



HIGHLIGHTS

- Investment in an undergraduate university degree provides a huge rate of return.
- Question for parents: how much savings are required to fund future investment in education?
- For a child born today who will attend university in 18 years time, the relevant annual increase in prices for a student budget is 2.9 to 3.5 per cent.
- Education costs (tuition, books and academic fees) for a 4-year degree pursued in 18 years time are projected to be \$64,363.
- Living expenses for a 4-year degree pursued in 18 years time are projected to be \$72,650 for students living away from home and \$37,063 for students living at home.
- The total cost of pursuing a 4-year undergraduate degree in 18 years time is therefore projected to be \$137,013 for students living away from home and \$101,426 for students living at home.
- Removing the impact of overall CPI inflation, the total cost of pursuing a 4-year undergraduate degree in 18 years time is projected to be \$92,369 for students living away from home and \$68,373 for students living at home expressed in 2009 dollars.

Craig Alexander, SVP and Deputy Chief Economist
416-982-8064
mailto:craig.alexander@td.com

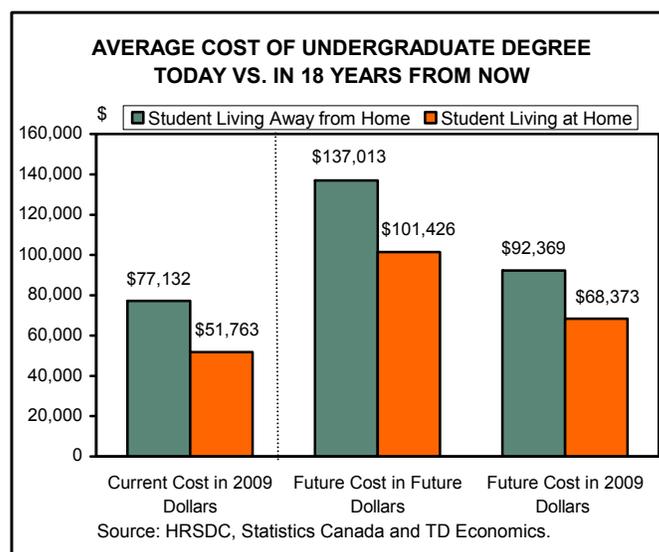
Shahrazad Mobasher Fard, Research Analyst
416-944-5729
mailto:shahrazad.fard@td.com

THE FUTURE COST OF A UNIVERSITY DEGREE

Most parents hope their child will obtain a university degree. This is not surprising, since investment in higher learning is a sound investment that opens the door to a higher standard of living. Just as one illustration, according to the 2006 Census, individuals with a bachelor's degree had median earnings of \$56,048, which is considerably higher than the \$37,403 for individuals with only a high school diploma. The annual difference in earnings also understates the full impact, as the higher annual income is compounded over a lifetime. A recent study found that investing in an undergraduate degree provided male and female students with an annual rate of return in after-tax earnings of 11.5 and 14.1 per cent, respectively¹. Greater education also raises the probability of employment, reduces the odds of unemployment, tempers the duration of unemployment if unemployment occurs, and increases the ability to do lifelong learning.

Given all of these benefits, many parents start saving early in the child's lifetime to help finance the future investment in

education. The question from a financial planning perspective is what will be the future cost of a university degree? In this paper, we project prices for a traditional basket of goods and services purchased by a student and conclude that the average annual inflation rate for a student who lives away from home is around 2.9%, while the inflation rate for a student who lives at home is around 3.5%. Based on these price increase assumptions, if one has a child today who starts a 4-year honors university degree in 18 years time, the total cost of the 4-year program will be \$137,013 for students living away from home (\$64,363 of tuition and other academic expenses and \$72,650 of living expenses), while the bill for students living at home will be \$101,426 (again, \$64,363 for tuition and academic expenses but \$37,063 for living expenses). This considerable price tag represents a major challenge for parents and students. Indeed, it often disrupts the ability of parents to save for retirement. Accordingly, it is critical that saving for both a child's post-secondary education and the parent's future retirement be built into a long-term financial plan as early as possible.



Building a Student Budget

In order to assess the future cost, we need to start with a student budget. This is comprised of tuition fees and non-tuition fee related expenses. A key determinant of the latter is whether or not the student decides to live away from home. So, we will assess two budgets to reflect the stay-at-home versus live-away-from-home options.

