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Five Years On: A Survey of Class of 2003 Maritime University Graduates

Report on Key Findings Among First Degree Holders

The Council of Maritime Premiers

Le Conseil des premiers ministres des Maritimes

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KEY FINDINGS

Between October 2008 and January 2009, the second telephone survey of Class of 2003 Maritime university graduates was conducted (respondents were first surveyed in 2005). The final sample consisted of 1,968 respondents representing all credential levels. In order to provide a clear picture of graduate outcomes over time, this report focuses solely on those graduates who completed their first degree in 2003 and who enrolled in that degree without prior post-secondary education. These graduates (also referred to as first-degree holders) made up approximately half of all respondents (n=1,061).

There are six major findings for the Class of 2003; these findings are summarized below.

Pursuing Further Education Following the First Degree

- Seven-in-ten graduates pursue further education after completing their first degree.
    - This tendency is particularly strong among graduates of Liberal Arts and Sciences programs: more than eight-in-ten continue their formal education within five years of completing their first degree.
- Compared to the previous cohort (Class of 1999), more graduates are beginning second programs sooner after completing their first degree.
- The most frequent reasons given for pursuing further study continue to relate to employability (57%) or self-improvement (25%).
- One-third of those pursuing further education enrolled in graduate-level programs after completing their first degree in 2003, a figure relatively unchanged compared to the Class of 1999.

Financing Education

Financing the first degree (2003) – debt status after five years

- Six-in-ten graduates borrowed money from government, banks/financial institutions, family members and/or other sources to finance their 2003 degree. Over five years, these graduates managed to reduce their average total debt by 59%, from $22,256 to $9,446.
- Of those who had borrowed in the highest range ($30,000+), 21% had fully repaid this debt, while 21% still had outstanding debt at or above $30,000. The remaining 58% owed between $1- $29,999 on money borrowed to finance their first degree.

Financing further education

- 70% of graduates pursued further study within five years after completing their first degree. Of these, 60% reported borrowing (all sources combined) to finance this education. After five years, the average amount borrowed (all sources combined) was $25,160, and graduates owed $20,338 on these loans.

Combined borrowing for all education (among those who borrowed for first-degree and/or any subsequent education)

- When one combines borrowing for all periods, the percentage of students taking on debt to finance their first degree and/or any further education pursued over the subsequent five years has risen to 78%, an increase of five percentage points compared to the Class of 1999, at the same point following completion of the first degree.
- Average total borrowing (all sources combined) for the Class of 2003 was $31,047, up slightly (2%) compared to the Class of 1999 [$30,429 (expressed in 2008 dollars)].
- Five years after their first degree, 23% of those who borrowed still owed at least $30,000, while 28% had paid off the whole amount. Repayment status is strongly linked to the total borrowed: of those who were able to repay their debt, 60% borrowed less than $15,000.

Overall financial status of the Class (including borrowers and non-borrowers)

- After five years just under half (45%) of all graduates are free of debt incurred while they were students. This proportion is down five percentage points relative to the Class of 1999, where 50% of all first-degree holders were free of student debt by the fifth year following graduation.

Employment

- Employment progression is evident in the five years since completion of the first degree:
  - Compared to two years after graduation, many more graduates are working full-time (92%, up 12 percentage points) and/or in permanent positions (77%, up 8 percentage points), and earnings have increased by one-quarter (to $49,215). Compared to the previous cohort at the five-year mark, the proportion working full-time and in permanent positions has remained relatively unchanged.
  - 70% of graduates were employed in positions of management or requiring university education. Returning for further education significantly increased the likelihood that Humanities, Arts and Social Sciences graduates were employed in such positions.
  - Class of 2003 first-degree holders are earning $49,215, slightly (2%) more (2008 dollars) five years after completing their first degree than their Class of 1999 counterparts at the same point following graduation, and more than the general population in the Maritimes, who were earning between $34,402-$37,922 in 2008.

Graduate Migration

- The net retention (total number of graduates living in a province relative to the number originally from that province) of graduates ranged from 61% (Prince Edward Island) to 79% (Nova Scotia). New Brunswick's net retention was 83%. Compared to the Class of 1999, net retention is unchanged for Prince Edward Island, up five percentage points for Nova Scotia, and up ten percentage points for New Brunswick.

Satisfaction and Value of Education

- More graduates are satisfied with their current level of education (87%) than their financial situation (55%).
- The majority of graduates continue to think that their university education was worth the time (83%) and financial investment (71%). The perception of value is often tied to employment outcomes.

Graduate Outcomes Vary by Discipline Cluster

- Graduates of Liberal Arts and Sciences programs tend to follow different paths after graduation than graduates of Applied/Professional programs: in particular, many more pursue second degrees, whether at the graduate level or a second undergraduate degree, and so assume higher debt, and take longer to establish employment gains.

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INTRODUCTION

For more than ten years, the MPHEC has been conducting surveys of Maritime university graduates. The surveys, which are now conducted at two- and five-year intervals after graduation, are designed to collect information about graduate outcomes in three principal areas: pursuit of further education; financing post-secondary education and debt management; and employment. The surveys also collect information about migration patterns and satisfaction with education and employment.

This Report describes the key outcomes for graduates of the Class of 2003, five years after completing their first degree. It is based on a longitudinal data file which also includes responses of the same graduates to a 2005 survey, and also draws on findings from previous cohorts in order to provide a broader perspective on the findings.

1. CONTEXT AND ISSUES

A university education holds the promise of, among other benefits, access to jobs requiring high skill levels and yielding high earnings. This promise is the result of a substantial investment of time and money. Whether it is fulfilled, and for whom, and at what cost, is the primary focus of this Report.

Underpinning the questions of individual investment, and of progress and success in post-secondary education, and then in the workforce, are factors involving government and institutional policies. For example, over the last decade (between 1999-2000 and 2009-2010), university tuition in the Maritimes has increased by 20-35% (when measured in constant 2009 dollars)[1]. In addition, the availability of government student loans has widened, with the relaxing of restrictions based on family income. The net result is that, notwithstanding the tuition freezes and the introduction of rebates and tax credits designed to encourage graduates to remain in the region, the monetary cost of the investment has increased; and, as this Report will show, the investment of time has also increased for many. The interesting question, then, is whether graduates still perceive their university education to be worth that investment of time and money. The aim of this Report is to provide information about the progress of graduates within five years of completing their degree, and to draw attention to significant differences in graduates' pathways based on important demographic and academic variables.

In order to provide a clear picture of graduate pathways, we limit this analysis to those who completed their first degree in 2003, and we follow their progress at two points in time: namely, 2005 and 2008. As a group, they were all at relatively the same stage in their lives at graduation in 2003, and therefore represent a relatively homogeneous group within which to compare graduate outcomes over time, based on salient characteristics. Graduates who completed second bachelor's or graduate degrees/diplomas are excluded here, but will be the focus of future analysis. Where appropriate, comparisons are made to the previous graduating cohort (Class of 1999).

The 2008 survey of the Class of 2003 included graduates from both undergraduate and graduate levels. However, this report focuses solely on those graduates who completed their first degree in 2003 and who enrolled in that degree without prior post-secondary education; detailed statistical tables providing information on other graduates are available on request.

