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Volunteering, Income Support Programs and Disabled Persons

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Volunteering, Income Support Programs and Disabled Persons†

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Abstract

We study the propensity of disabled persons to engage in volunteer activity with the Participation and Activity Limitation Survey (PALS) -- a unique Canadian dataset which provides extensive information on disabled persons as well as volunteering behaviour. Our principal focus is on the effects of various income support programs on disabled person's participation in volunteer activities. We find that certain income support programs (e.g., workers' compensation) are associated with decreases in the probability of volunteering while others (e.g., Pension Plans) are associated with increases in the propensity to volunteer. The reason is that not all income support programs are identical with respect to their implications for unpaid work. There are some -- like workers compensation -- that embody strong disincentives to volunteering while others like public Pensions that explicitly encourage unpaid work. Our conclusion is that program characteristics can significantly affect volunteering. This conclusion is further supported when we look at other income support programs that embody ambiguous or no incentive effects. As one would anticipate, these 'incentive neutral' programs have no significant impact on volunteering. The relevance of these results to both theories of volunteerism and public policy is discussed.

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Executive Summary

We study the propensity of disabled persons to engage in volunteer activity with the Participation and Activity Limitation Survey (PALS) -- a unique Canadian dataset which provides extensive information on disabled persons as well as volunteering behaviour. Our principal focus is on the effects of various income support programs on disabled person's participation in volunteer activities.

Our main policy conclusion is that income support programs accessed by disabled persons can have substantial incentive effects on deterring or encouraging volunteer activity. The deterrent effect occurs when the recipients are monitored carefully and volunteering could serve as a signal that the disabled person is able to engage in activity that could resemble work. This type of income support creates a strong incentive not to volunteer, as this activity could jeopardize their receipt of the income support. This was the case with workers' compensation which has stringent monitoring in terms of work ability and where volunteering could easily be interpreted as being able to return to work, especially in "light" duties. In contrast, where volunteering is specifically allowed and actively encouraged, as in CPP-D, it is much more likely to occur. In income support programs that had potentially offsetting incentive effects (welfare, unemployment insurance and private insurance programs) or no incentive effects on volunteering (GIS, veteran's disability and C/QPP early retirement) no significant effects were found.

In essence, the negative or positive incentives embedded in our income support programs accessed by the disabled respectively discourage or encourage volunteering, and those programs that have no incentive effects have no effect on volunteering. Given the importance of volunteering for both the volunteers and the recipients, and the fact that volunteering can be a viable way for disabled persons to "test the waters" for engaging in more formal work activities, these incentive effects merit more attention as possible policy levers to facilitate volunteering on the part of the growing number of disabled persons in Canada and in the US.

From an analytical perspective, these results also emphasize the importance of incorporating incentive-based modelling into areas of individual behaviour that normally eschew the intrusion of economic analysis. Even after controlling for a number of significant 'warm-glow' predictors of volunteer behaviour found in the traditional literature, we still detected highly significant and empirically important effects linked to two income support programs, which clearly diverge in their promotion of volunteerism. This brings to light the need to probe as deeply as possible into the complete set of intrinsic and extrinsic factors that impact specific individual behaviour – in this case volunteerism. Our confidence in these conclusions is enhanced by the fact that our other empirical results were generally consistent with household production and social capital perspectives. This was the case, for example, with the strong positive relationship between

volunteering and such factors as education, time spent on childcare, being female, and the lesser severity of the disability.

Future research should determine the extent to which worker adaptation and flexible benefits that explicitly recognize the value of volunteer activity can improve the volunteer propensity of the disabled. A better understanding of the long-term impacts of these alternatives can be used to inform future legislation directed at improving the employability of disabled persons. Finally, the creation of a survey series that provides researchers with a comparable question by which to measure the propensity of different subgroups to volunteer would also be a major improvement.

