Who uses RESPs and Why*

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Kevin Milligan
Department of Economics
University of British Columbia
kevin.milligan@ubc.ca
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Abstract:

This paper presents evidence on RESP participation, finding that participation is concentrated in high-income, high-wealth, and high-education families. This runs contrary to the programme's stated redistributionary goal. I explore several possible explanations for the finding, uncovering evidence that parental expectations of their children's education attainment and the fixed costs of learning about and setting up an account are important factors in understanding the low participation of low-income families. Finally, I propose that instituting a one-time 'bonus' for opening an account and simplifying the tax structure of the RESP would make the accounts more effective.

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1.0 Introduction

One of the primary justifications for government participation in the financing of post-secondary education is to correct for imperfections in the credit market. If individuals cannot access credit, they may underinvest in the acquisition of education. A government intervention that improves credit access for constrained students carries the potential to ameliorate the imperfection and result in efficient education choices. Governments around the world subsidize student loans and tuition, perhaps with this motivation in mind.

In addition to subsidizing student loans, the Canadian federal government also provides special tax treatment of savings through Registered Education Savings Plans (RESPs) and the accompanying Canada Education Savings Grants (CESGs). If household savings rise as a result of these tax measures, then dependence on credit markets is decreased. Through this mechanism, tax preferences for savings could assist in improving access to post-secondary education in Canada.

Improving access appears to be the objective of RESPs and CESGs. These measures were included as components of the "Canadian Opportunities Strategy," announced in the 1998 federal budget (Department of Finance, 1998). The goal of the Strategy was clearly laid out (p. 7):

> The *Canadian Opportunities Strategy* will help ensure that all

> Canadians – especially those with low and middle incomes – have an equal opportunity to participate in the changing economy. It will do so by reducing financial barriers and other obstacles that stand in the way of acquiring skills and knowledge.

The particular aims of the RESP and CESG components of the Canadian Opportunities Strategy, are to " . . . encourage families to save early for their children's education" (p.35). Funds contributed to RESPs may represent net additions to household savings, or the contributions may simply be reallocations of assets from other accounts; funds that would have been saved even in the absence of the RESP and CESG measures.[1] No matter which case holds, however, families who participate in RESPs and CESGs are likely made better off through their participation. They may be better off because they save more, or they may be better off because they can replace their own savings with the government transfers. Either way, if the families who participate are families who would have financial difficulty accessing credit, then the RESPs and CESG tax measures will contribute to the stated goal of the Canadian Opportunities Strategy.

The goal of this paper is to empirically examine RESP participation to assess who uses RESPs and CESGs and to begin an examination of why those families do so. In the empirical work that follows, I show that participation in RESPs is heavily concentrated among high-income, high-wealth, and high-education families. The analysis suggests

[1] Recent evidence in Ma (2003) suggests that contributions to education savings plans in the United States (so-called '529 plans') have increased household savings. The broader literature on tax incentives and savings, as surveyed in Bernheim (2002), is inconclusive on this question.

that the most important barriers to participation among low-income families may be the smaller probability of post-secondary attendance and the fixed costs of account initiation.

The Speech from the Throne on February 2th, 2004 included an admission that " . . . participation by lower income families - often those who could most benefit - has been disappointingly low." It is expected that the federal government will soon present new proposals for the RESP and CESG programme. While this paper will not analyze any new proposals directly, I aim to contribute to the understanding of what motivates contributions to the programmes. An understanding of how these decisions are made is an important building block for any policy reform.

In the rest of the paper I first describe and assess the tax treatment of RESPs. This is followed by the presentation of aggregate statistics on RESP participation and contributions. Next, I provide empirical evidence of the patterns of RESP participation using a microdata sample. I then lay out several explanations for the striking lack of participation among low-income families, and present an empirical examination of some of the possibilities. Finally, I conclude with an analysis of the RESP and CESG tax measures and discuss some possibilities for reform.

2.0 The tax treatment of RESPs

The federal government introduced RESPs in 1974, but it was not until reforms in 1997 and 1998 that participation became more widespread. The discussion below is drawn

from Canada Customs and Revenue Agency (2002) and Donnelly, Welch, and Young (1999).

Contributions to RESP accounts come out of after-tax income – no deduction is allowed. Income earned on funds inside the RESP is exempt from annual taxation. This is potentially of great benefit because funds accrue more quickly when returns are not taxed annually. Finally, some withdrawals from the RESP are taxed. Taken together, the tax treatment is comparable to Tax-Prepaid Savings Plans (as proposed by Kesselman and Poschmann 2001), or to Roth Individual Retirement Accounts in the United States. I discuss in greater detail the treatment of contributions and withdrawals in turn.

A specific beneficiary is nominally attached to contributions. The contributors (called "subscribers" in the legislation) need not be related to the beneficiary. However, a family plan can designate several beneficiaries, related to the subscriber by blood or adoption. The funds in the family plan can then be withdrawn by any of the joint beneficiaries. There are no age limits to beneficiaries, but accounts must be closed 26 years after being opened. In a given year, total contributions across subscribers are limited to $4,000 per beneficiary, with a further constraint of $42,000 over a lifetime. There are no foreign investment restrictions for funds held in RESPs, as there are with Registered Retirement Savings Plans (RRSPs).

The federal government has paid Canada Education Savings Grants into RESP accounts since 1998. The grant is paid as a match of 20 cents on the dollar for contributions up to

$2,000, making a maximal grant equal to $400. CESGs are only paid to beneficiaries aged 17 and under, and are exempt from taxation when granted. If the beneficiary (or, in the case of a family plan, the beneficiaries) do not attend post-secondary education, then the original CESG principal must be returned to the government.

