STUDENT LOANS: IS IT GETTING HARDER? BORROWING, BURDENS, AND REPAYMENT

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I. INTRODUCTION

The Canadian Student Loan Program (CSLP) has been the primary vehicle for delivering direct financial assistance to post-secondary students in Canada since its inception in 1964. Yet while it has helped millions of Canadians pursue higher studies and thereby achieve major career and life goals, it has often been the subject of various criticisms: that default rates are too high, that it is too easy for some students to get support while not enough is provided to others, that the system is not flexible enough with respect to repayment arrangements, that the benefits of the programme have varied along provincial lines, and so on (Finnie and Schwartz [1996]).

In more recent years, one important set of concerns has focussed on the levels of borrowing and the associated debt loads. More specifically, recent post-secondary students appear to have been borrowing more, paying off their debts more slowly, and defaulting in greater numbers than before. This has resulted in concerns regarding not only the hardship faced by students in the post-schooling payback period, but also that these rising debt loads have been affecting access to the post-secondary system, causing individuals to forego, delay, or slow down their studies, while also affecting choices with respect to field of study, the decision to go on to graduate school, and related activities. Of particular worry is that these effects are likely to be hitting younger people from lower socio-economic backgrounds more than those from wealthier families – that is, access to the Canadian post-secondary education system seems to be increasingly a matter of family background rather than the ability to do the work and the desire to make a go of it.

Rising debt levels are thus related to both equity and efficiency issues regarding post-secondary education. First, worthy students might well be turning away from higher education just when a highly skilled labour force is of unprecedented importance to the country's productivity and international competitiveness in the "New Knowledge/Global Economy". Second, the opportunity to pursue post-secondary studies seems to be increasingly drawn along class lines at a time when the value of a post-secondary education appears to be greater than ever, as college and university graduates have been "holding their own" while the fortunes of those with less schooling have been in steady decline (Finnie [1999a]). Both aspects are important, neither situation is desirable; *ergo*, student borrowing is an important issue on the nation's policy agenda with respect to both productiveness and social justice.

These concerns are, furthermore, occurring in the face of some important recent and ongoing changes in the CSLP and the post-secondary education system in general. Tuition levels have been rising, CSLP lending limits have been increased, need assessment procedures have been revised, the interest relief programme has been extended, and the treatment of student loans in default was radically changed in a 1995 agreement between the CSLP and the participating financial institutions (whereby the latter accepted the primary risk of default in exchange for a 5 percent premium paid up front by the government to cover bad debts in the aggregate). Furthermore, additional changes are afoot, including the "harmonization" of the CSLP and related programmes across the provinces which includes not only standardizing students' access to the CSLP across different jurisdictions, but also the implementation of assessment procedures whose purpose is to evaluate the success of the programme on an on-going basis in terms of its

primary goal of guaranteeing access to the post-secondary system regardless of family background and other performance parameters.

Despite this importance of the Canada Student Loans Program and student loans in general, there is a general dearth of empirical evidence regarding borrowing levels, payback rates, and the hardship engendered by this debt. The contribution of this paper is, then, to update and extend earlier work by the authors (Finnie and Garneau [1996a, b], Finnie and Schwartz [1996a, b]) by presenting the results of an empirical investigation of borrowing and repayment patterns of four recent cohorts of Canadian post-secondary graduates.

The analysis is based on the National Graduates Survey (NGS) databases. These comprise large, representative surveys of those who graduated from Canadian colleges and universities in 1982, 1986, 1990, and 1995 and include information on students' borrowing from government loan programmes and the repayment of those debts. Graduates at the College, Bachelor's, Master's, and Doctoral level are included in the analysis, which is broken down along these lines as well as by sex.

The paper thus provides answers to the following questions: What proportion of students have been taking out loans for their post-secondary schooling and what amounts have they been borrowing? How do the amounts borrowed compare to earnings levels? What are the repayment rates in the years following graduation? How many graduates are encountering problems with their debt loads? What are the characteristics and circumstances of those experiencing repayment difficulties? How do these patterns vary by gender and level of education? What are the trends over time? This paper should, therefore, be of interest to those directly interested in the economic situation of students and the financing of the post-secondary system in Canada, to those more narrowly interested in the performance of the CSLP and other forms of student assistance, including those with an eye to its potential (further) reform, and a range of related issues pertaining to post-secondary students, the post-secondary system in general, the well-being of younger workers, and more.

The paper is organised in a straight-forward fashion: the next section describes the National Graduates Surveys and the construction of the samples used, the third section presents the empirical findings, and the concluding section briefly summarizes the principal findings, discusses some of their major implications, and offers suggestions for future research.

II. THE DATA

II.1 The National Graduates Surveys

This research employs four waves of the National Graduates Survey (NGS) databases, representing those who successfully completed their programmes at Canadian universities and colleges in 1982, 1986, 1990, and 1995. For each cohort, information was gathered during interviews carried out two and five years after graduation, with the analysis presented here based on the first surveys for each cohort which include the pertinent information on student loans.

These databases, developed by Statistics Canada in partnership with Human Resources Development Canada, are well suited to the analysis for a number of reasons. First, the NGS files are quite large in terms of the target populations, with each survey including approximately 30,000 university and college graduates, thus facilitating the sort of detailed analysis of post-graduation experiences that general survey database could not, while the representative nature of the databases allows the results to be generalised to the population of graduates at large.

Second, the availability of data for four different cohorts permits the more enduring patterns to be separated from those which have been shifting over time, while also bringing the record as up to date as possible. More specifically, we can analyse the trends in borrowing, payback, and burdens over the period covered, which has been characterised by the important changes in tuition fees, the CSLP programme, and the labour market fortunes of young workers noted above.

Third, the sample frame and the timing of the interviews provides a perspective of the relevant outcomes (*e.g.*, the amount of debt paid down) which is precisely situated as of a specific point in time relative to graduation, thus providing for a coherent view of these outcomes at a point far enough along to give at least a preliminary view of "longer term" patterns. Unfortunately, student loan information was collected only at the first interview (two years after graduation) for each cohort of NGS graduates, meaning that we are constrained to looking at the payback record over a relatively short post-graduation period.

Finally, most crucial to this project is that the databases contain various variables relating to student borrowing, including the amounts borrowed, the debt remaining two years after graduation, and self-identified problems with making loan repayments. This loan information can, in turn, be linked to the individual's educational, labour market, and socio-demographic characteristics.

In summary, the availability of some interesting loan information and the possibility of matching these outcomes to the individual's personal attributes, the precise perspective offered by the two-year interview date, the cross-cohort aspect of the files, and the abundant (and representative) sample sizes make these NGS data uniquely well-suited for the study of student borrowing in Canada from the early 1980s into the late-1990s. The NGS data are, furthermore, interesting and unique not only in a Canadian context, but to the best of this author's understanding, unequalled in the world in terms of offering large representative surveys of post-secondary graduates covering various elements of the school-to-work transition over the last decade and a half.

II.2 Selection of the Working Samples

The major general set of restrictions were imposed so as to eliminate individuals who had not yet completed their education at the time of graduation so as to have a clearly defined framework of analysis in which individuals are captured at this well defined – and presumably most critical – point in the school-to-work transition.[1] Including on-going students would also have thrown off

[1] Note that the on-going students deleted here who eventually finished their programmes would in fact be represented in the samples used – captured at precisely the point they finished their studies instead of being double-counted along

the precise post-graduation time frame corresponding to the two interview dates (*i.e.*, two and five years after graduation) which holds for the non-continuing group. Finally, it is impossible to identify the specific field of study in which any new degree was obtained as of the 1984 survey for the 1982 graduates.

Individuals with the following characteristics were therefore dropped from the analysis: graduates who obtained an additional "major" diploma by the first interview, part-time workers who cited school as the reason for their only partial involvement in the labour market, those not currently (as of the first interview) looking for work due to school, and those currently enrolled in a (major) diploma programme.[2]

The key loan variables were, furthermore, verified for consistency, and a small number of records were either dropped or corrected. Finally, observations were not included in specific tables when the required information was missing or deemed likely erroneous.

III. THE EMPIRICAL FINDINGS

III.1 Levels of Borrowing

Table 1 and Figure 1 show the levels of borrowing from student loan programmes as of graduation by degree level, sex, and cohort. Two sets of numbers are presented: the proportion of graduates with loans, and the mean amount owed for those who borrowed (given in constant 1995 dollars). These amounts reflect *total* borrowing from governments (including the provinces), not just through the federal programme (CSLP), thus reflecting the information given in the NGS databases.

For both College and Bachelor's graduates, borrowing generally grew substantially across the four cohorts. At the College level, the incidence of borrowing rose from 1982 to 1986, then remained approximately stable to finish at rates of .41 and .44 for men and women of the class of 1995. The mean levels of borrowing amongst those with loans, however, rose much more significantly, from just under just under $4,000 for the 1982 cohort to around $9,500 for the class of 1995 (males and females both). Amongst Bachelor's graduates, the incidence of borrowing rose more moderately, especially for men, to finish at rates of .47 and .45 (versus .45 and .39 for the earliest cohort), but mean amounts again increased much more sharply, growing from around the $6,000 mark for the 1982 cohort to $13,390 and $13,840 for the most recent group (men/women).

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the way (first as they left one programme and then continued with their studies and then again at the completion of their later programmes). Including on-going students would also have thrown off the precise post-graduation time frame corresponding to the interview (*i.e.*, two years after graduation) which holds for the non-continuing group. Such individuals might also have been mixing school and work in a way likely to affect the section of the analysis where debt levels are related to labour market outcomes. Finally, it is impossible to identify the specific field of study in which any new degree was obtained as of the 1984 survey for the 1982 graduates.

[2] This latter piece of information was not available for the 1982 graduates. Instead, those enrolled full-time in either January or October 1983 were deleted (this information in turn missing from the other surveys).

Turning to upper level students, the incidence of graduating with a student loan at the Master's level increased moderately, from rates of .32 and .31 in 1982 to .37 and .35 in 1995, while the mean amounts borrowed again increased quite sharply, from around the $6,500 mark to $13,250 and $14,040 for men and women respectively. Finally, Ph.D. men were an exception to the other groups in that they actually had significant drops in the incidence of borrowing from 1982 through 1995, finishing at a rate of just .23, by far the lowest of all sex-education groups, while for women the borrowing rate rose from a very low level of. 22 to .29 over this period. Average amounts borrowed rose substantially – again – for both groups, from just over $5,000 to $12,450 and $13,130 for males and females in 1995.