Volunteering, Income Support Programs and Disabled Persons

1. Introduction

Several interrelated concerns, of policy importance and academic interest, prompt a focus on the volunteer activity of disabled persons. First, there has been a rapid growth in the number of persons who collect disability benefits from public programs and a decline in employment of disabled persons (e.g., Bound and Waidmann (2002), Burkhauser Houtenville and Wittenburg (2003) in the U.S, Campolieti and Lavis (2000) in Canada, Woodhams and Corby (2007) in UK). Second, engaging disabled persons in active employment is now regarded as important not only to reduce the numbers on income support but also to foster their integration into society. Not surprisingly increased attention has recently been paid to various policy initiatives that facilitate the labour force participation of disabled persons (Woodhams and Corby, 2007). Such initiatives include: reducing the work disincentives embedded in the various income support programs; reducing the barriers to returning to work through reasonable accommodation requirements on employers; facilitating the adaptation of disabled workers to their limitations (e.g., changing jobs, changing employers, changing the kind of work they do and how much work they do); reducing the effect of the disability through vocational rehabilitation; and improving the ability of the disabled to re-enter the labour market by providing additional education as well as job search assistance.

A neglected area -- and the focus of this analysis -- is volunteer activity for the disabled, both as a potential bridge to employment and as an activity that fosters their integration into society. The usefulness of volunteer activity as a bridge to paid employment in general has already been emphasized, especially given the substantial monetary return to time spent volunteering -- 6 to 7 percent estimated by Day and Devlin (1998) and 4 percent in Devlin

(2001). Volunteering may also form a bridge to a deeper engagement in the workforce for many groups who normally have problems with transitions into the labour force such as youths (school-to-work transition), older workers (transition to retirement), and women and the unemployed (transition back to the labour market)¹. The potential for volunteer activity to provide a bridge to paid employment is exhibited by the fact that the U.S. Civil Service Commission and a number of federal agencies regard volunteer activity as the equivalent of time spent in paid employment in terms of giving credit for work experience (Dicken and Blomberg 1988). Canadian survey evidence indicates that 71 percent of employers either encourage or accommodate employee volunteer activity during working hours and/or encourage employees to volunteer on their own time. The most common reasons employers gave for such support were to improve their public image, to improve employee morale and to improve relations with the surrounding community (Easwaramoorthy 2006). Some private sector employers, such as Delta Airlines, have also used volunteer activity as a transitional activity in their return-to-work strategy for injured employees who are well enough to do volunteer work but not yet well enough to return to their regular job.² In spite of its obvious policy and practical importance, to our knowledge, the volunteer activity of disabled persons (to facilitate transitions back to work) has not been systematically analysed.

A small number of Canadian empirical studies have analysed the determinants of volunteering in general and for particular groups, and their general conclusions will be contrasted with ours for disabled persons. Vaillancourt (1994) and Day and Devlin (1996) use the 1987 Survey of Volunteering (VAT), and Hall et. al. (1998, 2001) use the 1997 and 2000 National Survey of Giving, Volunteering and Participating (NSGVP), respectively, but provide only

¹ See, for example, Gomez and Gunderson (2001, 2003) and Jones (1999, 2000)

² USA Today, September 1, 1999, p. 3B.

cross-tabulations that do not control for the influence of other factors. Devlin (2001) also uses the 1997 survey but focuses on the impact of volunteering on earnings, with only passing reference to the determinants of the decision to volunteer. Gomez and Gunderson (2003) use the General Social Survey of 1994, but focus on characteristics of work and family as influencing volunteer activity; they have no information on disabled persons or income support programs. Other studies deal only with particular subgroups – youths (Jones 2000), seniors (Jones 1999) and the unemployed (Gomez and Gunderson 2001). None of these studies, however, analyze the volunteer activity of disabled persons. To our knowledge this is also the case with U.S. studies.

This paper purposes to fill the gap in the literature by using Statistics Canada's Participation and Activity Limitation Survey (PALS), a unique dataset that focuses exclusively on disabled individuals with activity limitations and that has measures of voluntary activity as well as information on demographics, educational attainment, income and household characteristics. Most importantly, PALS also contains information on income support programs that provide some income to disabled persons. The rules governing the receipt of benefits in these programs can alter an individual's incentives to volunteer. Consequently, the principal focus of our analysis will be to determine whether such programs (intentionally or unintentionally) influence the propensity of disabled persons to volunteer. As indicated, the *work* disincentive effects of various disability income support programs has been the subject of considerable research; however, their effect on *volunteering on the part of disabled* persons has not been empirically investigated.

