

Barista or Better? Where Post-Secondary Education Will Take You

Ross Finnie

The Education Policy Research Initiative (EPRI), a national research organization based at the University of Ottawa, has used administrative student data held by 14 post-secondary education (PSE) institutions in four different regions of the country linked to tax files at Statistics Canada in order to track students' post-graduation earnings from 2005 through 2013. Their analysis suggests that the well-known barista myth is precisely that, and has little grounding in the actual data on student earnings.

The skills that individuals acquire and develop play a fundamental role in determining their labour-market opportunities and life chances. Postsecondary education (PSE) is a primary means by which Canadians obtain these skills.

As such, it is important to have useful and timely learning and labour market information (LLMI) widely available so that all players in the PSE system—students making their PSE choices, PSE institutions making decisions about which programs to offer, and various policy makers that operate on the terrain related to education, skills, and the labour market—can make informed decisions.

Empirical evidence on the labour market performance of recent PSE graduates is crucial. Graduates' earnings are almost certainly the single most valuable piece of information in this respect.

In this context, PSE students, recent graduates, and those still at the point of making PSE decisions are often

confronted with the now familiar barista trope—the suggestion (even assumption) that going to university, particularly in a non-STEM (Science, Technology, Engineering, Mathematics) area of study, is a waste of time and will leave the student stuck in a job with low earnings and little opportunity for career advancement.

However, it turns out that degree holders are faring rather well in the labour market, and that their earnings surpass the levels suggested by the hoary old barista tale by a wide margin.

In the past, only a limited set of data sources in Canada included information on graduates' outcomes, and all had serious limitations. National surveys of graduates conducted by Statistics Canada, more general-purpose datasets such as the Census and Labour Force Survey, and PSE institutions' surveys of their own graduates have provided interesting and in some ways useful evidence, but none possess the kind of detailed, accurate, consistent, extended, and up-to-date

information on graduate outcomes that is needed.

In an effort to fill this gap, the Education Policy Research Initiative (EPRI), a national research organization based at the University of Ottawa, has undertaken a research project—funded by Employment and Social Development Canada (ESDC) and conducted in partnership with Statistics Canada—that uses administrative data provided by 14 PSE institutions from across four Canadian regions linked to tax records held at Statistics Canada to track the labour market outcomes of Canadian college (diploma) and university (bachelor's) graduates.

The study tracked all graduates from the participating PSE institutions who completed their studies from 2005 through 2012, following them through 2013 (the latest year for which tax data were available when the project was started). Graduates who went on to further schooling, earned less than \$1,000, or did not file taxes are not included in the results. This article focuses on the key results for bachelor's degree graduates, but the full report—available at EPRI.ca—also includes results for college diploma graduates. The findings are interesting, important, and possibly surprising. In particular, the barista story line referred to above appears to be refuted by actual empirical evidence.

For the 2005 bachelor's graduates taken together (i.e., across all areas of study), average annual (mean) earnings were \$45,200

in 2006 (Figure 1), their first full year following graduation (2014 dollar). Earnings then grew steadily, on average increasing by \$4,200 per year, to finish at just below \$75,000, or 66 per cent above the starting level, eight years following graduation.

Comparing across graduating cohorts—those who completed their studies in 2005, 2007, 2009, and 2011—we first see that the 2007 graduates started approximately \$2,500 above those who finished two years earlier, but followed a similar growth trajectory over time.

The 2009 graduates hit the labour market in 2010, and thus after the 2008 financial crisis, so it might be expected that their starting earnings would be lower, and they were—but while they were down a full \$3,400 (or about 7.7 per cent) from the preceding cohort (2007 graduates), they were only \$1,000 (about 2.2 per cent) below what the 2005 cohort earned in their first year. The 2011 cohort started at approximately the same \$44,000 level

“ While one of the popular story lines is that university graduates are not doing well in the labour market, the other is that the bottom has fallen out since the 2008 financial crisis. The data clearly show that neither of these “facts” is actually true. ”

as the 2009 graduates. For all cohorts, earnings growth remained strong in the years following graduation.