Withdrawals of the original principal contributed to the RESP account are treated differently from withdrawals of the accumulated income. The original principal can be withdrawn at any time without tax consequence. In contrast, the accumulated income earned on the principal (and the CESG amounts) is taxable on withdrawal, with the tax treatment taking one of two forms depending on the post-secondary student status of the beneficiary.

If the beneficiary is enrolled full-time in a qualifying post-secondary program, then a withdrawal called an Educational Assistance Payment is permitted. Educational Assistance Payments are treated as taxable income for the beneficiary in the year of withdrawal. This taxation of withdrawals is mitigated somewhat by the generous non-refundable credits claimed by students.[2] However, the taxation of accrued income makes the RESP a less attractive proposition than other tax preferred accounts (such as RRSPs) which do not tax accrued income.

The second type of withdrawal is called an Accumulated Income Payment. If the beneficiary does not attend post-secondary education by the age of 21, or if the

[2] A typical full time student in 2004 might claim $400 per month for the education credit, $4,025 for the tuition credit, and $8,012 for the basic personal amount, totaling $16,837 per year.

beneficiary dies, then funds may be withdrawn from the RESP through an Accumulated Income Payment.[3] These payments are included in the subscriber's taxable income in the year of withdrawal. Moreover, the Accumulated Income Payment is subject to an additional surtax of twenty per cent (twelve per cent in Quebec). Both the income tax and the surtax on the payment can be avoided, however, by rolling the payment directly into the subscriber's RRSP account. The rollover requires adequate RRSP contribution room and is subject to a lifetime maximum of $50,000.

The basic economic effect of the RESP is the possibility of tax-exempt accrual of investment income. Given the complexity of the RESP rules, the tax-exempt accrual is achieved in a very expensive way for society, as resources are diverted to pay for the administration of the accounts in government, accounting firms, and financial institutions. As a counterexample, taxpayers in the United Kingdom may contribute up to £7,000 per annum to an Individual Savings Account out of after tax income (Adam and Shaw 2003). Income on the contributions is simply exempted from tax and one is not even required to report to the tax authorities that one holds an account (United Kingdom 2002, p. 11). The administrative burden of Individual Savings Accounts seems smaller than that imposed on society by RESPs.

3.0 Aggregate RESP statistics

[3] The RESP must have been in existence for 10 years and the recipient of the Accumulated Income Payment must be a permanent resident of Canada.

To begin the empirical analysis, I draw together aggregate statistics on RESP contributions and CESG payments from various government publications. The primary source is the Estimates published annually by the Treasury Board of Canada. I use the retrospective *Department Performance Reports* for Human Resources Development Canada, published as Part III of the *Estimates*.[4] In addition, HRDC publishes administrative data on RESPs in the *CESG Quarterly Statistical Review.* Finally, I take data from the *Tax Expenditures* publication produced by the Department of Finance.

The statistics are reported in Table 1. The columns of the table indicate the fiscal year of the data.[5] The first row displays the annual expenditures on CESGs to families, not including administrative costs. The program started in 1998-1999, paying out $267.3 million dollars. Since CESGs can be claimed retrospectively back to 1998, some of the increase in the subsequent two years may reflect claims for 'unused' grants from 1998-1999. By 2002-2003, the expenditure settled at $342.9 million.

The scale of these expenditures relative to other federal interventions in post-secondary education is impressively large. The federal government expects to spend $406.5 million on student loans in 2003-2004, and $240 million on the Canada Research Chairs program. Spending on either of these programmes could be approximately doubled if the amount of money spent on the CESG were to be allocated in those directions. The $433.5 million spent on CESGs in 2000-2001 would have been sufficient to send a

[4] The data on CESGs in the Departmental Performance Reports is the same as reported in the official Public Accounts of Canada,

[5] Fiscal years run from April 1st to March 31st. The tax expenditure data in the fourth row is on a calendar year basis. The data for tax expenditures is therefore aligned with the first year of the fiscal year – 1997-1998 contains the 1997 data, 1998-1999 contains the 1998 data, and so on.

cheque of $830.62 to each of the 521,900 full time undergraduate students enrolled in that year.[6] These examples provide the context of the fiscal commitment to the CESG.

The second row reports the estimated percentage of children aged 0 to 17 who were beneficiaries of an RESP in each year. From 4.7 per cent in 1997-1998 before the reform, the participation rate has grown steadily to 26.0 per cent by 2002-2003.

In the third row, I provide the estimated stock of RESP holdings for each year. Until 2001-2002, the data come from HRDC directly (HRDC 2002), while the 2001-2002 data are from a report in Treasury Board of Canada (2003). In 1997-1998, $2.4 billion was held in RESPs. The amount grew by less than $2 billion per year, up to an estimated $9 billion in 2001-2002. In 2002, the total stock of household assets stood at $4.37 trillion, meaning that RESPs represented about 0.21 per cent of household assets.[7] RRSP assets in 2001 totaled $292.5 billion, more than 32 times the RESP total for that year.[8] Data on annual RESP contributions are not publicly available, but the 2003 Report on Planning on Priorities estimates contributions of $2.1 billion in 2002-2003. This is equal to 7.8 percent of the $27.1 billion contributed to RRSPs in 2002.[9]

The final row of the table provides the estimated tax expenditures for the foregone revenue on RESP income. Since the tax expenditure calculations assume that all income would be completely taxed in the absence of RESPs, these estimates represent an upper

[6] Data on enrollment is taken from Statistics Canada's *The Daily* for April 17, 2003.
[7] Total assets data come from CANSIM vector V33462.
[8] Data on RRSP assets is taken from Statistics Canada's *The Daily* for November 17, 2003.
[9] Data on RRSP contributions is taken from Statistics Canada's *The Daily* for October 23, 2003.

bound to the revenue cost of RESPs. In 2002-2003, the estimate is $105 million. Compared to the cost of the CESG, the foregone tax revenue on accumulating income appears relatively small.