To measure the rise in overall borrowing in a manner which simultaneously reflects the changes in the incidence of borrowing and the average amounts borrowed, Table 2 and Figure 2 show the incidence of borrowing times the mean amounts borrowed, thus effectively representing average borrowing over all individuals. The trends therefore reflect the mostly moderate increases in the incidence of borrowing and the uniformly substantial rises in mean amounts borrowed, with overall borrowing rising from a little over the $1,000 mark to around $4,000 at the College level, from between $2,000 and $3,000 to over $6,000 amongst Bachelor's graduates, from about $2,000 to a little under $5,000 for Master's finishers, and more moderate increases for men at the Ph.D. level from a little under $2,000 to just below $3,000 for men, and from just beyond the $1,000 level to almost $4,000 for women.

In summary, then, borrowing generally rose significantly over this period, with overall borrowing more than doubling in all cases except for Ph.D. men. Do these levels represent a lot of borrowing? To some observers, averages generally around the $13,000 level (lower for College graduates) for from one-quarter to just under one-half of the post-secondary graduates population might not seem very high - equivalent, for example, to the price of one of the least expensive new cars on the market (which marketers put a good deal of energy into flogging to such recent graduates) in the case of those holding loans, and obviously less than half this when averaged over all graduates taken together (*i.e.*, including those without loans). Such debt levels might, furthermore, seem especially reasonable when one considers the benefits – which have been steadily rising over this period – of a post-secondary diploma and the fact that higher education is highly subsidized in any event. Others, might, however, judge these amounts to be large, be particularly concerned with the increases over time, and fear for those with higher than average debt loads and how this whole set of increases might be dissuading qualified individuals from continuing with their post-secondary studies – especially if these effects were related to family income.

It is worth noting that the timing of the increases in the mean amounts of borrowing roughly correspond to the increases in lending limits instituted over this period: from $50 per month of eligibility to $100 in 1984, and then to first $105 and then $160 per month in 1992 and 1994. It would, therefore, appear that many (most?) students have been borrowing up to the permitted limits – and might in fact have had financial needs even beyond these levels which the loan system has not been adequately meeting (*i.e*. students have been "supply constrained" in their borrowing). On the other hand, student loans can, with the zero interest rates faced on student loans during school, also represent "free money" which would almost automatically be taken up by qualifying students regardless of actual need – so the evidence of borrowing up to the

permitted limits is hardly conclusive evidence that students have indeed been strapped for cash right up to – and perhaps beyond – the permitted borrowing levels. Such issues will be discussed further below.

Table 3 and Figure 3 provide detail beyond the mean borrowing levels presented above by showing the distribution of loans by dollar level for the 1990 and 1995 cohorts. There were – as would be expected from the substantial increases in mean borrowing levels seen above – general shifts of the distributions of borrowing to the right, with substantial increases in the top three ranges. In particular, the percentage of university graduates with loans of $15,000 or more rose from the 15-20 percent range for the 1990 cohort to 30-40 percent for the class of 1995, and the incidence of graduates with at least $30,000 in borrowing rose from a negligible 1-2 percent to the 4-6 percent range over this period (generally lower rates amongst College graduates). Such variation means that any analysis of the student loan system needs to go beyond consideration of the "average" graduate and, in particular, take the existence of much more substantial levels of borrowing on the part of some individuals into account. On the other hand, media reports of borrowing at levels as high as the $60,000 (which seems to be a popular figure cited) should be seen as extreme outliers, rather than anything like the norm.

Borrowing by major field of study at the Bachelor's level is shown in Appendix Table A1. Interestingly, the results indicate that – apart from the anticipated higher levels of borrowing for second degree professional graduates (law, medicine) – there are no obvious patterns across the different fields. In particular, borrowing does not seem to be related to future earnings patterns. It is also instructive to note the generally similar levels of borrowing of male and female graduates in this respect. These findings would suggest that student borrowing cannot be explained by a standard life cycle model whereby we would expect those with higher expected earnings (*e.g.*, those with degrees in engineering, computer sciences, commerce, or mathematics and physics – see Finnie [1999b, c])) to borrow greater amounts so as to shift more consumption forward in time. Instead, borrowing would again appear to be largely supply-constrained - that is, individuals borrow up to the limits permitted, perhaps at least partly due to the generous nature of the student loan programme in terms of the subsidized interest rates it offers as mentioned above.[3]

Finally, It is interesting to note the similar borrowing levels across all three degree levels at the university level. In short, we should not think about borrowing at the Master's and Ph.D. levels to represent additional accumulations on top of what the averages indicate at the undergraduate level. There are at least three reasons why borrowing levels might be so similar in this respect. First, those who go on with their studies are generally the better students and, therefore, would have generally received more financial support in the form of bursaries and scholarships at the lower degree levels, thus reducing their demand (and eligibility) for loans. Second, individuals from higher socio-economic backgrounds i) have less need for loans, ii) are less eligible for borrowing, and iii) are more likely to go on to graduate studies, thus generating a correlation between borrowing at the earlier degree level(s) and ultimate educational attainment. Finally, higher levels of accumulated debt could deter certain individuals from continuing with their

[3] See Finnie and Schwartz (1996a, b) for further discussion of borrowing in a demand-supply analytical framework.

studies. Disentangling these factors is, however, a task beyond the scope of the present paper and the NGS data.

III.2 The Burden of Student Loans

One simple measure of the burden which this borrowing represents is to calculate debt-to-earnings ratios, defined here as the amount owed to student loan programmes at graduation divided by the annual rate of pay in the job held at the first interview. A higher ratio therefore represents a greater debt burden; a lower ratio, a lighter burden. These ratios can, by definition, be calculated only for those with jobs as of the first interview; in a later section we include non-workers in an analysis of repayment problems.[4]

Median debt-to-earnings ratios (means are too sensitive to outliers) by degree level, sex, and cohort are shown in Table 4. Amongst university graduates, debt burdens decline substantially with the level of the degree, especially for women, primarily due to the underlying differences in earnings levels (debt levels having already been seen to be similar). College graduates' burdens have been roughly similar to those at the Master's level – less borrowing but substantially lower earnings as well.[5]

For all groups, debt burdens generally rose over time. These increases were, furthermore, driven almost entirely by the increases in borrowing levels reported above, since average earnings were relatively steady over this period – at least over the first three cohorts. Unfortunately, comparisons of the trends right through the 1995 cohort are clouded by a change in the earnings measure for the latest group – and one which would appear to have affected women's measured earnings more than men's.[6]

Debt-to-earnings ratios vary in a predictable pattern by field of study (Table A2), and as borrowing levels have already been noted to be fairly similar by field, these debt-to-earnings ratios reflect the associated earnings patterns.[7] For example, for men of the 1995 cohort, the ratios range from lows around the .30 mark (Commerce, Engineering, Computer Science, and No Specialization,) to a high of .60 for those in Elementary Teaching. The ratios are generally higher for women but follow roughly the same pattern by field. Perhaps surprising in this respect is the rather high debt-to-earnings ratios amongst Medical School graduates. This group was already

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[4] These ratios are meant to serve as only a rough index of the burden which the student loans represent. The true burden – and however that might be defined – probably consists of a rather more complex relationship between borrowing levels and earnings (for example, a given ratio might be easier to bear at a higher income level) and would take other factors into account. Also, earnings as of the first interview represent only a rough proxy of post-graduation earnings patterns. Nevertheless, the index serves as a useful indicator of debt burdens, especially when used to make comparisons across groups and over time.

[5] See Finnie [1999a] for the underlying earnings patterns.

[6] In the earlier years, individuals were asked how much they earned in their job in terms of the amount they would receive were the job to last the full year, whether or not that was the case. In 1995, individuals were asked to give their rate of pay in the manner they preferred (hourly, weekly, monthly, annually), with these values then translated into annual values based on usual hours and weeks of work where appropriate.

[7] Finnie [1999b, c].

seen to have very high debt levels (for perhaps obvious reasons), while these ratios indicate that their starting salaries are not commensurately elevated. It would, however, be interesting to see what happened in the longer run after residencies were completed and these doctors' salaries really began to move to more fully assess their debt burdens.

The results also show that debt burdens are generally higher for women than men, except at the Ph.D. level, as the similar borrowing levels by sex translate into higher burdens for women due to their generally lower earnings. In most cases, however, the ratios are considerably more equal by sex within a *given* field of study (Table A2 again) than for all graduates of a particular level of education taken together, and are actually lower for women than men in certain fields (*e.g.*, Engineering and Mathematics and the Physical Sciences in the 1995 cohort). The higher average debt burdens of female graduates – at least at the Bachelor's level – are, therefore, largely the result of their being clustered in low income fields, rather than their having lower earnings in given fields. To the degree that field of study is a choice, therefore, then so too is a sizeable proportion of women's higher debt loads.

Finally, the full distributions of debt-to-earnings ratios of are given in Table 5 and Figure 4. These results again show the great variation in situations faced by graduates with respect to their student loans – some facing debt burdens which are effectively negligible, others facing much great loads.

III.3 Payback Rates

The mean proportions of graduates' loans repaid by the first interview, two years after graduation, are shown in Table 6.[8] The "Unweighted" columns (representing the mean payback rate across all individuals with loans) show that for the most recent cohort, College and Bachelor's students graduates had paid back an average of two-fifths of the debt levels they had at graduation for, the Master's group had repaid a little over one-half, and Ph.D. graduates slightly greater amounts. In virtually all cases, there were clear declines in the amount which had been paid back for each succeeding cohort. The declines were, furthermore, mostly greater for women than men, and in some cases the changes were quite substantial (*e.g.*, from .56 to .38 percent for College Women and from .72 to .57 for Ph.D. Women). These findings would almost unambiguously point to more recent graduates having significantly greater difficulty in repaying their student loans.

