



Policy



Paper

Post-Secondary Tuition and Low-Income Access

Implications for New Brunswick's Tuition Access Bursary

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Halifax, Nova Scotia

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Table of Contents

Executive Summary	5
Introduction	6
Do Tuition Rates Impact Access?	8
The International Experience	14
What Other Factors Play a Role?	16
Do Tuition Rates Impact Student Debt?	18
Do Tuition Rates Impact Graduation Rates and Persistence?	23
Will TAB Graduates Stay in New Brunswick? A Look at Retention.	30
It's the Economy	32
Is TAB a Good Deal for Taxpayers?	34
Policy Implications	35
References	38
Endnotes	39

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Executive Summary

This paper examines subsidies for the children of low-income households to access post-secondary education (PSE). It focuses on New Brunswick's "Tuition Access Bursary" (TAB) program, intended to boost access and participation for low-income persons in public universities and colleges. The author employs domestic government data, academic research findings, private public-policy research, and international sources, finding little relationship between tuition costs and low-income PSE participation.

Other factors more greatly affect the decision to attend university or college, such as family values, academic aptitude, and motivation. A Statistics Canada survey showed that the wealthiest income group was more likely to report tuition as a barrier to PSE than the lowest income group. The experience of foreign countries further confounds the thesis that subsidizing tuition for low-income persons will produce better outcomes.

The paper makes four recommendations:

1. Governments should not target up-front, full-tuition subsidies for PSE on the grounds of low income alone, given the specious relationship between tuition rates and post-secondary attendance, the primacy of other factors in determining post-secondary attendance and the relationship of tuition fees to university dropout rates. New Brunswick's Tuition Access Bursary does not constitute sound public policy.
2. Government assistance for university tuition should be merit-based to ensure a greater return on the taxpayers' investment. Basing funding allocations on high-school grades and the maintenance of high grades in university would ensure accountability. Policy designed to ease post-graduation debt loads would also be more useful, given the correlation of tuition rates and debt levels. Such policy would also ensure that government assistance is directed at those who have completed their degrees.
3. Given the relationship between high school grades and PSE attendance, governments should focus on improving the quality of education, including better public education and consideration of alternative models to produce better secondary education outcomes.
4. A better system for assisting people in preparing for the workforce would put a greater emphasis on trades and skills training. Provincial governments should target funding for the training of vocations with a labour demand in their jurisdictions, which would help to ensure that those taking advantage of government subsidy could stay and work in the province.



Introduction

This paper evaluates the idea of eliminating tuition for low-income persons at post-secondary (PSE) institutions. Such policies are sometimes touted for their potential to increase access and enrollment in universities and colleges to the economically unfortunate, produce a better-educated population with greater employment prospects, retain more students through lower tuition, and contain student debt. While the idea of banning tuition outright has not gained significant traction in Canada, government-provided bursaries covering all tuition costs are an increasing part of the policy discussion for higher education. This paper advances the argument by demonstrating the relationship between tuition and participation, with a focus on tuition as a barrier for the children of low-income families.

The impetus for this paper is the “Tuition Access Bursary,” which the New Brunswick government created in April 2016. The bursary effectively eliminated tuition fees at public universities and community colleges in the province, and is available to students from families with an annual income of under \$60,000. The bursary provides up to \$10,000 per year for university students and \$5,000 for college students.¹ In recent comments, the New Brunswick premier has suggested that free tuition will increase access to PSE among young people from low-income households, encouraging more such youth to pursue PSE. Therefore, the introduction of the TAB program offers a starting point in which to examine the likely impact of such tuition subsidies.

This paper answers the following questions: Does the experience within Canada and across the world suggest that free tuition will increase access? What likely impact, if any, will this policy have on other factors associated with the financial elements of obtaining a PSE degree, such as duration and rate of degree completion and debt load upon graduation?

I will use data and analysis from a wide range of sources using Canadian and international comparisons to determine if the stated goals of TAB are likely to be realized. I will also comment on larger questions concerning the public finance of PSE, PSE access, and the costs versus benefits to the larger public of free or low tuition.



This study does not imply that tuition rates are a complete non-factor in determining PSE attendance or PSE performance and retention. Obviously, one can imagine a scenario where tuition rates reach such a level that they do present a significant barrier to potential attendees. The study suggests, however, that a significant reduction in tuition rates or their total elimination does not produce an automatic increase in low-income attendance or completion, and that to focus only on tuition rates is an insufficient basis for assessing public policy as it relates to PSE attendance. It is therefore vital that those debating and crafting public policy and the subsequent use of tax dollars regarding PSE policy have a fuller understanding of the myriad factors at play on this issue.



Do Tuition Rates Impact Access?

The primary impetus behind the TAB initiative is the assumption that tuition costs represent a significant barrier for young people from low-income households hoping to enter PSE. One can examine low-income university and college participation rates in Canada, where tuition differences between provinces vary significantly, to see if this is the case.

In their 2011 study *Tuition Fees and University Participation for Youth from Low-Income Families: An Interprovincial Analysis*,² Ben Eisen and Jonathan Wensveen used Statistics Canada data to compare the provincial-level university participation rate for Canadian 23-year-olds in 2007 to the provincial tuition rates for 2003. Their idea was that most 23-year-old university participants would have based the decision to enroll upon tuition rates when they were 19 and likely determining their post-high school path. The use of the 23-year-old metric also accounts for Quebec's CEGEP system, which delays university attendance for many high school graduates in that province, skewing the data for 19-year-old participation rates.

The study defined low-income families as the bottom 25 percent of all households. The outcome of their analysis was somewhat counterintuitive to the "low tuition equals greater access" hypothesis.

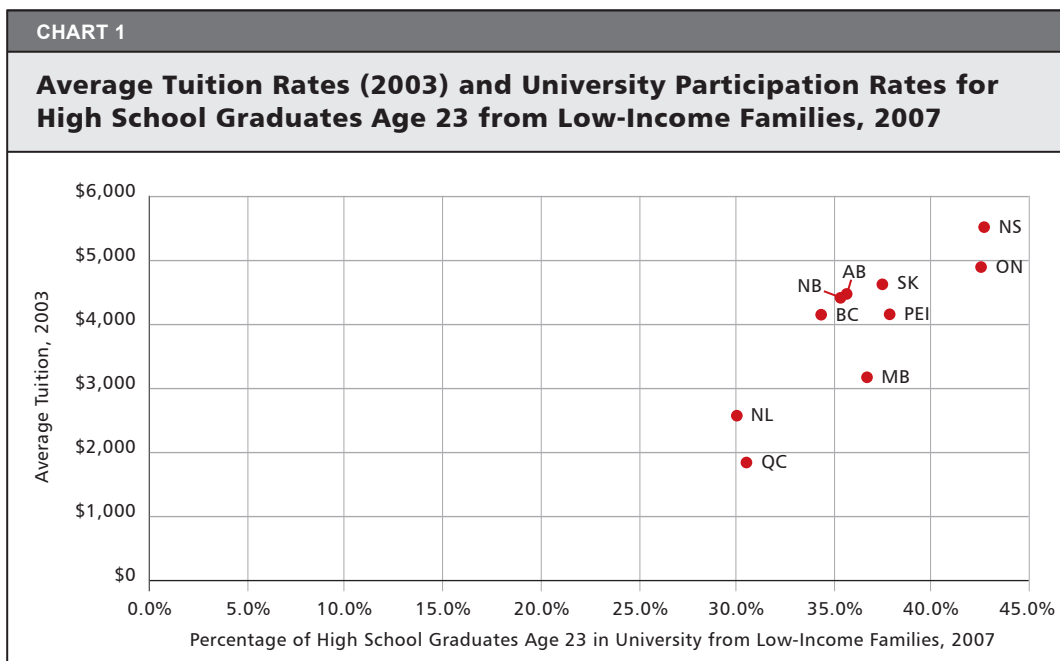
TABLE 1		
Province	Average Undergraduate University Tuition Fees (2003)	University Participation Rate for 23 Year Old High School Graduates from Low-Income Families (2007)
Newfoundland & Lbdr.	\$2,606	30.1%
Prince Edward Island	\$4,133	37.9%
Nova Scotia	\$5,557	42.7%
New Brunswick	\$4,457	35.4%
Quebec	\$1,862	30.6%
Ontario	\$4,923	42.5%
Manitoba	\$3,155	36.7%
Saskatchewan	\$4,644	37.5%
Alberta	\$4,487	35.6%
British Columbia	\$4,140	34.4%

Data compiled from Eisen and Wensveen, 2011, Charts 1 and 4.



