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Degrees of Success: The Payoff to Higher Education in Canada

by Benjamin Tal and Emanuella Enenajor

The proportion of adults in Canada with a post-secondary education is the highest among all OECD countries, and the cost of that education is roughly double the OECD average. Yet, more and more of those degree holders fall behind in the earnings scale. The share of Canadian university graduates who make less than half the national median income is the largest among all OECD countries. Sure, on average it pays to get a post-secondary education, but with the education premium narrowing, the number of low-income outliers is rising. And despite the overwhelming evidence that one's field of study is the most important factor determining labour market outcomes, today's students have not gravitated to more financially advantageous fields in a way that reflects the changing reality of the labour market.

More Than Just Brains

That piece of paper doesn't come cheap. Undergraduate tuition costs in Canada have increased substantially, rising by an average annual rate of 4% in the past 5 years – roughly two and a half times the rate of inflation (Chart 1, left). The cost of a Bachelor's degree today is 20% higher than it was in the late 2000s. That rising cost in part reflects new realities of public funding. And with roughly half of all Bachelor's degree students graduating with debt, a significant share of the population

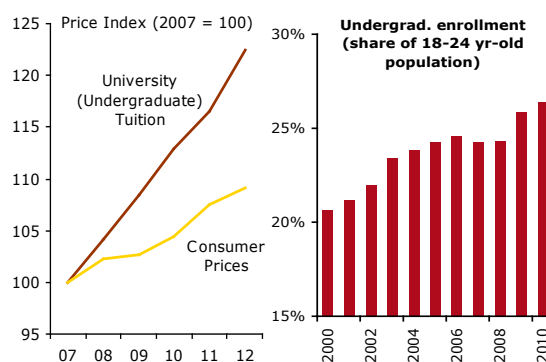
is starting their career one step behind in terms of financial health. Yet, despite the rising costs, the share of young Canadians choosing to get a degree continues to march higher (Chart 1, right).

The reason for that continued drive to higher learning is clear—on average, higher education gives you a leg up in the job market.

Narrowing Premium on Education

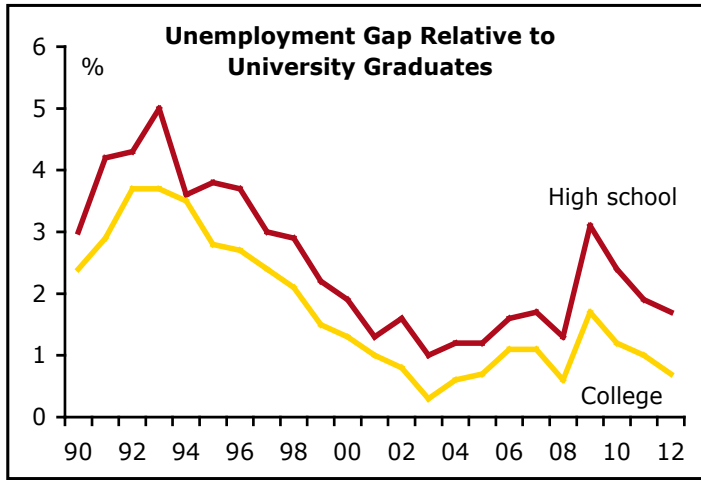
However, that education premium is narrowing. Yes, the unemployment rate among university graduates is 1.7 percentage points lower than among those with only high school education, but that gap used to be much larger in the 1990s and has

Chart 1
**Enrollment Rising Rapidly Despite
Ballooning Cost**



Source: Statistics Canada, CIBC

Chart 2
Narrowing Unemployment Gap Between High School/College and University Graduates

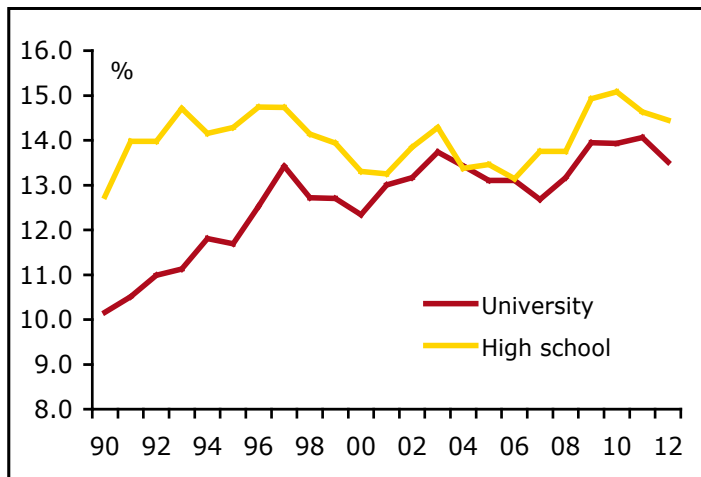


Source: Statistics Canada, CIBC

stabilized during the past decade. The same goes for the gap between university and college graduates with the university premium narrowing to a slim 0.7 percentage points (Chart 2).