Interestingly, though, the extent of the gender differences in repayment rates do not generally correspond to the differences in debt-to-earnings ratios seen above. For the 1995 cohort, for example, female graduates' payback rates are either slightly greater than the males' (at the Ph.D. level), equal (Master's), or at most 4 points lower (College and Bachelor's), while their ability to pay as measured by debt-to-earnings ratios was (as seen above) differing much more than this (*i.e.*, females' debt-to-earnings ratios were mostly about 10 percent *higher* than males' except in the case of Ph.D. graduates, where they were slightly lower).

[8] This information was not gathered for the 1982 graduates.

In short, women have been generally repaying their loans at similar or higher rates than men even though their borrowing seems to represent a greater burden when related to their (lower) earnings levels. This gender similarity in payback rates is perhaps largely because standard repayment schedules over this period – before more flexibility was permitted when student's debts were turned over to the banks to manage in 1995 – called for loans to be repaid in full over ten years, regardless of the size of the loan or any assessed ability to pay, so that payback rates have varied only when individuals fell behind on their payments or chose to repay more quickly. Nevertheless, that scope for departures in fact left substantial room for differences in payback rates (see further evidence on this below), so the gender patterns do in fact reflect different underlying behaviour to at least some degree.

It would, then, appear that women's attitudes to debt are different than those of men - perhaps they are less comfortable with a given amount of debt and prefer to repay their loans at faster than standard rates (perhaps because they anticipate facing periods out of the labour market related to child-bearing), are "more responsible" in avoiding non-payments, or are characterised by other such differences. In any event, one implication of this evidence and the associated line of thinking is that gender differences with respect to debt might also affect schooling decisions to the degree more schooling requires more debt – perhaps being part of the reason that women go on to graduate studies at lower rates than men.

Differences in payback rates by field of study are given in Table A3. They are roughly related to the debt-to-earnings ratios seen previously in that graduates in disciplines with higher debt burdens tend to have paid back a lower proportion of their loans, but the patterns are not particularly strong and there are numerous clear exceptions (*e.g.*, the extraordinary low payback rates of lawyers). This pattern would again presumably be at least partly due to the standard payback schedules mentioned above, but choice would seem to be an element once again as well (the lawyers case perhaps being the most illustrative in this respect). As in the aggregate, women's payback rates are mostly not nearly so low relative to men's – or even higher – relative to one might have predicted from the debt-to-earnings ratios previously observed.)

Table 7 and Figure 5 show the full distribution of repayment rates for the 1995 and 1990 cohorts. At one end of the distribution, between 20 and 40 percent of all graduates had repaid their loans in their entirety by two years after graduation (the last column in the table), these fully-paid groups generally rising with degree level. At the other end, between 30 and 50 percent had repaid less than 25 percent of their debt (the first two columns taken together). Interestingly, the percentages of graduates with either full repaid debts or relatively little paid back (0, 25 percent or less) did not move in a coherent fashion from the 1990 cohort to the 1995 cohort – the specific changes depending on the particular sex-education group.

To assess the rate of repayment of the entire debt load summed across all graduates of a given sex-education group, payback rates weighted by initial loan level are provided in the second panel of Table 5.[9] In the majority of cases the weighted repayment rates are lower than the

[9] If, for example, one person's loan was twice as large as another's, that first loan would have double the weight of the second in these calculations.

unweighted rates, indicating that those with less borrowing have indeed been paying back larger proportions of their loans by the first interview, but the opposite holds for certain groups as well. The gender patterns hold as before.

III.4 Difficulties With Repayment

While the NGS databases do not have any information on formal default on student loans, for the 1990 and 1995 cohorts they include the responses to a simple question which asked individuals who still had loans outstanding as of the first interview if they had been encountering "difficulties" with repayment.[10] The results, shown in Table 8 and Figure 6, indicate that amongst College, Bachelor's, and Master's graduates, 29-33 percent of those still holding debt reported such problems, while the rates were 21 and 23 percent for the male and female graduates at the Ph.D. level. In each case except for Ph.D. women, these rates were greater than those which held in 1990, in many cases rather substantially so.

These rates should, however, be placed in a broader context. When we take into account that only between one-quarter and just under one-half of all graduates had loans upon graduation and that 20 to 40 percent of those borrowers had repaid their loans entirely by the first interview (as seen above), the proportion of all post-secondary graduates who experienced difficulties with the repayment of their student loans was 14 and 15 percent for College level males and females, 12 and 14 percent for those at the Bachelor's level, 12 and 14 percent amongst Master's graduates, and 11 and 10 percent for men and women at the Ph.D. level. These rates are considerably higher than those which held for the 1990 cohort, but are still fairly low – and probably much lower than many readers would have thought.[11]

Female graduates generally had greater incidences of repayment problems than did men, which is consistent with the debt-to-earnings ratios seen earlier, but the gender differences are not as great as the debt-to-earnings ratios might have suggested – as was the case with the repayment rates themselves. It is again not clear how to interpret these findings, but the findings remain interesting in terms of the gender differences in behaviour and/or attitudes which underlie these patterns.

It is also interesting to note that the rates of difficulty were roughly similar for College graduates and those at the Bachelor's and Master's university levels – despite the differences in earnings

[10] There are obvious potential problems with using self-identified repayment problems. In particular, two individuals in similar situations might describe their experiences differently. On the other hand, there is no obvious reason why the distribution of responses should, in this regard, be any different for one group of graduates versus another (*e.g.* men versus women or from one cohort to another), and the measure should at least be a useful indicator of repayment problems.

[11] Some caveats should be attached to this statement. First, with these data we are only looking only at those who finished their programmes, and those who incurred loans but who then dropped out might be prime candidates for repayment problems. Furthermore, some of those who rapidly repaid their loans may have done so only with difficulty. Finally, the financial situation of graduates might well have become worse since the period covered in this analysis.

levels and debt-to-earnings levels across these groups. The lower rate of difficulty at the Ph.D. level is, on the other hand, hardly surprising.

Given the differences in debt-to-earnings ratios by field of study noted above, we might expect there to be a corresponding pattern with respect to the proportion of graduates with repayment problems. This is indeed the case, as shown in Table A4, with the incidence of repayment problems being as high as 51 and 41 percent for male and female Fine Arts and Humanities graduates (in 1995), and as low as 18 and 27 percent for Engineering graduates. It is notable that the surprisingly high debt-to-earnings ratios for Medical graduates seen earlier do not seem to translate into inordinately high rates of repayment problems, thus suggesting that their short-run earnings levels are perhaps not good indicators of their true economic situations.

It is particularly pertinent to the design and refinement of the government loan systems to know the characteristics of graduates who have been having problems with their loans so that any appropriate assistance can be as precisely and efficiently targeted as possible. Table 9 thus reports the relationship between loan problems and labour market status (again for those who still owed money as of the first interview) for the 1990 and 1995 cohorts. The percentage of borrowers with full-time jobs who had repayment problems in the most recent cohort varies from 16 to 30 percent – fairly low, but by no means negligible and substantially higher than in 1990. For part-time workers, the rates are higher, and in some cases rather elevated indeed (as much as 60 percent for Master's level females). Thus, while problems are – not surprisingly – most common for the unemployed (rates as high as a full two-thirds), these results would suggest that relief for those at low earnings levels should accompany that targeted on those with no jobs at all. In fact, recent changes in the CSLP have been doing precisely this, and depending on their actual effect should provide succour for those experiencing problems.

Finally, it is interesting to look at repayment problems by income level, as shown in Table 10 for Bachelor's graduates. These results show the expected generally decreased incidence of repayment problems at higher income levels. Interestingly, though, there are fewer clear cut-points where problems are much more common for each sex-education group in the most recent cohort relative to the 1990 graduates, and those which can be identified vary by education level. The precise design of loan assistance programmes based on income levels would, therefore, appear to offer a bit of a challenge to programme designers and any evaluation of such programmes might have to accept that the benefits of such initiatives might not be as precisely targeted as could be wished for.

IV. CONCLUSION

IV.1 Summary of the Major Findings

This paper has presented the findings of an empirical investigation of the student loan experiences of four cohorts of recent post-secondary graduates based on the National Graduates Survey (NGS) databases. The major empirical findings may be summarized as follow:

- Student borrowing generally rose over the period covered by the data (1982, 1986, 1990, and 1995 graduates), and by 1995, from one-quarter to just under one-half of all post-secondary graduates had completed their studies holding student loans (the rates varying by sex-

education group) with average cumulative borrowing levels of around $9,500 for College graduates and $12,500 to $14,000 at the Bachelor's, Master's, and Ph.D. university levels.

- Amongst borrowers, only smallish minorities (no more than 24 percent) finished with student loans amounting to $20,000 or more, and only a handful (a maximum of 7 percent) with as much as $30,000, but these figures represent significant increases from earlier cohorts and it will be interesting to closely watch more recent graduates as data become available to see if these trends have continued.
- Debt-to-earnings ratios have also risen over time – predominantly due to these increased borrowing levels (as earnings have remained relatively stable).
- Despite the importance of standardized (ten year) payment schedules in pushing graduates towards common payback rates over the period covered by this analysis, there was in fact substantial variation in these. For example, in the most recent cohort, between 20 and 40 percent of those with loans had repaid their debts completely by two years after graduation, while others had repaid only small proportions or nothing at all. Average payback rates were in the 40-55 percent range for the 1995 cohort, while all the payback findings point to reduced payback rates in each succeeding cohort – presumably indicating that the greater debt loads have in fact been more difficult to manage.
- The incidence of self-reported repayment problems has increased over time, and for the 1995 cohort ranged from 21 to 33 percent – of those who originally borrowed and still owed money to the student loan programme two years later. After taking into account the number of graduates who graduated without any loans at all and those who had paid their loans off completely, loan repayment problems were reported for just 10-15 percent of all post-secondary graduates (1995 cohort).
- There were relatively small gender differences in borrowing, greater differences in debt-to-earnings ratios, but perhaps rather surprisingly small differences in payback rates and reported payback problems, raising a number of potential implications regarding gender differences in attitudes towards debt and related decisions – including perhaps the decision to take out to go to school to start with or to go on to higher studies.
- Differences in borrowing levels by field of study were also rather small, which – along with the gender patterns – suggests that borrowing has been largely supply-side determined (*i.e.*, eligible individuals have mostly borrowed up the permitted maximums, with borrowing levels rising with the increases in those permitted amounts instituted over time). Graduates in higher-paying disciplines have of course been characterised by lower debt-to-earnings ratios, and there is something of an inverse correlation between burdens and payback rates and a stronger relationship between incomes and payback problems.

