

# **Volunteering and Giving Over the Business Cycle**

**by**

**Jacqueline Dugas**

# 3443090

Major Paper submitted to the  
Department of Economics of the University of Ottawa in partial  
fulfillment of the requirements  
of the MA degree

Supervisor: Professor Catherine Deri Armstrong

Department of Economics  
Faculty of Social Sciences  
University of Ottawa

August 2010

# Volunteering and Giving Over the Business Cycle

Jacqueline Dugas

August 2010

## *Abstract*

It is estimated that the contributions of the voluntary sector are 1.4 to 1.7 percent of Canadian GDP (Statistics Canada, 2004b). As the economy thus relies heavily on time and cash donations, understanding any changes over the business cycle in volunteering and giving is important. Using Canadian data spanning a 10 year period, I exploit exogenous variation in the unemployment rate to examine the potential cyclical nature of various philanthropic activities. I find that formal volunteer participation, giving, total amount donated, and combined formal volunteer participation and giving are countercyclical. These findings contribute to two additional literatures. First the results lend support to the idea that formal volunteering and giving are complements. Second, the finding that volunteer participation increases during recessionary periods may help explain the counter cyclical nature of health, as found in Ruhm (2000).

**Key words:** Business Cycles, Recessions, Philanthropic Activity, Volunteering, Giving.

## 1. Introduction

The voluntary sector is often referred to as the economy's third sector, alongside the public and private sectors. The importance of the philanthropic activities, such as volunteering and giving, provided to society by this sector cannot be emphasized enough.<sup>1</sup> According to the 2007 Canada Survey of Giving Volunteering and Participating (CSGVP), almost 12.5 million Canadians aged 15 years and older volunteered for an organization during the one year period preceding the survey (Hall et al., 2009). In 2007, total hours volunteered by Canadians summed to almost 2.1 billion, an amount equivalent to approximately 1.1 million full-time jobs (Hall et al., 2009). Additionally, in 2007 Canadians donated \$10 million dollars to charitable organizations. Statistics Canada (2004) estimates that the voluntary sector contributes 1.4 percent to 1.7 percent of Canadian GDP.

Two main theories exist to explain why individuals contribute their time and/or money. The private consumption theory asserts that an individual receives utility from providing a public good (Andreoni, 1990; Andreoni et al, 1996; Harbaugh, 1998; Thoits & Hewitt, 2001; and Handy & Katz, 2008).<sup>2</sup> The human capital/investment model suggests that individuals gain labour market experience, skills, status and other attributes from their contribution, especially when they contribute time (Menchik & Weisbrod, 1987; Callen, 1994; Vaillancourt, 1994; Bryant et al., 2003; Katz and Rosenberg, 2005; Prouteau and Wolff, 2006; and Handy & Katz, 2008).

---

<sup>1</sup> Volunteering is defined as the donation of one's time to help another individual or organization without reimbursement by pay.

<sup>2</sup> The utility an individual's receives from time and cash donations may be different for the two activities; this may help explain why an individual would carry out both activities.

Many papers examine the determinants of volunteering and giving.<sup>3</sup> As volunteering can be a very time intensive activity, factors measuring the opportunity cost of time: education, income, and employment status have been examined and found to be important predictors. Economic conditions however, another measure of opportunity cost of time, have rarely been considered in the literature. As the economy relies heavily on time and cash donations (described above) and the demand for these contributions increases in ‘tough times’ (W.K. Kellogg Foundation, 2009), understanding whether there are changes in volunteering and giving over the business cycle is important.

Several government reports look at the correlational relationship between aggregate giving and recessions.<sup>4</sup> These reports document that recessions seem to simply slow the rate of increase in charitable giving rather than reduce charitable donations (Hall et al., 2009; and Giving USA Foundation, 2008).<sup>5</sup>

Similarly, using simple correlations Ewing et al. (2002) utilizes six years of Gallop poll data to look at the effect of macroeconomic variables on the aggregate supply of formal volunteer labour. They find that the volunteer rate is positively correlated with GDP ( $r = 0.6$ ) and negatively correlated with the unemployment rate ( $r = -0.7$ ).<sup>6</sup> The latter negative correlation is not consistent with an opportunity cost of time story which suggests that when the unemployment rate is high and the opportunity cost of our time is lower (resulting from fewer employment opportunities and lower wages) volunteering should increase.