4.0 Who uses RESPs? An empirical examination of incidence

The aggregate statistics in the previous section provided information on some of the overall trends in the RESP and CESG programs. In order to go deeper into the numbers, I turn to an analysis of microdata from 1999. I draw the sample for analysis from the master files of the 1999 Survey of Financial Security.[10] The survey combines information on wealth, labour market activity, demographics, and attitudes about household finances. In particular, the master files have the advantage that RESP holdings are broken out separately from other assets. The family is the unit of observation in the Survey of Financial Security, meaning that RESP holdings, along with the other wealth measures, are recorded on a family basis.[11]

The analysis below breaks down RESP participation against various demographic measures. With this analysis, I can compare the incidence of RESP use against the goals

[10] More information on the Survey of Financial Security is available in Statistics Canada (2001).
[11] More precisely, I use the Census Family as the unit of observation. A Census Family is comprised of parent(s) with their children, childless couples, or grandparents living with their grandchildren. I also include single individuals.

set out in the *Canadian Opportunities Strategy*. Assessing the causal importance of the different factors will be the focus of section 6, where I pursue a multivariate analysis.

4.1 The evidence

Table 2 displays several statistics about RESP account balances, as observed in the survey in 1999. Overall, 5.8 percent of families held an RESP. Among those who hold an RESP, the mean balance in the account was $7,105. The distribution of assets is highly skewed across families, with the median balance at less than half of the value of the mean. A large proportion of the families in the sample, however, do not have children living in the home. The next rows in the table break down the sample into families who have no children and those who have one or more children. Although anyone can make contributions to an RESP in the name of a beneficiary, the participation rate for families without children in the home is slightly less than one per cent; less than one sixteenth of the rate for families with children.

The mean account balance for those without children is $13,542 –- more than twice the level of those with children. This disparity is much smaller at the median, suggesting the difference at the mean is driven mostly by large balances at the high end of the distribution.

The next table reports statistics on RESPs broken down across demographic and economic categories. For this analysis, I discard the families with no children and focus

on those with one or more children. Both the participation rate and the mean conditional on participation are shown, along with the breakdown of the distribution of families across the categories.

The first set of results in Table 3 considers marital status, followed by children. Approximately 83 per cent of the sample has two parents in the family. Participation and the average RESP balance for married families are both about twice the corresponding figures for single families. Comparing across families with different numbers of children, participation rates are similar. The mean account balance increases monotonically with the number of children, suggesting that families may be opening accounts for each of their children.

The next two categories look at the age of the youngest and the age of the oldest child in the family. In a mature RESP system, one might expect that the proportion of children with an account would be higher for older children, as parents who only contribute sporadically would have more chances to contribute. However, since the RESP rules were liberalized only in 1998, the breakdown by child age effectively records the pattern for a newly introduced program. For either age measure, the participation rate in the 15 to 17 category is about half the participation rate in the 0 to 4 age group. Why is there such a strong difference? One possibility is that the fixed costs of setting up an account (the time and effort taken) are perceived to be greater than the benefit over the shorter time horizon for older children.

To examine the effect of income, I break the sample into quintiles by family pre-tax income. The participation rate in the lowest income quintile is 0.08, rising by a factor of more than three to 0.279 for the highest quintile. Only 27.5 per cent of RESP participants are in the bottom two income quintiles. In the same manner, RESP statistics across quintiles formed on total net wealth are presented next. The participation rates across wealth quintiles are even more skewed toward the high end, with only 5 per cent participation in the lowest wealth quintile.

For education, I break down the sample into four categories by the education level of the older parent. The participation rate among those with less than high school is only 0.068, while those with university degrees have participation rates four times higher at 0.259. Since education, income, and other factors are strongly correlated with each other, a multivariate analysis is necessary to sort out any causal inferences.

In the sample, 26.4 per cent of families have one parent born outside Canada. Interestingly, the participation rate among these families is 62 percent higher, at 0.222. Again, this could be a result of other demographic and economic variables that differ across immigrant and non-immigrant families, so the multivariate analysis in section 6 is necessary to make stronger inferences.

For the age of the older parent, participation rates are fairly flat at ages after 30, although the mean account balance grows strongly with age. Families at middle ages may have higher income and wealth levels, which might explain their higher participation. Finally,

the breakdown by geography is presented. The province with the highest participation rate is Saskatchewan, at 21.7 per cent of families with children. In contrast, only 11 per cent of Quebec families hold an RESP account. Looking at the population of the area of residence, the lowest participation rate is found in small urban centers, with less than 30 thousand in population.

4.2 Assessing the evidence

The evidence presented in this section indicates clearly that the RESP program is used mostly by high-income, high-wealth, and high-parental education households. Since the Canada Education Savings Grants are paid to RESP participants, it can also be concluded that the distributional impact of the CESG is skewed toward higher income Canadians. How does this finding compare to the objectives of the programme?

The goal of the *Canadian Opportunities Strategy* is to focus government assistance on those with "low and middle incomes." It is clear that this stated goal is not being met with the RESP and the CESG programmes. Beyond the originally stated goal, the economic justification for the programme relies on difficulties with access to credit markets. High-income and high-wealth households are not likely to be credit constrained, suggesting that the credit constraint economic rationale for the programme is also dubious. Taken together, this evidence finds no justification for the RESP and CESG tax measures as a useful tool for government intervention in post-secondary education.

5.0 Discussion: Why don't low-income households use RESPs?

The statistical analysis strongly suggests that low-income households do not contribute to RESPs. While this finding is relevant to the evaluation of the current structure of the programme, a deeper analysis of why low-income households don't use RESPs may prove helpful for any changes to the RESP programme, or for understanding other savings incentive measures. In this section, I put forward five explanations that may underlie the low participation of low-income households.