IV.2 Implications of the Findings and Remaining Research Gaps

This analysis has thus revealed that while borrowing from government loan programmes by post-secondary graduates has risen over time, it is perhaps not as extensive as some might have thought, and also demonstrated that these loans have not typically represented overly onerous burdens for graduates. That said, there have been certain proportions of graduates with greater amounts of borrowing, who have faced debt levels which are large relative to their post-graduation incomes, and who have experienced difficulties in repaying their loans – and that these more worrisome cases have increased in number over time.

It would , therefore, seem that "on average" the student loans system has been delivering reasonable levels of assistance to individuals who have then been able to manage the associated debt loads, but that a relatively small minority have faced problems. Recent policy measures targeted on providing assistance to those facing such problems would, therefore appear to have been appropriate. Initiatives of this type could, furthermore, deliver many of the benefits of an income contingent repayment system without all the fuss and muss of a wholesale shift to a completely different programme and the need to put in place all the requisite structures and suffer all the other change-over costs.

That said, a couple of major caveats are appropriate. First, this analysis covers only post-secondary *graduates*, with non-finishers – a group which is probably particularly likely to face loan problems – completely left aside. Second, the most recent group analysed here finished their studies in 1995, and the loan system has almost surely continued to evolve, with borrowing levels probably rising further (especially given the tuition increases faced by students through most of the 1990s), while the labour market faced by graduates has been going through important structural changes which have almost surely affected their ability to manage their student debt levels – almost undoubtedly making things easier for some (those with the "right" diplomas) , harder for others.

Furthermore, this paper has been unable to address many of the most fundamental questions pertaining to student borrowing. On the narrower plain, it has not been able to tell us if the borrowing limits themselves have been high enough to provide sufficient assistance to those without access to other financial resources (parents, part-time jobs, *etc*.) to pursue their post-secondary studies. Conversely, neither do we know how many worthy and interested students have chosen not to pursue (or continue) their post-secondary studies precisely because they feared the level of debt they would have faced doing so – either under the existing regimes or under the alternative scenario of even higher lending limits. It is, furthermore, almost certain that those most affected by such problems would be individuals from lower socio-economic backgrounds.

In short, while this analysis has been able to provide a good deal of information regarding borrowing levels, debt loads, payback rates and associated problems for those who successfully made it through the post-secondary system, it has been unable to even begin to tackle the fundamental issue of the success of the system in ensuring access to the post-secondary system for all worthy candidates regardless of socio-economic background. Answering those questions would, of course, require other data – with Statistics Canada in fact currently in the process of mounting such a vehicle in the form of the planned "YITS" – Youth in Transition Survey.[12]

Other issues regarding student loans – versus the hardship which would otherwise be face – would include getting at the effects of the system on student's decisions to continue with their studies once started, their choices with respect to field of study, the time taken to completion and the related issue of work during school, and other aspects of the educational experience. We

[12] The YITS will begin to survey adolescents and then follow them through their formulate years, thus allowing us to observe who goes on to post-secondary education and the related factors – including those related to the student loan system.

might also be interested in various *post*-graduation outcomes as they are affected by these aspects of the post-secondary educational experience, including employment opportunities, career satisfaction, consumption patterns, and life styles in general.

An even more complete study would consider the effects of the student loan system on third parties, such as students' families, since they obviously represent another major source of support for students and are, therefore, often directly affected by students' fortunes.

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Table 1: Incidence of Borrowing and Mean Amounts Owed at Graduation by Degree, Cohort and Sex

Education Group	Sex	1982		1986		1990		1995	
		Inc.	Mean	Inc.	Mean	Inc.	Mean	Inc.	Mean
College/CEGEP	Male	0.34	3,990	0.42	6,350	0.43	6,140	0.41	9,420
	Female	0.35	3,850	0.43	5,910	0.43	6,580	0.44	9,580
Bachelor's	Male	0.45	6,070	0.44	9,550	0.48	9,870	0.47	13,390
	Female	0.39	5,650	0.39	9,100	0.42	9,910	0.44	13,840
Master's	Male	0.32	6,450	0.34	8,690	0.32	9,670	0.37	13,250
	Female	0.31	6,440	0.31	8,260	0.32	9,620	0.35	14,040
Doctorate	Male	0.34	5,110	0.29	7,440	0.28	8,520	0.23	12,450
	Female	0.22	5,100	0.27	5,750	0.27	9,550	0.29	13,130

Figure 1: Incidence of Borrowing and Mean Amounts

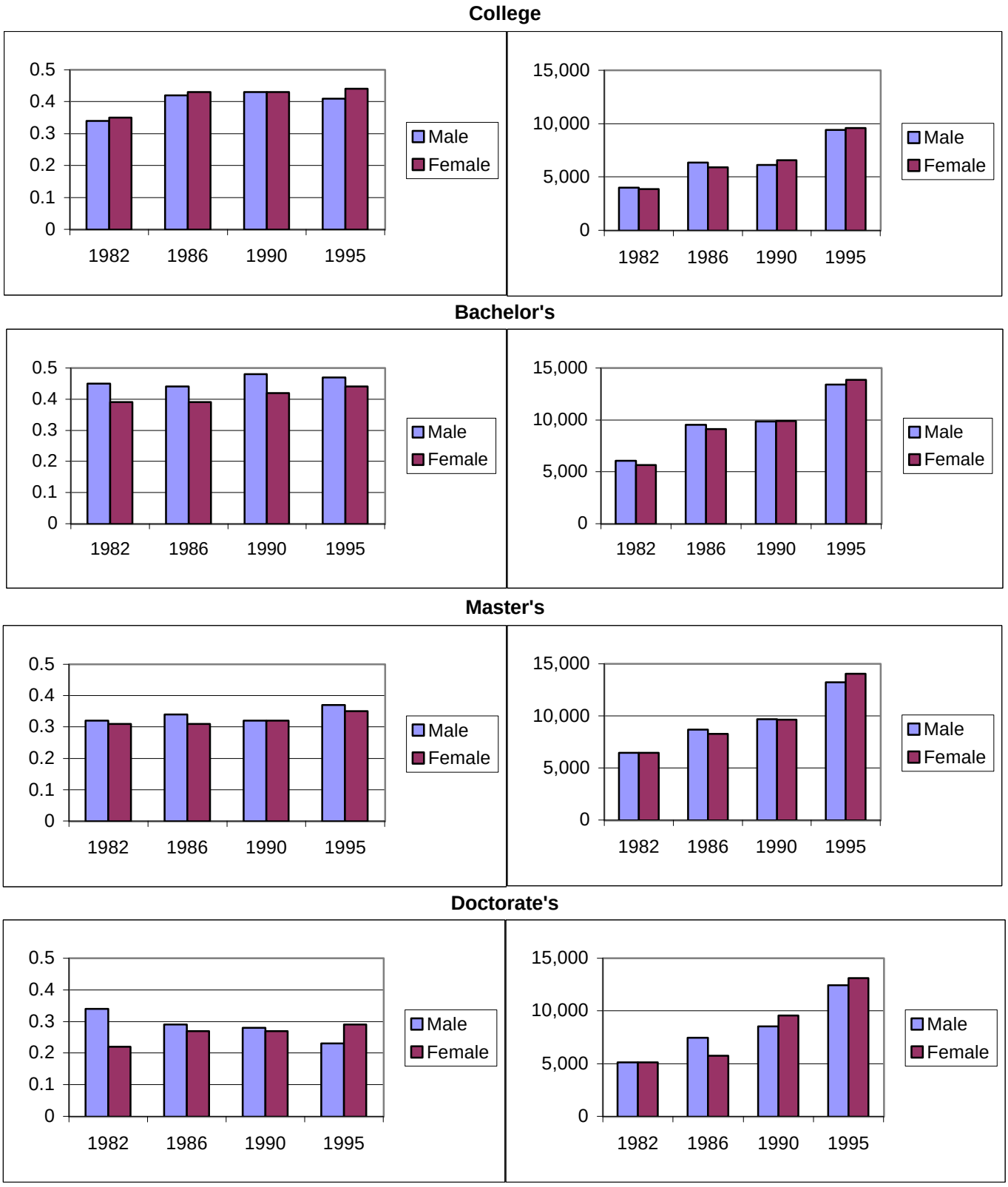


Table 2: Incidence of Borrowing Times Mean Amounts by Degree, Cohort and Sex

Education Group	Sex	1982 Inc.*Mean	1986 Inc.*Mean	1990 Inc.*Mean	1995 Inc.*Mean
College/CEGEP	Male	1,360	2,670	2,640	3,860
	Female	1,350	2,540	2,830	4,220
Bachelor's	Male	2,730	4,200	4,740	6,290
	Female	2,200	3,550	4,160	6,090
Master's	Male	2,060	2,950	3,090	4,900
	Female	2,000	2,560	3,080	4,910
Doctorate	Male	1,740	2,160	2,390	2,860
	Female	1,120	1,550	2,580	3,810