What one sees is a pattern that runs counter to the hypothesis. The low-income university participation rate was lowest in Newfoundland and Labrador and Quebec, the two provinces with the lowest tuition rates, while it was highest in Nova Scotia and Ontario, the two provinces with the highest tuition rates. This disparity exists despite a nearly threefold difference in Nova Scotia’s tuition rate at the time, compared to Quebec’s. As for the remaining six provinces, their low-income participation rates all clustered within the 34 to 38 percent range, despite notable tuition-rate differences. It is evident that low tuition did not boost low-income university participation in Quebec or Newfoundland and Labrador, while higher tuition in other provinces has not dissuaded low-income high school graduates from entering university.

The following chart illustrates the data more clearly:



Eisen and Wensveen’s analysis also shows that lower tuition rates do not equalize the university participation gap between the share of low-income and high-income high school graduates. They examined the provincial university participation rates among 23-year-old high school graduates from the top quartile of family income and the bottom quartile, dividing the high-income participation rate by the low-income participation rate to arrive at a metric for equality of participation across income levels. Therefore, a figure of 2.00 would mean that the high-income university participation rate was twice the low-income participation rate.



TABLE 2	
Province	Ratio of High-Income and Low-Income University Participation Rates for 23 Year Olds (2007)
Newfoundland & Lbdr.	2.47
Prince Edward Island	2.30
Nova Scotia	1.87
New Brunswick	1.99
Quebec	1.92
Ontario	1.34
Manitoba	1.94
Saskatchewan	1.49
Alberta	1.16
British Columbia	1.25

See Eisen and Wensveen, 2011, Chart 6.

Again, one finds no correlation between tuition rates and more equal university participation rates among income groups. Indeed, Newfoundland and Labrador, with the second-lowest tuition rate in Canada at the time (less than 50 percent of highest-tuition holder Nova Scotia) had the biggest gap between high-income and low-income participation rates.

The Canadian interprovincial experience suggests that tuition rates do not have a noticeable impact upon low-income participation levels, nor promote greater equality of access across income divides when it comes to university attendance. Given the relatively higher gaps between low and high-income students in lower-tuition provinces, a policy of low tuition with the aim of boosting low-income university participation risks becoming more of a public subsidy for high-income families who could easily afford a university education on their own.

What about college tuition and low-income access? An examination of college tuition rates and low-income attendance in Canada is of value, since Quebec has free tuition for its public college (CEGEP) system. While zero-tuition Quebec has a much higher college participation rate for young people from low-income households (defined as the bottom 25 percent of income earners), any correlation between tuition and low-income access becomes less obvious among the other nine provinces.

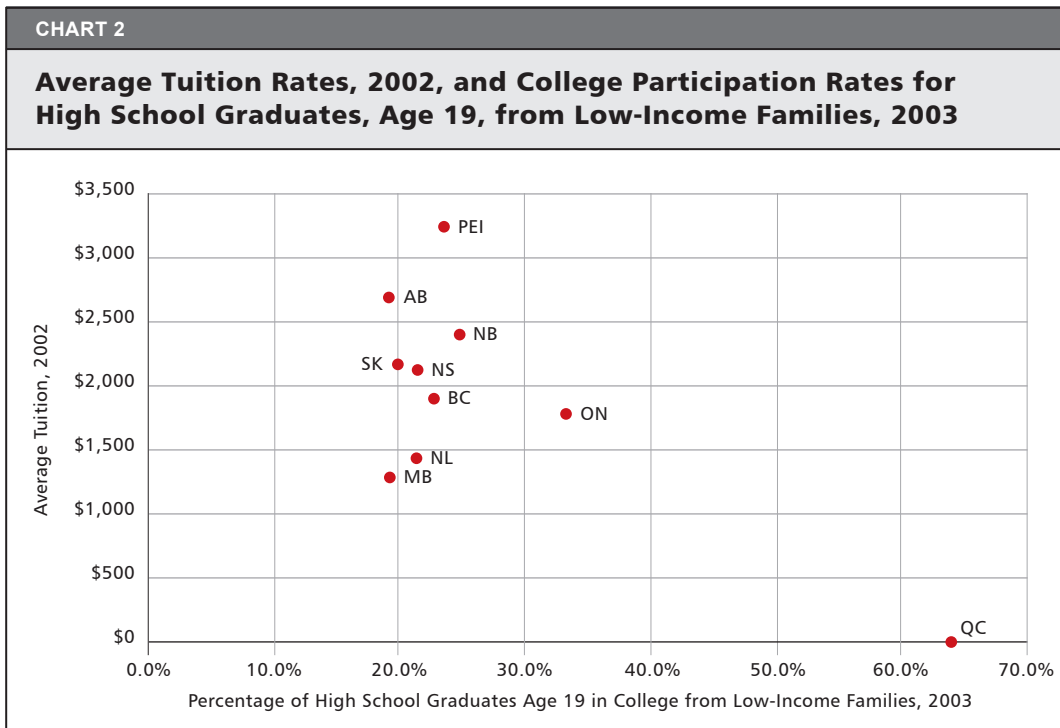
As one can see, zero-tuition Quebec does have a notably higher low-income college participation rate than other provinces. However, many Quebec youth attend CEGEP not merely as an educational end unto itself, but as a prerequisite for university.



Province	Average College Tuition (2002-03)	College Participation Rate for 19-Year-Old High School Graduates from Low-Income Families (2003)
Newfoundland & Lbdr.	\$1,452	21.4%
Prince Edward Island	\$3,250	23.3%
Nova Scotia	\$2,150	21.5%
New Brunswick	\$2,400	24.7%
Quebec	\$0	64.0%
Ontario	\$1,786	33.2%
Manitoba	\$1,292	19.6%
Saskatchewan	\$2,190	20.0%
Alberta	\$2,653	19.6%
British Columbia	\$1,914	22.6%

Data compiled from Klarka Zeman, "A first look at provincial differences in educational pathways from high school to college and university," Centre for Education Statistics, Statistics Canada, 2008; and Anne Motte, Joseph Berger, and Andrew Parkin, *The Price of Knowledge: Access and Student Finance in Canada, Fourth Edition*, The Canada Millennium Scholarship Foundation, Montreal, 2009, p. 95. <http://www.yorku.ca/pathways/literature/Access/The%20Price%20of%20Knowledge%202009.pdf>

The following chart also illustrates the data above:



Despite CEGEP being “free” and often a prerequisite for university — combined with the notably low university tuition rates in Quebec — low-income university participation rates for young people in the province are low. This points to factors other than financial access as a reason for the low participation rates.

As for the other nine provinces, the story is less clear. Ontario is the only other province where low-income college participation surpasses 30 percent, yet its college tuition fees were 23 percent greater than Newfoundland and Labrador, with a 21.4 percent low-income participation rate and a 38-percent greater rate than Manitoba, whose percentage is 19.6 percent. P.E.I. had a low-income participation rate of 23.3 percent, higher than Newfoundland and Labrador, Manitoba, Saskatchewan, and British Columbia, despite its college tuition being between 48 and 152 percent higher than in these provinces.

The claim that low or free tuition can end up acting as a subsidy to high-income students becomes even more evident when colleges are examined. In zero-tuition Quebec, high-income 19-year-old college participation rates are higher than low-income rates (65.9 percent versus 64.0 percent).³ Quebec is the only province apart from Alberta where this was the case, as all other provinces had higher low-income college participation than high-income participation rates. In other words, zero college tuition in Quebec is a tax-funded benefit, of which high-income students take greater advantage than low-income students.

Further data suggest a less important link between financial resources and university attendance. A 2015 article⁴ looked at data from the 2006 Statistics Canada “Youth in Transition Survey” to determine what barriers present themselves to young people with aspirations to attend university. It surveyed Canadian 21-year-olds who aspired to attend university or college but had not yet enrolled, and asked about any barriers they faced that influenced their decision.

The breakdown by family income range was as follows:

TABLE 4		
Family Income	No Barriers Cited	Financial Situation Cited as Barrier
\$5,000-\$25,000	49.1%	26.7%
\$25,000-\$50,000	46.8%	31.5%
\$50,000-\$75,000	54.9%	26.4%
\$75,000-\$100,000	58.0%	24.7%
Over \$100,000	70.4%	20.2%

Author’s calculations based on data in Finnie, et al, p. 243.