The calculation will be based on national average tuition and non-tuition fees. In truth, this is a major limitation of the estimate because tuition fees vary by province and program of study. For example, during the 2008-2009 academic year, the national average undergraduate tuition fee for Canadian full-time students was \$4,724², but varied from a range of \$2,167 in Quebec to \$5,932 in Nova Scotia. During the same academic year, average undergraduate tuition fees for Canadian full-time students varied from \$3,666 in the faculty of education to \$12,906 in the faculty of dentistry. The cost of living expenses also vary by region.

However, the use of national average tuition and non-tuition expenses does not invalidate the analysis, since parents cannot predict where their child will go to school or which program they will be enrolled in. Given these two unknowns, it is reasonable to focus on national average figures for financial planning purposes.

The current cost of pursuing an undergraduate degree

Data on tuition and additional compulsory fees were obtained from Statistics Canada. Data on student living expenses were obtained from Human Resources and Skills Development Canada (HRSDC)³. The cost of a computer and the cost of entertainment were added to these two sets

AVERAGE ANNUAL UNDERGRADUATE TUITION FEES FOR CANADIAN FULL-TIME STUDENTS BY FACULTY IN 2008-2009		
	2008-09 (\$)	2007-08 to 2008-09 (% Chg.)
Education	3,666	3.4
Agriculture, natural resources and conservation	4,181	2.9
Architecture and related technologies	4,246	6.2
Pharmacy	4,298	2.0
Social and behavioural science	4,318	3.7
Nursing	4,385	2.8
Visual and performing arts, and communications technologies	4,389	3.5
Veterinary medicine	4,441	3.4
Humanities	4,478	3.1
Other health, parks, recreation and fitness	4,551	3.4
Physical and life sciences and technology	4,682	3.3
Business, management and public administration	4,828	4.1
Mathematics, computer and information science	4,947	4.2
Engineering	5,310	4.1
Law	7,720	4.6
Medicine	10,392	3.6
Dentistry	12,906	3.1
National average	4,724	3.6

Source: Statistics Canada.

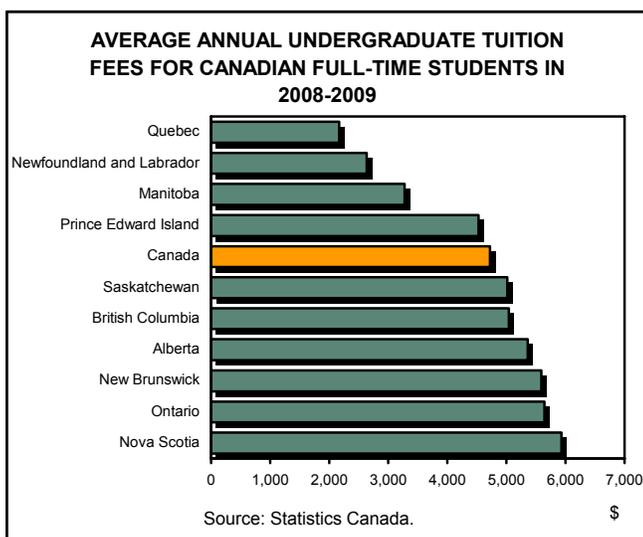
of data. The full student budget is shown in the accompanying table.

For students living away from home, the annual cost of pursuing an undergraduate degree in 2008-09 averaged \$19,588 nationally and ranged between \$15,849 in Newfoundland to \$21,129 in Ontario. For students living at home, the cost averaged \$13,034 nationally and ranged between \$10,286 in Quebec to \$14,129 in Alberta in 2008-2009.

Based on the costs in 2008-09 and using some price assumptions over the next three years, it appears that a four year degree started this year will run a 4-year price tag of \$80,498 for students living away from home and \$53,356 for students living at home. \$28,846 constitute education-related costs, while the remainder were living expenses. With this starting point, we can investigate by how much the price tag will rise over the next 18 years.

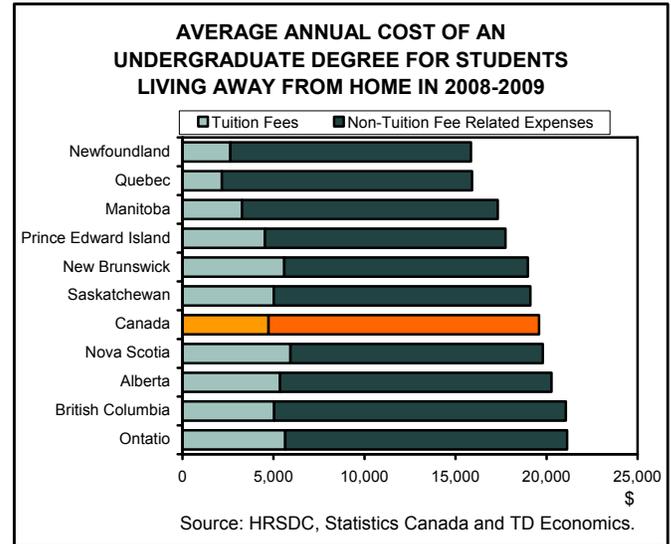
The methodology used to project the current cost