Figure 2: Incidence of Borrowing Times Mean Amounts

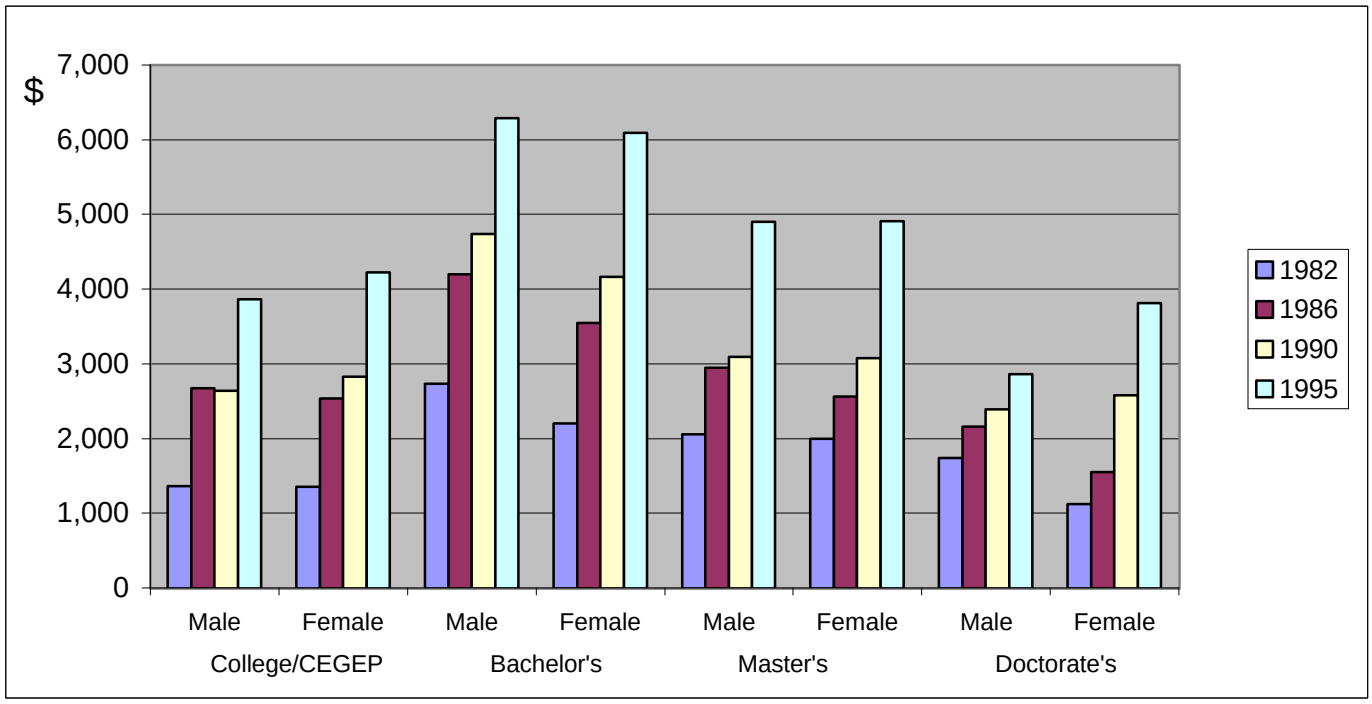


Table 3: Distribution (%) of Loans by Dollar Ranges

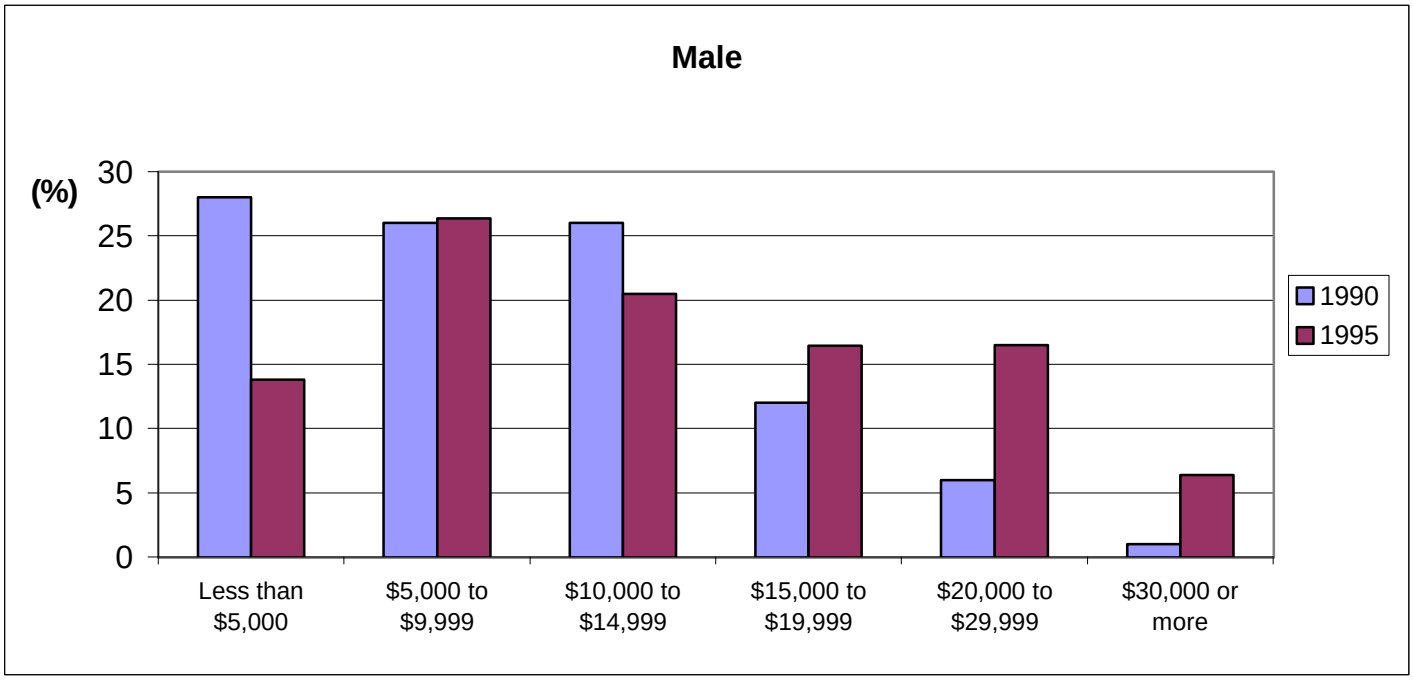
1995 Graduates

Education Group	Sex	Less than $5,000	$5,000 to $9,999	$10,000 to $14,999	$15,000 to $19,999	$20,000 to $29,999	$30,000 or more
College/CEGEP	Male	21	37	24	11	5	2
	Female	20	36	25	13	5	1
Bachelor's	Male	14	26	21	16	17	6
	Female	14	22	24	18	16	7
Master's	Male	13	22	26	19	16	4
	Female	12	22	25	17	17	7
Doctorate	Male	18	24	28	14	11	5
	Female	18	25	20	15	16	6

1990 Graduates

Education Group	Sex	Less than $5,000	$5,000 to $9,999	$10,000 to $14,999	$15,000 to $19,999	$20,000 to $29,999	$30,000 or more
College/CEGEP	Male	45	39	12	3	1	0
	Female	40	41	15	3	2	0
Bachelor's	Male	28	26	26	12	6	1
	Female	25	29	28	11	7	1
Master's	Male	27	31	24	11	7	1
	Female	25	30	29	11	4	1
Doctorate	Male	40	28	16	7	7	2
	Female	28	33	19	9	8	2

Figure 3: Distribution of Amount Owed at Graduation, Bachelor's



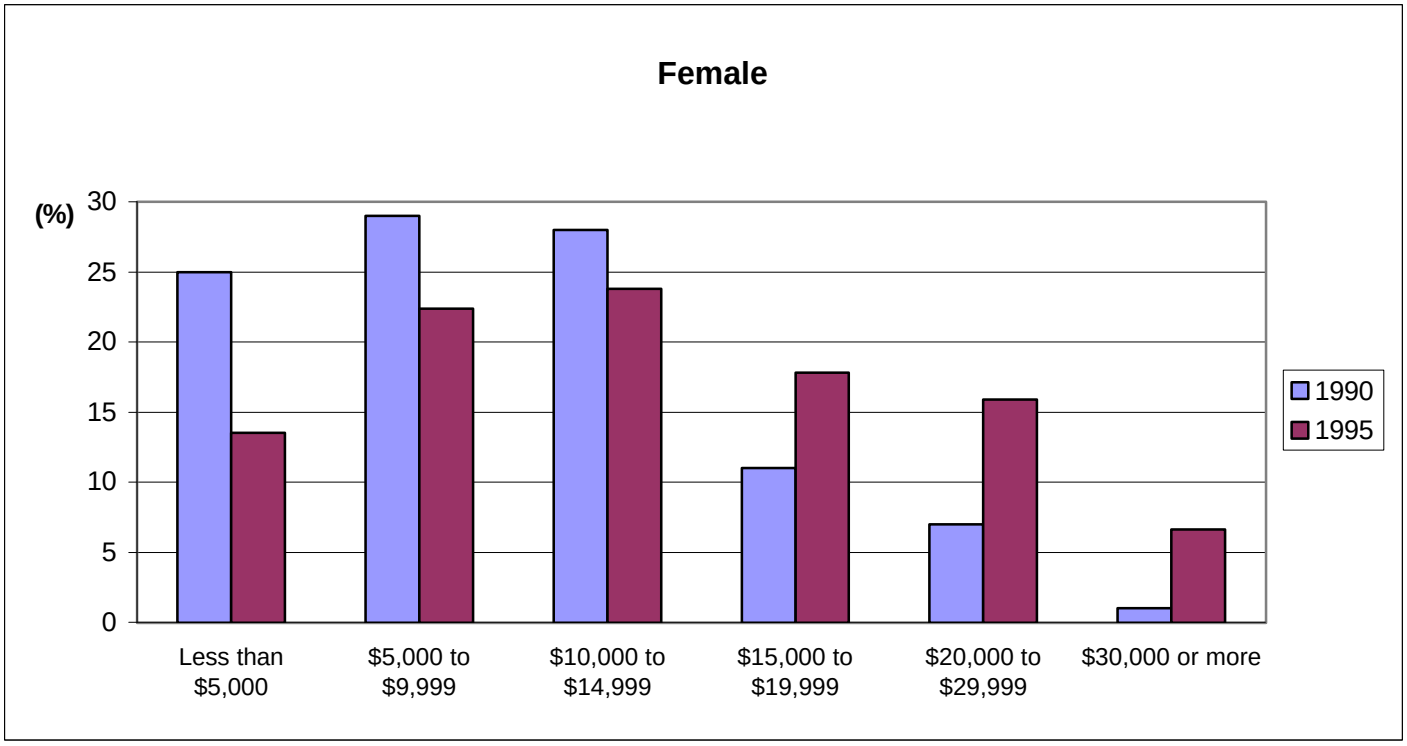


Table 4: Debt-to-Earnings Ratios (Medians) by Degree, Cohort and Sex

Education Group	Sex	1982	1986	1990	1995
College/CEGEP	Male	0.13	0.19	0.20	0.28
	Female	0.15	0.23	0.26	0.41
Bachelor's	Male	0.14	0.24	0.28	0.38
	Female	0.17	0.29	0.32	0.51
Master's	Male	0.12	0.18	0.20	0.29
	Female	0.15	0.18	0.24	0.37
Doctorate	Male	0.08	0.12	0.14	0.25
	Female	0.09	0.11	0.15	0.22