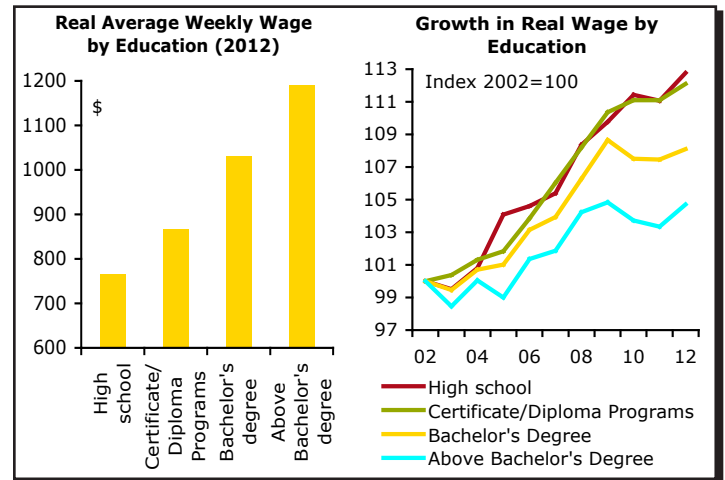
A simple measure of employment quality shows the same trend. The share of part-timers among university-educated Canadians rose from 10% in the 1990s to 13.5% today—with the gap relative to high school graduates narrowing to only one percentage point¹ (Chart 3). And yes, an MA or a PhD signals more specialized skills than a Bachelor’s degree, but you will hardly see that result in the unemployment statistics, with the jobless rate premium falling to a trivial 0.5 percentage points.

Chart 3
Share of Part-Time Employment in Total Employment



Source: Statistics Canada, CIBC

Chart 4
Sizeable Income Premium to Education (L), is Narrowing (R)



Source: Statistics Canada, CIBC

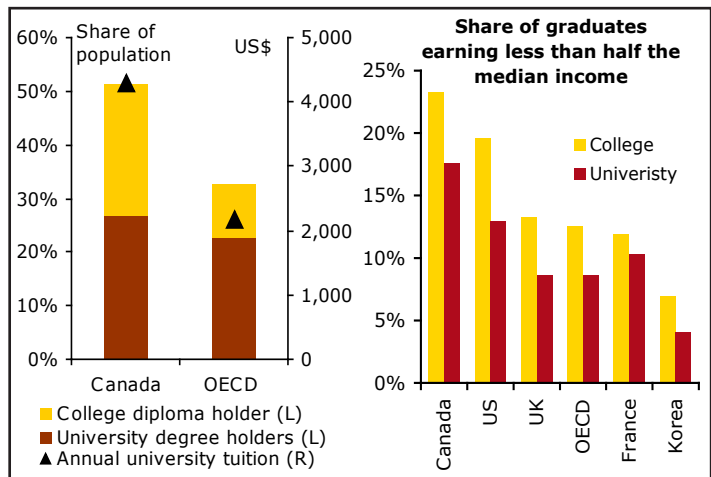
What about income? Clearly, the more you learn the more you earn. A Bachelor’s degree buys you more than a 30% earnings premium over high school graduates, and the hard work that went to MA or PhD studies adds an additional 15% to that premium (Chart 4, left). But even here the education premium is narrowing. Over the past decade, real weekly wages of high school and college graduates rose by 13% vs. 8% among undergraduate degree holders and more than double the rate seen among MA and PhD holders (Chart 4, right).

Low Bang for Educational Buck

Canada has the highest proportion of post-secondary degree or diploma holders², and has an above-average annual university tuition cost, when compared to the OECD. But Canada also has the highest share of university graduates earning less than half the median income (Chart 5). Why the disappointing performance?