[1] Nova Scotia: 30%; New Brunswick: 21%; Prince Edward Island: 35%

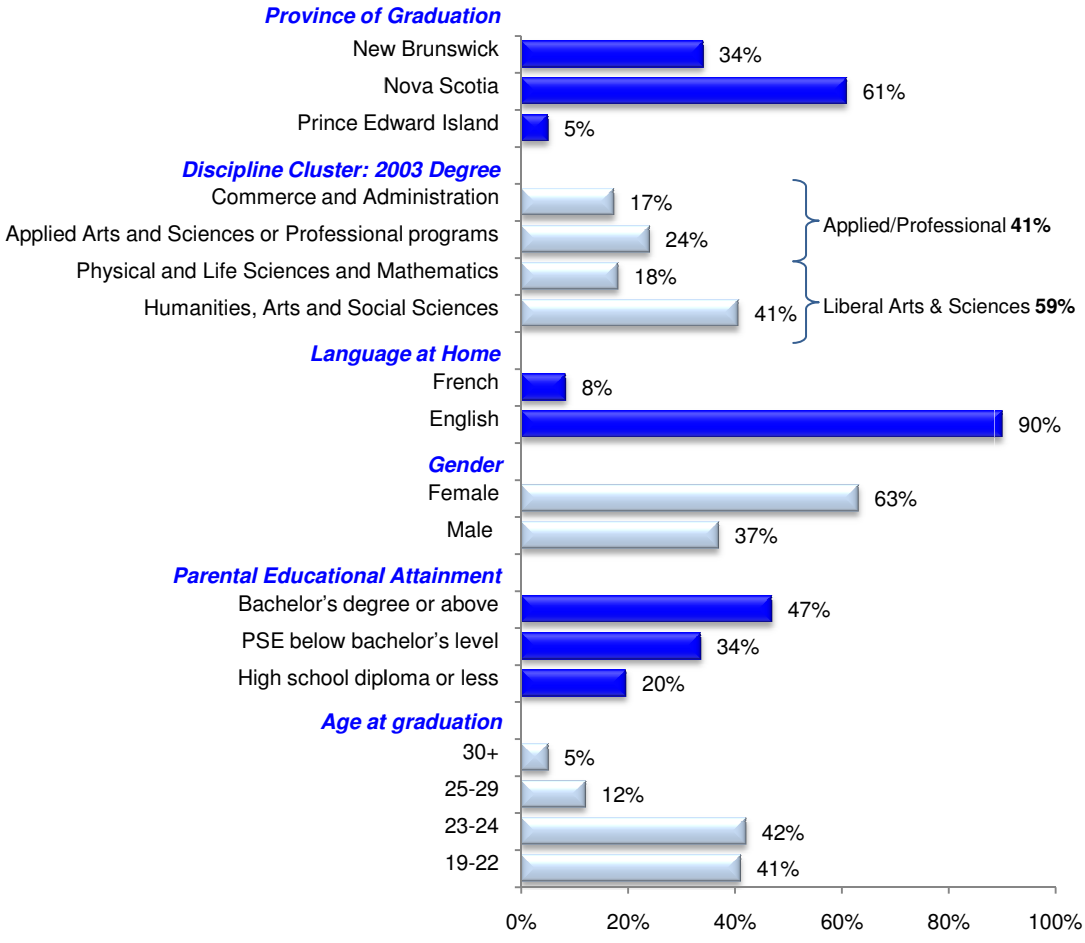
2. PROFILE OF FIRST-DEGREE HOLDERS

This report focuses on a sub-group of graduates: namely, first-degree holders. First-degree holders are defined as graduates who completed a bachelor's degree, and who enrolled in the program with a high-school diploma as their highest completed level of education. For first-degree holders, the 2003 degree represents their starting point in post-secondary education; analyses based on this group provide a clearer picture of outcomes and transitions of Maritime university graduates from the beginning of the post-secondary education path.

First-degree holders make up roughly half (n=1,061) of the total sample (n=1,968) of the Class of 2003 graduates. The majority (86%) entered their degree program within a year of completing high school. Most (82%) of this group were 24 years old or younger when they graduated in 2003.

Figure 2.1 illustrates the distribution of 2003 first-degree holders by demographic and academic characteristics.

Figure 2.1
Distribution of 2003 graduates (first-degree holders) by salient characteristics (n=1,061)



* Percentages may not sum to 100 percent due to rounding.

The distribution of the Class by province of graduation reflects the relative number of universities in each province, with 61% having graduated in Nova Scotia (from one of 10 universities, 34% in New Brunswick (from one of four universities) and 5% in Prince Edward Island (University of Prince Edward Island).

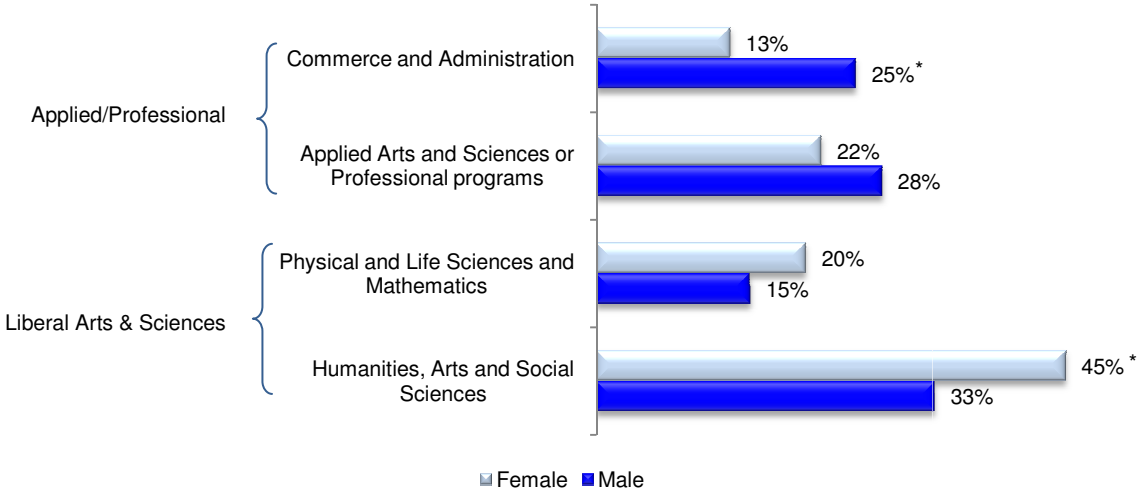
In this report, major fields of study are grouped into four discipline clusters[2]: Commerce and Administration; Applied Arts and Sciences or Professional programs (often referred to collectively in this report as Applied/Professional); Physical and Life Sciences and Mathematics; Humanities, Arts and Social Sciences (often referred to collectively in this report as Liberal Arts and Sciences).

Four-in-ten (41%) graduated with a bachelor's degree in the Humanities, Arts and Social Sciences, and nearly one-quarter (24%) from programs in the Applied Arts and Sciences or Professions. Nearly equal proportions completed degrees in Commerce and Administration (17%) and Physical and Life Sciences and Mathematics (18%).

Female graduates (63%) outnumber male (37%), and for nine-in-ten, English is the language spoken most often at home, while eight percent speak French. 80% of graduates came from families where at least one parent had attended post-secondary education at some level[3], while the remaining 20% of graduates came from families where both parents' highest level of education was a high-school diploma or less.

A further exploration of the profile of graduates reveals some differences by gender in the distribution of graduates among the discipline clusters (Figure 2.2). Women (45%) are more likely than men (33%) (a difference of 12 percentage points) to have completed programs in Humanities, Arts and Social Sciences, while men (25%) are more likely to have completed programs in Commerce and Administration than women (13%) (a difference of 12 percentage points). The differences in gender distribution observed in the other discipline clusters are not statistically significant.

Figure 2.2
Distribution of male and female graduates by discipline cluster of the 2003 degree



* Asterisk denotes statistacally significant differences between numbers of males and females

[2] Commerce and Administration includes such fields as: Accounting, Business Administration, and Management; Applied Arts and Sciences or Professional programs includes such fields as: Education, Nursing, Engineering and Computer Sciences; Physical and Life Sciences and Mathematics includes such fields as: Biology, Chemistry and Physics; Humanities, Arts and Social Sciences includes such fields as: English, History, Philosophy and Fine Arts)
Detailed information on the specific major fields of study included in each cluster is available here: http://www.mphec.ca/en/Resources/DisciplineClusters.pdf

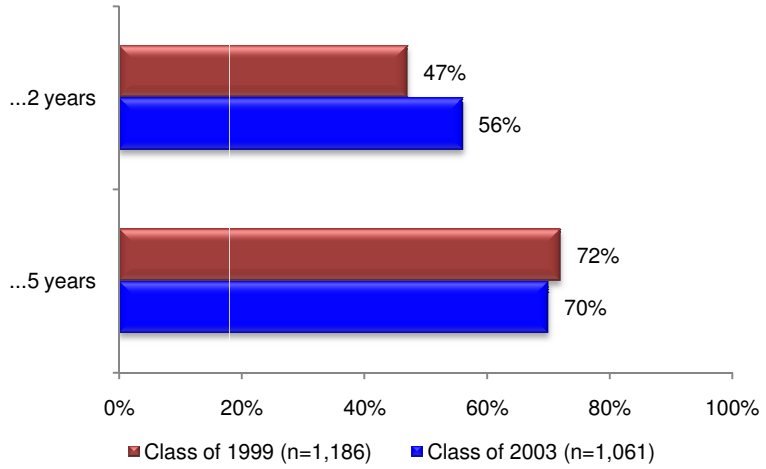
[3] More information on parental educational attainment may be found in the Methodological Notes section.

Most of the characteristics described in this section are linked, to some degree, to graduate outcomes. However, as this report will illustrate, discipline cluster stands out as a key determinant.

3. PURSUING FURTHER EDUCATION

Figure 3.1 illustrates the percentage of first-degree holders who returned for further study after completing their first degree, and compares this statistic to that observed for the 1999 cohort.

Figure 3.1
Percent of graduates who continued their education after completing their first degree within…



Within two years of completing their first degree, more than half (56%) of the Class of 2003 graduates had returned for further study, compared to 47% of the Class of 1999 (an increase of nine percentage points). However, by the five-year mark, 70% of 2003, and 72% of Class of 1999 graduates had continued their education (a difference of two percentage points). Thus, although by the fifth year the percentage who return is the roughly the same for both Classes, the larger (nine percentage points) difference by the second year indicates that more of those who choose to go back are doing so sooner after their first degree.