Table 5: Distribution (%) of Debt-to-Earnings Ratios

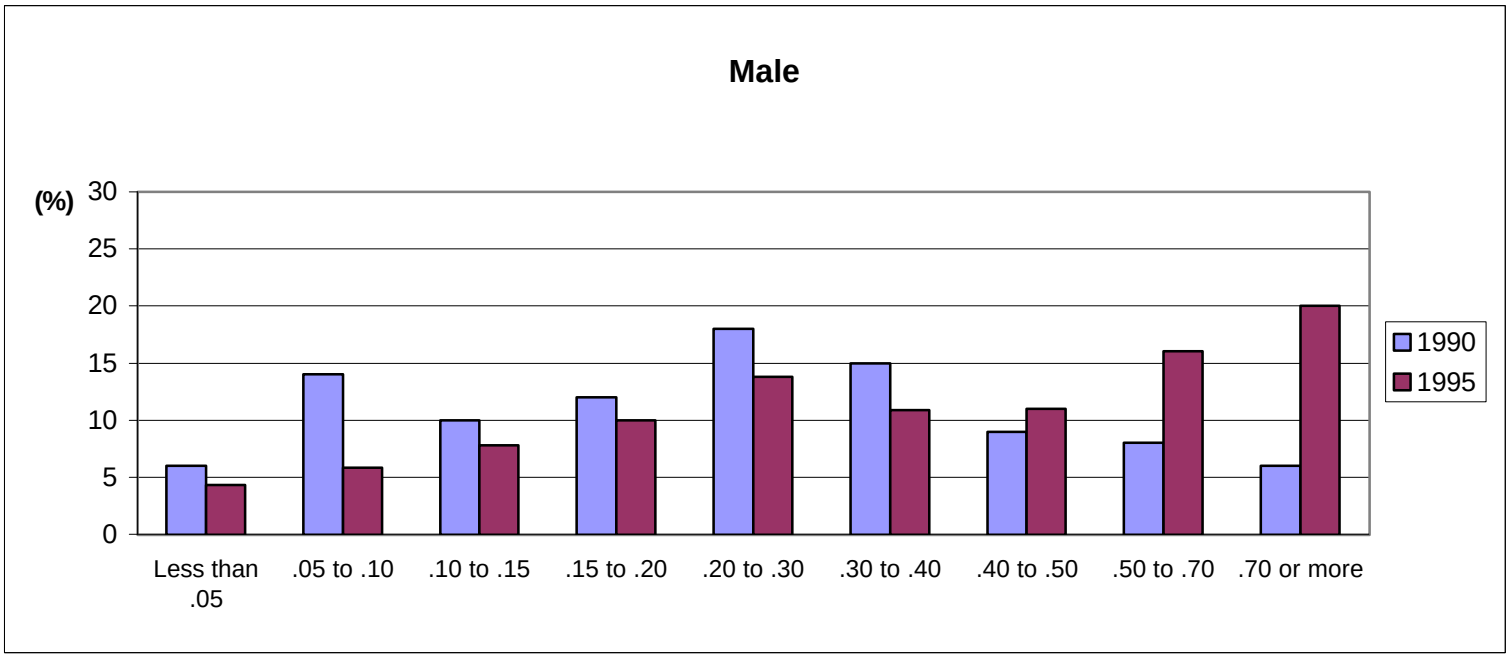
1995 Graduates

Education Group	Sex	Less than .05	.05 to .10	.10 to .15	.15 to .20	.20 to .30	.30 to .40	.40 to .50	.50 to .70	.70 or more
College/CEGEP	Male	4	7	9	12	20	14	11	14	9
	Female	2	5	4	7	18	14	12	18	20
Bachelor's	Male	4	6	8	10	14	11	11	16	20
	Female	2	6	5	6	12	13	12	16	28
Master's	Male	5	10	10	11	16	15	12	11	11
	Female	2	8	8	6	19	15	12	13	17
Doctorate	Male	3	11	16	10	23	12	9	9	6
	Female	6	16	10	14	11	10	9	13	10

1990 Graduates

Education Group	Sex	Less than .05	.05 to .10	.10 to .15	.15 to .20	.20 to .30	.30 to .40	.40 to .50	.50 to .70	.70 or more
College/CEGEP	Male	11	17	17	13	20	11	5	4	3
	Female	7	13	14	14	24	12	8	5	5
Bachelor's	Male	6	14	10	12	18	15	9	8	6
	Female	6	11	11	11	18	16	11	9	8
Master's	Male	13	14	17	11	20	11	6	5	4
	Female	8	15	11	13	23	14	7	4	4
Doctorate	Male	18	25	13	11	20	7	4	1	2
	Female	15	23	14	13	11	8	6	8	1

Figure 4: Distribution of Debt-to-Earnings Ratios, Bachelor's Graduates



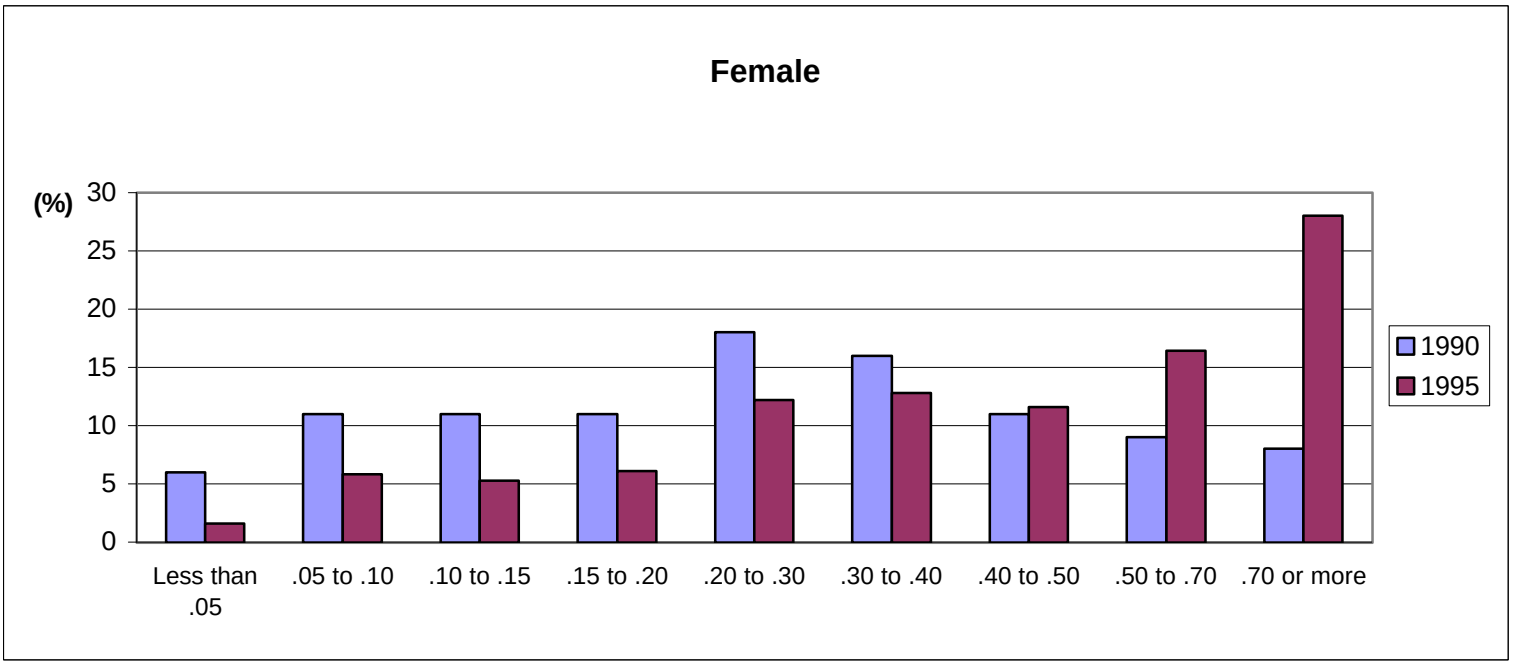


Table 6: Proportion of Debt Repaid by Degree Level, Cohort and Sex

Education Group	Sex	1986		1990		1995	
		Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted
College/CEGEP	Male	0.55	0.49	0.53	0.43	0.42	0.44
	Female	0.56	0.46	0.51	0.41	0.38	0.41
Bachelor's	Male	0.51	0.44	0.49	0.40	0.44	0.42
	Female	0.52	0.43	0.48	0.40	0.40	0.41
Master's	Male	0.59	0.51	0.52	0.44	0.52	0.47
	Female	0.61	0.52	0.57	0.49	0.52	0.47
Doctorate	Male	0.66	0.61	0.63	0.56	0.53	0.50
	Female	0.72	0.61	0.62	0.57	0.57	0.49