The basket of goods and services purchased by students is not the same as the general Canadian population. For



example, the share for tuition is dramatically higher for students versus non-students; and, tuition has a long history of rising faster than the average rate of Consumer Price Index (CPI) inflation. Hence, the assumption that the cost of pursuing an undergraduate degree will be increasing at the Bank of Canada's CPI inflation target rate of 2 per cent is not appropriate.

The methodology used in this paper was to take the individual components of the student basket, consider their historical increases in prices and render an assumption with regards to their longer-term future trend. Because the Bank of Canada's CPI inflation target of 2 per cent came into effect by the end of 1993, the historical values prior to that year were not considered in our analysis because inflation expectations and the behaviour of inflation was fundamentally changed when the Bank of Canada developed strong credibility as an inflation fighter in the 1990s. Our assessment is that for most of the components of the student basket, the average price growth between 1994 and



2008 is a good guide for the future. There were, however, a few exceptions. Food prices were projected to increase by about 1 percentage point above their annual average pace between 1994 and 2008 due to anticipated future pressures from global demand that are likely to boost the average trend growth in agriculture prices. Books and supplies were assumed to grow at a lower rate than the historical annual average pace, reflecting the fact that the trend in recent years showed a much weaker performance compared to its 14-year average. Finally, tuition fees as well as additional compulsory fees were assumed to increase at a rate of 5 per cent over the projection period due to anticipated future upward pressures on the cost of education stemming from lower university enrolments and decreased ability for provincial governments to raise tax revenues as the population of baby boomers retires. Increased priority on health care from an aging population may also dampen government funding for education, in turn boosting tuition rates and academic fees.

The cost of pursuing an undergraduate degree in 18 years from now

Applying the individual price growth forecasts to the weighted basket of student purchases suggests that the average annual rate of inflation is 2.9 per cent for students living away from home and 3.5 per cent for student living at home over the next 18 years. Thus, the projected annual price increases implies that the 4-year cost of an undergraduate degree started in 2027 is expected to be \$137,013 for students living away from home. For students living at home, the cost is expected to be \$101,426, or 26% less than the cost for students living away from home.

AVERAGE ANNUAL COST OF UNDERGRADUATE DEGREE AT THE NATIONAL LEVEL IN 2008-2009					
	Student Living Away From Home		Student Living at Home		Projected Inflation Rate
	\$	% of Total	\$	% of Total	
EDUCATION RELATED EXPENSES					
Tuition Fees	4,724	24.1	4,724	36.2	5.0
Additional Compulsory Fees	695	3.5	695	5.3	5.0
Books and Student Supplies	800	4.1	800	6.1	1.5
Computer	1,000	5.1	1,000	7.7	0.0
Total	7,219	36.9	7,219	55.4	n.a.
NON-EDUCATION RELATED EXPENSES					
Shelter	4,837	24.7	n.a.	n.a.	1.3
Utilities	499	2.5	n.a.	n.a.	1.5
Food (Purchased from Stores)	2,662	13.6	2,139	16.4	3.0
Personal Care	519	2.6	395	3.0	0.9
Health Care	606	3.1	464	3.6	1.9
Clothing	1,309	6.7	998	7.7	-0.6
Paper	172	0.9	131	1.0	2.2
Household Cleaning	156	0.8	119	0.9	0.7
Communications	169	0.9	128	1.0	1.4
Entertainment	720	3.7	720	5.5	1.8
Local Public Transportation	720	3.7	720	5.5	4.4
Total	12,369	63.1	5,815	44.6	n.a.
Total Cost¹	19,588	100.0	13,034	100.0	n.a.

¹ Total may not add up to 100 per cent due to rounding.
 Source: HRSDC, Statistics Canada and TD Economics.