A unique feature of this paper, therefore, is that it looks at the volunteer activity of disabled persons principally from an economic lens - in contrast to models of volunteerism that typically invoke either personal motives, theories of self-actualization, values or increasingly

social capital. Though our empirical and theoretical approach encompasses these accepted volunteering variables, this is the first study to: (1) identify the disincentives/incentives to volunteer activity embodied in various income support programs for the disabled; and (2) to estimate whether these incentives/disincentives are in fact associated with differences in the propensity for disabled individuals to engage in volunteer activity. We find that programs like workers' compensation that embody strong disincentives to volunteering are associated with decreases in the probability of volunteering. Conversely, the Canada/Quebec Pension Plan disability program, which encourages volunteering, is associated with increases in the propensity to volunteer. Other income support programs that embody ambiguous or no incentive effects have no significant impact on volunteering.

The paper is structured as follows. Following a background look into disability policy in Section 2, the paper discusses the conceptual framework in Section 3. Section 4 contains a discussion of our data and the empirical approach, while Section 5 presents the empirical findings. We provide a synthesis of our results and suggestions for further enquiry in Section 6.

2. Disability Policy in Canada and Incentives to Volunteer Embedded in Income Support Programs

The last several decades have seen a gradual shift from passive income support in terms of public programs for disabled persons, to an increased emphasis on enabling their reintegration into the labour market. In the United States, the primary focus of these efforts has been the American with Disabilities Act (ADA), which implemented comprehensive barrier removal legislation by implementing reasonable accommodation requirements on employers. In Canada, there has been much less emphasis on barrier removal legislation. In contrast, Canadian efforts that have tried to assist the re-entry of disabled persons into the labour market have primarily

occurred via the Employment Assistance for People with Disabilities program and the ‘In Unison’ agreements with the provincial social assistance ministries (Campolieti and Lavis 2000), which have been recently replaced by the Multilateral Framework for Labour Market Agreements for Persons with Disabilities. These programs provide job search assistance as well as education and other services that help disabled persons become better prepared for a re-entry into the labour market. In addition, these programs also try to encourage employers to consider disabled workers for employment.

Canada has a wide range of benefit or income support programs that disabled persons can access. They can create various (likely unintended) disincentives to the use of volunteering as a way of “testing the waters” to form a bridge for disabled persons to engage in active paid employment. The disincentives generally arise from *three factors*: the scrutiny that program administrators apply for the recipient to maintain their eligibility for benefits; the extent to which volunteering could jeopardize those benefits; and the magnitude of the loss of benefits if they are jeopardized by volunteering. While such dimensions are difficult to precisely delineate, the programs can be grouped according to the extent to which they may deter volunteer activity³.

At the one extreme, *workers’ compensation* closely scrutinizes its recipients with respect to their ability to return to work. In many cases, they may be expected to return to “light duties.” In such circumstances volunteering could be interpreted as being able to return to light duties and hence jeopardize continued receipt of benefits. Since persons on workers’ compensation were once employed, their potential employability itself is not questionable except for their residual level disability after they reach the point of maximum medical improvement. To the extent that

³ For a discussion of the design features of these various income support programs see, for example, Campolieti and Lavis (2000) or Gunderson, Gildner and King (1997) and references cited therein.

volunteering could call into question that their ability to work after they reach the point of maximum medical improvement, the disincentive to volunteer could be quite substantial.

At the other extreme, the *Canada/Quebec Pension Plan Disability (C/QPP-D)* program specifically allows disabled persons the option of taking on volunteer work without any threat of reducing the size of their disability pensions. The fact that volunteering is specifically mentioned as acceptable suggests that it is encouraged as a prelude to facilitate a more formal re-entry to the labour market or as a way for disabled persons to maintain an attachment with the world of work, after formal exit from the labour force has occurred.

In between these two extremes that respectively discourage volunteering (workers' compensation) and encourage volunteering (CPP-disability) the other income support programs for disabled persons either have ambiguous or no anticipated effects on the incentive to volunteer.