Table 7: Distribution (%) of Proportion Repaid

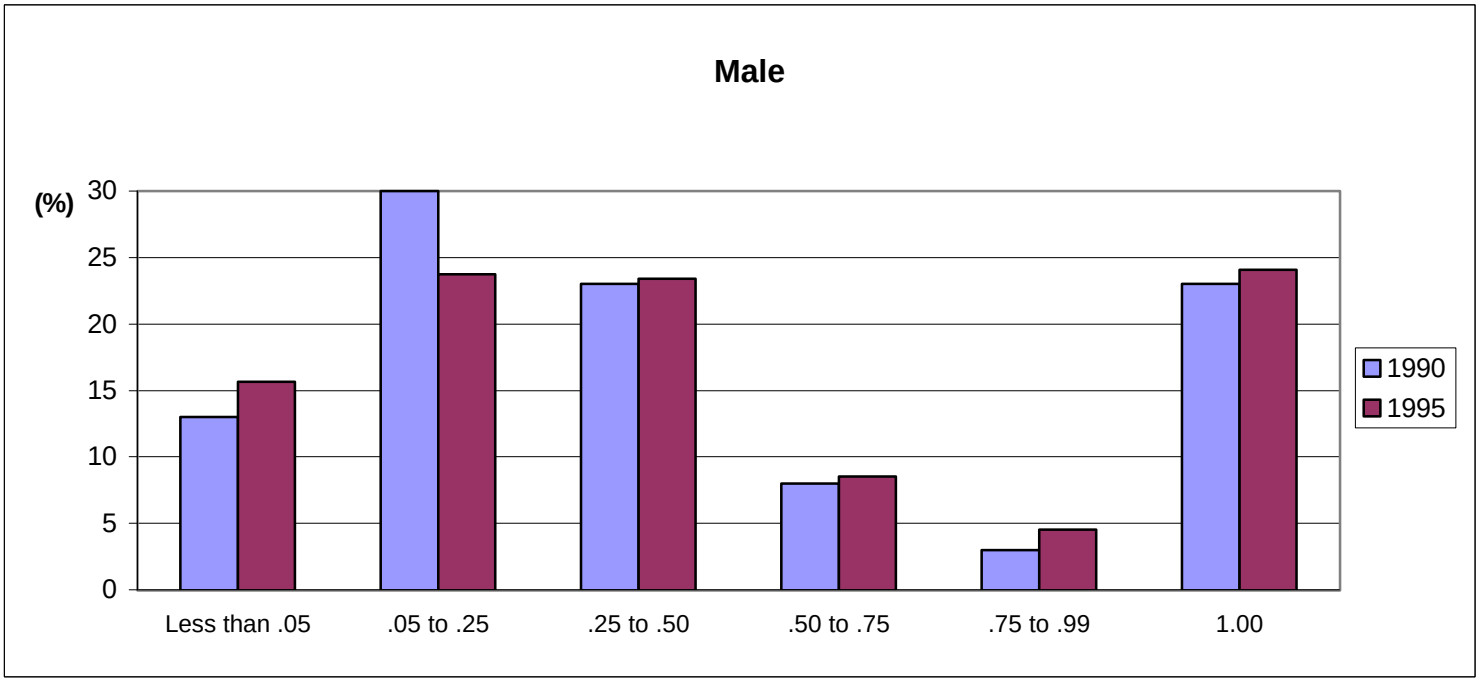
1995 Graduates

Education Group	Sex	Less than .05	.05 to .25	.25 to .50	.50 to .75	.75 to .99	1.00
College/CEGEP	Male	15	24	26	10	5	19
	Female	21	29	20	7	3	20
Bachelor's	Male	16	24	23	9	5	24
	Female	19	25	23	8	4	22
Master's	Male	10	27	16	10	3	33
	Female	12	22	20	9	4	33
Doctorate	Male	12	22	16	11	6	33
	Female	11	19	19	7	5	40

1990 Graduates

Education Group	Sex	Less than .05	.05 to .25	.25 to .50	.50 to .75	.75 to .99	1.00
College/CEGEP	Male	11	25	25	9	4	26
	Female	12	28	24	8	4	25
Bachelor's	Male	13	30	23	8	3	23
	Female	15	29	24	7	2	23
Master's	Male	13	29	20	7	2	30
	Female	10	25	21	7	3	34
Doctorate	Male	11	20	16	8	5	41
	Female	9	22	17	9	1	43

Figure 5: Distribution (%) of Proportion Repaid



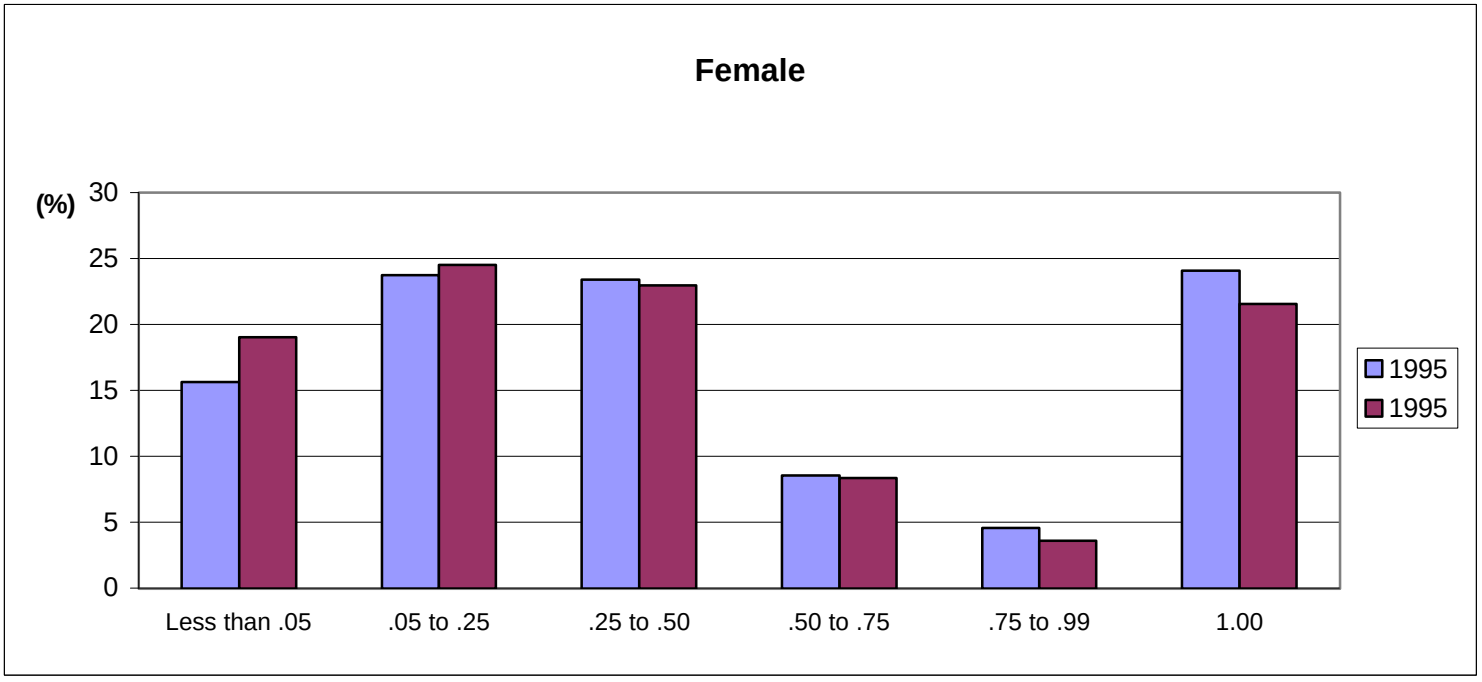


Table 8: Incidence of Difficulties by Degree, Cohort and Sex

Education Group	Sex	1990	1995
College/CEGEP	Male	0.25	0.30
	Female	0.23	0.33
Bachelor's	Male	0.21	0.29
	Female	0.25	0.32
Master's	Male	0.21	0.28
	Female	0.24	0.33
Doctorate	Male	0.17	0.21
	Female	0.24	0.23

Figure 6: Incidence of Difficulties by Degree, Cohort and Sex

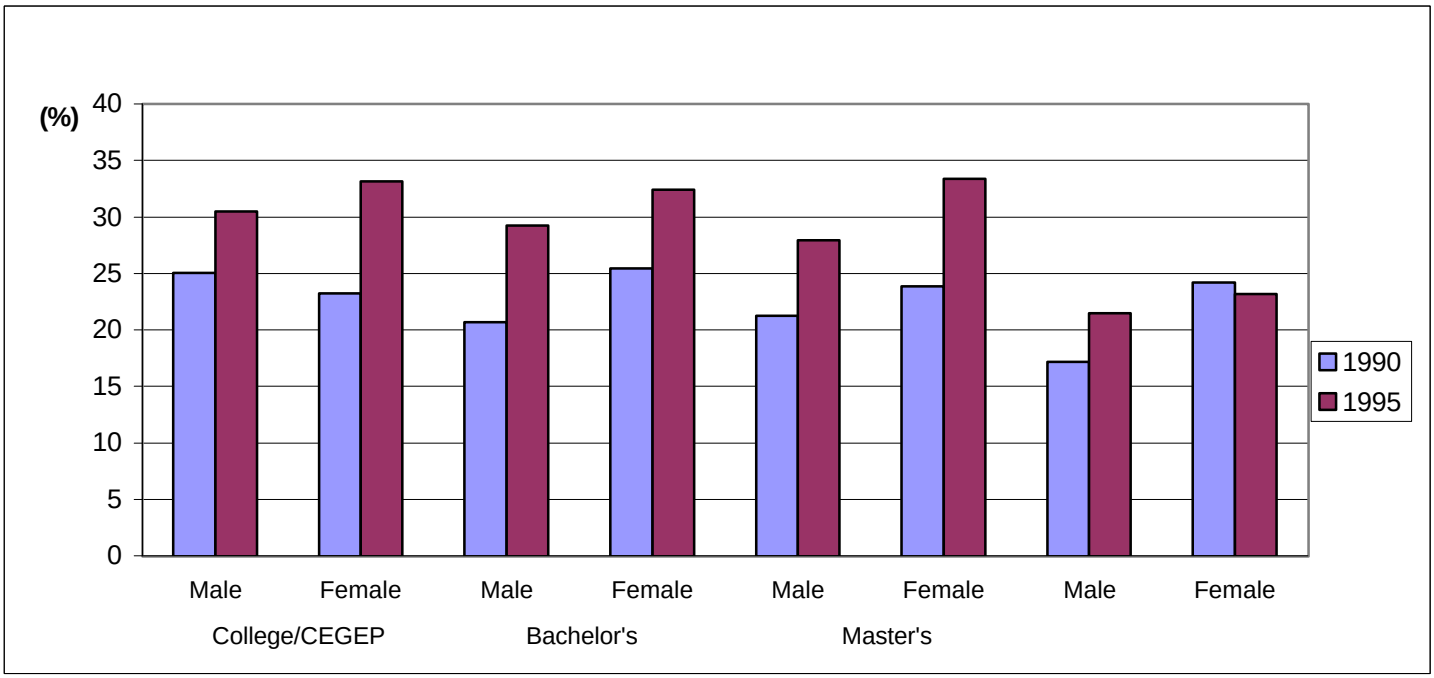


Table 9: Incidence of Difficulties by Labor Force Status by Degree, Cohort and Sex