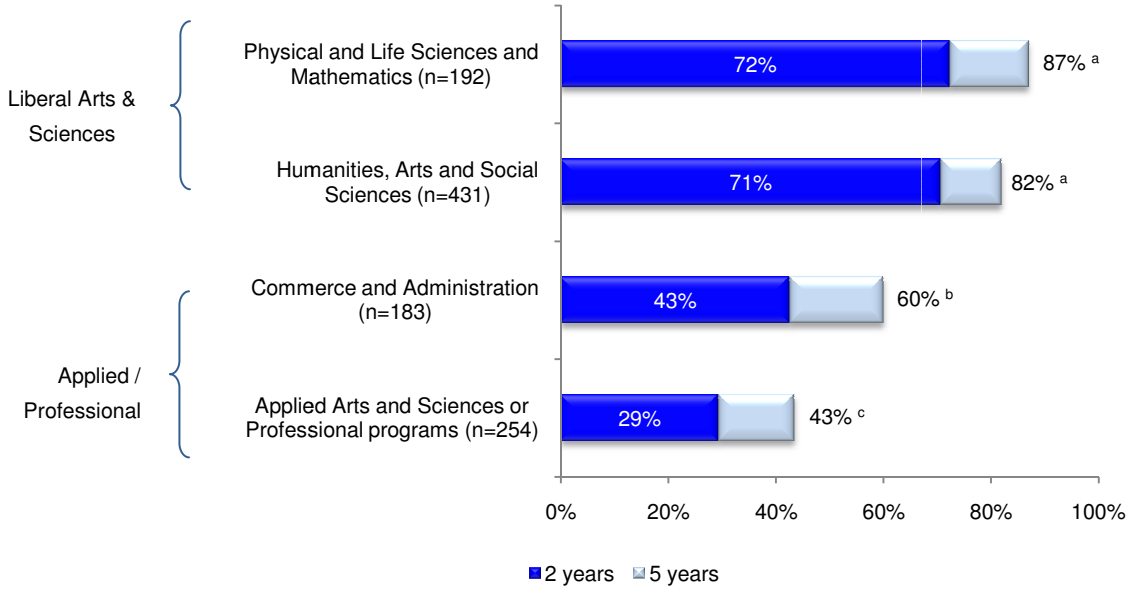
For many graduates, the pursuit of further education is viewed as a means to improve their employment prospects:

- Over half (57%) said that they went back for employment-related reasons, such as:
  - to get a job / better job (35%);
  - to do my present job better (12%);
  - to earn more at my present job (7.5%);
  - to keep a job (2%);
- Approximately one-quarter gave reasons of self improvement.

Reasons given did not vary significantly by discipline cluster.

Following the pattern of previous cohorts, graduates of programs in the Liberal Arts and Sciences (Physical and Life Sciences and Mathematics (87%), and Humanities, Arts and Social Sciences (82%)) are significantly more likely to pursue further education following the first degree than are graduates of Commerce and Administration (60%). Graduates of Applied Arts and Sciences or Professional programs are the least likely to do so (43%) (Figure 3.2).

Figure 3.2
Percent of Class of 2003 graduates who pursued further education within two and five years of completing their first degree, by discipline cluster (2003 degree)



Statistically significant differences are denoted by letters – percentages with different letters are significantly different, based on Chi-Square analysis

Part of the difference noted by discipline cluster is likely due to the fact that undergraduate degrees in Applied or Professionally-oriented disciplines have direct links to employment and can be considered a terminal degree. By contrast, the link between Liberal Arts and Sciences undergraduate programs and employment is less direct, and these programs are often stepping stones or pre-requisites for certain professional programs and/or graduate study.

Neither gender nor family educational background was a significant predictor of the tendency to continue education beyond the first degree.

Multivariate regression analysis[4] indicates that both discipline cluster and borrowing status as of 2003 were independently related to continuing education beyond the first degree.

We will look at borrowing in more detail in Section 4; however, the findings indicate that the total amount borrowed to finance the first degree seems to place constraints on pursuing further study for some: those who report that they did not borrow funds to finance their first degree were more likely (79%) than those who did (64%) to pursue further education.

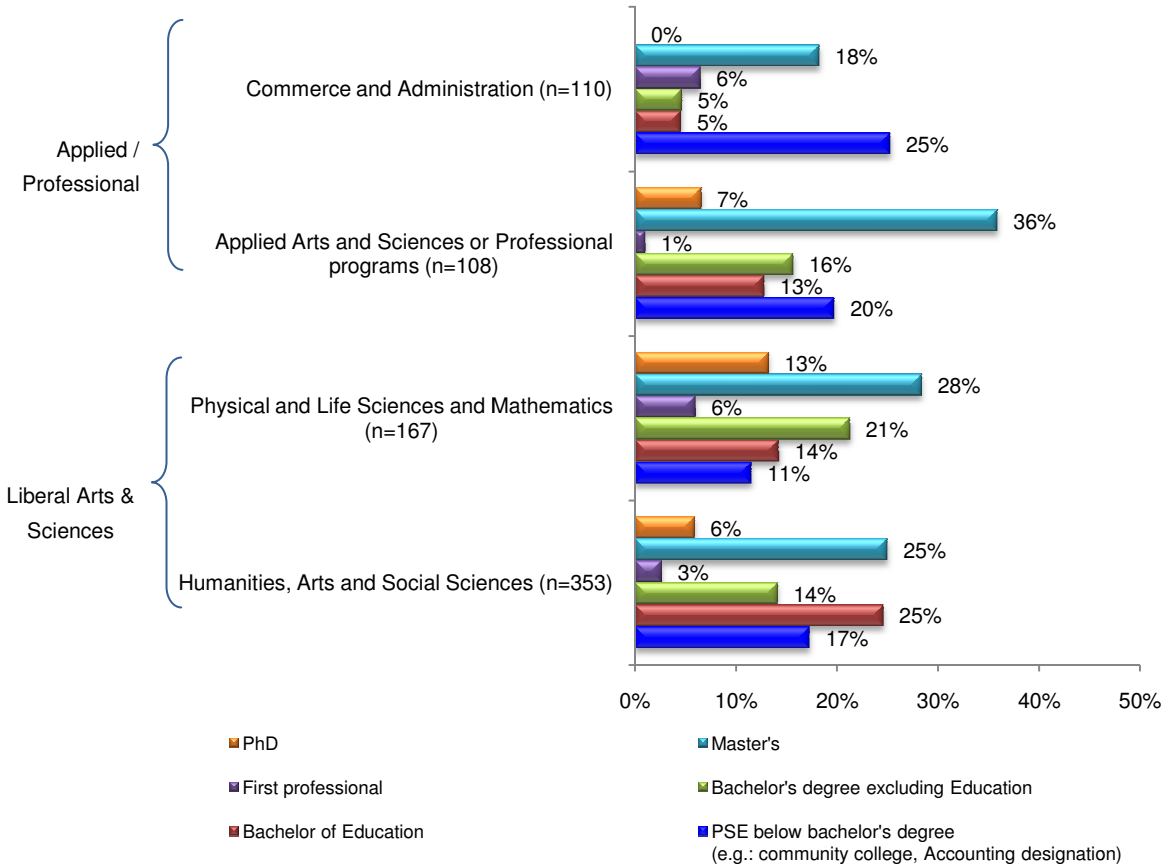
3.1 Program type

Within two years of completing their first degree, 26% of those who pursued further education did so at the graduate level; within five years this statistic increased to 32%. The next most popular programs for the Class of 2003 were Bachelor of Education (B.Ed.) (18%), Bachelor's degree excluding Education (15%), and Post-Secondary Education (PSE) below bachelor's level (17%). This distribution is similar to that observed for the previous cohort (Class of 1999) five years after completion of the first degree.

[4] Data not shown; available upon request.

Discipline cluster of the 2003 degree was a strong determinant of the type of further education pursued. Figure 3.3 illustrates, by discipline cluster, the percentage of graduates who pursued each type of program.

Figure 3.3
Distribution by program type* of further education pursued and discipline cluster of first degree (2003), among graduates pursuing further education within five years of completing first degree.



* Program type is highest level pursued if graduate enrolled in more than one program; within each discipline cluster, percentages may not sum to 100% due to the exclusion of the "other" category.

Focussing on the most popular programs for first-degree holders in each discipline cluster, we find the following:

- Equally popular among Humanities, Arts and Sciences graduates were programs at the Master's level and Bachelor of Education programs, at 25% each, followed by post-secondary education below the bachelor's level (17%).
- For Physical and Life Sciences and Mathematics graduates, a Master's degree was the most popular, at 28%, followed by bachelor's degrees in either Education (14%) or some other major (21%).
- Among Applied Arts and Sciences / Professional graduates, 36% pursued Master's degrees while 20% followed programs in post-secondary below the Bachelor's level.
- One-quarter of Commerce and Administration graduates pursued post-secondary below the bachelor's level (most often an Accounting designation); the next most popular among this group was study at the Master's level (18%).