For those 21-year-olds from the lowest end of the income scale, nearly half who aspired to attend university, yet had not done so, cited no barriers in their way. Just over a quarter cited their financial situation as a barrier. Income may still be determined to play a role in this decision if the citing of financial barriers declined as income levels rose, but this was not the case, or at least the trend did not produce a clear-cut trajectory. Fewer 21-year-olds in the \$25,000-to-\$50,000 family income range cited no barriers to their PSE attendance goals, and more cited their financial situation than those in the income bracket below them. It is only when one gets to the top income bracket that a noticeable, yet not absolute, income advantage seems apparent.

While one's financial situation does present a barrier to PSE enrolment for a portion of young people, this portion is not dominant. Only 22 percent of those in the above survey who did not access PSE cited financial barriers as their reason for not doing so; furthermore, concerns about financial barriers cut across income levels.⁵ Of those who cited barriers to accessing PSE, those in the lowest income bracket listed financial barriers the least (52.4%). Meanwhile, those in the highest income bracket listed financial barriers the most of any income group (68.2%).

Among those who cited barriers to accessing PSE, there were many other reasons apart from finances. These included high school grades and motivation. There was a trend of lower-income participants citing high-school grades as an obstacle, which diminished for those in high-income households. Participants from across income brackets cited a lack of motivation at relatively consistent rates.⁶

Tuition rates and one's inability to pay them is not a singular explanation for why young people do not attend PSE. It cannot universally account for disparities in PSE attendance rates. Other factors that influence a young person's decision to pursue PSE will be considered later.



The International Experience

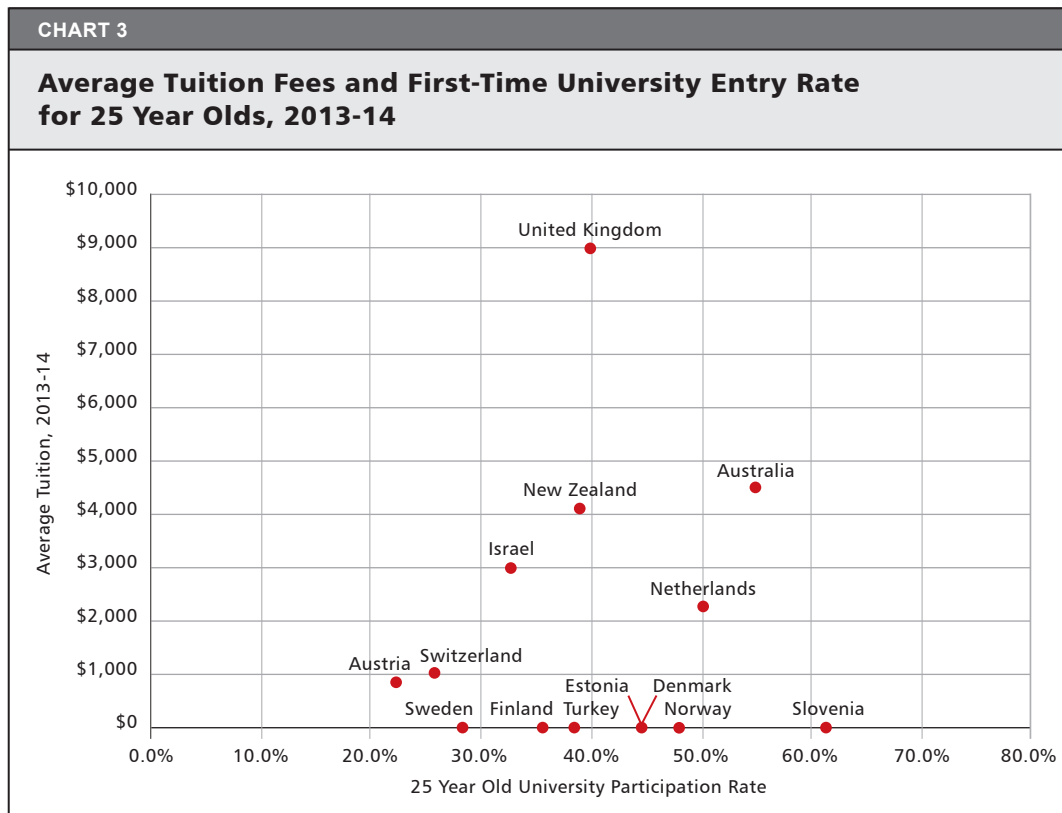
What does the experience in other countries tell us about potential links between tuition rates and university access? While data on university participation rates by income level are difficult to locate, a broad survey of global data on tuition rates *vis-à-vis* university participation can offer some useful insights. The table below shows the average annual tuition fees at public institutions for full-time national students and the first-time entry rate, for citizens under the age of 25 in a degree at a bachelor's level or equivalent.

Country	Average Tuition Fees (2013-14)	First Time Entry Rate for Citizens Under Age 25
Australia	\$4,473	62.0%
Austria	\$861	25.6%
Denmark	No tuition fees	50.2%
Estonia	No tuition fees	50.1%
Finland	No tuition fees	39.8%
Israel	\$2,957	36.5%
Netherlands	\$2,300	56.0%
New Zealand	\$4,113	43.4%
Norway	No tuition fees	53.7%
Slovenia	No tuition fees	69.1%
Sweden	No tuition fees	32.3%
Switzerland	\$1,015	29.1%
Turkey	No tuition fees	42.2%
United Kingdom	\$9,019	44.7%

OECD StatLink data: <http://dx.doi.org/10.1787/888933397997>. Monetary values converted into US Dollars using PPPs for GDP. Countries selected for which the above data was available to ensure consistency in comparison.



Chart 3 illustrates the data more effectively:



When plotted out visually, the data show little correlation between tuition rates and university participation rates. Among those countries with zero tuition on the list, participation rates range from just over 30 percent to just under 70 percent, while those countries with higher tuition fees tend to bunch up in the middle of these extremes. Australia, with relatively high tuition, has higher university participation rates than all of the free tuition Nordic countries. Britain, with far higher tuition than the rest of Europe, still manages to have a higher participation rate than free tuition Finland and Sweden, and notably higher than the relatively low tuition countries of Switzerland (\$1,015 per year) and Austria (\$861 per year).

To further build on the British example, where the maximum tuition fee was tripled in 2011, the income disparity between low- and high-income youth in university education has narrowed over the last decade. In 2006, the highest-income 18-year-olds in Britain were 3.7-times likelier to apply to university than the lowest-income 18-year-olds. By 2014, this gap had narrowed to 2.4 times,⁷ less than the low-income/high-income gap in Quebec, where current average tuition is one-third that in Britain.



What Other Factors Play a Role?

While finances can play a role in the choice to pursue PSE for some young people, there are numerous other factors that influence participation rates, factors that are more significant than tuition levels. As illustrated above, the rate of young people citing financial factors as their reason for not attending PSE is largely consistent across income brackets. What is notable are the gaps in PSE attendance among young people when one employs other methods of comparison.

In a 2005 survey of Canadian youth aged 24 to 26,⁸ 82 percent of those with a high school grade average of 90 to 100 attended university. For students with an 80 to 89 average, the rate was 63 percent. For the 70 to 79 grade average range, the attendance rate dropped to 32 percent, and was only 11 percent for the 60 to 69 range. The trend was less linear for college attendees. For 24- to 26-year-olds with a 90 to 100 high school grade average, 27 percent attended college; 45 percent of those with an 80 to 89 grade average attended college; and 48 percent of those with a 70 to 79 grade average attended college. Thirty-four percent of 24- to 26-year-olds with a high school grade average of 60 to 69 attended college. These data suggest that university is a more popular choice in direct relation to a high school graduate's academic performance, while college is more popular among a range of academic performers.

The same survey also showed that factors related to a young person's parents play a role in university attendance. Attendance for young people from two-parent households was 44 percent compared to 30 percent from single-parent households. Interestingly, this gap was not present for college attendees, as 43 percent of those who came from two-parent households attended college while 42 percent of those from single parent households did so.

The educational level of a young person's parents also played a role, with the likelihood of PSE attendance tied to parental educational attainment, particularly with university attendance:

Highest Education Attainment of Parents	Percentage of 24- to 26-Year-Olds who Attended University (2005)	Percentage of 24- to 26-Year-Olds Who Attended College/CEGEP (2005)
Less than high school	20%	36%
High school diploma	26%	39%
Some post-secondary education	36%	41%
Post-secondary certificate/diploma	54%	46%

Statistics Canada, Youth in Transition Survey.



The level of importance placed on post-secondary education by a young person's parents played a significant part in PSE attendance. Forty-five percent of those whose parents regarded PSE as important attended university, compared to 12 percent of those whose parents saw it as unimportant. For college attendees, the percentages were 45 and 24, respectively.