---

<sup>3</sup> See section 2 for details

<sup>4</sup> The official definition of a recession is two consecutive quarters with a decline in gross domestic product (GDP) (Giving USA Foundation, 2008).

<sup>5</sup> Canada’s average annual growth in donations was 5.0% between 1984-1990, 0.6% between 1991-1994, and 7.2% since 1995. Although the annual growth rate during the 2001, was only 1.9 percent (Imagine Canada Research, 2008).

<sup>6</sup> The correlation coefficient ( $r$ ) measures the strength and the direction of a linear relationship between two variables; where  $-1 \leq r \leq +1$  (Correlation Coefficient, 2010).

Using four years of pooled data from the National Survey of Giving, Volunteering and Participating (NSGVP) and the Canada National Survey of Giving, Volunteering and Participating (CSGVP), in addition to the age/gender/province/year unemployment rates, this work deepens our understanding of the determinants of volunteering and giving and is the first to examine the cyclicity of various philanthropic activities using individual level data. Specifically, I consider the effect of economic conditions on the following six measures of philanthropic activity: formal volunteer participation,<sup>7</sup> total hours of formal volunteering,<sup>8</sup> informal volunteer participation, giving of money, total amount of monetary donations,<sup>9</sup> and combined formal volunteering and giving.<sup>10</sup> Various characteristics found in the previous literature to influence philanthropic activities are carefully controlled for in the analysis, including income, education, marital status, and presence of children in the household.

Additionally, this study contributes to two other existing literatures. First, it re-examines whether donating one's time and one's money are complements or substitutes, by exploiting the exogenous variation in the unemployment rate as the measure of individuals' opportunity cost of time.<sup>11, 12, 13</sup> As the majority of the literature finds the two activities to be complements, one

---

<sup>7</sup> The literature usually distinguishes between two forms of volunteering, formal and informal volunteering. Formal volunteering is defined as any contribution of unpaid time to the activities of charitable or other non-profit organizations, including schools, religious organizations, sports or community associations (Hall et al., 2009). In contrast, informal volunteering is any assistance given to non-household members, which is not provided through an organization; this includes help given directly to friends, neighbours and relatives, but excludes help given to individuals living in the household (Hall et al., 2009).

<sup>8</sup> Total hours spent on formal volunteer activities is conditional on being a formal volunteer.

<sup>9</sup> Total amount of donations is conditional of being a giver.

<sup>10</sup> All analyses were also run for a seventh measure of philanthropic activity: total number of donations. These results are not included in the paper but can be obtained from the author.

<sup>11</sup> Volunteering is a substitute (complement) for donating if volunteering rises (falls) as the price of donating rises (Bryant et al., 2003). In this paper when the substitute/complement debate is discussed only formal volunteer participation is considered, which is consistent with most of the existing literature.

<sup>12</sup> Most studies use  $(1-t)$ , where  $t$ =marginal tax rate to examine the substitute/complement debate. This is used since cash donations are tax deductible where as time donations are not.

<sup>13</sup> While most of the literature finds that the two activities are complements (Apinunmahakul et al., 2009; Simmons & Emanuele, 2007; Bryant et al., 2003; Garcia & Marcuello, 2002; Clain & Zech, 1999; Freeman, 1997; Brown & Lankford, 1992; Morgan, Dye & Hybels, (1997); Menchik & Weisbrod, 1987; Andreoni et al., 1996; and Callen 1994), there is also evidence suggesting that these activities are in fact substitutes (Duncan, 1999).

would expect to see individuals doing both to some degree, increasing/decreasing the activities together as prices change. Second, the results of this study may help explain the countercyclical nature of health (Ruhm, 2000), as the contribution of volunteers and giving to the health sector is enormous (Health Canada, 2003).<sup>14</sup> If it is found that volunteer participation increases when the economy worsens, then this volunteer channel could be a part of the overall story explaining how it is that mortality is lower when the economy worsens.