4. FINANCING EDUCATION

University students draw on a variety of sources to pay for their education, including earnings, assistance from family members and/or employers, as well as government student loans, and loans from financial institutions. Some may also rely on lines of credit. As we observed earlier in this report, the majority of graduates, especially those who completed programs in the Liberal Arts and Sciences, enrol in further education after completing their first degree.

Therefore, in this section, we look at both financing the 2003 degree and repayment status after five years, as well as the financing of subsequent education.

To illustrate the full extent of borrowing, we conclude this section by looking at graduates' cumulative borrowing and repayment for their first degree and/or any education pursued over the subsequent five years.

4.1 Non-repayable sources

Among the non-repayable sources, income earned during the summer months (85%) and income earned during the school year (67%) were reported most often as important source of funding for the 2003 degree. To fund education pursued after the completion of the first degree, graduates reported relying on these sources less often (56% and 53%, respectively).

To a lesser extent, graduates reported relying on funding from family members (21%), and employers (18%) for education pursued within five years of completing their first degree. Compared to funding sources for the first (2003) degree, reliance on family members is about the same (22%), but reliance on employers has increased by 15 percentage points from 3%.

4.2 Repayable sources

Graduates rely on several sources of financing that require repayment: government student aid programs, and direct borrowing from banks or other financial institutions, family members, and other sources[5]. While government sources represent the most popular source, the remaining sources also play an important role in helping students finance their education; in this section, dollar amounts represent all sources combined.

Financing the first degree (2003)

By the time they completed their first degree, 65% of 2003 graduates had reported borrowing money to finance their education. Compared to the previous cohort (Class of 1999), the incidence of borrowing for the first degree was about the same.

The primary source of financing for the Class of 2003 first-degree holders was government student loans, with nearly eight-in-ten graduates (78%) reporting this source. One-quarter (25%) of graduates borrowed directly from banks/financial institutions, while 21% reported borrowing from family members. Six percent reported borrowing funds from other sources. Compared to the previous cohort (Class of 1999), the proportion borrowing from government was similar (81%), while reliance on banks and financial institutions had decreased slightly (six percentage points, from 31%). Reliance on borrowed funds from family members increased six percentage points, while use of other sources remained unchanged.

Of the two-thirds who had borrowed money to finance their first degree, how well have they managed to repay this debt over five years? Figure 4.1 presents the mean total amount borrowed from all sources as of 2003, and the amount of debt outstanding on these loans at two (2005) and five (2008) years after graduation.

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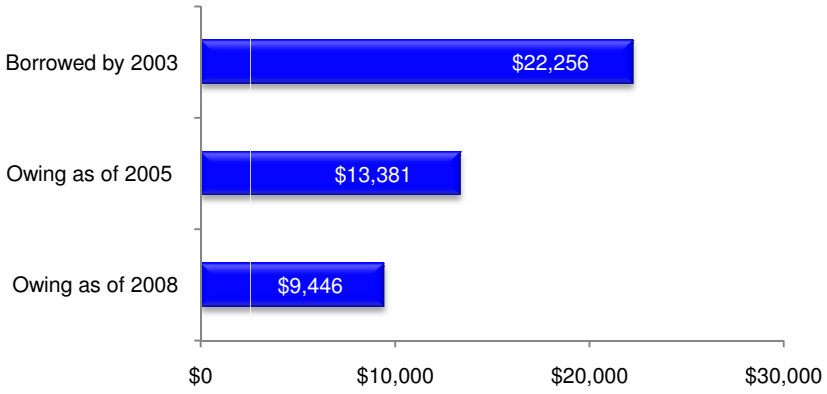
[5] These may include such sources as credit cards and employers. Graduates were not asked to identify the sources.

Figure 4.1
Mean total amount borrowed (all sources combined) to finance the 2003 degree, and mean amount owing in 2005 and 2008, among first degree holders who borrowed (n=635)



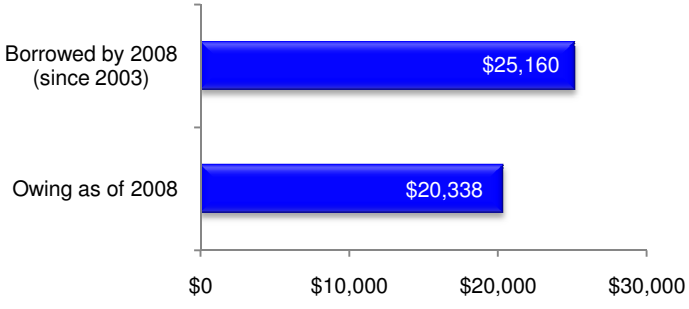
Over five years, graduates managed to reduce their debt by 59%, from a total $22,256 borrowed, to $9,446 outstanding. Of those who had borrowed in the highest range ($30,000+), 21% had fully repaid this debt, while 21% still had outstanding debt at or above $30,000. The remaining 58% owed up to $29,999.

Financing further education

70% of graduates pursued further study after completing their first degree. Of these, 60% reported borrowing to finance their education (up six percentage points compared to the Class of 1999), and the proportion of graduates relying on banks/financial institutions (43%) increased 18 percentage points compared to financing the first degree. However, this increase was not matched by a comparable decrease in other sources: compared to the loan sources for the first degree, reliance on government student loans decreased slightly (four percentage points, to 74%), while borrowing from family and other sources remained unchanged. This finding suggests that graduates may be drawing increasingly on banks to bridge a funding deficiency.

Figure 4.2 illustrates the total average amount borrowed between 2003 and 2008 to fund further education, and the average amount still outstanding on that debt as of 2008.

Figure 4.2
Mean total amount borrowed (all sources combined) to finance further education pursued between 2003 and 2008, and mean amount owing in 2008 (n=449)



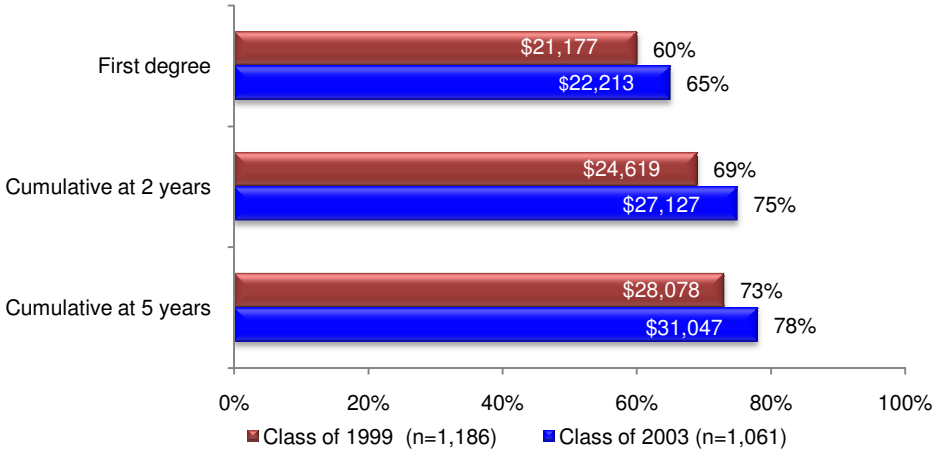
Within five years of completing their first degree, those graduates who borrowed to finance further study borrowed an average $25,160. Within that same time period, they were able to reduce their debt by an average of $4,822, or 19%.

Combined borrowing for all education (among those who borrowed for the first degree and/or any subsequent education)

In the sections above, we explored, in isolation, the borrowing and repayment status for the financing of the first degree (by 2003) and for further education. From the perspective of the graduate, and in terms of public policy as it relates to student aid and access to lifelong learning, it makes sense to combine these data to assess the full extent of the reliance on repayable sources. In this section, we focus on the sum of all borrowing for education, whether it is for the first degree and/or subsequent education, and the resulting overall debt status.

Figure 4.3 illustrates the cumulative percentage of graduates who borrowed to finance education, all sources combined, whether for the first degree, subsequent education, or both. Figures 4.4 and 4.5 provide detailed information about the range of the total amount borrowed, and owing, respectively, among those who borrowed in either or both time periods.

Figure 4.3
Percentage (cumulative) of graduates who borrowed from government, banks, family members and/or other sources to finance their first degree and/or subsequent education, with total mean amounts borrowed (all sources combined)



By the time they completed their first degree, 65% of 2003 graduates had reported borrowing money to finance their education; two years on, this proportion had climbed to 75% and by the fifth year following completion of the first degree, to 78%. Thus the ranks of borrowers increased by 13 percentage points over five years, as graduates went on to pursue further education beyond the first degree. Compared to the previous cohort (Class of 1999), the cumulative percentage who had borrowed to finance education is up five percentage points at the five-year mark.

Comparing the mean amounts borrowed, after five years following the first degree, the Class of 2003 graduates had borrowed 14% more than their counterparts in the Class of 1999. However, if this comparison is made based on 2008 constant dollars[6], the difference is $618, or 2%.