5.1 Children from low-income families are less likely to attend

One reason for lower participation is the smaller likelihood of post-secondary attendance for children from low-income households. Because non-attendance leads to tax penalties on withdrawals from RESPs, families who do not expect their children to attend are not likely to contribute to RESPs. Junor and Usher (2002) document (p. 48) that university participation among 18 to 21 year olds is 39 per cent in the highest family income quartile, more than double the 19 percent rate for the lowest quartile.[12] Participation in any post-secondary programme (including community colleges) does not differ as much between the quartiles, at 70 percent for the highest and 56 percent for the lowest.

[12] The data are drawn from the Survey of Labour and Income Dynamics. The calculations are made by taking a sample of 16 year olds between 1993 and 1996 and observing whether they attend any post secondary education by 1998.

Although RESP funds can be used for any type of post-secondary education, the costs of attending college might be lower than university. So, it is not clear which is the better measure. In either case, differential attendance can explain some of the gap in RESP participation.

Moving beyond observed behaviour, the 2002 Survey of Approaches to Education Planning reports on the expectations of parents for their children's education attainment. In Figure 1, I graph the proportion of families in different income groups reporting that they expect their child to attend university, or any post-secondary education.[13] Among families with income less than $30 thousand, 49.6 per cent expect their child to go to university, and 75.3 per cent expect attendance at some form of post-secondary institution. In contrast, the comparable numbers for families with income of $80 thousand or more expect university in 66.0 per cent of the cases, and any post-secondary in 90.2 per cent. These patterns of expectation line up with the observed patterns of RESP participation, suggesting that expectations may matter for the participation decision.

5.2 Low-income households face information barriers

Savings behaviour is closely connected to attitudes and information about household finances. Becker and Mulligan (1997) develop a theoretical framework in which households must expend effort to learn how to think about future expenditures. Someone from a propitious upbringing might learn these things from his or her parents or peers,

[13] The statistics come from special tabulations on the data performed by Statistics Canada.

while those from less fortunate backgrounds may never have learned. In the model, knowledge about why and how to save is a key determinant of savings rates.

There is strong evidence in favour of this type of model for savings. Ameriks et al. (2003) provide evidence that financial planning is a key determinant of wealth accumulation – those who have a 'propensity to plan' save much more than those who don't. Bernheim et al. (2001) and Bernheim and Garret (2003) show that financial education is strongly related to attitudes about savings, and also subsequent savings behaviour.[14]

In this type of framework, opening an RESP account is costly. The state of a family's knowledge about saving determines the expenditure of psychic and real effort necessary to open an RESP account. These psychic costs represent part of the fixed cost of opening an RESP account, and therefore a potential barrier to participation by low-income households. While the financial benefit of the CESG may help on this front, it may not be enough to counteract the entire fixed cost.

The 2002 Survey of Approaches to Education Planning asked survey respondents about their awareness of the CESG. In Figure 1, CESG awareness by income group is graphed. While 32.7 per cent of families with income less than $30 thousand were aware of the CESG, the comparable number for those with family incomes greater than $80 thousand was 61.9 per cent. This finding is suggestive, but not conclusive. Parents who were

[14] These papers use a non-experimental causal framework which allows for inferences about financial education even in the presence of unobserved differences in the propensity to save.

simply not interested in RESPs may not have cared to learn about the CESG; awareness with programme details may follow the decision to participate.

5.3 Less complicated alternatives are available

Another reason that households might not participate in RESPs is that many alternative tax advantaged methods of saving for education are available. While trust accounts or RRSPs are not likely to be disproportionately used by low-income households, saving through housing equity (by paying off mortgage debt) is an opportunity that low-income households may pursue. By making heavier mortgage payments early in life, a family can 'free up' resources at middle ages to pay for education expenses. This strategy implicitly takes advantage of the pre-tax rate of return in investments in housing equity; a family could follow this strategy without being acutely aware of it. Given that a low-income family setting up an RESP may take on greater tax risks (from non-attendance) and greater fixed costs (psychic or real) than a high-income family, following the easier housing equity strategy might be preferable.

In the Survey of Approaches to Education Planning, those who do not participate in RESPs are asked why they do not participate. The modal response (31.7 per cent) was lack of awareness, but the second largest response was the relative difficulty of saving through an RESP. However, this response did not vary enough across income groups to provide an explanation for the low participation of low-income Canadians in RESPs.

5.4 Financial aid rules

A further possibility is that withdrawals from RESPs will diminish financial aid, scholarship, or bursaries that are distributed according to financial need. For the United States, Feldstein (1995) and Dicks, Edlin, and Emch (2003) calculate that the implicit tax on savings incorporated into college scholarship rules have a large impact on the return to saving and on the accumulated assets of families with college-bound students.[15] The treatment of RESP income could have a similar impact on Canadian families. For example, in British Columbia, the provincial student loan eligibility formula 'taxes' RESP withdrawals by decreasing the loan amount dollar for dollar with RESP income. Given the implicit tax rates on accumulated RESP funds, families who will be eligible for financial aid may choose not to save through RESPs.

5.5 Low-income families can't afford to save

In a standard economic model of consumption, even a very low-income household still saves a portion of its income to prepare for future spending needs. A family chooses to allocate its available resources over different periods of consumption by means of saving. In such a basic model, the argument that a family cannot 'afford' to save makes no sense. However, in the presence of fixed costs in opening an account, a family that would save only a small amount through RESPs might find that the benefits do not exceed the fixed costs. Under this scenario, low-income families would not save through RESPs.

[15] Recent evidence by Long (forthcoming) shows that previous results are sensitive to modeling assumptions, however.

These five explanations contain several common elements, including the possibility that information problems and fixed costs inhibit RESP participation. I now turn to a multivariate analysis of the Survey of Financial Security data to seek evidence on these explanations.