Welfare or social assistance recipients are under considerable scrutiny for maintaining their welfare receipt, as was the case for persons on workers' compensation. While volunteering could be interpreted as being able to work (and hence jeopardizing continued receipt of benefits), it is also the case that welfare recipients are generally expected to participate in employment assistance activities if they are able to do so. Volunteering can be considered as consistent with such activities and hence would not jeopardize receipt of welfare benefits by volunteering for that reason.

Employment insurance scrutinizes its recipients for their ability to return to work but not to the extent of workers' compensation or welfare. Furthermore, in some cases like maternity or parental leave, recipients are not required to be seeking work so that volunteering would not jeopardize their receipt of benefits. In other cases, they are allowed to take training or other

human capital improvement programs without having to be looking for work. To the extent that these are recognized as possible avenues for human capital development that can serve as a bridge to subsequent employment, volunteer activity may also be regarded as such a bridge and hence encouraged.

Private disability insurance programs, such as employer-based short-term and long-term disability, tend to extensively scrutinize their recipients for their ability to return to work. This scrutiny may result in the termination of benefits for recipients for those who engage in volunteering. On the other hand, this disincentive effect may be offset by the fact that private disability insurers also have a strong profit maximizing incentive to allow disabled persons to “test the waters” by volunteering in the hope that this may facilitate their return to work.

While welfare, employment insurance and private disability insurance may have offsetting incentive effects with respect to volunteering, other programs are neutral in their incentive effects and hence are expected to also have no effect on volunteering after controlling for the other determinants of volunteering. The *Guaranteed Income Supplement (GIS)* is a demogrant given to individuals over aged 65 who are low-income and is a supplement to Old Age Security, which is a demogrant given to all Canadian over the age of 65 subject to certain residency requirements. In neither program would volunteering be interpreted as being able to work and hence jeopardizing receipt of benefits. The same applies to *veterans’ pensions* in that recipients are not scrutinized for being able to work and hence volunteering would not jeopardize benefits. Given the age restrictions on our sample, receipt of these benefits by individuals in the sample would generally be because a spouse was receiving the benefits, particularly for the GIS.

The *C/QPP early retirement* benefits require that the person “substantially cease working” which is interpreted as earning no more than one-quarter of the average industrial wage.

Although the early retirement benefits do not explicitly exempt volunteer activity, they do specifically exempt a small amount of paid work suggesting that volunteering is at least allowed and possibly encouraged to facilitate the transition to retirement.

3. Conceptual Framework

Since volunteering is a form of work (albeit unusual in that it is unpaid work) our empirical specification of the determinants of volunteering utilizes the standard labour supply model with its emphasis on such factors as income and the opportunity cost of time. Particular attention is paid to the nature and severity of the disability and to the nature of its limitations, as these may affect the decision to volunteer, just as they would affect the decision to do paid work in the labour market. As indicated, particular emphasis is placed on the effect that different income maintenance programs for the disabled may have on their incentive to volunteer.

Given the unusual nature of volunteer work, our empirical results are also interpreted through a broader lens to incorporate concepts of ‘social capital’ (Putnam 1995) as well as the household production function perspective where individuals and households value goods, leisure and charitable activity as normal goods. Charitable activity is “produced” via inputs of volunteer time, highlighting the importance of substituting time over different ages in the lifecycle. It also highlights the reinforcing dual substitution effects associated with a higher opportunity cost of time: the substitution effect in *consumption* as individuals economize on their scarce use of time by “consuming” fewer charitable activities that are time intensive; and the substitution effect in *production* as they substitute money for time in “producing” a given amount of charitable activity.

The household production function perspective incorporates the fact that the decision to engage in charitable activity can be based on various factors⁴ including altruism -- to help a cause -- with different people having different amounts of altruism as well as different causes. The satisfaction of volunteering can have an intrinsic consumption value – yielding a “warm glow” -- to those volunteering. It can also have an investment component in terms of mutual gift giving, reputation, standing in the community, constituency building, resume building, networking, and experience -- or in the case of the disabled, perhaps testing the waters before engaging in formal work. The household production function approach also emphasizes that volunteering is affected by the extent to which different persons within the household allocate their time to labour market versus household activity. Those who require more of their time at home (e.g., for the care of very young children) are less likely to have time to volunteer. Working in the other direction, some volunteer activity may be complementary to other activities of children within the family, such as school, club or team activities.

