. It also helps to realize the diversity and similarity of these elements in various provinces and gender.

2. METHODOLOGY

The data for this study is sourced from Statistics Canada datasets in post-secondary information system (PSIS) and surveys like labor force survey and financial information of universities and colleges survey. The enrollment data set presents the number of student enrollments reported each year [5]. Dataset for the tuition and fee each year for universities and colleges for the years [6]. Funding information is collected from the dataset that details the funds in thousand dollars under each type of revenue [8]. Employment data set provides the proportion of students employed after education attainment [5].

The data is gathered from the datasets for the years 2006 to 2017 and used to analyze each of the elements of post-secondary education such as enrollments, tuition fee, funding, employment rates. This report identifies trends and underlying patterns of these different factors using these data. Data is interpreted from different aspects such as province, gender and immigration status. Various graphs are created using the software tool Tableau to explore and project the findings.

3. RESULTS

The data is analyzed from different perspectives to obtain perceptions about the participation, expense and employment of post-secondary students. Data is interpreted with respect to the status of student in Canada, province and gender to identify the trends and patterns.

3.1. Post-secondary education enrolments

In 2017, a total of 2,116,002 students were enrolled in Canadian post-secondary institutions. That is 22% increase from 2006 from 1,731,747 enrollments. As depicted in Fig. 1, Canadian student enrollments had been increasing till 2012 but showed declining trend till 2016. In 2017 recorded a slight increase from previous year for Canadian student enrolments. While in 2006 only 6% of total enrolments where contributed by international students, it grew to 14.1% by 2017.

Ontario and Quebec are key provinces in Canadian post-secondary education. It is observed that except for Brunswick and Newfoundland and Labrador, there is a considerable increase in enrolments in 2017 compared to 2006. It's is observed that female post-secondary enrolment is dominant in all provinces through all these years. In 2017 the female enrollment was 55.82% of total and male 43.88% while it was 56.89 and 42.38 respectively in 2006 (Fig. 2). It is apparent that the gender gap is slightly narrowing in recent years.

3.2. Tuition and fee

The average tuition fee for Canadian students in post-secondary institutions increased from \$4,894 in 2006 to \$6,769 in 2017. It can be clearly deducted from Fig. 3 that

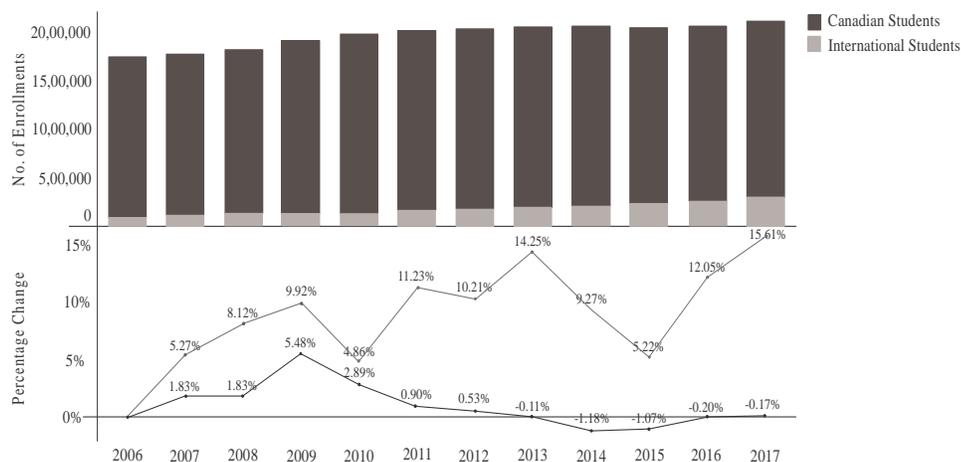


Fig. 1. Post-secondary enrolments from 2006 to 2017

Source: Statistics Canada postsecondary enrolments, by status of student in Canada, county of citizenship and gender