6.0 Multivariate Evidence

By examining RESP participation and account balances in a multivariate framework, I can potentially find evidence in favour or against some of the different hypotheses outlined in the previous section. For the participation decision, I analyze the data using a probit model, which accounts for the binary nature of the dependent variable. For the level of the account balance, I estimate a Tobit model, which accounts for the censoring of the dependent variable at zero.[16]

The treatment of wealth in the regression requires some thought. If RESP contributions represent savings that would not have occurred in the absence of the incentive, then making RESP contributions increases a family's measured wealth. In this case, including wealth measures as explanatory variables on the right hand side of the regression introduces an endogenous variable, as movements in the dependent variable may influence the wealth position of the family. On the other hand, if RESP account balances

[16] Since families cannot hold negative balances in RESP accounts, no family will be observed in the data with less than zero dollars in their RESP account.

represent savings that would have occurred even in the absence of the incentives, then including wealth measures on the right hand side of the model introduces no endogeneity problem. As I do not wish to take a stand on this issue, I report estimates with and without wealth quintile controls.

The results appear in Table 4. The first column displays the probit estimates of participation. I report the incremental probabilities for each independent variable, derived from the regression coefficients.[17] The interpretation of the magnitudes of the estimates is made relative to the excluded category in each case. I indicate the statistical significance of each estimate with asterisks.

The first estimate suggests that being married instead of single (the excluded category) increases the probability of participating by 5 percentage points. Given that the average participation rate is 16 per cent, a 5 percentage point increase is relatively large. This result is conditional on the level of income and education in the household, so it picks up unobserved difference in the propensity to contribute between single and married households.

The age of the youngest child is a fairly weak predictor of participation. The estimated magnitudes are small and statistically indistinguishable from zero. In contrast, the age of the oldest child has a strong effect on participation. If the oldest child is in the 15-17 age range, the probability of the family participating decreases 11.3 per cent relative to a

[17] The incremental probabilities predict the change in the probability of participation when the variable of interest moves from 0 to 1, evaluated at the mean level of the other independent variables.

family with the oldest child aged 0-4, holding all other factors constant. As discussed earlier, because the survey followed closely after the expansion of the programme in 1998, these estimated coefficients do not reflect what might appear in the longer run. The lower participation among families with older children provides some evidence in favour of the hypothesis that fixed costs present a barrier to RESP participation. Families with older children may not have seen it as worth their time and effort to open an account for children who had a short time horizon before entering post-secondary education.

The next two sets of results examine income and education. The income estimates suggest that there is little difference among the participation rates of the first four quintiles, as the estimates are not statistically different from the excluded lowest income quintile. For families in the highest income quintile, however, there is a large and statistically significant effect of 13.7 percentage points relative to the low-income quintile. For education, the largest effect is found for university graduates, who have a 12.4 percentage point higher chance of participating than those without a high school education. These results suggest that both education and income exert independent and positive influence on RESP participation. Underlying these effects may be differing educational attainment expectations, or different levels of awareness about RESPs.

Immigrant families are estimated to have a participation rate 7.9 per cent higher than observationally equivalent non-immigrant families. This result is economically and statistically large. If one posits that immigrant families have less access and experience with Canadian institutions, then this finding is evidence against information being a

barrier to RESP participation.[18] Differing education attainment expectations for immigrant and non-immigrant families might best explain this finding. In the 2002 Survey of Approaches to Education Planning, 74.9 per cent of immigrant children are expected by their parents to attend university in the future, while only 52.2 per cent of Canadian-born parents have this expectation.[19] This evidence does not support the importance of information barriers to RESP participation, but instead suggests that differential expectations may be a stronger explanation.

The age variables display an increasing pattern of coefficients for older parental age groups. However, none of the estimates is statistically significantly different from zero, ruling out a statistically strong difference from the behavior of parents under age 25 (the excluded category). The provincial estimates look very similar to the univariate analysis. Saskatchewan residents are predicted to have a 4.4 percentage point higher probability of participation than Newfoundland residents, although the result is not statistically significant. On the other side, Quebec residents are a statistically significant 7.1 percentage points less likely to contribute than Newfoundland residents. For urban area size, the point estimates for the four urban categories are all negative, suggesting that those residing in rural areas are more likely to contribute than observationally equivalent urban dwellers.

[18] In the Survey of Approaches to Education Planning, immigrant families have approximately the same awareness of the CESG, 49.78 per cent compared to 47.2 per cent for the Canadian born.
[19] The expectation variable is available only for children age 13 to 18. A similar difference can be found looking at parents' 'hope' of attendance, or at post-secondary education rather than just university.

Overall, the participation evidence suggests that families with married parents, more and younger children, higher income, more education, and who are immigrants are more likely to contribute to RESPs. Although these types of families are more likely to contribute, it is possible that the size of their contributions is smaller than other families. To investigate this possibility, I pursue an analysis using the level of the RESP account balance as the dependent variable.

The second column of Table 4 reports the coefficients for the Tobit equation explaining the observed RESP account balance for each family. Most of the coefficients share similar patterns with the probit equation in the first column, with some exceptions. In particular, the provincial dummy variables display a very different pattern. Relative to the excluded Newfoundland variable, residents of Ontario are predicted to have $12,859 more in their RESP account, even though they are predicted to be less likely to have an account. This may reflect differences in financial wealth across the provinces, which is not included as a control in this specification.

The third and fourth columns of the table report the probit and Tobit results for models including the possibly endogenous wealth quintile of the household. These variables are strongly significant and in many cases substantially change the estimates for the other factors, reflecting the correlation of wealth with the other factors.