Three hypotheses are proposed for the countercyclical nature of the above philanthropic activities. First, volunteering will increase in times of high unemployment as the opportunity cost of time is lower. Second, formal volunteering will increase more than informal volunteering as the unemployment rate increases since there are returns to formal volunteering when economy picks up, such as experience gained and networking. Last, giving will also increase in times of high unemployment if in fact volunteering and giving are complements, as the majority of the literature suggests.

In sum, I find that formal volunteer participation, giving, total amount given, and combined formal volunteer participation and giving are countercyclical. Results show that a 1 percentage point (pp) increase in the unemployment rate is associated with an increase in formal volunteer participation by 3.5pp, giving by 2pp, total amount of donations by \$44 per year, and combined formal volunteering and giving by 4.5pp. Further, these results imply that had a recession occurred in 2009, 676,771 more individuals would have participated in formal volunteer activities, 386,726 additional individuals would have donated money to charities, and total donations would have increased by \$839,880,312.<sup>15, 16</sup> Finally, had a recession occurred in

---

<sup>14</sup> It is estimated that 93 million formal volunteer hours were contributed to the health sector in 1997 (Health Policy, Carr).

<sup>15</sup> Following Oreopoulos et al. (2006), the unemployment rate is assumed to increase 5 percentage points in a recession.

2009 combined formal volunteer participation and giving would have increased by 870,134 individuals.<sup>17</sup> Interestingly, when the sample is split by gender an effect of the unemployment rate on any philanthropic activity of women is not found.

That formal volunteer participation and giving both increase in ‘tough times’ when the time price of volunteering falls lends further evidence to support the complementary relationship between the two activities, although when the sample is split by gender this effect is only found for men. Similarly, results provide limited support for the hypothesis that the voluntary health sector’s (VHS’s) contributions are a potential reason for improved health in recessions, as an effect is only found for men. This argument would have been more convincing had the results also been seen for women since women represent the majority of health sector volunteers (Health Canada, 2003).

It is important to note that while these philanthropic activities appear to increase in tough times, these increases may not be enough to compensate for the increased demand for services.

## **2. Literature Review**

### *2.1 Formal Volunteer Participation and Formal Volunteer Hours*

---

<sup>16</sup> According to the Statistics Canada’s Population Estimates and Projections last updated in November, 30<sup>th</sup>, 2009, 19,336,300 individuals aged 15 – 54 years lived in Canada. Using the average formal volunteer rate of 37.355% for the pooled data set, and the increase of 3.5pp (for the limited sample) in a recessions, the increase the number of formal volunteers would be =  $19,336,300 * 0.40855 - 19,336,300 * 0.37355 = 7,899,845 - 7,223,074 = 676,771$  had a recession occurred in 2009. Increase in givers =  $19,336,300 * 0.83385 - 19,336,300 * 0.81385 = 16,123,574 - 15,736,848 = 386,726$ . Total amount given increases by  $19,336,300 * 0.81385 * \$44 = \$692,421,301$ . Further increase in donations due to more givers and increased donation amounts =  $386,726 * \$337.301 + 386,726 * \$44 = 130,443,067 + 17,015,944 = 147,459,011$ .

<sup>17</sup> Increase in simultaneous volunteering and giving =  $19,336,300 * 0.38616 - 19,336,300 * 0.34116 = 7,466,906 - 6,596,772 = 870,134$ .

Two studies examine both formal volunteer participation and the number of hours an individual contributes to these activities. Day & Devlin (1996) uses a sample of individuals aged 15 years and older from the 1987 Survey of Volunteer Activity to examine characteristics of volunteer participation and hours of participation. The authors find that men are less likely than women to volunteer but contributed more hours. Higher levels of education are associated with higher levels of participation and number of hours; same for very or fairly religious individuals relative to those who are not religious. Married individuals, and those with incomes greater than \$20,000 relative to those with income 0-\$5,000 are more likely to participate in formal volunteer activities. Relative to individuals aged 35-44 years, those 15-19 and 20-34 are less likely to participate while those age 45 years and older are more likely to participate. For hours spent formally volunteering, individuals aged 15-19 contribute less hours and those aged 45-54 contribute significantly more relative to individuals aged 35-44 years. Relative to individuals with incomes 0-\$5,000, those making \$5,000-\$15,000, \$20,000-\$30,000, and \$40,000 and more contribute significantly less hours. Finally relative to unemployed individuals, those working full-time and part-time contribute significantly fewer hours.