In his study of why youth from low-income families are less likely to attend university, Marc Frenette concluded that a significant degree of explanation for the low-income/high-income university attendance gap is not predicated on finances: "Differences in long-term factors such as standardized test scores in reading obtained at age 15, school marks reported at age 15, parental influences, and high school quality account for 84 percent of the gap. In contrast, only 12 percent of the gap is related to financial constraints."⁹

If one wishes to increase PSE attendance among low-income youths, addressing the costs of tuition will only provide a solution for a minority of those concerned. It is evident that factors well beyond the scope of government policy related to parenting and attitudes towards education play a notable role. Government policy around broadening PSE access should acknowledge that such policies will likely make university more affordable for some young people, but can hardly be expected to produce a major increase in attendance, and university attendance especially.

Indeed, the impact of parenting on a young person's likelihood of pursuing PSE partly explains why the citing of financial barriers, as an impediment to attending PSE, is largely consistent across income levels. A 2015 study made the following observation based on their data analysis, explaining the relatively-consistent citing of financial barriers across income groups as the reason for not enrolling in university:

Consider two families, both with the same income but different levels of parental education. Children from the family with higher parental education are not only considerably more likely to access [PSE], but are also considerably less likely to say they did not go due to a financial barrier. In other words, part of the reason a young person seeks further education is that potential financial barriers appear to be less of an issue.¹⁰

Perceptions of financial barriers, then, are less contingent upon the actual ability to pay and more dependent upon the idea of whether PSE is a worthwhile investment or not.



Do Tuition Rates Impact Student Debt?

One of the commonest arguments for free or lower tuition is to reduce the fiscal burden for students by eliminating or lessening the need for student loans. But is there a connection between tuition rates and student debt loads? A comparison of tuition rates and student debt load across Canada suggests a degree of correlation between the two, especially when compared to the lack of any correlation between tuition rates and low-income participation rates. However, the data still reveal curious anomalies.

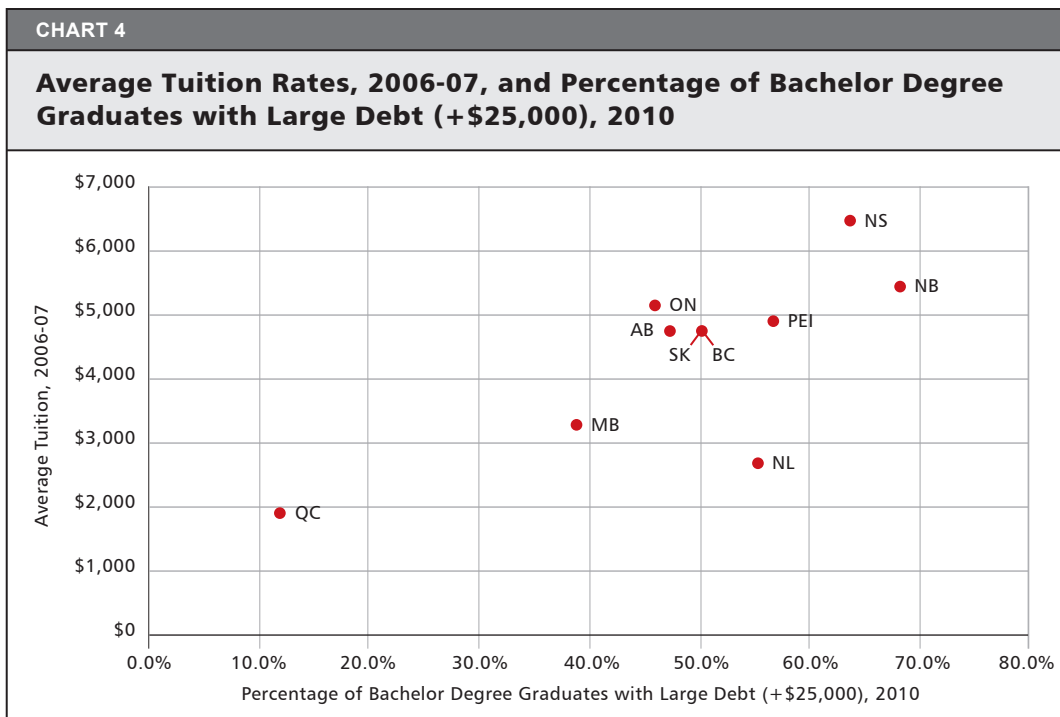
The following table presents a comparison of average undergraduate tuition rates by province in 2006-07 and the percentage of Bachelor degree students at graduation in 2010 with high debts, defined as over \$25,000. The two dates are chosen because they represent a four-year period between the starting tuition rate and the final debt load, which equals the average university degree duration, thus offering a means of determining the link between tuition rates and debt.

Province	Average Undergraduate Tuition (2006-07)	Percentage of Bachelor Degree Graduates with Large Debt (+\$25,000), 2010
Newfoundland & Lbdr.	\$2,633	55%
Prince Edward Island	\$4,920	57%
Nova Scotia	\$6,422	64%
New Brunswick	\$5,470	68%
Quebec	\$1,932	12%
Ontario	\$5,155	46%
Manitoba	\$3,319	39%
Saskatchewan	\$4,774	50%
Alberta	\$4,763	47%
British Columbia	\$4,740	50%

Statistics Canada, CANSIM 477-0068; CANSIM 477-0077. 2010 was the last year for which the data on debt were available.



Chart 4 illustrates the same data:



Quebec, with the lowest tuition in Canada, does have a significantly lower share of university graduates with a large debt. Nova Scotia and New Brunswick, meanwhile, the first- and second-highest tuition provinces respectively, take the top two spots for graduates with high levels of debt. For those provinces in between, however, the picture becomes more muddled.

Newfoundland and Labrador, with tuition rates that are 36.3 percent higher than Quebec’s, has a rate of graduates with a large debt that is 43 points higher. Moreover, while Newfoundland and Labrador had notably lower tuition rates than Ontario and the three westernmost provinces, it also had a higher share of graduates with large debts.

Public policy related to tuition rates produces mixed results when it comes to graduate debt load. Newfoundland and Labrador introduced a tuition freeze in 1999, and the share of graduates with a large debt declined from 61 percent in 2005 to 55 percent in 2010, suggesting that the freeze helped to ease student debt loads. However, during most of this same period, Manitoba also had a tuition freeze, which was implemented in 1999 after a 10 percent reduction and lifted in 2009.¹¹ Yet between 2005 and 2010, the share of graduates with a large debt load jumped from 29 percent to 39 percent, representing the biggest jump in graduates with large debt in Canada between those years.



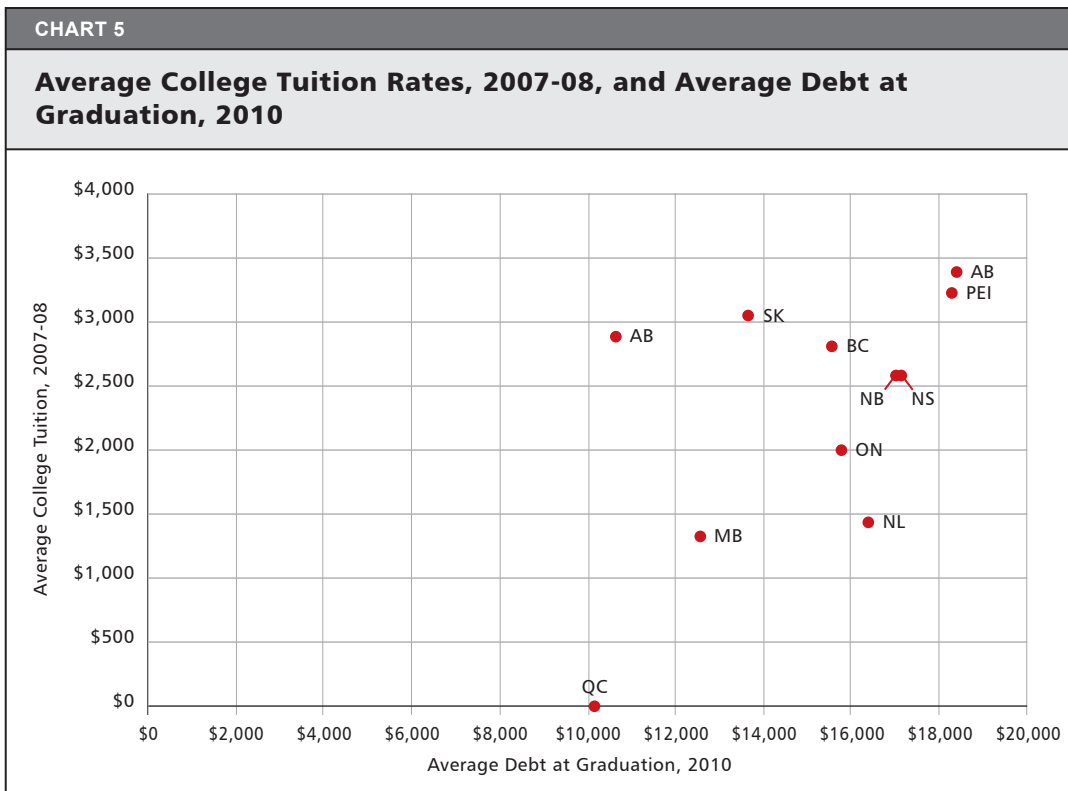
When one examines Canadian college graduates and debt levels, measuring the share of graduates with a large debt load is inadequate for the following reasons. The Statistics Canada data cited above, when applied to college graduates, lack numbers for Quebec, which are deemed too unreliable to state. Given that Quebec’s zero-tuition CEGEP system is vital for consideration in this instance, another measure of tuition-versus-graduate debt load is used. Instead we will look at the average debt at graduation for college graduates by province. The average data for 2010, compared to the tuition rate for 2007-08 (a timespan that allows for the completion of most college degrees) are in the following table:

TABLE 8		
Province	Average College Tuition (2007-08)	Average Debt at Graduation (2010)
Newfoundland & Lbdr.	\$1,452	\$16,400
Prince Edward Island	\$3,250	\$18,200
Nova Scotia	\$2,600	\$17,300
New Brunswick	\$2,600	\$17,200
Quebec	\$0	\$10,100
Ontario	\$2,020	\$15,700
Manitoba	\$1,292	\$12,600
Saskatchewan	\$3,026	\$13,700
Alberta	\$3,435	\$18,300
British Columbia	\$2,792	\$15,400

Data from Statistics Canada, CANSIM 477-0068, and Dr. Ben Levin, “Commission on Tuition Fees and Accessibility to Post-Secondary Education in Manitoba,” 2009, Table 2, p. 9.

Chart 5, next page, illustrates the same data:





There is a strong correlation between college tuition rates and average graduate debt levels. Alberta and P.E.I., the two provinces with the highest college tuition fees, also have graduates with the largest average debts. On the other end, one can see that average graduate debt is lowest in Quebec and Manitoba, the two provinces with the lowest college tuition fees. However, the broad correlation becomes muddled among those provinces that lie between these extremes. Average debt at graduation was almost \$3,000 less in Saskatchewan than in Newfoundland and Labrador, even though Saskatchewan’s college tuition fees were twice as large. And of course, free college tuition in Quebec reduces average debt, but does not eliminate it.

By drilling into the data for 2010 on college graduates who finish school with a large debt, the picture from the eight provinces with reliable data (*i.e.* excluding Quebec and Saskatchewan) is mixed. In 2010, 25 percent of Newfoundland and Labrador’s college graduates left school with a large debt, almost the same as Alberta’s 24 percent indebted-graduate share, though Alberta’s 2007-08 college tuition fees were \$3,435 compared to \$1,452 for Newfoundland and Labrador.

Manitoba did have the lowest share of college graduates with a large debt upon graduation (13 percent) and did have the lowest college tuition fees. However, Newfoundland and Labrador — with the second-lowest college tuition fees among the eight provinces for which data are available — had the largest share of graduates



with large debt loads. Nova Scotia and New Brunswick had college tuition fees slightly lower than British Columbia's, yet had 22 percent of their college graduates leaving school with a large amount of debt, compared to only 15 percent in B.C.

While there is a broad relationship between tuition rates and the debt loads of PSE graduates, the evidence suggests that lower tuition rates cannot automatically reduce the share of graduates with high levels of debt. It is possible that it might reduce debt levels, but this is not a certain, direct outcome. At the very least, there is a broad correlation between lower tuition and lower debt that isn't evident when one examines tuition rates *vis-à-vis* low-income participation rates or overall participation rates.



Do Tuition Rates Impact Graduation Rates and Persistence?

Do tuition rates play a role in how long university students take to complete their degrees, or the rate at which students drop out? The impact of tuition rates could be conceived as playing a role in the following ways: Does high tuition drive students to drop out due to an inability to pay, or compel them to take longer to complete their degrees due to a lack of funds? On the other side, do low or free tuition rates incentivize students to care less about completing degrees as quickly because the cost concern is mitigated, or otherwise encourage students to take a more casual approach to university attendance due to a lower financial penalty?

These are valid questions from a public policy point of view, because they ultimately tie into whether having taxpayers pay more, per student, into PSE each year will inadvertently cost more per student on PSE overall, due to high dropout rates or the slow completion of degrees. Andrew Eichen, writing in the *Washington University Political Review*,¹² elaborated on this concern in a commentary on Bernie Sanders's free tuition proposals in 2016. Eichen wrote:

With no personal funds invested in education, students become significantly more likely to drop out after a few semesters. While there may be some tangible societal benefits to having a more educated workforce, few would argue that a student who dropped out after consuming several years' worth of federally subsidized education aids society in any meaningful way.

In referring to Germany's free tuition model, cited as an ideal by Sanders, Eichen added:

... only 31 percent of Germans who attend college actually graduate. Moreover, very few of those who graduate do so on time. As a result of free education, many students take up to six years to graduate from a three-year program. The situation is so dire that colleges in Germany have become known for their "dauerstudenten," or "eternal students."



Does this sort of phenomenon occur in Canada? Admittedly the situation in Canada differs as no province has universal free university tuition, but rather differing rates of tuition. However, the numbers at least provide a clue. In the case of Canada, the data indicate no correlation between tuition fees and drop out or graduation rates.

TABLE 9			
Province	Average Undergraduate University Tuition (2000-01)	Dropout Rate Among University Attendees aged 24-26 (2005)	Graduate Rate Among University Attendees aged 24-26 (2005)
Newfoundland & Lbdr.	\$3,300	23%	57%
Prince Edward Island	\$3,480	14%	70%
Nova Scotia	\$4,408	21%	52%
New Brunswick	\$3,519	21%	56%
Quebec	\$1,898	11%	51%
Ontario	\$3,971	15%	57%
Manitoba	\$2,873	24%	48%
Saskatchewan	\$3,409	25%	41%
Alberta	\$3,841	25%	48%
British Columbia	\$2,520	18%	52%

Statistics Canada, CANSIM 477-0077; Youth in Transition Survey.

The following table compares average provincial tuition rates in 2000-01 with drop out and graduation rates for 24- to 26-year-olds in 2005, the latter data being gleaned from the Statistics Canada Youth in Transition Survey. Matching the survey’s date structure is the reason for which 2000-01 is selected as the tuition base year, since most 24- to 26-year-olds in 2005 would have started or been in the very early stages of their university education five years earlier.

The following charts will help illustrate this data.