Part of the problem isn’t a “Canadian degree” per se. The poor and worsening labour market outcomes of immigrant post-secondary graduates are part of the story. More than 20% of Canadians with either a college diploma or a Bachelor’s degree are immigrants, and that share rises with the level of education. Half of all PhD holders in Canada are foreign-born. Yet the unemployment rate among immigrants with post-secondary education is notably higher than Canadian-born individuals with similar degrees of education. The same goes for earnings. No less than 50% of degree holders that obtained their education outside of Canada earn less than median income³. That is notably more than the 30% observed

Chart 5
More Educated and Poorer

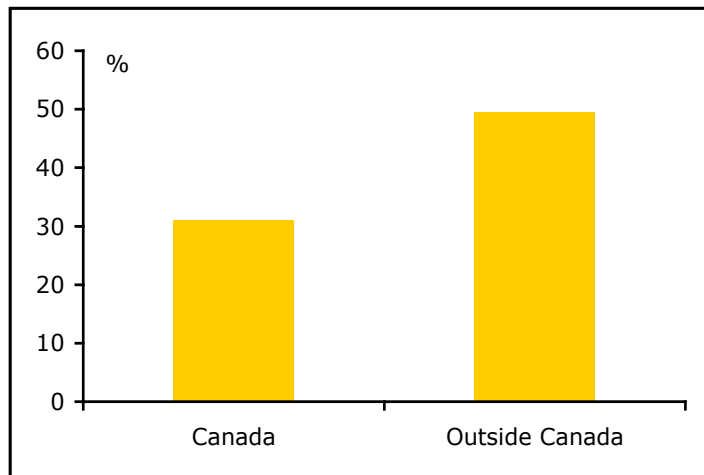


Source: OECD: Education at a Glance (2013), CIBC

among Canadian-born graduates (Chart 6). A Bachelor’s degree in commerce earned abroad yields 40% less than the same degree earned in Canada. While in health and social sciences, the gap is only 10%, it balloons to 70% amongst engineering graduates⁴.

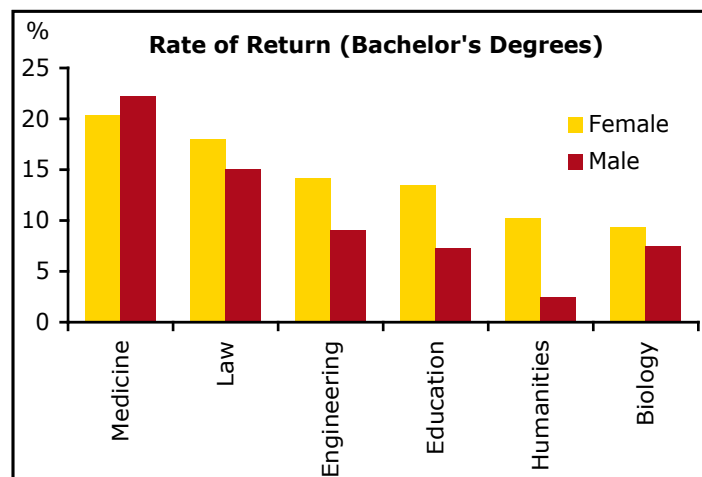
This troubling trend reflects many factors such as the low return on immigrants’ foreign work experience, difficulties with foreign credential recognition, concerns about the quality of skills earned abroad, and low proficiency in English or French. The shift away from immigrant-source countries where languages, educational outcomes and systems are similar to Canada’s has worked to exacerbate the problem.

Chart 6
Share of University Graduates Earning Less Than the Median National Income by Location of Study



Source: Statistics Canada, CIBC

Chart 7
Return on Investment in Education



Source: Moussaly-Sergieh and Vaillancourt, 2009⁵, StatCan Lifepaths Model, CIBC

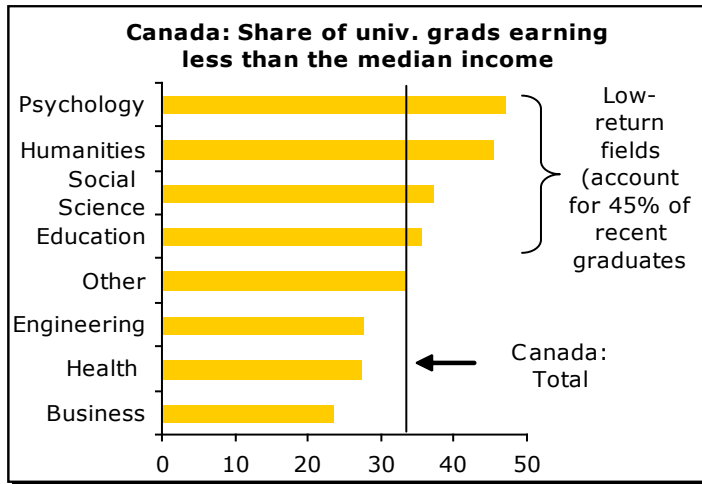
Another important driver of the relatively low return on education is field of study. For students shelling out thousands in higher-learning costs, a university degree can be viewed as an investment with upfront expenses, and a stream of future benefits. We examine Statistics Canada and other calculations that have attempted to compute such an annualized average “return on investment” (ROI). The results show stark divergences depending on field of study (Chart 7). The ROI is typically higher for females than males, not due to higher future earnings, but reflecting the lower foregone income of female students. Across subjects, the biggest bang for buck comes from specialized and professional fields such as medicine, law and engineering. Compare that with life sciences, humanities and social sciences where the ROI is much lower.