With the wealth quintiles included, the explanatory power of being in the high-income quintile decreases sharply. The magnitude of the estimate falls by more than half, and is

no longer statistically distinguishable from zero. This suggests that the availability of stocks of wealth rather than flows of income drives RESP participation. It is not lack of income which inhibits participation, but lack of wealth. This raises doubts about the explanation that non-participators "can't afford to save" because they must spend income on immediate needs. Instead, it suggests that households who already had stocks of wealth are most able to set up an account, perhaps by transferring assets from non-RESP accounts.

The gradient of participation with education persists with the inclusion of wealth quintiles, but the gradient with age does not. So, even with the same levels of wealth and income, a family with a university educated older parent is 9.4 percentage points more likely to have an RESP account. Again, this may reflect either higher financial sophistication or higher educational expectations for their children. For age however, none of the coefficients is statistically significant, suggesting that the positive age gradient observed in the first two columns was solely driven by the fact that older families have more wealth.

The regression analysis has raised three key pieces of evidence that help to untangle the puzzle of low RESP participation among low-income families. First, the low participation of families with older children suggests that the fixed cost of opening an account is important. Second, immigrants are more likely to contribute than native born Canadians, indicating that lack of financial sophistication or information may not be as important as educational expectations. Finally, in the specifications including both

income and wealth quintiles, I find that wealth explains RESP behaviour much better than income, suggesting that the pre-existence of other forms of savings is more important for RESP participation than having a higher flow of income.

7.0 Conclusion

In this paper, I present empirical evidence that RESP and CESG participation is concentrated among high-income, high parental education households. I suggest several possible explanations for lower participation among low-income households, and present some evidence that sheds light on the relative importance of the different explanations. The evidence suggests that differing educational expectations and the presence of fixed costs may best explain the gap in participation between high and low-income families.

Any design for the tax and transfer system must strike a balance between redistributive and efficiency enhancing measures. However, for the tax system to find such a balance it is necessary for those measures intended to be redistributive to actually be redistributive. The distributional incidence of RESPs and CESGs is directly at odds with the stated goal of the *Canadian Opportunities Strategy* to direct government assistance to low- and middle-income Canadians. It also conflicts with the economic justification of ameliorating credit access problems. Consequently, it seems hard to justify these tax measures within the context of the stated objectives of improving access to post-secondary education.

Beyond the stated redistributive goal, do RESPs and CESGs have a role in the tax system? By providing tax-free accrual of income on investments, RESPs help to move the income tax system toward a consumption tax base, which may improve economic efficiency. However, Milligan (2002) argues that RESPs provide the tax-free accrual in a needlessly complicated way. Simpler tax measures, such as an expanded RRSP programme or the Tax-Prepaid Savings Account advocated by Kesselman and Poschmann (2001), could achieve the same result more effectively.

CESGs might play an important role by providing an additional incentive to overcome the psychic costs and information barriers that limit the participation of low-income families in the financial system. After having opened an RESP account, however, the benefit of the incentive would be exhausted as the family has already learned why and how to save. A reform that targeted the grant benefit to the opening of an account might better achieve the goal of overcoming the fixed costs, but without the distributional consequence of a long stream of payments to high-income families.

Finally, the CESG and the RESP provide tax relief to families with children, which some may find desirable. However, by tying the subsidy to education and providing it through a complicated tax measure, the subsidy becomes too narrowly targeted and expensive to administer. Other policy tools such as enhancements of the National Child Benefit, the introduction of a dependent credit or deduction, or the lowering of general tax rates would achieve this goal more simply and effectively.

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Table 1
Aggregate Statistics on Registered Education Savings Plans and
Canada Education Savings Grants

	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003
CESG expenditures[a]	-	267.3	334.1	433.5	334.2	342.9
Percentage of children with RESPs[b]	4.7	10.0	15.0	20.0	23.0	26.0
Total amount held in RESPs[c]	2,398	3,920	5,414	7,153	9,000	-
Estimated Tax Expenditure for RESP[d]	32	30	40	**80**	**78**	**105**

Notes:

Data in rows 1, 2, and 4 are in millions of current dollars.

a: Source - annual Department Performance Reports for HRDC, various years. (Estimates, Part III, Treasury Board of Canada)

b: Source - annual Department Performance Reports for HRDC, various years (Estimates, Part III, Treasury Board of Canada)

c: Source - Canada Education Savings Grants Quarterly Statistical Review, April 2002. Data for 2001-2002 comes from Department Performance Reports for HRDC. (Estimates, Part III, Treasury Board of Canada)

d: Source - Tax Expenditures and Evaluations 2002. (Finance Canada) The tax expenditure data is on a calendar year basis, not fiscal year.

Table 2 - RESP participation and account balance for all families

	Observations	Proportion Positive	Conditional on Positive				
			Mean	Std Dev	25th	Median	75th
RESP account balance	15933	0.058	7105	17793	1700	3500	6800
number of children	1.000						
zero	0.681	0.010	13542	39310	2000	4200	10000
positive number of children	0.319	0.160	6277	12343	1600	3200	6000

All values reported in 1999 Canadian dollars. Sample weights used in calculations.
Data is taken from the Survey of Financial Security , using all 15,933 observations.

Table 3 - RESP participation and account balance for families with children.