The household production function perspective also emphasises that variables such as a person’s expected wage can have complicated effects on volunteering. As in the conventional labour supply model, persons with high potential wages may be less likely to volunteer because of the high opportunity cost of their time. However, the “production function” perspective highlights that their high expected wage also means that they may be more “productive” in certain types of volunteer activity and hence may volunteer more, or be pressed into volunteer service where their skills are important (Freeman 1996).

In essence, the social capital orientation of our approach combined with the household production function perspective provides a conceptual framework that is useful for interpreting

⁴ Various rationales for volunteering are discussed, for example, in Andreoni (1990), Rose-Ackerman (1996) and Woolley (2001, 2003).

the empirical relationships between volunteering and the observed characteristics of disabled persons. This underlying conceptual framework will be used to interpret the empirical relationships that emerge and that will be discussed subsequently in Section 5.

4. Data and Empirical Specification

The estimates in this paper are based on Statistics Canada's *Participation and Activity Limitation Survey* (PALS). The PALS (conducted about 4 months after the census) uses the 1991 Census of Canada as a sampling frame and a series of disability filter questions to select potential respondents. Importantly for our purposes, the PALS contains information on volunteering as well as detailed information on the nature of the individual's disabilities as well as the effect of their disabilities on household and labour market activities -- variables that are typically unavailable in most datasets. The PALS also has a wide range of personal and demographic characteristics that can be important control variables, and that yield interesting information in their own right. We restricted the sample to individuals aged 15-64 who were non-employed.

The outcome variable of interest is whether the individual participated in a volunteer activity or not in the 12 months prior to the survey. This dummy variable takes the value 1 if the individual engaged in any of the eight specified areas of volunteer activity in the survey and zero otherwise. These eight areas reflect specific questions over the nature of the respondent's 'formal' participation in volunteer activity.⁵

⁵ These include: (1) help to organize or supervise activities or events for an organization; 2) canvass, campaign or fund raise as an unpaid volunteer; 3) sit as an unpaid member of a board or committee; 4) do any consulting, executive, office or administrative work as a volunteer; 5) provide information, help to educate, lobby or influence public opinion on behalf of an organization; 6) teach, coach, provide care or friendly visits through an organization; 7) collect, serve or deliver food or other goods as a volunteer through an organization; and, 8) do any other unpaid volunteer activities (including help given to schools, religious organizations and community organizations).

The probability of engaging in volunteer work is specified to be a function of a number of theoretically relevant variables grouped as: income maintenance or benefit programs they received income from (the focus of our analysis) and that can affect their incentive to volunteer (workers' compensation, welfare, employment insurance, private disability insurance, Guaranteed Income Supplement, veterans pensions, C/QPP early retirement, and C/QPP-disability); individual characteristics (gender, marital status, age, education, poverty status and whether their disability was present at birth); and household characteristics (homeowner, family income, time spent on childcare). The rich and extensive information on the person's disabilities and health problems is also used to create a number of control variables typically not measured in conventional datasets: whether they had multiple health problems; the nature of their health problems; their severity as indicated by whether their health problems disadvantaged them at work; and the type of activity limitation.

Mean values for the independent variables are given in the first column of Table 1. As indicated, respondents are reasonably well distributed across the various categories like gender, education, marital status, income and time spent on childcare. Twenty-two percent had the disability since birth and 35 percent fall below the low-income cut-off. Smaller proportions receive income from some of the benefit programs (e.g., welfare, GIS) so that it may be difficult to identify effects from such programs. Forty-eight percent of the respondents had more than one health problem, with musculoskeletal and soft tissue problems and the "other grouping" being by far the most common problems. Limitations arising from pain, mobility and agility were the most common activity limitations. About 26 percent of the respondents reported that their disability disadvantaged them mildly at work, 39 percent moderately and 35 percent severely.

5. Empirical Results

Our discussion of the empirical results will focus on the marginal effects (i.e., the changes in the probability of volunteering) of column 3 in Table 1 as derived from the probit coefficients in column 2. The magnitude of these effects should be interpreted relative to the average probability of volunteering for the disabled as given by the mean value of the dependent variable of 0.337 – that is, 34 percent of the respondents volunteered in at least one of eight volunteer activities in the year prior to the survey.