That is, earnings did vary across cohorts, but they might be seen more as a pattern where the 2007 graduates did exceptionally well, while the others (those who finished in 2005, 2009, and 2011) all earned within a thousand dollars of each other in their first year following graduation, and saw their earnings increase substantially in each and every year after that.

This is significant, because while one of the popular story lines is that university graduates are not doing well in the labour market, the other is that

the bottom has fallen out since the 2008 financial crisis. The data clearly show that neither of these “facts” is actually true.

Across different fields of study (Figure 3), however, the patterns in terms of starting earnings levels, earnings growth, and final earnings levels are seen to vary substantially (Figure 3). Engineering and health graduates consistently had the highest earnings to start, generally in the \$60,000 range. Recall that these are average earnings—first year out. These graduates were, then doing quite well immediately as they entered the labour market.

These were generally followed—grad-

Figure 1: Mean Earnings, All Degree Graduates, 2005 Cohort

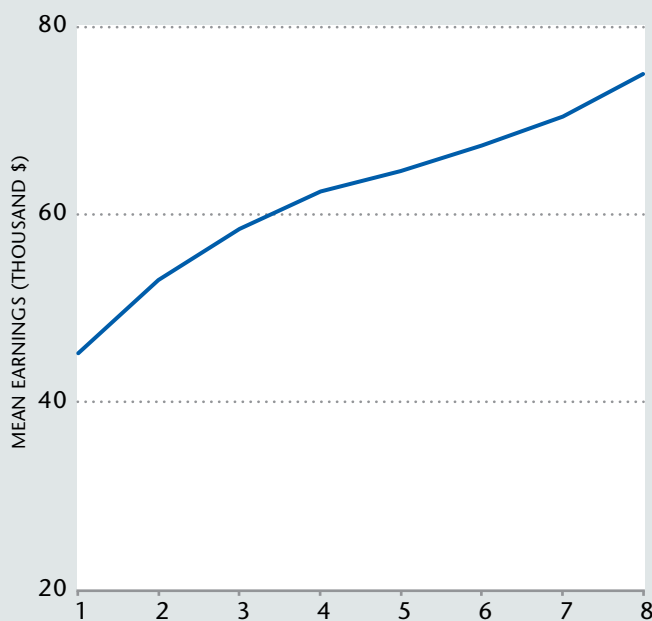
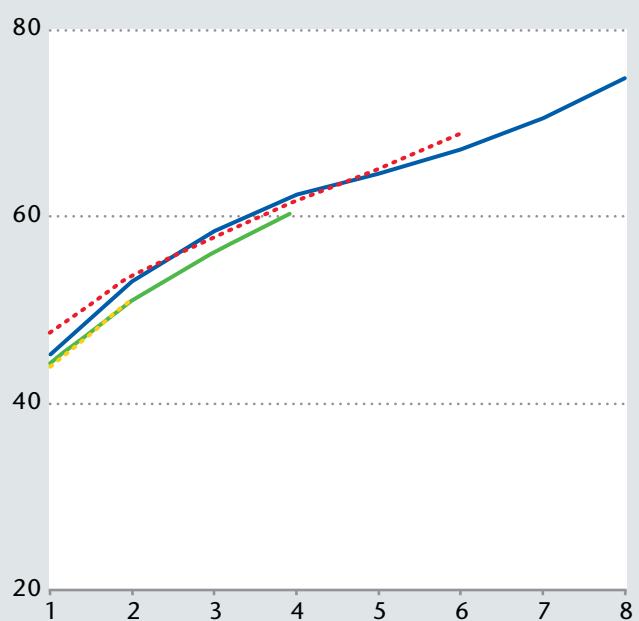
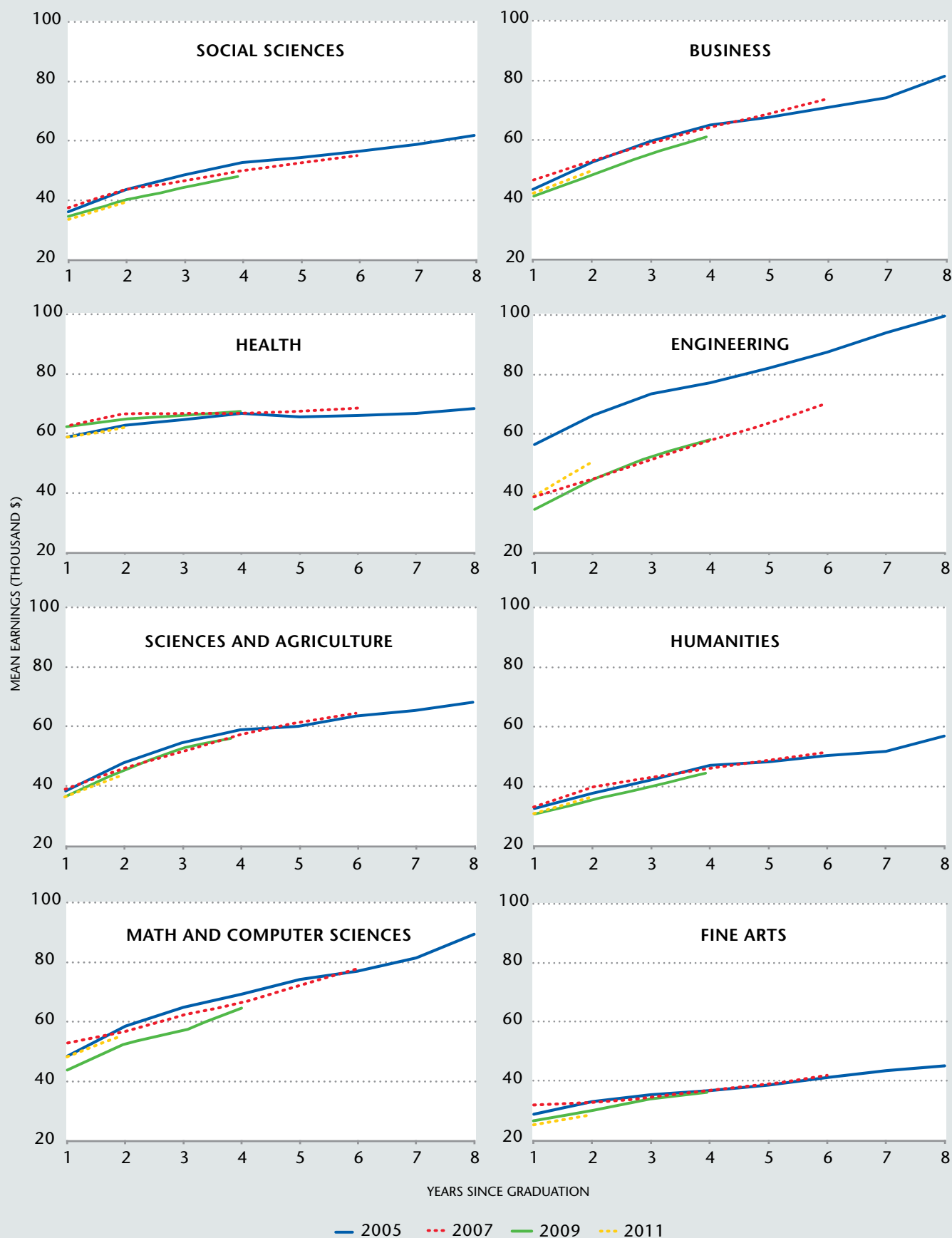


Figure 2: Mean Earnings, All Degree Graduates, Selected Cohorts



Source: Author

Figure 3: Mean Earnings by Field of Study, Selected Cohorts



Source: Author

uating cohort in and out—by business and math & computer science graduates, who generally started between the low \$40,000s and as much as \$52,700 for the 2007 graduates in math & computer science.