Taniguchi (2006) uses the sample of non-institutionalized, English-speaking white adults aged 25 to 74 from the 1995-1996 National Survey of Midlife Development in the United States (MIDUS) to examine volunteer participation and extent of participation. Results from the full sample analysis suggest older people are more likely to volunteer. Additionally, individuals who are married and those with higher levels of education are more likely to volunteer and contribute more hours. For the female sample relative to those who work full-time, working part-time promotes participation and intensity of participation, while not being in the labour force only promotes participation. For the male sample, relative to men who work full-time, those who are

not in the labour force participate more, those who are unemployed participate less and there is no difference for those working part-time.

The following five papers focus on solely on formal volunteer participation and ignore the number of hours spent formally volunteering. Vaillancourt (1994) utilizes data from the October 1987 Labour Force Survey and a follow-up questionnaire, which surveys Canadians aged 15 years and older. Results show that men participate in volunteer work significantly less than women. Education is found to encourage participation for all samples. In addition, relative to those working full-time, individuals working part-time are significantly more likely to volunteer and those not in the labour force are significantly less likely to volunteer, although the effect of not working is positive for women. Furthermore, relative to Protestants, Catholics and those with no religious affiliation are significantly less likely to participate. Higher levels of total income are found to increase volunteer participation. Finally, women are found to increase volunteer participation until age 70 when their participation begins to decrease, while men increase participation between ages 25-54, decrease it from ages 55-69, and then increase their participation again from ages 70 and older.

Wilson & Musick (1997) utilize data from the American's Changing Lives survey which samples individuals 25 years or older. The authors find that individual's with higher education, more children and who those attend church more often are more likely to participate in formal volunteer activities.

Sundeen et al. (2007) uses data from the U.S. Bureau of Labor Statistics' supplement to the 2002 Current population Survey (CPS), which samples individuals 16 years and older. The authors find that volunteers tend to be more educated, wealthier, employed full-time, married, middle aged, and have more children.

Pho (2008) uses data from the September 2002 to 2005 Volunteer Supplements to the Current population Survey (CPS). Pho considers two samples, the first being individuals aged 16 years and older and the second being employed individuals. Results show that men volunteer significantly less than females. Moreover, individuals with higher education, married individuals and those with children under the age of 18 years are more likely to volunteer. Additionally, labour force participants are less likely to volunteer than those not in the labour force. Specifically full-time workers are the least likely to participate in volunteer activities. Although for the female-only sample working part-time actually increases the likelihood of volunteering relative to those not in the labour force. Finally, age is found to be positively correlated with volunteering.

Web & Abzug (2008) utilize data from the Center on Philanthropy Panel Study (COPPS) to look at characteristics of formal volunteers. Results show that higher levels of education, religious service attendance, number of children and being male increased formal volunteer participation.

The next four articles only examine hours spent on formal volunteer activities. Menchik & Weisbrod (1987) use a sample of individuals which include only single earner households with positive labour earnings in 1973 so that individuals' wage rates can be calculated. The authors find that a one dollar increase in the after-tax wage rate on average reduces amount of time spent volunteering by 4.8 hours per year. Women appear contribute significantly more hours to volunteering than do men. Additionally, results show that married individuals and those with children at home volunteer more hours. Also, volunteer hours are found to increase with income but at a decreasing rate. At last, hours volunteered are found to increase until age 43 and decreasing afterwards.

Brown & Lankford (1992) use the Florida Consumer Attitude Survey, which samples individuals 18 years and older, to examine determinants of hours spent volunteering. Splitting the sample by gender the authors find that having at least some college education increases number of hours spent volunteering for both men and women, as did being a single for women. Conversely, being a single mother decreases the number of hours spent participating.

Rotolo & Wilson (2006) utilizes data from the 2002 Current Population Survey (CPS) and Volunteer Supplement, which samples individuals aged 16 years and older. Using a sub sample of married individuals, the authors demonstrate that age, higher levels of education and family income increase hours spent on formal volunteer activities. Secondly, relative to married individuals working full-time, those not working, working part-time, and working more than 40 hours contribute more hours.