The Effect of Public and Private Income Support Programs

As indicated previously, the various benefit programs can be grouped into three categories based on the extent to which they create disincentives or incentives to volunteer. At the one extreme workers' compensation has strong disincentives to volunteer because recipients are extensively scrutinized and volunteering could be interpreted by program administrators as the recipients being able to return to work and engage in paid employment so that volunteering could jeopardize the receipt of income support. At the other extreme, C/QPP-Disability *specifically* allows disabled persons to volunteer without any threat of clawing back their disability payments, suggesting that it is encouraged either as a prelude to facilitate a more formal re-entry to the labour market or as a way for disabled persons to maintain an attachment with the world of work. The other income support programs for the disabled either have potentially offsetting incentive effects (welfare, unemployment insurance and private insurance programs) or they have no incentive effects on volunteering (GIS, veteran's disability, and C/QPP early retirement).

The estimates are consistent with the anticipated incentive effects of the different income support programs for disabled persons. Disabled persons on workers' compensation are almost 16 percentage points *less* likely to volunteer compared to other non-employed disabled persons. This is a statistically significant and large (47 percent) decrease in the probability of volunteering relative to the average rate of volunteering of 34 percent. This strong deterrent effect highlights the substantial scrutiny and risk of benefit termination in this program.

In contrast, in the C/QPP disability program where volunteering is explicitly allowed or encouraged without jeopardizing benefits, disabled persons are approximately 18 percentage points *more* likely to volunteer compared to disabled persons not on those programs. This is a statistically significant and large (54 percent) increase relative to the mean of 0.34.

No statistically significant relationship was found for the other income support programs for the disabled that either had potentially offsetting incentive effects (welfare, unemployment insurance and private insurance programs) or had no incentive effects on volunteering (GIS, veteran's disability, and C/QPP early retirement). This is consistent with the proposition that the receipt of these benefits is not jeopardized by volunteering.

Overall, the results for the different income support programs provide empirical confirmation for the notion that specific program design features can have important incentive effects for volunteering on the part of disabled persons. Among disabled persons, volunteering can be encouraged if it is explicitly allowed to serve as bridge to employment without jeopardizing benefits. In contrast, volunteering is (likely unintentionally) discouraged if it runs the risk of being interpreted by program administrators as a sign that the person could engage in paid employment. In light of the potential for volunteering to enable disabled persons to "test the waters" as a possible bridge to employment, explicitly exempting volunteering from being

interpreted as a sign of being able to return to work merits consideration on the part of workers compensation program administrators. These findings also confirm that in modeling the determinants of volunteering (in general or for any subset of the population) a consideration of hidden (or not so hidden) incentives should be taken into account. The significance and empirical importance of our findings in relation to other more traditional volunteerism variables (discussed below) bares this last point out.

The Effect of Individual Characteristics

As in previous studies, males are less likely to volunteer than females, likely reflecting the higher opportunity cost of volunteering for males given their generally higher wages.⁶

Volunteering increases substantially with higher levels of education and it is especially high for persons with a university degree.⁷ Even though they tend to have a higher opportunity cost of time, the household production function perspective emphasizes that higher educated persons are also more likely to be “productive” at volunteering, especially formal volunteering for organizations. As well, their education may have exposed them to social issues and causes that are dealt with through the social capital formation associated with volunteering.

There is not a strong relationship between volunteering and age although volunteering is less in the middle age group of 45-55 relative to the 15-24 age group. There is also no statistically significant relationship between volunteering and marital status or whether the recipient fell below the low-income cutoff.

⁶ Day and Devlin (1996) and Vaillancourt (1994) find that males are less likely to volunteer, when there are no controls for wages. Gomez and Gunderson (2003) are able to control for wages and find that males are more likely to volunteer than are females, as does Devlin (2001).

⁷ This strong effect of education is also found in other Canadian studies such as Day and Devlin 1996, Devlin 2001, Gomez and Gunderson (2003) and Vaillancourt 1994.