How much did graduates borrow to finance the first degree and any subsequent education? Looking at total amounts borrowed, by 2008, nearly half (46%) of borrowers had borrowed $30,000 or more (all sources combined) to finance their first degree and/or any further education (Figure 4.4). This figure is up ten percentage points from 2003. Compared to the Class of 1999, the proportion who had borrowed at least $30,000 at the fifth-year mark is about the same (up three percentage points).

[6] Cumulative borrowing for the Class of 1999 in 2008 dollars is $30,429.

Of the remaining borrowers of the Class of 2003, 28% borrowed less than $15,000, while a nearly equal proportion (27%) borrowed between $15,000 and $29,999.

Figure 4.4
Total amount borrowed by 2008, all sources, for the 2003 degree, and/or any subsequent education (n=735)

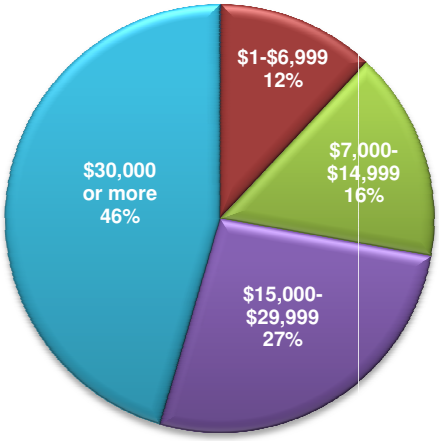
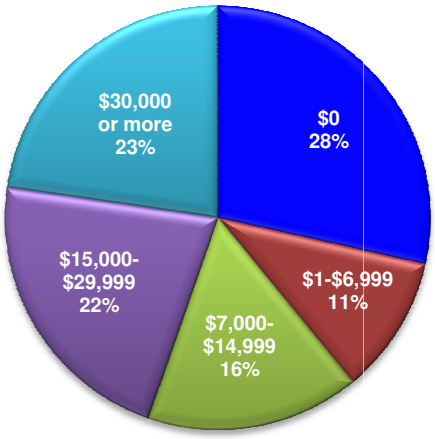


Figure 4.5
Total amount owing, all sources, for the 2003 degree, and/or any subsequent education, as of 2008 (n=735)



Over the same five-year interval, graduates who borrowed made substantial progress in repaying their debt (Figure 4.5). More than one-quarter (28%) had managed to repay their entire debt, while another 27% owed less than $15,000. Fewer than one-quarter (23%) of those who borrowed, owed $30,000 or more five years after completing their first degree. Repayment status is strongly linked to the total borrowed: of those who were able to repay their debt, 60% borrowed less than $15,000. The distribution by amount owing was similar to that of the Class of 1999 first-degree holders at the same point following completion of the first degree.

When we turn to mean amounts owing, among those graduates who still have outstanding debt in 2008, the average amount they owe (all sources included) has risen 8% ($1,909) from $22,670[7] in 2005, to $24,579. Relative to the Class of 1999, the average amount owing five years following completion of the first degree has increased 11% ($2,506)[8].

Managing Repayment

What is the actual repayment burden felt by those paying down their loans? To address this, we calculate a debt-payment-to-income ratio, which can, of course, only be calculated for those who are earning an income through employment, and still paying down debt (n=487). Among those working in 2008, and paying down debt, the average monthly student debt payment is $415, and the average debt-payment-to-income ratio is 11%, a ratio comparable to that of the Class of 1999.

A debt-payment-to-income ratio of 8% for student debt payments has been recognized as a threshold above which difficulty is encountered in making payments[9]. Among those graduates involved in repayment, six-in-ten had a debt-payment-to-income ratio greater than 8%, with more than half (53%) of graduates above this threshold reporting that they had experienced difficulty in repaying their debt.

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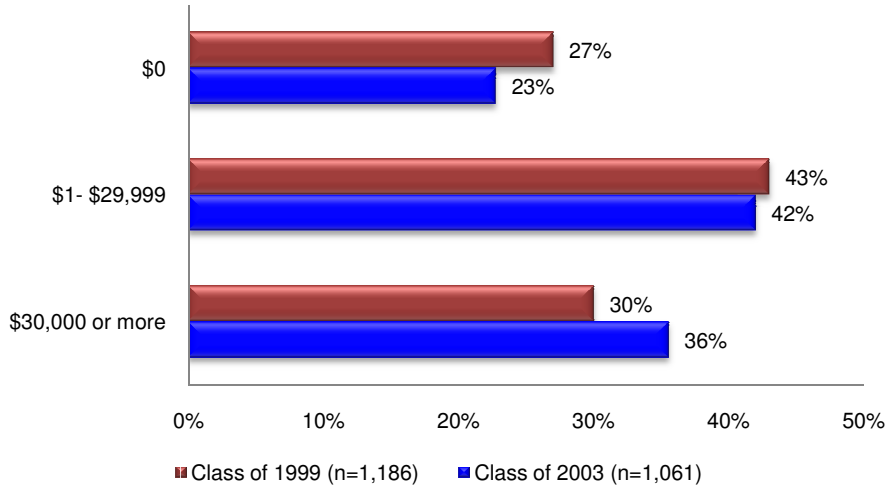
[7] In 2008 Dollars ($)
[8] In 2008 Dollars ($)
[9] King, T. and Bannon, E. (2002) The Burden of Borrowing: A Report on the Rising Rates of Student Debt. The State Public Interest Groups' Higher Education Project.; Baum, S. and O'Malley, M. (2003) College on Credit: How Borrowers Perceive their Education Debt. Results of the 2002 National Student Loan Survey. Nellie Mae Corporation.

Overall Financial Status of the Entire Class (including borrowers and non-borrowers)

To conclude this section, we now broaden our perspective to look at the financial status of the entire group of first-degree holders, whether they had borrowed or not. This discussion will provide the reader with a sense of the overall financial situation of the entire Class.

In Figure 4.6, the bars illustrate cumulative (i.e., for the first degree and/or any subsequent education) borrowing by range, including those graduates who borrowed nothing, within five years of completing the first degree.

Figure 4.6
Distribution of all first-degree holders by sum of borrowing (all sources combined), for the first degree and/or any subsequent education (cumulative; includes education debt only)



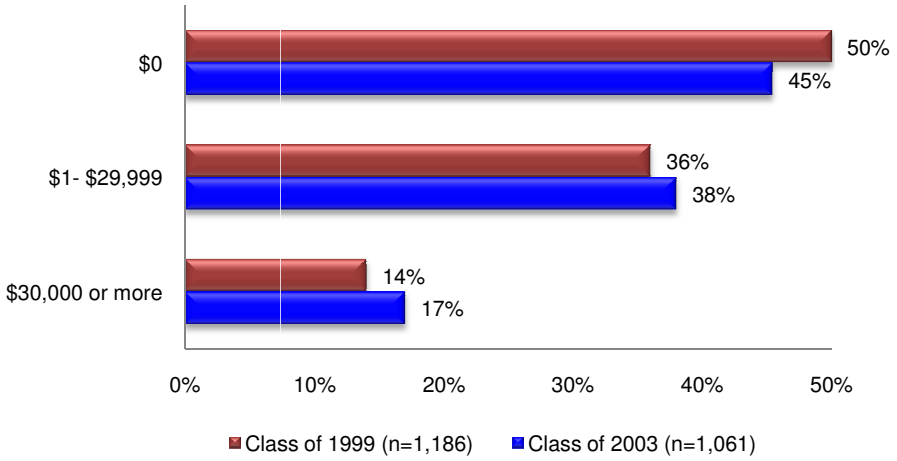
By 2008, just under one quarter (23%) of the Class of 2003 graduates had avoided borrowing to finance their education (a decrease of 10 percentage points from 2003), while the proportion who borrowed $30,000 was 36%. The difference between 2003 and 2008 in the proportion of all graduates borrowing in the highest range ($30,000 or more) is 15 percentage points.

In comparison to the previous cohort, the proportion of first-degree holders who did not borrow to finance their first degree or any subsequent education has decreased slightly (four percentage points), while the proportion borrowing at least $30,000 increased six percentage points.

Figure 4.7 illustrates the range of amounts owing five years after completion of the first degree, of all first-degree holders, whether they had borrowed money or not. Taking this perspective, we find that just under half (45%) of all Class of 2003 first-degree holders were free of student debt in 2008. This figure is down five percentage points relative to that recorded for the Class of 1999, where 50% of all first-degree holders were free of student debt by the fifth year following graduation.

The remaining 55% of the Class of 2003 graduates had debt, with 14% of the entire class owing $30,000 or more, a statistic unchanged relative to that recorded for the Class of 1999.