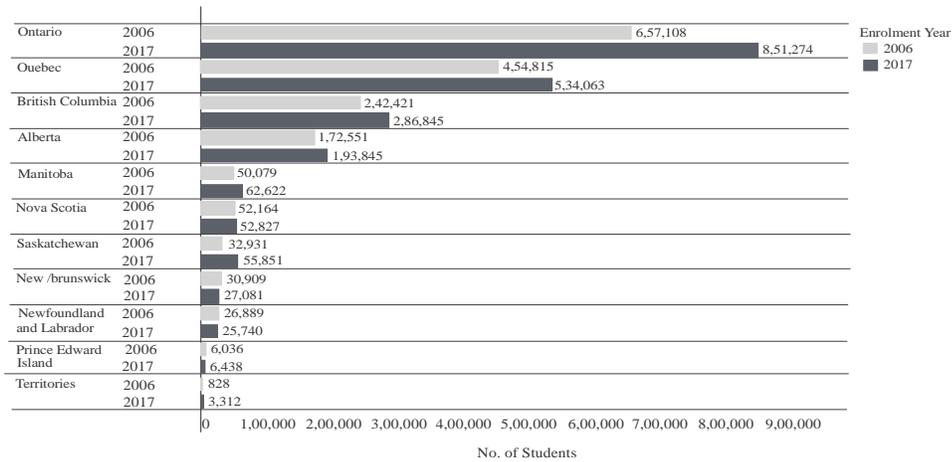


Fig. 2. Post-secondary enrolments by province 2006 vs 2017

Source: Statistics Canada postsecondary enrolments, by status of student in Canada, county of citizenship and gender

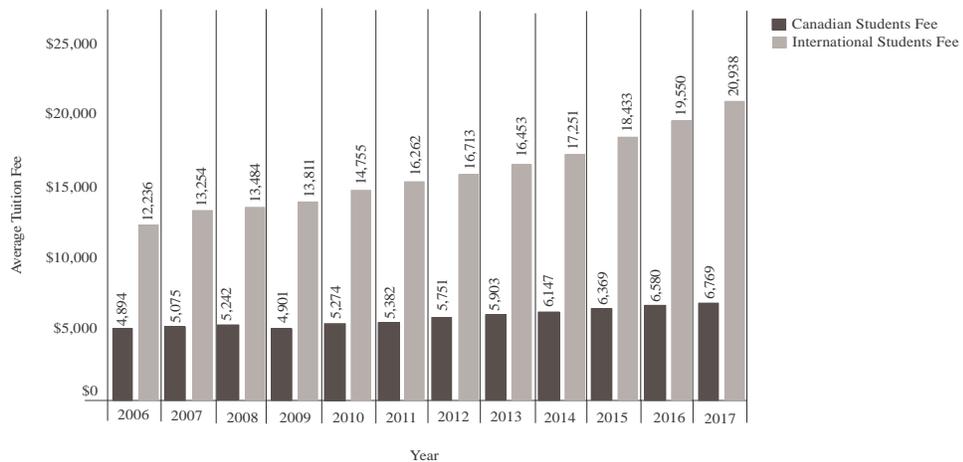


Fig. 3. Average post-secondary tuition and fee from year 2006 to 2017

Source: Statistics Canada, Canadian and international tuition fees by level of study

there is a sharp increase in international student tuition fee over the years. The average fee for international graduate and undergraduate programs was \$12,236 in 2006. It grew to \$20,938 in 2017. It is seen that the international tuition fee is almost thrice that of national.

Even though the tuition fee amount is very different in each of the provinces as can be seen in Fig. 4, in general, Canadian undergraduate student fee seemed to be a little less than Canadian graduate student fee but international undergraduate student tuition fee is much more expensive than international graduate student fee. Specifically, it is very expensive to pursue undergraduate degree for international students compared to Canadian students.

The Fig. 4 also indicates that compared to other provinces, tuition fee in Ontario post-secondary institutions is much higher than other provinces. In all the provinces except Nova Scotia international undergraduate degree is most expensive. Quebec province offers the least expensive

undergraduate and graduate degrees of all the provinces. The least expensive international undergraduate fee is in Newfoundland and Labrador province. For international graduate students, Saskatchewan offers degree with least tuition fee.

3.3. Funding

The major revenue for the post-secondary education institutions are from non-federal funding and tuition and other fees. The non federal funding is about 40% of total funding. The contribution of tuition fee to the total funding has increased over the years and in 2017, 28.7% of total funding was tuition and fees. Other sources of revenues like federal, donations and others has not increased much and their contributions to the total funding has decreased over the years. Ontario, Quebec, British Columbia and Alberta being the major provinces that play a role in post-secondary education has shown different patterns in the funding over the years as depicted in Fig. 5.