These figures may cause some sticker shock for parents. However, it is important to recognize that any 18-year projection for prices is bound to show a significant increase. In light of this fact, a fair assessment would involve isolating the expected general increase in prices (i.e. the Bank of Canada’s CPI inflation target of 2 per cent per year) from the projected annual inflation rate on the student budget (i.e. 2.9 and 3.5 per cent per year depending on the student’s living arrangement). This can effectively be achieved by deflating the future cost by 2 per cent per year and obtaining an estimate of the future cost expressed in constant 2009 dollars, which is a more appropriate comparison to the current cost. For students living away from home, the future cost of pursuing an undergraduate degree expressed in 2009 dollars would be \$92,369, or \$15,237 more than the current cost expressed in 2009 dollars. For students living at home, the future cost expressed in 2009 dollars would be \$68,373, or \$16,609 more than the current cost expressed in 2009 dollars.

It is important to remember that incomes will rise faster than CPI inflation over the next 18 years. Moreover, even with the higher price tag, the rate of return on a university degree will still provide close to a 10% rate of return. Finally, there are a number of vehicles available to help save for the future. A Registered Education Savings Plan (RESP) is a federally regulated tax sheltered savings account designed to help parents finance the cost of their child’s post-secondary education. Assuming an annual rate of return of 6.8 per cent

ANNUAL CONTRIBUTION TO AN RESP NEEDED TO COVER FUTURE COST OF AN UNDERGRADUATE DEGREE ¹			
	Parents' Contribution	Government's Contribution	Total Contribution
Student Living at Home	\$1,725	\$400	\$2,125
Student Living Away from Home	\$2,475	\$400	\$2,875
Expected Cost	\$2,175	\$400	\$2,575

¹ An average annual rate of return on the portfolio of 6.8 per cent is assumed.
Source: TD Economics.

on a balanced growth portfolio, the annual contribution to an RESP needed to cover the future cost of an undergraduate degree is \$2,475 for students living away from home and \$1,725 for students living at home⁴. Alternatively, parents may wish to use a Tax Free Savings Account (TFSA) to ease the burden on saving. The annual contribution to a TFSA would need to be \$2,900 for students living away from home and \$2,150 for students living at home.

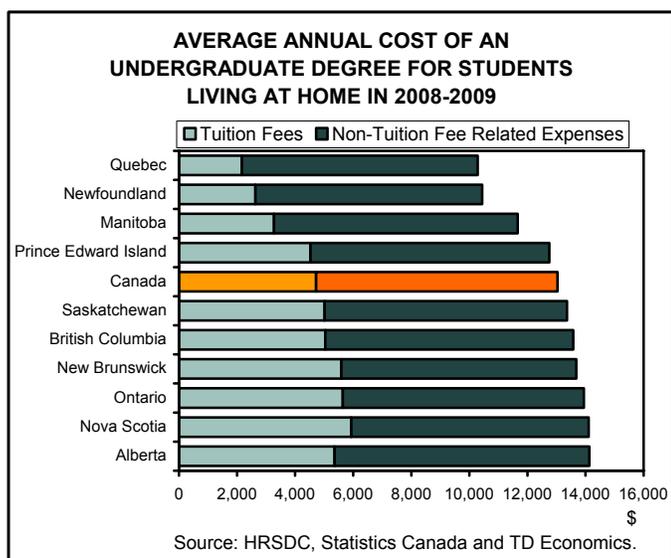
It should be stressed that one does not need to save the total outlay in advance. Students can accumulate savings or pay expenses from summer jobs and perhaps jobs during school year. Student awards and government financial support may also be available – although they can’t be counted on when building the plan.

Living expenses are also something that will be incurred regardless of whether a child pursues post-secondary education. The true additional outlay is the education-related costs, which are likely to be \$64,363 over the four years of a university education that is embarked upon in 18 year’s time.

The bottom line is that the cost of an undergraduate degree will rise in the future, but that investment will continue to deliver a remarkably high rate of return. Accordingly, it will be essential for parents to plan and save early.

Craig Alexander, SVP and Deputy Chief Economist
416-982-8064

Shahrzad Mobasher Fard, Research Analyst
416-944-5729





Endnotes

- ¹ Moussaly-Sergieh, Karim & Vaillancourt, François. 2009. Extra Earning Power: The Financial Returns to University Education in Canada. C.D. Howe Institute.
- ² Statistics Canada's national average for tuition fees for 2008-2009 relies upon the 2006-2007 university enrolment figures in determining the provinces' weights. A slightly different national average for tuition fees may be obtained if more recent university enrolment data were to be used.
- ³ Human Resources and Skills Development Canada generates data on student living allowances in order to assess students' financial needs under the Canada Student Loans Program.
- ⁴ This assumes that the lifetime contribution limit to an RESP will increase over the next two decades.

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