Figure 4.7
Distribution of all first-degree holders by total amount owing (all sources combined) five years after completion of the first degree, on loans accumulated for the first degree and/or any subsequent education (cumulative; includes education debt only)



When we recall that discipline cluster is strongly linked to returning for further study, with Liberal Arts and Sciences graduates more likely to continue their education, it is not surprising to find that overall debt status in 2008 also varies significantly by discipline cluster (Table 4.1). While 60% of Commerce and Administration and 51% of Applied Arts and Sciences or Professional graduates were free of student debt within five years of completing their first degree, their peers in the Liberal Arts and Sciences were less likely to have no student debt including 37% of Physical and Life Sciences and Mathematics, and 38% of Humanities, Arts and Social Sciences graduates. Among those who did not return for further study, there was no difference by discipline cluster in the proportion that was debt free.

Table 4.1
Financial status five years after completing first degree, by discipline cluster

Five years after completion of first degree…

Liberal Arts and Sciences		**Applied/Professional**	
Physical and Life Sciences and Mathematics (n=191)	Humanities, Arts and Social Sciences (n=435)	Applied Arts and Sciences or Professional (n=254)	Commerce and Administration (n=180)
Percent free of student debt			
37%[a]	38%[a]	51%[b]	60%[b]
Percent owing $30,000 or more			
24%[c]	21%[c]	13%[d]	8%[d]

Statistically significant differences are denoted by letters – percentages with different letters are significantly different, based on Chi-Square analysis.

Liberal Arts and Sciences graduates were also more likely to owe $30,000 or more (21-24%) than their peers in other disciplines (8-13%), largely a consequence of this group's increased likelihood of pursuing further education and, in particular, graduate programs.

5. EMPLOYMENT

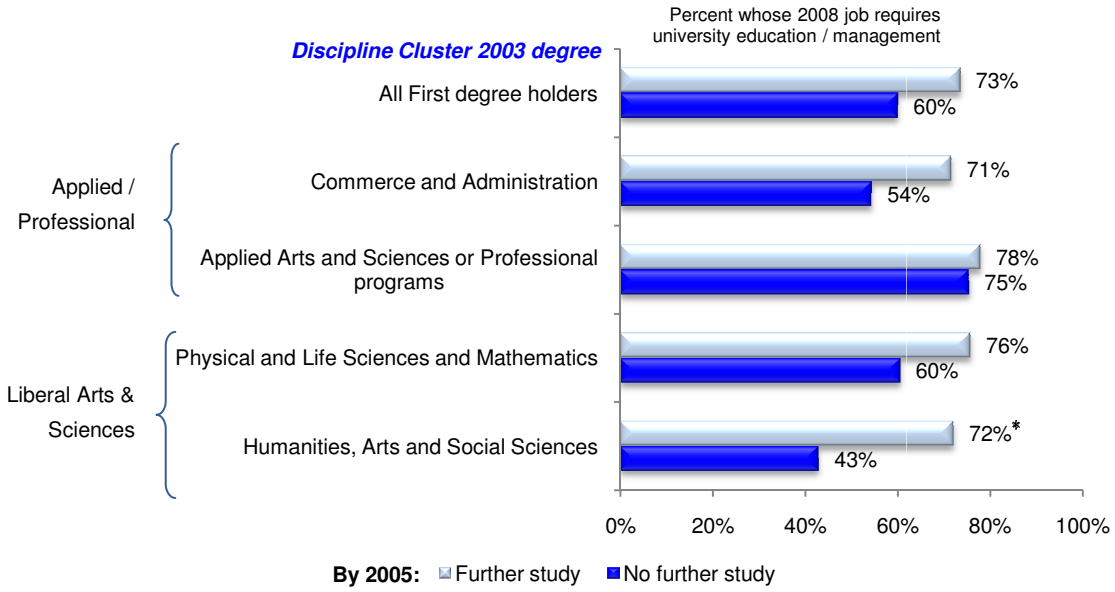
Five years after graduation, the employment rate[10] (proportion of the labour force that was employed) for the Class of 2003 first-degree holders is 97%, a statistic relatively unchanged from two years after graduation, and comparable to the previous cohort's rate of 96% at the five-year mark. No differences were observed by discipline cluster or gender. The comparable statistics in 2008 for the general population were somewhat lower, ranging between 89% for Prince Edward Island, to 91% for New Brunswick and 92% for Nova Scotia.

Compared to 2005 (two years post graduation), more graduates are working full time (92%, up 12 percentage points) and in permanent positions (77%, up eight percentage points). In their jobs, fewer graduates reported feeling over-qualified (15%, down 11 percentage points) and the vast majority felt satisfied with their job (94%[11], up four percentage points). These statistics are comparable to those recorded for the Class of 1999 first-degree holders at the same point in time.

Approximately three-quarters of graduates reported that their job was related to their first degree (74%), and that they were using the skills developed in their first degree (76%).

The proportion of graduates who are employed in positions in management/requiring a university education[12] is relatively unchanged over the three years between surveys, edging up three percentage points (from 67% to 70%). Further exploration of the data shows that for graduates of Humanities, Arts and Social Sciences, returning for further study within two years of graduating is associated with a 29 percentage point increase (72% vs. 43% of those who did not return for further study) in the proportion who find employment in these highly skilled jobs (Figure 5.1).

Figure 5.1
Percent of first-degree holders employed in positions requiring university education/management five years after graduating, by discipline cluster and whether or not they pursued further study by 2005 (within two years of completing their first-degree)



* Asterisk denotes statistically significant differences between whether or not graduate had pursued further study.

[10] Employment rate is defined as # employed / (# employed + # looking for work).
[11] Reported 4 or 5 on a scale of 1 to 5, where 5=very satisfied and 1=very dissatisfied.
[12] The skill level of the occupation is derived from the National Occupational Code system. Codes are assigned based on the graduate's description of their job. More information on skill level coding may be found in the Methodological Notes section.

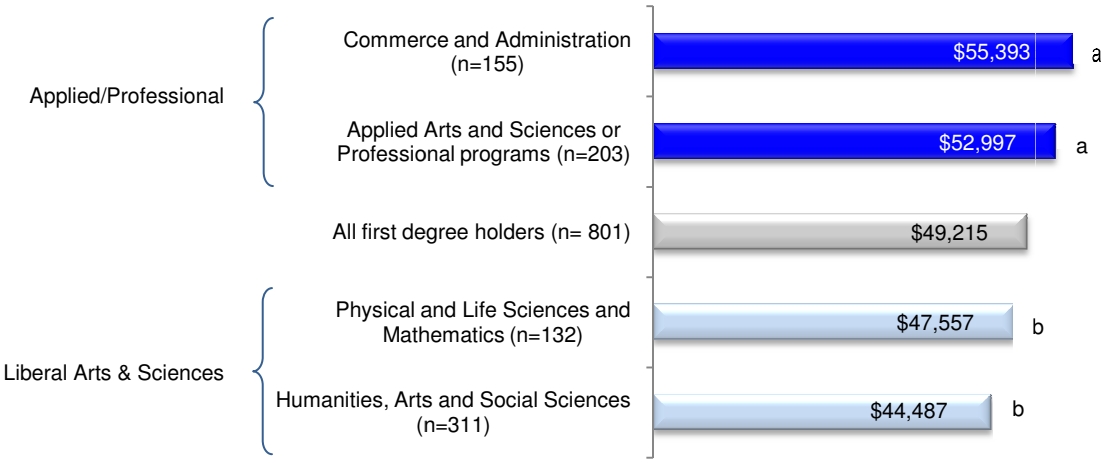
Although by the fifth year graduates are progressing well in terms of their employment situation, the road to this point has not always been straightforward: since 2003, graduates reported having an average of three different jobs, and more than two-thirds had experienced at least one period of unemployment. Graduates of Liberal Arts and Sciences were more likely to have experienced unemployment (74-77%) than were graduates of Applied/Professional programs (53% - Commerce and Administration; 64% - Applied Arts and Sciences or Professional programs).

In 2008, first-degree holders were earning $49,215 (annualized) on average, up one-quarter from 2005, when the average earnings were $37,121 (in 2008 dollars[13]). Compared to the previous cohort, the Class of 2003 graduates earned three percent more five years after completing their first degree: the Class of 1999 graduates earned an average $47,747 (in 2008 dollars) at the five-year mark.

The Class of 2003, at the beginning of their careers, also earned at least $10,000 more annually in comparison to the general working-age population in the Maritimes, where the earnings[14] range in 2008 was $34,402 - $37,922 in the three provinces[15].

Annual earnings five years after completing the first degree vary significantly by discipline cluster, with graduates of more Applied/Professional programs earning more than graduates of Liberal Arts and Sciences programs (Figure 5.2).

Figure 5.2
Mean annualized earnings in 2008 by discipline cluster of 2003 degree



Statistically significant differences are denoted by letters – percentages with different letters are significantly different, based on ANOVA

The differences in earnings by discipline cluster do not appear to be affected by the rates of returning for further study within five years following completion of the first degree. This circumstance may be due to the fact that the five-year-out survey is too soon to register the monetary benefits of further education. A survey at a later date - for example after 10 years - may reveal earnings advantages conferred by pursuing education beyond the first degree. Regression analysis shows that differences in earnings vary significantly with discipline cluster and the occupational skill level of the job (whether or not the job is in management/requires university education).