	Distribution	Proportion Positive	Conditional Mean
Marital status	1.000		
Married / common-law	0.832	0.178	6480
Single	0.168	0.068	3663
Number of children	1.000		
1	0.425	0.138	4986
2	0.406	0.185	6448
3 or more	0.169	0.155	8685
Age of youngest child	1.000		
Age 0-4	0.362	0.190	3675
Age 5-9	0.248	0.167	8726
Age 10-14	0.245	0.149	7830
Age 15-17	0.145	0.090	7857
Age of oldest child	1.000		
Age 0-4	0.196	0.205	2648
Age 5-9	0.230	0.180	7806
Age 10-14	0.296	0.161	6230
Age 15-17	0.277	0.110	9065
Income quintiles	1.000		
1 (low)	0.200	0.080	6920
2	0.200	0.140	4225
3	0.200	0.125	5640
4	0.200	0.176	5133
5 (high)	0.200	0.279	8131
Wealth quintiles	1.000		
1 (low)	0.200	0.051	2118
2	0.200	0.131	3197
3	0.200	0.174	3801
4	0.200	0.164	6724
5 (high)	0.200	0.280	9755

	Distribution	Proportion Positive	Conditional Mean
Older parent's education	1.000		
Less than high school	0.179	0.068	3990
High school graduate	0.203	0.132	5538
Some post secondary	0.414	0.165	6716
University degree	0.204	0.259	6614
Immigrant status	1.000		
Born in Canada	0.736	0.138	6614
Born outside Canada	0.264	0.222	5696
Age of older parent	1.000		
less than 25	0.021	0.068	3084
25-29	0.070	0.116	1719
30-34	0.149	0.177	3072
35-39	0.233	0.160	5842
40-44	0.234	0.158	6540
45-49	0.160	0.180	9066
50-54	0.085	0.179	9695
55 and over	0.049	0.117	6257
Province	1.000		
Newfoundland	0.019	0.149	6119
Prince Edward Island	0.005	0.173	2758
Nova Scotia	0.032	0.170	6630
New Brunswick	0.025	0.146	6058
Quebec	0.245	0.110	4309
Ontario	0.377	0.183	6542
Manitoba	0.037	0.158	6932
Saskatchewan	0.033	0.217	7137
Alberta	0.103	0.153	9107
British Columbia	0.126	0.180	5519
Urban area size			
Rural	0.187	0.166	5731
0 to 29,999	0.164	0.121	7130
30,000 to 99,999	0.101	0.151	4827
100,000 to 499,999	0.102	0.163	9275
500,000 and up	0.445	0.173	5916

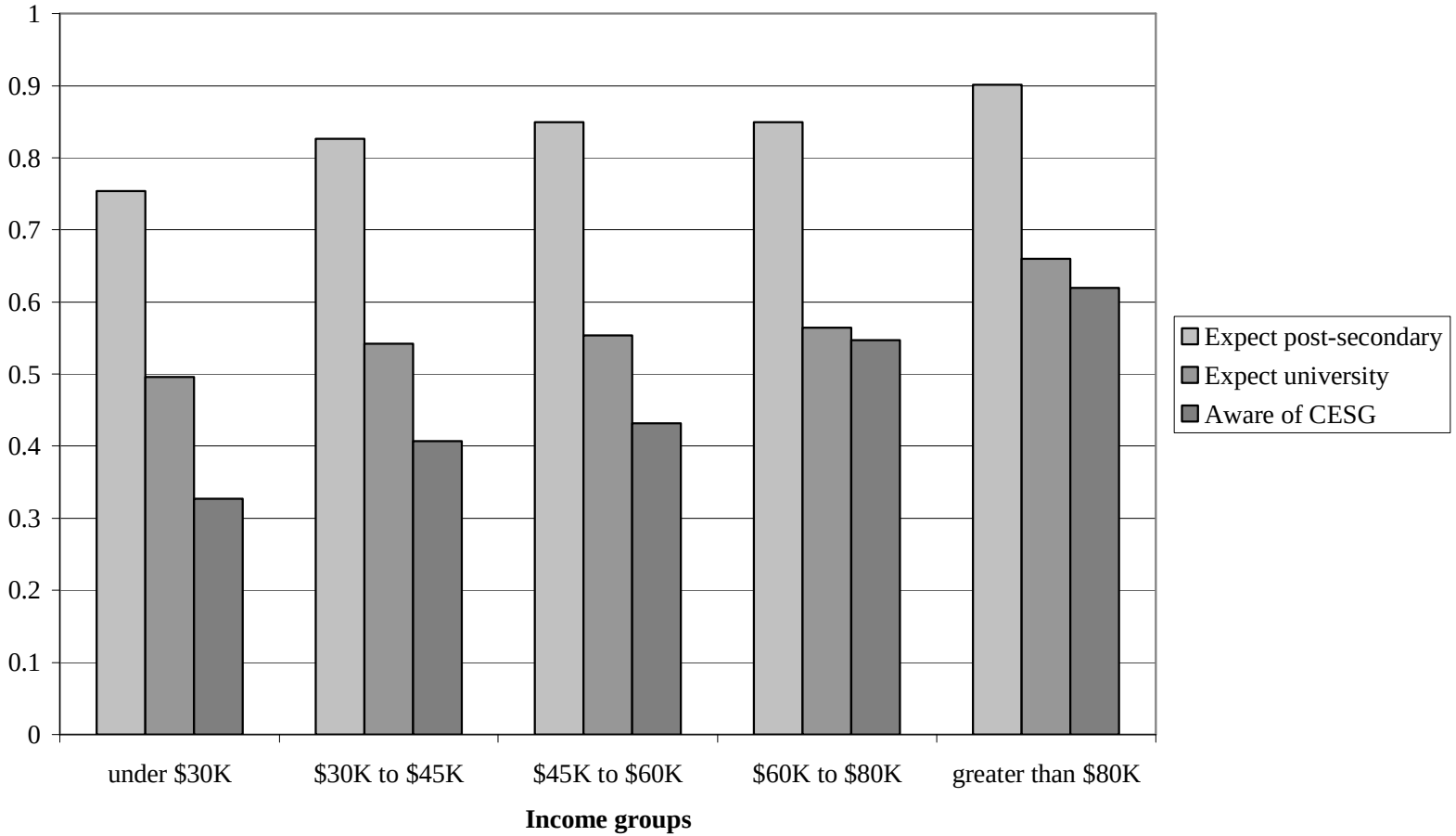
All values reported in 1999 Canadian dollars. Sample weights used in calculations.
Data taken from the 1999 Survey of Financial Security, based on the 5,394 families with children.