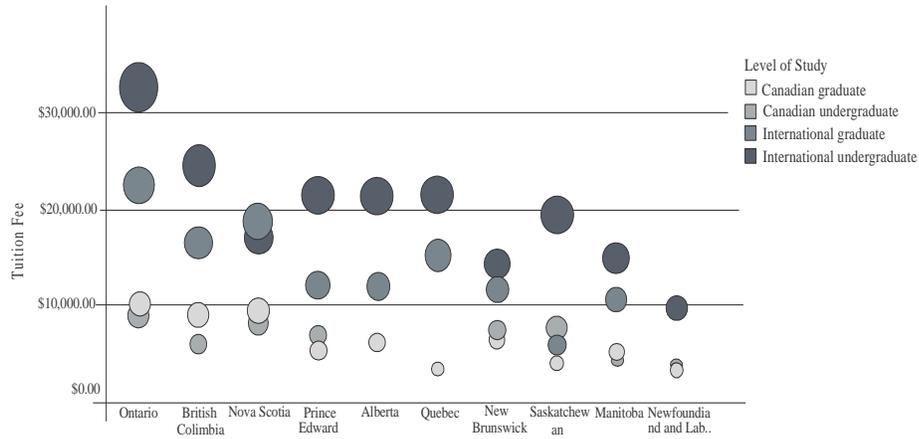


Fig. 4. Post-secondary tuition and fee by province in year 2017
 Source: Statistics Canada, Canadian and international tuition fees by level of study

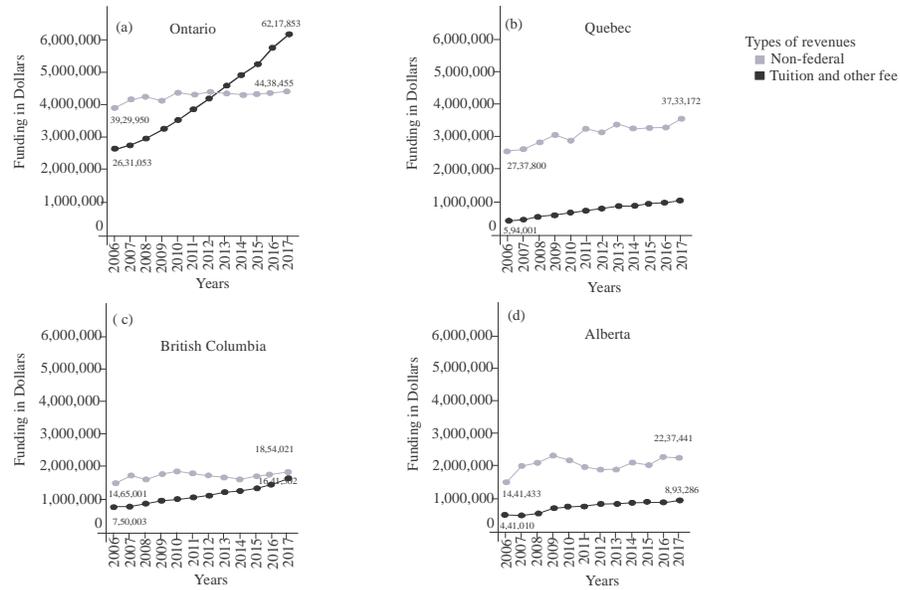


Fig. 5. Post-secondary major funding revenues of top provinces from 2006 to 2017
 Source: Statistics Canada, Revenues of universities and degree-grating colleges

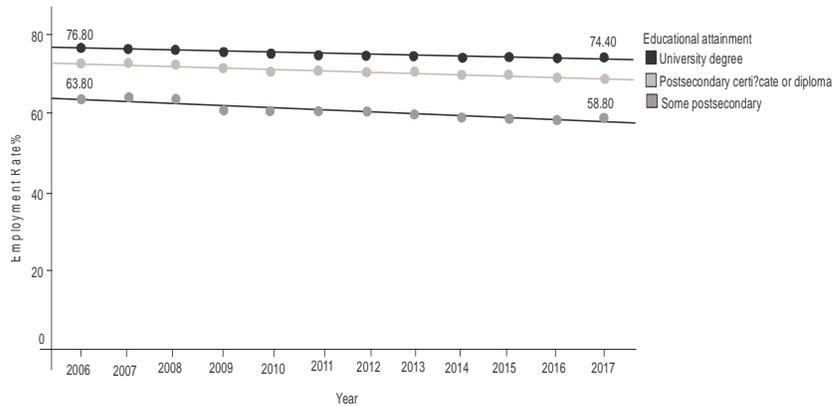


Fig. 6. Employment rate of post-secondary graduates from year 2006 to 2017
 Source: Statistics Canada, Unemployment rate, participation rate and employment rate by type of student during school months, monthly, unadjusted for seasonality

In Ontario, from 2012 onwards tuition and fees become the major source of revenue while there has not much increase in non-federal funding since. In Quebec and Alberta, non-federal funding is the biggest contributor of revenue. In British Columbia during the recent years both tuition fee and non-federal funding contributes almost equally towards the revenue.