While those data hint at stronger average outcomes in specialized technical and professional fields, a look at the dispersion of earnings across fields of study shows that there is a much greater risk of falling into a lower-income category for graduates of humanities and social sciences, with a limited risk for students of health, engineering or business (Chart 8). Those underperforming sectors comprise just under half of all recent graduates. In other words, Canadian students are continuing to pursue fields where upon graduation, they aren’t getting a relative edge in terms of income prospects.

The relative divergence in outcomes across fields of study is no secret. Most Canadians are aware that on average, your odds to earn more are better with a degree in engineering than a degree in medieval history. The field-

Chart 8

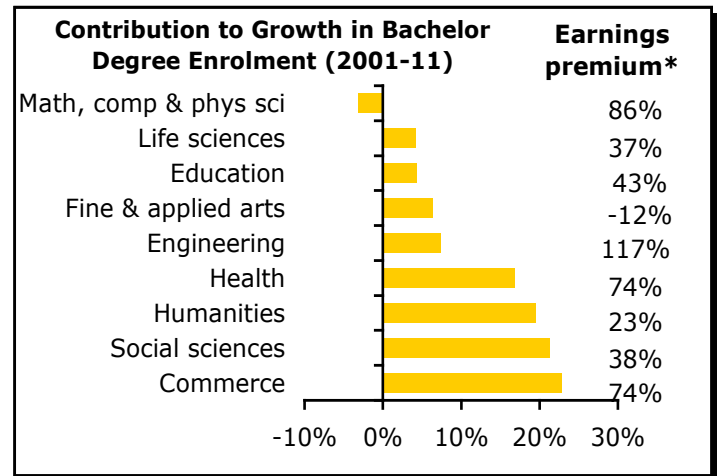
Share of University Graduates Earning Less Than the Median Income



Source: Statistics Canada (See Endnote 3), CIBC

Chart 9

No Clear Gravitation to Higher-Paying Fields



Source: Statistics Canada, CIBC

* premium relative to high school graduates

of-study premium isn't just a Canadian phenomenon—it's been observed in the US, Sweden and other industrial nations. But it's not clear that students, armed with that knowledge, have been making the most profitable decisions. With the exception of commerce, in the last 10 years we haven't seen a meaningful influx of students into degrees with more advantageous earnings outcomes⁶ (Chart 9). Differences in intrinsic traits such as ability and motivation could be a driver. As well, the joy of learning a less-technical subject, rather than a focus on potential future earnings, could be driving the continual increase of students in relatively low-paying fields of study. What's more, the rising participation of women in higher education may be raising the ranks of students in subject areas where women are disproportionately represented—the arts and social sciences—fields that are typically lower-paying.

A higher education may be a necessary condition for a good job in Canada, but it is no longer a sufficient condition. Narrowing employment and earnings premiums

for higher education mean that, on average, Canada is experiencing an excess supply of post-secondary graduates. And the risk attached to the investment on that education has never been higher. But as in many cases, averages mask the real story. That excess supply is largely due to the relatively large concentration of graduates in less financially advantageous fields. In fact, in many fields with a higher return on education, Canada is experiencing a significant shortage of supply. Improving participation rates in these fields will likely require some combination of developing an information infrastructure system designed to identify emerging trends in labour market needs, improved quality and equity of learning opportunities, increased resources, improved system efficiency and increased private investment, in part, in the form of corporate investment. Any remedy must also include a much simpler and efficient credential recognition process for new immigrants, better access to language training and better and more specific information to prospective immigrants on labour market demand and skills requirements.

Notes:

1. In part this reflects the increased participation rate of women with post-secondary education in the labour market.
2. This is mainly due to relatively high participation in non-university post-secondary education in Canada.
3. 2006 data based on Stats Canada Catalogue no. 81-595-M No. 081.
4. 2005 Data based on Census information.
5. Moussaly-Sergieh, K. and Vaillancourt, F. 2009. "Extra Earning Power: The Financial Returns to University Education in Canada." C.D. Howe Institute.
6. Earning premiums are based on 2005 Census data.

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