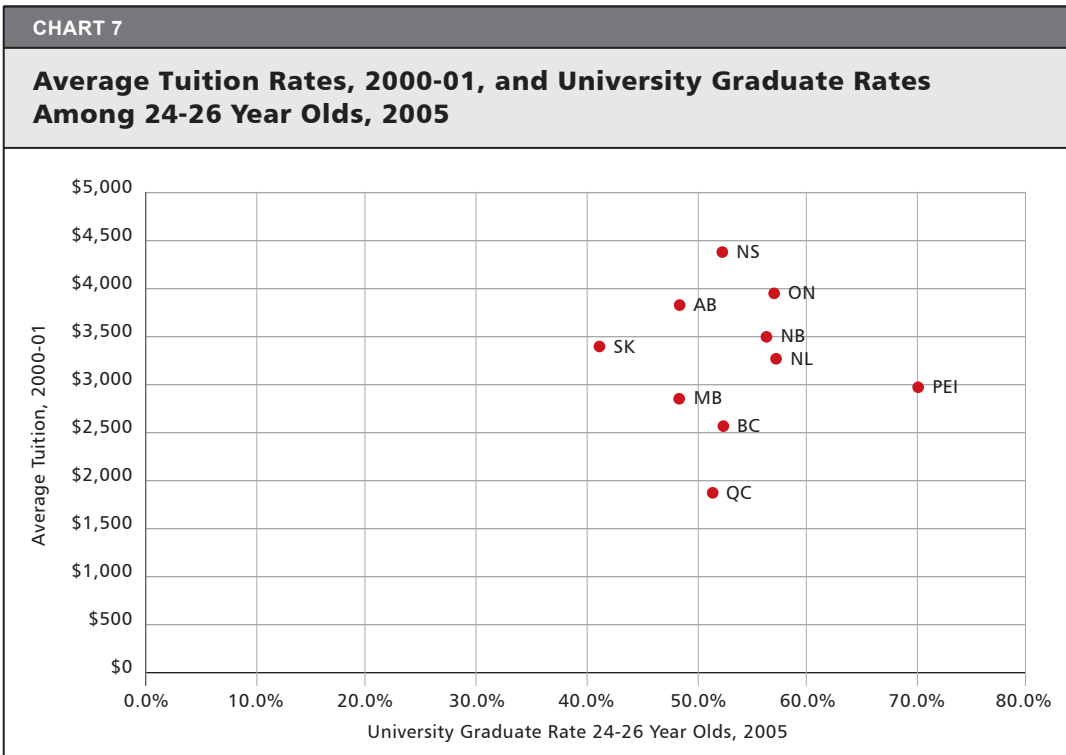
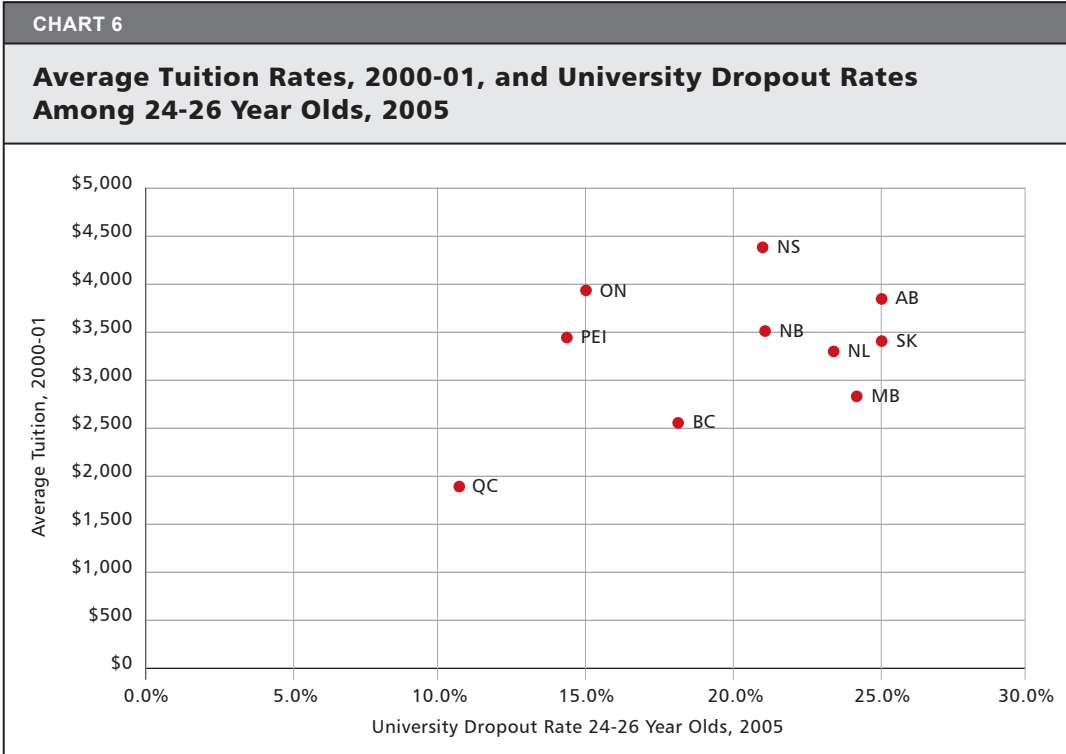


Chart 6 shows that Quebec, with the country’s lowest tuition rate, also had the lowest university dropout rate, suggesting a possible link between the two. (Note that universities do not include the CEGEP system, a prerequisite to attend university in Quebec.) However, the picture becomes less clear when other provinces are considered. Nova Scotia, with the country’s highest tuition, falls in the middle of the pack when it comes to dropout rates, while Ontario, with Canada’s second-highest tuition at the time, had the third-lowest dropout rate.

As Chart 7 shows, there is no obvious correlation between tuition rates within Canada and university graduation rates. The province with the lowest graduation rate, Saskatchewan, had nearly-identical average tuition to Prince Edward Island, which had the highest graduation rate. Meanwhile, Nova Scotia, which had the country’s highest tuition had the exact same graduation rate as Quebec, despite the latter having country’s lowest tuition at less than half of Nova Scotia’s average fees.

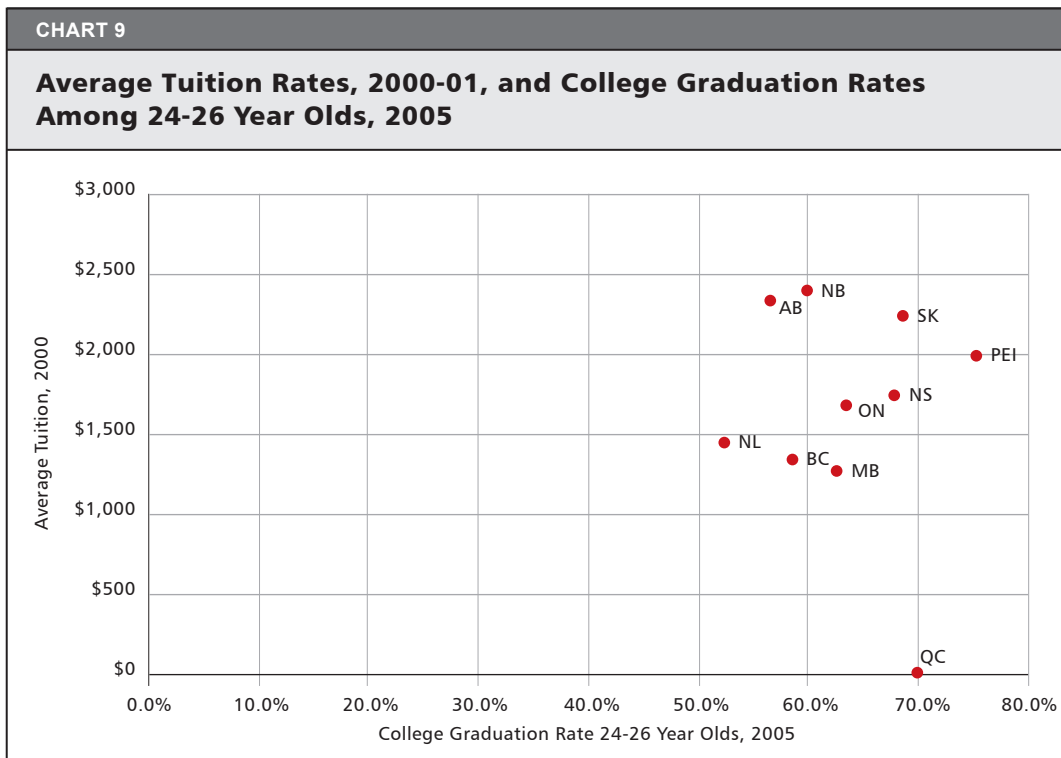
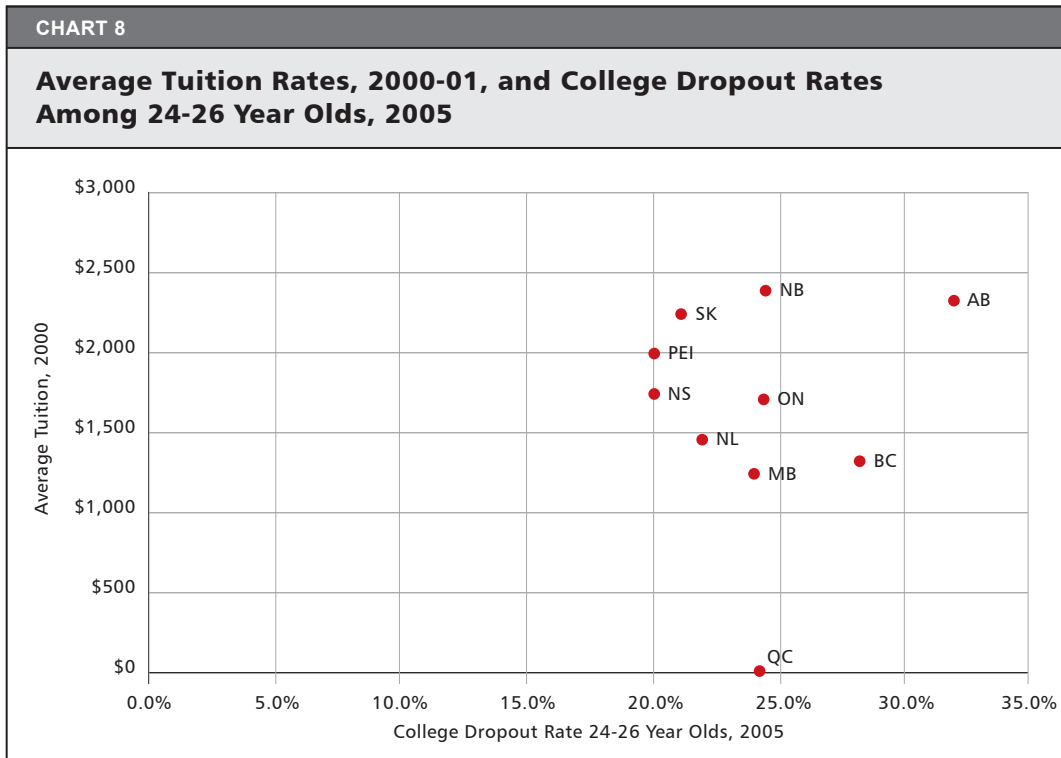
What about college tuition and dropout rates? Table 10 has the college-related data for the same period under examination as the university data above:

TABLE 10			
Province	Average College Tuition (2000-01)	Dropout Rate Among College Attendees Aged 24-26 (2005)	Graduate Rate Among College Attendees Aged 24-26 (2005)
Newfoundland & Lbdr.	\$1,452	22%	53%
Prince Edward Island	\$2,000	20%	76%
Nova Scotia	\$1,750	20%	68%
New Brunswick	\$2,400	24%	60%
Quebec	\$0	24%	70%
Ontario	\$1,718	24%	64%
Manitoba	\$1,292	24%	63%
Saskatchewan	\$2,240	21%	69%
Alberta	\$2,339	32%	57%
British Columbia	\$1,340	28%	59%

Motte, et al, p. 95; Statistics Canada, Youth in Transition Survey.¹³



The data are illustrated in the following charts:



As Chart 8 shows, there is no correlation between college tuition fees and dropout rates. New Brunswick, with the highest college tuition in Canada, had a dropout rate exactly the same as Quebec, with its zero college tuition. Alberta had the second-highest college tuition fees and the highest dropout rate, though British Columbia had the second-highest dropout rate despite having the third-lowest tuition fees.

When one examines college graduation rates, again there is no correlation between tuition levels and graduation levels. P.E.I. had the highest graduate rate, yet came fourth in tuition fees. Quebec, with free college tuition, had a graduation rate of 70 percent, while Saskatchewan, with the third-highest tuition fees at \$2,240, had an almost-identical graduation rate (69 percent).

The data suggest that within Canada, lower or free tuition does not affect graduation rates. This is vital for the consideration of tax dollars, for it at least means that there cannot be an automatic expectation that lower or free tuition will cause students to take longer to finish their degrees due to a lack of incentives related to the overall financial burden.

Just as the data referenced above point to factors other than tuition rates playing a notably greater role in PSE attendance among young people, it is apparent that factors before high school graduation can have a much more correlated impact.

On the issue of PSE dropout rates, data from the same survey point to factors other than tuition levels playing a much bigger role. Just as individual academic performance in high school correlated with university attendance rates, the same applied to university dropout rates, as the following table shows:

TABLE 11	
Grade Average in High School	Post-Secondary Students Aged 24-26 who Discontinued Their Original Post Secondary Stream*
90%-100%	7%
80%-89%	14%
70%-79%	22%
60%-69%	30%

*Note: While some of these students discontinued their studies, other switched streams.
 Data from Andrew Parkin and Noel Baldwin, "Persistence in Post-Secondary Education in Canada: The Latest Research," Canadian Millennium Scholarship Foundation, Figure 1, p. 8. http://www.yorku.ca/pathways/literature/Aspirations/090212_Persistence_EN.pdf



How about the international experience? It can be difficult to locate corresponding data that allows for a direct apples-to-apples comparison of tuition and completion rates, but an examination of data from the OECD¹⁴ suggests that there may be a connection between free tuition and the time taken to complete a degree, though the impact may be small. When one examines the Bachelor's degree or equivalent completion rate in 2014 in five countries (Czech Republic, Denmark, Finland, Norway, Sweden) that had free tuition in 2008-09, the average completion rate after the theoretical duration of a degree (generally three years in these countries) was 43.2 percent, while the completion rate for students taking an extra three years to complete their degree was 67.6 percent. (As the completion time studied goes up to approximately six years from date of entry, the tuition rate in 2008-09 was selected to compare with completion rates in 2014).

When one examines the same data as they apply to four high-tuition countries — meaning tuition fees of over \$3,000 USD (Australia, New Zealand, United Kingdom, United States) — the average completion rate after the theoretical duration of a degree was 46.8 percent and 78.3 percent for students taking an extra three years to complete their degree.

The gap in completion rates between the two sets of countries is notably larger for students who take longer in completing their degrees. It could be the case that free tuition acts as a slight disincentive for degree completion among students who are already not inclined to put sufficient effort into their studies. That said, with the numerous variations in student assistance and other factors in different countries, it is difficult to ascertain if the slightly lower completion rates in free tuition countries directly correlates to this fact, and one may wish to exercise caution in making any overt conclusions. While one can say that there is little evidence to suggest that completion rates will definitely decline with the introduction of free tuition, it also cannot be ruled out as a potential perverse incentive for some students to complete their degrees at a slower rate.



Will TAB Graduates Stay in New Brunswick? A Look at Retention.

One of the implicit rationales for the TAB, and indeed broader policies that aim to reduce or eliminate tuition costs, is that the program will encourage university graduates to remain in their province of origin and, by extension, go on to work and pay taxes in that province. The evidence raises doubts about TAB achieving this aim independent of any larger economic considerations.

A survey conducted in late 2014 of university graduates from the class of 2012 explains these doubts.¹⁵ Conducted by the Maritime Provinces Higher Education Commission (MPHEC), the survey found that net retention of university graduates from New Brunswick's universities two years after graduation was 78 percent, compared to 92 percent for Nova Scotia and 75 percent for P.E.I. However, this figure is deceiving when it comes to the potential impact of the TAB on graduate retention. The survey's New Brunswick sample was 589 graduates, of whom 457 were still living in New Brunswick (hence the 78 percent net retention rate). Of those 457 still living in New Brunswick, however, 377 were originally from New Brunswick before enrolling in university, which translates into a net retention rate for university graduates who were original residents of New Brunswick of 64 percent. This is relevant in an assessment of TAB, for the bursary is only available to New Brunswick residents, and over one-third of New Brunswick's university graduates cannot expect to benefit from TAB and its supposed inducement to stay in the province.

While it would be conjecture to assess how many New Brunswick graduates who are TAB recipients will end up staying in New Brunswick because of the bursary, the province's record on keeping university graduates to date offers little reason for optimism. The current poor retention rates are despite other public policies intended to make post-graduate expenses easier to handle and to encourage graduates to stay in New Brunswick. Such policies include the Debt Reduction for Timely Completion Benefit and the Tuition Rebate, which were cancelled to make way for the TAB.

In the absence of larger economic opportunities, lower tuition cannot be expected to automatically encourage graduates to stay in New Brunswick. A 2016 survey¹⁶ on graduate retention conducted by Corporate Research Associates asked classes of 2016 post-secondary graduates about their preferred location to work after graduation, based on province of study. The preference for remaining in one's province of study was 70 percent in Nova Scotia, 64 percent in New Brunswick, 63 percent in Newfoundland and Labrador, and 57 percent in P.E.I.



The Newfoundland and Labrador figure is noteworthy because that province has tuition rates that are less than half as high as the average in the three Maritime provinces. This statistic suggests that spending less on tuition does not make staying in a jurisdiction more attractive if economic conditions remain unfavourable. Ultimately, keeping New Brunswick's university graduates in New Brunswick will require a more robust economy and policies designed to nurture it.



It's the Economy

Ultimately, the state of the economy of a jurisdiction will determine if a graduate stays, given the availability of employment. Indeed, the CRA poll showed that 82 percent of New Brunswick's post-secondary graduates would stay in the province if they had an attractive job offer in their field. International data further suggest that a jurisdiction with a high overall unemployment rate will present employment challenges for post-secondary degree holders.