[13] 2003 earnings were converted to 2008 dollars using the Bank of Canada inflation calculator available at http://www.bankofcanada.ca/en/rates/inflation_calc.html
[14] Annualized wages calculated from weekly wages reported by Statistics Canada here: http://www40.statcan.gc.ca/l01/cst01/labr79-eng.htm
[15] PEI: $34,402; NS: $37,124; NB $37,922

The gender gap in wages has been an important policy issue. As noted in previous cohorts, we again find an earnings gap between male and female graduates. On an annual basis, men ($52,001) earned more than women ($47,458). However, it is important to note that once we compare wages on an hourly basis, and control for discipline cluster, the difference in earnings based on gender is not significant.

6. GRADUATE MIGRATION

Maritime universities attract many students from outside the region – approximately 20% of the Class of 2003 were living somewhere outside the region prior to enrolling in their 2003 degree. After completing their first degree, a large proportion of graduates originally from the Maritimes remain, and while the majority originally from beyond the region's borders leave the Maritimes, a small but sizeable proportion remain.

Tables 6.1 and 6.2 illustrate the migration patterns of Class of 2003 first-degree holders by province.

Table 6.1
Proportion graduating from each province, by province one year prior to enrolling (or province of origin) in the 2003 degree

	Province of Graduation		
	NB	NS	PEI
Province one year prior to enrolling			
New Brunswick	82%	16%	2%
Nova Scotia	7%	93%	0%
Prince Edward Island	65%	23%	12%
Outside Maritimes	30%	68%	2%

Table 6.2
Proportion of graduates residing in each province, by province one year prior to enrolling (or province of origin) in the 2003 degree

	Province of Residence							
	NB		NS		PEI		Outside Maritimes	
	2005	2008	2005	2008	2005	2008	2005	2008
Province one year prior to enrolling								
New Brunswick	71%	71%	9%	6%	1%	1%	20%	22%
Nova Scotia	4%	5%	74%	68%	1%	0%	21%	27%
Prince Edward Island	2%	2%	15%	10%	58%	51%	25%	37%
Outside Maritimes	5%	6%	18%	14%	3%	1%	74%	79%

While the vast majority of graduates originally from Nova Scotia (93%) and New Brunswick (82%) also graduated from a university in the same province, just under two-thirds (65%) of graduates originally from Prince Edward Island did the same.

Nearly seven-in-ten (68%) graduates who came to study in the region from outside the Maritimes graduated from a university in Nova Scotia, while 30% graduated from a New Brunswick university. A small proportion graduated from the University of Prince Edward Island. All of these proportions largely reflect the variety (or number) of institutions and the range of available programs – Nova Scotia, with its 11 universities, provides the greatest variety of choices, followed by New Brunswick with four universities and Prince Edward Island with one primarily undergraduate institution.

Another way to look at the migration patterns of graduates is to consider the net movement of graduates who came from outside the province and those originally from the province, expressed here as the net retention rate by province (Table 6.3).

Table 6.3
Net retention of Class of 2003 first-degree holders

Net Retention

	Class of 2003		Class of 1999
	2 years post graduation	5 years post graduation	5 years post graduation
New Brunswick	80%	83%	73%
Nova Scotia	89%	79%	74%
Prince Edward Island	78%	61%	63%

Net retention is calculated as follows: (number from outside the province living in province at time of survey) + (number from the province living in the province at time of survey)] / number originally from the province

The first two columns in Table 6.3 present the net retention rates by province two and five years after graduation for the Class of 2003. Net retention declined in Prince Edward Island (17 percentage points) and Nova Scotia (10 percentage points), between two and five years post graduation, while in New Brunswick, the slight increase of three percentage points was not significant[16]. By the fifth year following graduation, the net retention rates were 61% for Prince Edward Island, 79% for Nova Scotia and 83% for New Brunswick.

Compared to the Class of 1999, net retention of first degree holders five years after graduation has not changed significantly for Prince Edward Island[16], while for Nova Scotia, the statistic has increased slightly (five percentage points). In New Brunswick, net retention increased 10 percentage points.

7. LIFE STAGE

Within five years of graduating, nearly half (48%) of the Class of 2003 own their own home, up slightly (four percentage points) from the Class of 1999. Home ownership[17] was more likely among those who did not return for further study (63% vs. 52% who did), and among those who completed Applied/Professional programs in 2003 (63% vs. 52-57% of Liberal Arts and Sciences graduates).

In addition, over half (55%) are living as a couple (either married or in a common-law relationship), and 22% have at least one dependent child, figures relatively unchanged compared to the previous cohort at the same point in time. However, again, we note variation related to whether or not graduates pursued further education – among this group, 30% reported having at least one dependent child, compared to 18% of those who did continue with their education. There was some variation by discipline cluster in the proportion reporting having at least one dependent child: most likely to report this were Applied Arts and Sciences/Professional graduates (31%) , and least likely, Physical and Life Sciences and Mathematics graduates (12%).

[16] Caution must be exercised in interpreting these results given the margins of error for each province (based on number of graduates residing in province 12 months prior to enrolling in 2003 degree): Prince Edward Island (n=61; margin of error = ± 12%), New Brunswick (n=323; margin of error = ± 4.8%), Nova Scotia (n=485; margin of error = ±3.8%)

[17] Graduates were asked “Do you yourself own or rent your current home?” The assumption is that the response “own” would include mortgaged homes.

The most interesting finding perhaps is that neither the amount of debt nor the debt-payment-to-income ratio affects partnering or parenting. The only relationship that reaches statistical significance for this group is that the amount owed affects levels of home ownership. That said, whether or not the debt-payment-to-income ratio exceeds the 8% guideline seems unrelated to any of these outcomes.

8. Satisfaction and Value of Education

In addition to collecting detailed information on specific outcomes, the MPHEC's graduate survey also asks graduates about their degree of satisfaction with their employment, their current level of education and their financial situation, as well as whether or not they consider their education to have been worth the time and effort. Table 8.1 provides a summary of these findings.

Table 8.1
Measures of graduate satisfaction, Class of 2003 first-degree holders, at two and five years following completion of the first degree, and Class of 1999 first-degree holders five years after completion of first degree

Measures of Graduate Satisfaction

	Class of 2003		Class of 1999
	Two years	Five years	Five years
Satisfaction[a] with...			
Employment situation	61%	74%	73%
Current level of education	83%	87%	85%
Financial situation	40%	55%	57%
Would choose same field of study	77%	72%	68%
Education was worth[b]...			
Time invested	87%	83%	86%
Financial investment	74%	71%	77%

[a] Reported 4 or 5 on a scale of 1 to 5, where 1=very dissatisfied and 5=very satisfied.
[b] Reported 4 or 5 on a scale of 1 to 5, where 1=not at all worth it and 5=well worth it.

When asked about their level of satisfaction with their employment situation (74%), and current level of education (87%), close to three-quarters or more of 2003 graduates reported being satisfied or very satisfied. By contrast, just over half (55%) of graduates reported that they were satisfied with their financial situation. Despite variations across these measures, the level of satisfaction reported for each element increased between the second and fifth year following graduation. The most marked change was with satisfaction with employment situation (up 13 percentage points), and financial situation (up 15 percentage points).

The findings show a slight decline (by four percentage points) to 72 percent in the proportion that said they would choose the same field of study if they could do it over again. The proportions who thought their education was worth the time (83%) and money (71%) invested remain high, though declined somewhat relative to their opinion given in the second year.

When we compare the Class of 2003 with the previous cohort (Class of 1999) at the same point following completion of the first degree, we note very little change in the measures presented in Table 8.1. The exception to that trend lies with whether grads thought their education was worth the financial investment; 71% of Class of 2003 first-degree holders agreed the financial investment was worth it, down six percentage points compared to the previous cohort (Class of 1999).

Perhaps not surprisingly, differences were observed by discipline cluster on key measures of satisfaction (Table 8.2). For example, graduates reporting satisfaction with their financial situation were 66% of Commerce and Administration, and 48% of Humanities, Arts and Social Sciences graduates. Between these two extremes were the numbers for Applied Arts and Science/Professional (64%) and Physical and Life Sciences and Mathematics (51%) graduates. Smaller but notable differences exist between the discipline clusters in the percent reporting satisfaction with the current employment situation: 81% of Commerce and Administration and 68% of Humanities, Arts and Social Sciences graduates reported satisfaction on this measure, and again represented the two extremes. Nearly eight-in-ten (78%) Applied Arts and Sciences or Professional graduates, and 75% of Physical and Life Sciences and Mathematics graduates reported satisfaction with their employment situation.