Table 4 - Regression results for RESP participation and account balance

	With no wealth controls						With wealth controls					
	Probit Has an RESP			Tobit RESP balance			Probit Has an RESP			Tobit RESP balance		
Pseudo R-Squared	0.0908			0.0226			0.0923			0.0274		
Mean of dep. variable	0.160			6277			0.160			6277		
Married or common-law	0.050	(0.016)	***	6475	(1285)	***	0.033	(0.016)	*	4879	(1277)	***
Two children	0.042	(0.016)	***	2201	(890)	**	0.035	(0.016)	**	1657	(884)	*
Three or more children	0.024	(0.025)		1643	(1346)		0.015	(0.024)		1028	(1339)	
Youngest age 5-9	0.003	(0.019)		2018	(1176)	*	-0.008	(0.018)		1106	(1171)	
Youngest age 10-14	-0.002	(0.026)		2077	(1649)		-0.016	(0.024)		853	(1648)	
Youngest age 15-17	-0.020	(0.036)		-166	(2375)		-0.036	(0.032)		-1562	(2370)	
Oldest age 5-9	-0.039	(0.020)	*	-1954	(1280)		-0.034	(0.020)		-1557	(1266)	
Oldest age 10-14	-0.059	(0.025)	**	-4599	(1731)	***	-0.052	(0.025)	**	-4052	(1722)	**
Oldest age 15-17	-0.113	(0.026)	***	-8440	(2174)	***	-0.105	(0.026)	***	-7801	(2170)	***
2nd income quintile	0.001	(0.029)		-587	(1683)		-0.017	(0.027)		-1763	(1711)	
3rd income quintile	0.045	(0.031)		1929	(1546)		0.006	(0.028)		-498	(1598)	
4th income quintile	0.043	(0.030)		2314	(1538)		-0.013	(0.027)		-1533	(1606)	
highest income quintile	0.137	(0.036)	***	6682	(1557)	***	0.044	(0.033)		1037	(1640)	
2nd wealth quintile	--			--			0.134	(0.030)	***	8468	(1446)	***
3rd wealth quintile	--			--			0.145	(0.031)	***	9354	(1495)	***
4th wealth quintile	--			--			0.196	(0.036)	***	12646	(1570)	***
highes wealth quintile	--			--			0.313	(0.047)	***	16812	(1682)	***
High school graduate	0.049	(0.025)	**	3778	(1264)	***	0.039	(0.025)	*	2985	(1255)	**
Some post-secondary	0.058	(0.019)	***	5194	(1064)	***	0.047	(0.019)	**	4310	(1059)	***
University Degree	0.124	(0.027)	***	7719	(1171)	***	0.094	(0.026)	***	5898	(1170)	***
Immigrant	0.079	(0.017)	***	3761	(828)	***	0.087	(0.017)	***	4352	(820)	***
older spouse 25-29	-0.001	(0.048)		1899	(3498)		-0.013	(0.042)		965	(3511)	
older spouse 30-34	0.042	(0.053)		4889	(3313)		0.007	(0.044)		2334	(3356)	
older spouse 35-39	0.032	(0.051)		4857	(3330)		-0.011	(0.042)		1500	(3379)	
older spouse 40-44	0.047	(0.054)		6072	(3368)	*	-0.003	(0.045)		2286	(3412)	
older spouse 45-49	0.079	(0.061)		8284	(3427)	**	0.010	(0.048)		3444	(3476)	
older spouse 50-54	0.093	(0.069)		9419	(3546)	***	0.009	(0.051)		3765	(3600)	
older spouse 55 and over	0.024	(0.060)		4535	(3728)		-0.044	(0.039)		-1377	(3781)	
Prince Edward Island	-0.002	(0.043)		-9125	(5277)	*	-0.012	(0.039)		-9627	(5192)	*
Nova Scotia	0.003	(0.031)		6193	(3083)	**	-0.005	(0.029)		5288	(3047)	*
New Brunswick	-0.022	(0.030)		4394	(3307)		-0.027	(0.027)		3744	(3272)	
Quebec	-0.071	(0.023)	***	10331	(2636)	***	-0.074	(0.022)	***	9527	(2599)	***
Ontario	-0.037	(0.025)		12859	(2590)	***	-0.044	(0.024)	*	11748	(2554)	***
Manitoba	-0.033	(0.026)		2786	(3044)		-0.041	(0.024)		1789	(3009)	
Saskatchewan	0.044	(0.035)		7574	(2994)	**	0.016	(0.031)		5495	(2956)	*
Alberta	-0.048	(0.022)	*	7107	(2723)	***	-0.058	(0.020)	**	5918	(2689)	**
British Columbia	-0.034	(0.024)		8417	(2682)	***	-0.042	(0.022)	*	7274	(2648)	***
Urban size <30K	-0.037	(0.018)	*	-1746	(1193)		-0.029	(0.018)		-1113	(1177)	
Urban size 30K to 100K	-0.021	(0.022)		-202	(1366)		-0.012	(0.022)		361	(1352)	
Urban size 100K to 500K	-0.039	(0.019)	*	-249	(1327)		-0.027	(0.020)		805	(1314)	
Urban size 500K+	-0.023	(0.019)		44	(998)		-0.014	(0.018)		615	(991)	

Notes: Reported are regression coefficients and standard errors from regressions on 5,393 observations from the Survey of Financial Security. Three asterisks indicate statistical significance at the 1% level; two asterisks for the 5% level, and one asterisk for the 10% level.

Figure 1:
Opinions of Parents by income groups



Source: 2002 Survey of Approaches to Education