The Effect of Household Characteristics

Home owners are more likely to volunteer than are non-home owners. This is a finding found in other studies and reinforces the view that being a home owner appears to increase the use of “voice” and investments in social and community capital, as the literature suggests (Gomez and Santor, 2001).

There is generally not a strong relationship between volunteering and household income. Since household income includes both earnings and non-earned income, this likely reflects offsetting income and substitution effects. That is, households with higher income can afford the “normal” good of volunteering and its resulting “warm glow.” But they also likely have higher earnings and this increases the opportunity cost of volunteering, inducing them to do less time intensive activities like volunteering (substitution effect in household *consumption*) and to substitute money for their more expensive time (substitution effect in household *production*) in producing a given level of charitable activity.

Most of the estimates on the controls for childrearing responsibilities were not significant. However, disabled persons who spend 15-29 hours on childrearing duties are substantially more likely to volunteer, relative to those with no time spent on childrearing. Many volunteer activities are associated with the raising of children in the broader community so that the reciprocal or collective benefits that come from volunteering when having to raise children may offset some of the domestic time pressures. Volunteering and bringing up a child are complementary activities in spite of the time pressures of child rearing.

The Effect of the Nature and Severity of the Disability

Being severely hindered by a disability has a significant negative effect on volunteering, likely reflecting the difficulty of engaging in any activity for the severely disabled. This must be tempered, however, by the fact that having more than one health problem does not have a significant effect on volunteer activity.

The specific nature of the health problem generally does not significantly affect the probability of volunteering. None of the estimates on the controls for specific activity limitations were statistically significant.

6. Concluding Remarks

Our main policy conclusion is that income support programs accessed by disabled persons can have substantial incentive effects on deterring or encouraging volunteer activity. The deterrent effect occurs when the recipients are monitored carefully and volunteering could serve as a signal that the disabled person is able to engage in activity that could resemble work. This type of income support creates a strong incentive not to volunteer, as this activity could jeopardize their receipt of the income support. This was the case with workers' compensation which has stringent monitoring in terms of work ability and where volunteering could easily be interpreted as being able to return to work, especially in "light" duties. In contrast, where volunteering is specifically allowed and actively encouraged, as in CPP-D, it is much more likely to occur. In income support programs that had potentially offsetting incentive effects (welfare, unemployment insurance and private insurance programs) or no incentive effects on volunteering (GIS, veteran's disability and C/QPP early retirement) no significant effects were found.

In essence, the negative or positive incentives embedded in our income support programs accessed by the disabled respectively discourage or encourage volunteering, and those programs that have no incentive effects have no effect on volunteering. Given the importance of volunteering for both the volunteers and the recipients, and the fact that volunteering can be a viable way for disabled persons to “test the waters” for engaging in more formal work activities, these incentive effects merit more attention as possible policy levers to facilitate volunteering on the part of the growing number of disabled persons in Canada and in the US.

From an analytical perspective, these results also emphasize the importance of incorporating incentive-based modelling into areas of individual behaviour that normally eschew the intrusion of economic analysis. The fact that even after controlling for a number of significant predictors of volunteer behaviour found in the traditional literature, we still detected highly significant and empirically important effects linked to two income support programs, which clearly diverge in their promotion of volunteerism, brings to light the need to probe as deeply as possible into the complete set of intrinsic and extrinsic factors that impact specific individual behaviour – in this case volunteerism.

Our confidence in these conclusions is enhanced by the fact that our other empirical results were generally consistent with household production and social capital perspectives. This was the case, for example, with the strong positive relationship between volunteering and such factors as education, time spent on childcare, being female, and the lesser severity of the disability.

Future research should try to determine the extent to which worker adaptation and more flexible benefits payments that explicitly recognize the value of volunteer activity can improve the volunteer propensity of disabled persons. A better understanding of the long-term impacts of

these alternatives can be used to inform future legislative efforts that are directed at improving the employability of disabled persons. Finally, the creation of a survey series that provides researchers with a comparable question by which to measure the propensity of different subgroups to volunteer would also be a major improvement.