Table 8.2
Measures of graduate satisfaction, Class of 2003 first-degree holders, at five years following completion of the first degree, by discipline cluster

Measures of Graduate Satisfaction by Discipline Cluster

	Applied/Professional		Liberal Arts and Sciences	
	Commerce and Administration	Applied Arts and Sciences or Professional	Physical and Life Sciences and Mathematics	Humanities, Arts and Social Sciences
Satisfaction[a] with...				
Employment situation	**81%**	78%	75%	**68%**
Current level of education	83%	83%	92%	89%
Financial situation	**66%**	64%	51%	**48%**
Would choose same field of study	76%	70%	73%	72%
Education was worth[b]...				
Time invested	83%	87%	81%	83%
Financial investment	72%	76%	68%	69%

Bold print denotes statistically significant difference between discipline clusters.
[a] Reported 4 or 5 on a scale of 1 to 5, where 1=very dissatisfied and 5=very satisfied.
[b] Reported 4 or 5 on a scale of 1 to 5, where 1=not at all worth it and 5=well worth it.

No significant differences were observed by discipline cluster in the level of satisfaction with level of education, or in the numbers who would choose the same field of study, or who thought the investment of time and money in their education had been worth it. It is worth noting that although Liberal Arts and Sciences graduates tend to report lower levels of satisfaction with their financial situation and their employment situation, they nevertheless are quite satisfied with their current level of education and the vast majority agree their education was worth the time invested.

9. SUMMARY AND IMPLICATIONS

If we now return to our principal theme of the value of a university education, it can be concluded without reservation that most graduates still perceive the time and money invested in attaining their university education to be worthwhile. However, costs continue to rise (not just the “sticker price” of an education, but also the attendant increases associated with greater numbers of students borrowing and also borrowing more); and for the majority of graduates, a second degree/credential (or even more) has become the most typical pathway, with the result that the investment of time has also increased. The report has also shown that the investment of time and money is typically greater for certain sub-groups of graduates.

As prior graduate surveys have demonstrated, the discipline cluster of the first degree is a major determinant of the path that a student will follow after graduation. No other variable so consistently predicts continuing education, debt or employment outcomes and even life stage, over the first five years after the completion of the first degree. Table 9.1 summarizes the key differences by discipline cluster:

Table 9.1
Summary of salient statistics, by discipline cluster

Summary of Major Differences by Discipline Cluster

Applied/Professional		Liberal Arts and Sciences	
Commerce and Administration	Applied Arts and Sciences or Professional	Physical and Life Sciences and Mathematics	Humanities, Arts and Social Sciences
Pursued further education			
60%	43%	87%	82%
Free of student debt			
60%	51%	37%	38%
Owing $30,000 or more			
8%	13%	24%	21%
Among those employed, proportion whose job is management/usually requires university education…			
Pursued further study			
71%	78%	76%	72%
Did not pursue further study			
54%	75%	60%	43%
Annualized earnings, among those employed			
$55,393	$52,997	$47,557	$44,487
Experienced a period of unemployment			
53%	64%	74%	77%
Satisfied with employment situation			
81%	78%	75%	68%
Satisfied with financial situation			
66%	64%	51%	48%
Own their own home*			
63%	63%	57%	52%
Have at least one dependent child			
29%	30%	18%	20%

* Graduates were asked "Do you yourself own or rent your current home?" The assumption is that the response "own" would include mortgaged homes.

Compared to graduates of Liberal Arts and Sciences programs, those who completed programs in Applied/Professional programs are less likely to pursue further education, and largely as a result, are more likely to be free of student debt; they are less likely than their peers to have experienced a period of unemployment, and they enjoy higher earnings. They are more likely to own their own home and to have a dependent child. Finally, they are more likely to be satisfied with their financial and employment situations. The fact that Applied/Professional programs are considered 'terminal' – either directly or very closely linked to a profession or career-inevitably means that a graduate may find a more direct route in entering the work force and establishing the foundation of a career.

By contrast, graduates of Liberal Arts and Sciences may be less likely to make direct links between their credential and a profession or career, or their first degree may be a necessary requirement for admission into their intended program. The findings in this report suggest that a second degree (or more) has become the typical pathway for graduates of Humanities, Arts and Social Sciences, and for graduates of other programs, it is becoming more important in increasing the likelihood they will find employment requiring high skill levels.

For those whose degree is in the Liberal Arts and Sciences, greater numbers are looking at a longer path to full engagement in the labour market, as well as a greater investment of time and money. A survey conducted perhaps at the tenth year following completion of the first degree, would be useful for comparing the longer-term outcomes of these two groups, to determine whether the differences observed eventually disappear.

10. METHODOLOGICAL NOTES

The findings in this report are based on the responses of 1,968 Class of 2003 Maritime university graduates to a telephone survey conducted between October 2008 and January 2009 by The Strategic Counsel. Of these, 1,061 were first-degree holders. All survey respondents were selected from a list of 4,014 graduates who had agreed in the two-year-out survey (conducted in 2005) to be re-contacted for this five-year-out study. Interviews were conducted in the official language of the graduate's choice.

The original two-year-out survey was designed so that institutions were represented through a proportionately allocated, randomly selected sample of graduates based on a fixed sample size of approximately 30% of all graduates. In three cases, the small size of the graduating class or a specific request resulted in an attempted census for Université Sainte-Anne, Atlantic School of Theology and University of Prince Edward Island. The sample for the 2008 survey was proportionately allocated by institution from the original sample.

The questionnaire response rate for valid contact numbers was 57%.

10.1 Definitions

Discipline Cluster

Major fields of study are grouped into four broad categories or clusters: 1) Commerce and Administration, 2) Applied Arts and Sciences or Professional programs (often referred to collectively in this report as Applied/Professional), 3) Physical and Life Sciences and Mathematics, and 4) Humanities, Arts and Social Sciences (often referred to collectively in this report as Liberal Arts and Sciences). A list of majors comprising each discipline cluster may be found at http://www.mphec.ca/en/Resources/DisciplineClusters.pdf

Parents' Education / Parental Educational Attainment

Parental educational attainment comprises three categories:

- High school diploma or less
- PSE below bachelor degree (includes trade, community college or hospital-based certificates or diplomas, and completion of a university certificate or diploma below the bachelor's level, or attendance at university without earning a credential)
- Bachelor's degree or above (includes bachelor's, first professional, master's or PhD degrees, and graduate level certificates/diplomas)

These categories combine both the mother's and father's highest level of education, and the category is assigned based on the highest level of education of the pair. Excluded from analysis are those graduates who did not know or declined to report the highest level of education of either parent.

Job Skill Level – National Occupation Classification Codes

The job skill level variable is created from the National Occupation Classification code structure which classifies occupations according to their combination of skill level and skill type. Skill type reflects the field of training or experience usually required and the type of work performed; there are 10 skill types. The skill types are:

0 - Management Occupations (*note - management occupations are not assigned to a skill level category)

1 - Business, Finance and Administrative Occupations

2 - Natural and Applied Sciences and Related Occupations

3 - Health Occupations

4 - Occupations in Social Science, Education, Government Service and Religion

5 - Occupations in Art, Culture, Recreation and Sport

6 - Sales and Service Occupations

7 - Trades, Transport, and Equipment Operators and Related Occupations

8 - Occupations Unique to Primary Industry

9 - Occupations Unique to Processing, Manufacturing and Utilities.

Skill level corresponds to the type and/or amount of training or education typically required. The skill levels are:

A - University education

B - College level education including trade apprenticeships

C - Secondary school plus a period of job-specific training

D - Short work demonstration (no formal education required).

Job Skill Level Categories:

- Usually requires university education / management = skill type 0 + skill level A
- Occupation does not require university education = skill level B, C and D

Statistical Analysis

The margin of error for findings from this sample of **1,061 is ±1.6** percentage points, 19 times out of 20. The distribution of the final sample by institution is found in Appendix 1.

In all cases, the confidence level determining significance was set at 95%. All statistics presented have been generated from weighted data; data were weighted by institution to adjust to proportional representation in the population. Unless otherwise specified, in cases where percentages do not total 100, the “don’t know” and “refused” responses have not been included in findings.

Ordinal/Categorical Data: Differences in proportions were tested using Chi-Square (SPSS version 12.0). Notable differences were detected using adjusted standardized residuals.

Ratio/Continuous Data: Main effects were tested using one-way ANOVA (SPSS version 12.0). Differences between groups were tested using the Student-Neuman-Keuls test.

APPENDIX 1

Distribution of sample (unweighted) by institution (First-degree holders only)

	Frequency	Percent
Institution		
Acadia University	86	8.1
Dalhousie University	194	18.3
Mount Allison University	68	6.4
Mount Saint Vincent University	46	4.3
Nova Scotia Agricultural College	20	1.8
Nova Scotia College of Art & Design University	19	1.7
Saint Mary's University	112	10.6
St. Francis Xavier University	89	8.4
St. Thomas University	50	4.8
Université de Moncton	81	7.6
Université Sainte-Anne	4	.4
Cape Breton University	53	5.0
University of King's College	24	2.3
University of New Brunswick	164	15.5
University of Prince Edward Island	51	4.8
Total	**1,061**	**100.0**