1995 Graduates

Education Group	Sex	1995			
		Full-Time	Part-Time	UN	NLF
College/CEGEP	Male	0.27	0.28	0.66	-
	Female	0.29	0.38	0.62	0.36
Bachelor's	Male	0.27	0.42	0.43	-
	Female	0.30	0.35	0.48	0.32
Master's	Male	0.25	0.40	-	-
	Female	0.24	0.60	0.67	-
Doctorate	Male	0.18	-	-	-
	Female	0.16	-	-	-

1990 Graduates

Education Group	Sex	1990			
		Full-Time	Part-Time	UN	NLF
College/CEGEP	Male	0.20	0.44	0.47	-
	Female	0.18	0.38	0.35	0.52
Bachelor's	Male	0.18	0.30	0.35	-
	Female	0.22	0.29	0.43	0.43
Master's	Male	0.16	0.27	0.59	-
	Female	0.20	0.35	0.35	-
Doctorate	Male	0.13	-	-	-
	Female	0.19	-	-	-

Table 10: Incidence of Difficulties by Income Class by Degree and Sex

1995 Graduates

Education Group	Sex	Less Than $15,000	$15,000 to $20,000	$20,000 to $25,000	$25,000 to $30,000	$30,000 to $35,000	$35,000 to $45,000	$45,000 to $60,000	$60,000 and more
College/CEGEP	Male	0.52	0.32	0.22	0.24	0.22	0.13	0.21	-
	Female	0.46	0.26	0.21	0.20	0.28	0.32	-	-
Bachelor's	Male	0.49	0.31	0.26	0.41	0.26	0.11	0.06	-
	Female	0.46	0.45	0.27	0.30	0.17	0.22	0.10	-
Master's	Male	0.45	0.57	0.47	0.31	0.33	0.14	0.06	0.02
	Female	0.61	0.48	0.42	0.41	0.35	0.14	0.16	-
Doctorate	Male	-	-	-	-	-	0.20	0.13	-
	Female	-	-	-	-	-	-	-	-

1990 Graduates

Education Group	Sex	Less Than $15,000	$15,000 to $20,000	$20,000 to $25,000	$25,000 to $30,000	$30,000 to $35,000	$35,000 to $45,000	$45,000 to $60,000	$60,000 and more
College/CEGEP	Male	0.59	0.34	0.21	0.11	0.09	0.13	0.00	-
	Female	0.36	0.22	0.22	0.18	0.11	0.16	-	-
Bachelor's	Male	0.41	0.30	0.26	0.16	0.18	0.13	0.11	0.19
	Female	0.45	0.40	0.28	0.22	0.15	0.10	0.30	0.26
Master's	Male	0.53	0.50	0.40	0.28	0.20	0.13	0.12	0.08
	Female	0.53	0.30	0.21	0.28	0.16	0.22	0.13	-
Doctorate	Male	-	-	-	-	-	0.22	0.05	-
	Female	-	-	-	-	-	-	-	-

Table A1: Borrowing by Field - Bachelor's Graduates*

Education Group	Sex	1982		1986		1990		1995	
		Inc.	Mean	Inc.	Mean	Inc.	Mean	Inc.	Mean
No specialization	Male	0.35	5,780	0.40	9,760	0.45	7,760	0.42	11,080
	Female	0.15	6,440	0.34	10,900	0.36	8,480	0.39	11,790
Elementary Teaching	Male	0.38	6,100	0.41	11,110	0.49	11,930	0.52	11,960
	Female	0.43	5,870	0.37	9,360	0.43	11,350	0.52	14,400
Other Teachers	Male	0.48	7,430	0.52	8,650	0.56	9,360	0.55	13,120
	Female	0.54	5,520	0.47	9,740	0.47	8,760	0.35	15,510
Fine Arts	Male	0.47	5,570	0.42	9,360	0.47	9,750	0.41	13,420
	Female	0.32	5,520	0.35	9,030	0.39	8,080	0.36	12,490
Commerce	Male	0.39	5,390	0.37	8,490	0.40	9,190	0.38	11,470
	Female	0.37	4,980	0.33	7,970	0.38	8,750	0.38	10,770
Economics	Male	0.42	4,220	0.38	21,690	0.49	7,450	0.51	13,730
	Female	0.29	4,560	0.41	6,020	0.35	7,420	0.49	18,000
Law	Male	0.72	8,560	0.47	11,770	0.54	14,730	0.61	17,330
	Female	0.64	7,350	0.45	11,870	0.66	13,280	0.70	17,640
Other Social Science	Male	0.39	5,000	0.34	8,570	0.42	8,510	0.41	13,100
	Female	0.29	5,190	0.38	8,620	0.35	9,130	0.44	13,200
Applied Sciences	Male	0.43	5,070	0.42	8,730	0.49	10,370	0.51	13,170
	Female	0.47	5,430	0.54	8,870	0.49	9,020	0.52	13,280
Veterinary	Male	0.83	9,240	0.71	8,630	0.52	18,050	0.61	13,530
	Female	0.38	10,230	0.73	14,350	0.69	11,670	0.67	17,010
Engineering	Male	0.48	5,850	0.52	7,990	0.55	8,940	0.53	12,270
	Female	0.43	5,190	0.51	6,790	0.54	9,760	0.41	12,400
Medical	Male	0.82	12,180	0.79	14,620	0.65	16,220	0.75	30,270
	Female	0.66	10,990	0.74	13,650	0.72	17,150	0.73	22,040
Other Medical	Male	0.69	6,880	0.53	10,610	0.49	10,950	0.44	14,680
	Female	0.47	5,740	0.40	9,310	0.46	10,260	0.40	15,110
Computer	Male	0.37	5,350	0.40	7,220	0.41	9,120	0.49	11,960
	Female	0.31	6,160	0.37	8,690	0.57	10,570	0.38	12,900
Math & Physical Sc.	Male	0.47	5,670	0.44	7,540	0.44	8,370	0.60	13,690
	Female	0.45	4,190	0.37	8,420	0.32	10,210	0.56	12,400

* First Professional Degrees are included (law school, medical doctor's, teachers, etc…)

Table A2: Debt-to-Earnings Ratios by Field - Bachelor's Graduates

Education Group	Sex	1982	1986	1990	1995
No specialization	Male	-	0.25	0.22	0.29
	Female	-	0.40	0.35	0.53
Elementary Teaching	Male	0.17	0.26	0.37	0.43
	Female	0.19	0.31	0.36	0.53
Other Teachers	Male	0.18	0.28	0.33	0.60
	Female	0.17	0.32	0.30	0.59
Fine Arts	Male	0.18	0.30	0.34	0.43
	Female	0.21	0.36	0.33	0.56
Commerce	Male	0.13	0.26	0.29	0.34
	Female	0.17	0.25	0.36	0.40
Economics	Male	0.11	0.28	0.25	0.37
	Female	-	-	-	-
Law	Male	0.23	0.33	0.39	0.45
	Female	0.19	0.36	0.34	0.52
Other Social Science	Male	0.16	0.29	0.32	0.46
	Female	0.20	0.34	0.36	0.62
Applied Sciences	Male	0.13	0.27	0.36	0.44
	Female	0.18	0.28	0.29	0.47
Veterinary	Male	0.21	0.21	-	-
	Female	-	-	0.28	0.44
Engineering	Male	0.12	0.19	0.21	0.29
	Female	-	0.12	0.25	0.27
Medical	Male	0.14	0.18	0.31	0.63
	Female	0.23	0.21	0.29	0.73
Other Medical	Male	0.14	0.20	0.26	0.37
	Female	0.15	0.22	0.29	0.42
Computer	Male	0.14	0.22	0.21	0.30
	Female	0.19	0.27	0.27	0.42
Math & Physical Sc.	Male	0.14	0.20	0.22	0.36
	Female	0.09	0.23	0.27	0.35

Table A3: Proportion of Debt Repaid by Field - Bachelor's Graduates

Education Group	Sex	1986	1990	1995
No specialization	Male	0.49	0.57	0.34
	Female	0.35	0.56	0.33
Elementary Teaching	Male	0.49	0.46	0.45
	Female	0.49	0.45	0.42
Other Teachers	Male	0.49	0.42	0.46
	Female	0.52	0.43	0.33
Fine Arts	Male	0.39	0.48	0.36
	Female	0.48	0.50	0.43
Commerce	Male	0.50	0.52	0.46
	Female	0.49	0.55	0.53
Economics	Male	0.49	0.52	0.48
	Female	-	-	-
Law	Male	0.31	0.31	0.24
	Female	0.49	0.30	0.14
Other Social Science	Male	0.46	0.50	0.41
	Female	0.54	0.43	0.37
Applied Sciences	Male	0.50	0.50	0.42
	Female	0.55	0.51	0.41
Veterinary	Male	0.70	-	-
	Female	-	0.51	0.32
Engineering	Male	0.61	0.53	0.51
	Female	0.55	0.59	0.53
Medical	Male	0.47	0.44	0.40
	Female	0.52	0.41	0.29
Other Medical	Male	0.54	0.59	0.61
	Female	0.60	0.57	0.51
Computer	Male	0.49	0.50	0.53
	Female	0.50	0.58	0.53
Math & Physical Sc.	Male	0.58	0.51	0.52
	Female	0.56	0.44	0.44

Table A4: Incidence of Difficulties by Field - Bachelor's Graduates

Education Group	Sex	1990	1995
No specialization	Male	0.46	0.09
	Female	0.36	0.47
Elementary Teaching	Male	0.23	0.33
	Female	0.27	0.30
Other Teachers	Male	0.11	0.25
	Female	0.21	0.44
Fine Arts	Male	0.30	0.51
	Female	0.38	0.41
Commerce	Male	0.18	0.19
	Female	0.14	0.15
Economics	Male	0.17	0.25
	Female	-	0.33
Law	Male	0.18	0.24
	Female	0.29	0.31
Other Social Science	Male	0.27	0.51
	Female	0.30	0.36
Applied Sciences	Male	0.30	0.44
	Female	0.33	0.43
Veterinary	Male	0.18	-
	Female	0.16	0.27
Engineering	Male	0.18	0.18
	Female	0.20	0.27
Medical	Male	0.12	0.24
	Female	0.13	0.25
Other Medical	Male	0.07	0.28
	Female	0.08	0.23
Computer	Male	0.08	0.10
	Female	0.18	0.34
Math & Physical Sc.	Male	0.24	0.14
	Female	0.24	0.29