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Table 1: Probit Estimates of the Probability of Volunteer Activity amongst the Disabled

	Mean	Coefficient Estimate	Marginal Effect	t-statistic
Dependent Variable	0.337	--	--	--
Benefit Programs				
Workers' compensation	0.102	-0.491***	-0.157***	-2.66
Welfare	0.264	-0.049	-0.017	-0.38
Employment insurance	0.168	0.089	0.032	0.65
Private disability insurance	0.097	0.015	0.006	0.09
Guaranteed income supplement	0.018	0.252	0.095	0.71
Veteran pension	0.057	0.118	0.043	0.59
C/QPP early retirement	0.051	0.147	0.054	0.63
C/QPP disability	0.094	0.475***	0.181***	2.82
Individual Characteristics				
Male	0.553	-0.167	-0.060	-1.60
[Less than high school]	0.376			
High school graduate	0.272	0.430***	0.159***	3.45
Trade certificate	0.145	0.388**	0.146**	2.55
Post-secondary diploma	0.131	0.319**	0.120**	2.00
University degree	0.076	0.763***	0.294***	3.96
Disability present at birth	0.215	0.127	0.046	0.97
[Age 15-24]	0.285			
Age 25-34	0.169	-0.181	-0.063	-1.14
Age 35-44	0.297	-0.198	-0.069	-1.29
Age 45-54	0.155	-0.418**	-0.138**	-2.19
Age 55-64	0.094	-0.048	-0.017	-0.21
Married	0.434	-0.164	-0.058	-1.36
Below low income cut-off	0.345	0.090	0.033	0.73
Household Characteristics				
Homeowner	0.636	0.218*	0.077	1.94
[Income less than 10000]	0.516			
Income 10000-19000	0.244	0.155	0.056	1.27
Income 20000-290000	0.105	0.079	0.029	0.44
Income 30000-390000	0.061	0.599***	0.231***	2.68
Income 40000-490000	0.039	0.314	0.119	1.18
Income greater than 50000	0.035	0.431	0.165	1.58
[No time on childcare]	0.639			
1-4 hrs on childcare	0.086	-0.126	-0.044	-0.71
5-14 hrs on childcare	0.081	-0.086	-0.030	-0.47
15-29 hrs on childcare	0.054	0.625***	0.241***	2.90
30 plus hrs on childcare	0.140	0.107	0.039	0.69

Health Problem Controls				
More than one health problem	0.483	0.192	0.069	0.88
Specific Health Problem				
Musculoskeletal and soft tissue Problems	0.441	-0.063	-0.022	-0.39
Mental disorders	0.247	0.051	0.018	0.30
Vision problems	0.041	0.360	0.137	1.36
Hearing problems	0.067	-0.145	-0.050	-0.60
Nervous disorders	0.107	-0.033	-0.012	-0.18
Heart and circulatory diseases	0.049	-0.186	-0.064	-0.75
Respiratory diseases	0.038	0.371	0.141	1.43
Diseases of the digestive system	0.037	-0.296	-0.098	-1.06
Arthritis and rheumatism	0.130	0.004	0.001	0.02
Neoplasms	0.009	-0.833	-0.226	-1.53
Diseases of the endocrine system	0.027	1.098***	0.416***	3.47
Other	0.532	-0.158	-0.057	-0.87
Work Disadvantage				
[Mild]	0.261			
Moderate	0.389	-0.063	-0.023	-0.52
Severe	0.350	-0.290**	-0.102**	-2.15
Type of Activity Limitation				
Agility limitation	0.596	-0.068	-0.025	-0.54
Mobility limitation	0.632	0.005	0.002	0.04
Pain limitation	0.757	0.207	0.072	1.49
Hearing limitation	0.179	0.204	0.075	1.38
Vision limitation	0.161	-0.105	-0.037	-0.75
Speech limitation	0.161	-0.121	-0.042	-0.83
Other type of limitation	0.491	-0.042	-0.015	-0.34
Sample Size	876			
Value of Log-Likelihood Function	-502.12			

Notes: The dependent variable is a dichotomous measure of formal volunteering, based on whether the respondent participated in at least one (of seven) formal volunteer activities in the past 12 months. The excluded reference category is presented in square brackets. Single asterisk denotes statistically significant at 10 percent level, double asterisk at the 5 percent level, and triple asterisk at the 1 percent level.