Graduates in sciences and agriculture, in the social sciences and in the humanities came next, typically earning from the low \$30,000s to just around the \$40,000 mark in their first year of work—with levels descending across the three areas listed (i.e., from higher to lower within the broader range mentioned).

Finally, those in the visual and performing arts had the lowest average first-year earnings, ranging from around \$25,000 to just under \$32,000 in their best year (again the 2007 graduates, as for most fields of study).

“ Starting earnings levels in combination with earnings growth are such that two fields of study lead the pack in terms of final earnings levels: Engineering and math and computer science. ”

Regarding earnings growth and final earnings levels, many of those patterns by field of study repeat, but there are also some important differences. First, starting earnings levels in combination with earnings growth are such that two fields of study lead the pack in terms of final earnings levels: Engineering and math and computer science. In these areas, average earnings eight years after graduation are around \$100,000 for the former and around \$90,000 for the latter for the 2005 graduating cohort—the cohort which is followed for the greatest number of years.

But as we have seen, earnings growth rates are at least similar across graduating cohorts, so this might be the sort of earnings trajectory later

graduating cohorts could also at least roughly expect. This amounts to earnings increases of about \$5,800 per year for each year following graduation. And note that all these numbers are adjusted for inflation—these are real earnings increases, and real increases in buying power.

Following these come business graduates, who finish at the \$80,000 mark, again for the 2005 cohort; but again with similar earnings growth rate trajectories for the other cohorts.

A broad pack of four areas of study comes next: Science and agriculture, health, the social sciences, and the humanities, for whom final-year earnings are \$68,700, \$68,300, \$61,900, and \$57,000 (in that order). Health is perhaps the most notable area of study here, because this middle ranking contrasts with their comparatively high starting earnings levels. Put differently, health graduates have the lowest increases in earnings over time. This is undoubtedly due to the strong occupation basis associated with studying in the health disciplines, and the corresponding highly structured, generally highly unionized, labour market they often enter.

These patterns also show the importance of having access to the longer-term earnings profiles provided by the tax data used here, which are in sharp contrast to the short-term outcomes available from essentially all institution-based graduate surveys, and also beyond what the National Graduates Survey goes out to (i.e., five years following graduation).

But even the struggling artists should perhaps be seen in the context of the barista line we have been fed. While it is impossible to come up with a meaningful true estimate of what baristas make (or in fact how many university graduates are working as baristas), a good approximation may be in the \$12 per hour range. If we multiple that by 35 hours per week, and allow that person to work—or at least be paid—all 52 weeks a year (not typically the case for hourly workers of the barista type), that yields an annual earnings level of \$22,150.

Even those in the visual and performing arts are beating that annual earnings level by at least a small margin right after graduation (and doing better than that in the better cohorts), and eight years later have it doubled.

Engineering, math and computer science and business graduates are besting the barista level by a long-shot even right after finishing, and go up from there. Surprising? Perhaps not, and not really where the barista story principally lays. But still, the comparison is interesting.

The much-maligned social sciences and the even more beaten up humanities are safely clearing the barista level immediately after graduation, and more than doubling it eight years later. And it must be remembered that the data reported here capture the record for *all* graduates, including those working part-time and part-year (and thus including those who are underemployed and unemployed even most of the year) as against our full-time, full-year barista standard.

In short, our research suggests that the barista story does not appear to hold up when tested against the actual earnings of university graduates' data. This means that decision makers—students, PSE institutions, policy makers—are being misinformed to the degree that this myth guides their decisions.

Now, some may argue that these earnings levels are not very high, even if they are barista-beating. But to the degree such misinformation is being corrected, or simply to the extent these data otherwise provide an empirical foundation to the relevant decisions, and discussions, we are pleased to get them into the public domain. **P**

Ross Finnie is the Director of the Education Policy Research Initiative and a Professor in the Graduate School of Public and International Affairs at the University of Ottawa.
ross.finnie@uottawa.ca

The author is grateful for the contributions of Michael Dubois and John Sergeant to this article.