3.4. Employment on education attainment

Employment rate for university degree holders is higher than that of some postsecondary or post-secondary certificate or diploma holders. But the employment rate is showing a diminishing trend for all these 3 categories of post-secondary education holders over the years. There is a decrease of 2-4% is observed in general and the decline is more for some postsecondary category.

Corresponding to the national trend of decline of employment rate, the employment rate of all the provinces have been declining over recent years. Alberta and Manitoba have the highest employment rate over this period. In 2017, similar to student employment rate, Manitoba seem to have highest employment rate followed by Saskatchewan and Alberta [7]. Contrary to the enrollment trend, the employment rate is more for male. But the gender gap is narrowing during the recent years as for the enrollment.

4. DISCUSSION

The increase in aging population 65 and over during the last two decades is a challenge for Canadian labour market and economy. In addition, there has been a decrease in population of age group 15 to 64 years during the 2006 to 2017 period [3]. However, the post-secondary enrolment has been increasing majorly contributed by the international students. Canada is attracting more international students and has become an appealing post-secondary educational hub. The favourable immigration climate for international students in Canada may continue to push the increasing trend on international student enrolments. Having the educated and skilled youth available through post-education pathway helps to address some or most of the labour market and economic issues caused by the estimated rise in aging population. At the same time, the relevant employment opportunities available in Canada for these educated and skilled youth currently needs more attention.

In 2017, Ontario is home for 47.26% of post-secondary students in Canada. Compared to 2006 enrolments, British Columbia out-ranked Quebec to become the second-best province for post-secondary education in 2017. New

Brunswick and Newfoundland and Labrador provinces recorded a decrease in overall enrolments, but all provinces have shown a huge increase in international enrolments. Saskatchewan has recorded a tremendous growth in enrolments with 34.7% increase in international enrolments and 73% in overall, the highest growth in any province during the referenced period.

Quality of education offered also comes with a cost. Compared to other top nations, tuition fee in Canadian post-secondary institutions remains high. The average tuition and fee for a Canadian undergraduate and graduate student is \$6769 in 2017. This has remained relatively stable over the past 12-year period. As noted earlier, there is a huge disparity in the tuition fee of Canadian national and international students. Even with this high tuition fee, Canada is becoming attractive an international education destination. Also, tuition and fees has become one of the main revenue generators for the post-secondary education institutions.

There is a considerable difference in the tuition fee in each of the provinces. For the Canadian students, Ontario and Nova scotia is expensive while Quebec and Newfoundland and Labrador are the most affordable. International tuition fee is very diverse across the provinces though it is about three-fold that of national tuition fee in most provinces. The different patterns of tuition fee in the province are also the indicators of how different the funding for each province are, in addition to the quality and resources offered.

Also, there is no direct correlation between the enrolment and tuition fee with regard to the preference of province. Ontario is the most expensive province but still leads in the number of enrolments with about half of whole Canadian post-secondary enrolments while Quebec is the most affordable province but ranked 2 in enrolments.

Employment rate of post-secondary educated youth remains higher than the national average during all time [4]. The opportunities to pay off the cost and expenses endured during the studies in the form of student jobs or employment after graduation depends on various factors like focus of study and availability of time. The level and subject of study is a major factor that affects the employment and income but not addressed in this study. While getting a post-secondary education increases the probability of getting a job, the affordability and accessibility need to be groomed to better suit the needs of individuals and markets.

Even with increasing tuition fee, there are more enrolments, especially international, in post-secondary education institutions in Canada. The better opportunities for employment, the higher income after the education attainment over the course of time and improved quality of

living etc can be the appealing reasons behind this increasing trend. While there is no direct correlation observed between any of the above features other than the number of enrolments and funding which is apparent. And some provinces rely on the tuition fee for funding which has a sizable contribution from International students.

5. CONCLUSION

Canada maintains its strong position in post-secondary education. The growing enrolments in Canadian universities and colleges has significant International student involvement. International student enrolments are increasing in all the provinces despite the higher tuition and fees imposed by the institutions. The post-secondary institutions are relying more on the tuition and fees as a source of revenue. Students employment rates during and after the studies have decreased over the years but the prospects for post-secondary educated students remains higher. There is more female participation in post-secondary institutions than male, but rate of employment is better for males. The gap is narrowing in both cases. Ontario hold a prominent position in Canada's post-secondary education structure. And the national trend of post-secondary enrolments is heavily dependent on Ontario. Most of the provinces, British Columbia with respect to the enrolments, Manitoba and Saskatchewan with regard to employment rate, are gearing up their place to provide a better platform to shape the skills and resources for a better economy and society through higher education.

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