Moreover, recent PSE graduates are not particularly recession-proof. When unemployment shoots up in a jurisdiction, it shoots up for young degree holders at a practically-commensurate rate, meaning that one cannot hope for an increase in post-secondary graduates to result in less outmigration. These factors would play an obvious role determining whether university graduates stay put or relocate. To illustrate how a post-secondary degree cannot provide a cushion against larger macroeconomic woes, one can look at the relative increase in unemployment in several countries in the wake of the Great Recession of 2008.

The following table shows the ten OECD countries that witnessed the biggest relative increase in overall unemployment rates between 2005 and 2012, with the 2005 rate represented by the figure 100. The table also compares the relative increase in the unemployment rate for post-secondary degree holders aged 25 to 34, with the 2005 rate represented by 100.

Country	Overall Unemployment Rate 2012 (2005 rate = 100)	Unemployment Rate for PSE Degree Holders Age 25-34, 2012 (2005 rate = 100)
Ireland	338	329
Spain	271	233
Greece	245	226
Portugal	205	186
New Zealand	167	145
United Kingdom	166	175
United States	159	163
Denmark	156	154
Hungary	153	184
Italy	138	99
AVERAGE	200	189

Author's calculations based on data from Education at a Glance 2014: OECD Indicators, Table A5.4a, pp. 122-23; OECD online database, <http://data.oecd.org/unemp/unemployment-rate.htm>.



On average, a PSE-educated young person can expect to only fare slightly better in an economic downturn than the overall labour force, and even this is no guarantee, as the experience of Hungary, the UK, and the USA shows. As for the anomaly of Italy's post-secondary educated young people having an unemployment rate that was slightly lower between 2005 and 2012, one notes that Italy had the highest unemployment rate for tertiary educated 25- to 34-year-olds in the OECD in 2005 (13.8 percent).

Simply put, university graduates will be hit by larger macroeconomic woes almost as badly as the total population, weakening the likelihood of them staying in a particular location. In a country like Canada, with a relatively open labour market, the impulse to move for better economic opportunities is even greater than in countries that may be more difficult to leave for job seekers due to, for example, differences in culture and language.



Is TAB a Good Deal for Taxpayers?

Any government policy that consumes tax dollars warrants examination of value for money. The evidence on dropout rates for university students and retention rates for university graduates suggests that TAB risks being a policy that does not deliver good value for money.

First, let us consider the dropout rate among university students in New Brunswick. The MPHEC examined the progress of nearly 9,000 first-year students who made up the fall 2006 university cohort in the Maritimes. The cumulative dropout rate for this cohort was 18 percent after year one, 29 percent after year two, 31 percent after year three, and 32 percent before the end of year four.¹⁷ Therefore, 32 percent of university students can be expected to drop out before completing their degrees.

Of the 68 percent of first-year university entrants in New Brunswick who can be expected to complete their degrees, the data on retention rates in the province cited above would suggest that 64 percent of those who do complete their degrees will stay in New Brunswick. This would translate into only 44 out of every 100 first-year university entrants in New Brunswick both completing their degrees and remaining in the province. In other words, this would mean that it can be expected that only 44 percent of all TAB recipients will both complete their degrees and stay in New Brunswick. A 44 percent success rate on an investment may seem of dubious value to the public that is funding it.



Policy Implications

Given the observations outlined in this report, it is doubtful that TAB will achieve its main goal of increasing PSE attendance for young people from low-income households implying that tuition is not the primary issue when it comes to attendance rates. This is particularly evident when it comes to university attendance. Moreover, there are numerous factors that are in place long before a student can apply to a PSE institution that will affect his or her likelihood of pursuing PSE and his or her likelihood of completing a degree — factors often beyond the scope of government policy. The observations above also give reasons to believe that in the absence of larger improvement in New Brunswick’s macroeconomic situation, TAB will do little to encourage PSE graduates to stay in the province.

These are valid concerns, especially given that this policy depends upon tax revenue provided by working people, who in many cases earn less than the households of TAB recipients. As with all public policies, the matter of cost effectiveness is not trivial for those who must pay the fees. The upshot of this report is an assessment of data and experience from across Canada and the developed world to gauge the likely success and impact of the TAB in achieving specific goals. My conclusion is that the TAB is of questionable value when it comes to achieving its stated and implied objectives.

This is not to say that there isn’t a role for government in the financing of PSE, or in enhancing the ability of citizens to receive an education. Alternatively, the goal ought to be how to maximize access and/or ease the financial burden to those with the potential to prosper academically, while respecting tax dollars. There are some broad themes that are worth considering.

Free or low tuition has scarce impact on low-income enrollment. Moreover, dropout rates further raise questions about the value of upfront “free” tuition as a wise use of tax dollars. There is, however, a minor correlation between tuition rates and debt levels upon graduation. Therefore, it would be better to examine policies that seek to ease the debt burden, instead of pursuing upfront blanket tuition assistance for all. Such policies would ensure that any additional financial assistance from the government go to those who have finished their degrees, to an actual rather than potential graduate.

As for upfront tuition assistance to low-income students, a better model would be merit-based assistance. This would target aid to promising individuals based on grades or other factors demonstrated in high school, or subsequent grade levels achieved in university. This would ensure that those with academic ability and potential are not overly burdened, while ensuring that tax-funded financial aid is more likely to



be effectively apportioned. As the data above show, grade levels in high school are correlated with dropout rates in university. Academic performance and income level could be assessed on a sliding scale, in which a high school graduate who excels at academics, yet is on the lowest income level, would be eligible for the most aid. A financial assistance model that accounted for such scale would be more cost effective while also boosting those with the greatest academic potential without subsidising the wealthy.

Moreover, given the broad connection between high school grades and PSE attendance, greater emphasis on the primary and secondary levels of education ought to be considered. In many ways, PSE will arrive too late for many underperforming students to catch up, and such underperformance could be countered much earlier in their education. There are numerous policy considerations related to pre-PSE education that could improve the ability of students graduating high school. They are beyond the scope of this report, but the experience of other jurisdictions, namely in the United States and Britain, with alternate forms of education delivery such as charter schools, would introduce an important policy alternative to the education debate.

Finally, a note about the disproportionate importance that governments place on university education over other forms of PSE for young people, and the disproportionate emphasis that governments often place on educating young adults as opposed to lifelong skill upgrades and training.

A greater emphasis upon university education over other types of education and training is a short-sighted focus. The earning potential of university degrees is diminishing,¹⁸ raising questions about the value of a university education relative to other options. These factors suggest that greater emphasis should be placed on assisting those who elect a trade. As part of such a focus, the government could tie such assistance to the completion of standardized examinations, co-op programs and apprenticeships. Governments could also publish annual reports on demanded occupations in the private sector market, which would include the educational requirements for qualification. Then the degree of funding available could be weighted to the financial need of the student and on the need for more people trained in the areas in question. This would be a needs- and merit-based funding model that could apply to all forms of PSE. In relation to vocational training, governments must also acknowledge that the days of young people receiving a degree and embarking upon a career without further formal education are long gone. In a world of ever-quickenning technological change coupled with longer working lives, workers can be expected to require skills training and upgrading throughout their lives for currently-held jobs and new positions.



A greater focus on access to lifelong skills training will be vital and should thus attract more attention.

In conclusion, this paper makes four recommendations:

Recommendations

Recommendation 1: Governments should not target up-front, full-tuition subsidies for PSE on the grounds of low income alone, given the specious relationship between tuition rates and post-secondary attendance, the primacy of other factors in determining post-secondary attendance and the relationship of tuition fees to university dropout rates. New Brunswick's Tuition Access Bursary does not constitute sound public policy.

Recommendation 2: Government assistance for university tuition should be merit-based to ensure a greater return on the taxpayers' investment. Basing funding allocations on high-school grades and the maintenance of high grades in university would ensure accountability. Policy designed to ease post-graduation debt loads would also be more useful, given the correlation of tuition rates and debt levels. Such policy would also ensure that government assistance is directed at those who have completed their degrees.

Recommendation 3: Given the relationship between high school grades and PSE attendance, governments should focus on improving the quality of education, including better public education and consideration of alternative models to produce better secondary education outcomes.

Recommendation 4: A better system for assisting people in preparing for the workforce would put a greater emphasis on trades and skills training. Provincial governments should target funding for the training of vocations with a labour demand in their jurisdictions, which would help to ensure that those taking advantage of government subsidy could stay and work in the province.



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