Feldman (2010) uses the Independent Sector's 1995 and 1998 survey Giving and Volunteering, to examine time donations. The findings show that employed individual and those with children under the age of 18 years donate more hours to volunteering.

The final three papers specifically focus of women's volunteer participation. Schram & Dunsing (1981) utilize data from the Quality of Life Survey 1976-1977, the sample consists of married women aged 65 years or younger with at least one child under the age of 18 years. The authors look at which socioeconomic variables and social-psychological variables factors are important in volunteer participation and intensity of participation. For participation in volunteer work, the woman's education and the husband's attitude about the wives working outside the home both increase the likelihood of volunteer participation. Additionally, married women appear to volunteer more hours if they are more educated, younger, have lived in her present

home a longer period of time, are more satisfied with their marriage, have worked some or most of the time since marriage, and have not lived in the community all their life.

Carlin (2001) focuses on a sample of married women, obtaining data from 1975-1976 U.S. time diaries. Results show that higher net wages and working more hours decreases women's volunteer participation. A 25% rise in the net wage is associated with a 1% decrease in the probability of volunteer participation. Whereas, the net wage of married women has a positive and significant effect on hours volunteered. Other income has a positive and significant effect on volunteer participation and a negative and significant effect on volunteer hours. Older women are significantly more likely to volunteer. Number of children is found to increase the probability of volunteering but to decrease number of hours volunteered.

Rotolo & Wilson (2007) use data from the National Longitudinal Survey of Labour Market Experience. Results show that marital status had no effect on volunteer participation. The authors find that homemakers are the most likely to volunteer followed by part-timers workers, then those working more than 40 hours per week, leaving full-time workers as the women who are least likely to volunteer. Income is found to have a significant influence on volunteering, although weak. Finally, volunteer participation is positively related to age and education.<sup>18</sup>

---

<sup>18</sup> Other papers examine determinants of formal volunteering for samples of older individuals. Dosman et al. (2006) use data from Statistics Canada's 1998 General Social Survey on time use. The authors utilize a sub-sample of individuals aged 45 years and older who were either employed or retired from paid employment. Results showed that relative to employed women, retired women are significantly more likely to volunteer, although the amount of time spent on volunteering for both groups was no different. In contrast, there was no difference between employed and retired men's likelihood to participate, although relative to employed men, retired men spend more time volunteering. Part-time employment increases women's probability of participation and being married increased it for men. Finally for both men and women, higher levels of health, education, and religious attendance significantly increases the likelihood of volunteer participation. Tang (2008) uses a sample of individuals aged 60 years and older the Americans' Changing Lives Surveys. The results show individuals with higher levels of education are more likely to volunteer in all five types of organizations (religious, educational, political, senior citizen, and others), volunteer for a larger variety of organizations, and volunteer more hours, while elder individuals' income has a significant but small effect on organizational volunteering. Furthermore, the authors suggest that education rather than income is important for volunteer activities later in life. Choi et al. (2007) looks at a sample of adults aged 55

## *2.2 Informal Volunteer Participation*

Fewer studies consider informal volunteer participation, with most focusing on samples of older individuals.<sup>19</sup> Only two studies focus on informal volunteer participation for adults of all ages. Gallagher (1994) looks at a sample of married men and women aged 24-89 years; the author finds that being older significantly reduces the probability of helping friends as well as reduces the number hours spent helping. Furthermore, it is found that women spend on average 4.4 more hours per month helping friends than do men. Wilson and Musick (1997) illustrate that the probability of informal volunteer participation is increased with age, higher education, more church attendance and being female. Finally,

## *2.3 Giving*

---

years or older from the 1998 and 2000 interview waves of the Health and Retirement Study (HRS). The authors find that individuals with more education, higher family income, and those who rated religion as really important devoted more hours to formal volunteer work. Religion rated as somewhat important increases number of hours for men contributing to volunteer work if they contributed between 1 to 200 hours, while being born outside of the United States is associated with a decrease. Working for pay is shown to decrease number of hours spent volunteering for men and women volunteering more than 200 hours. Mutchler et al. (2003) examines individuals aged 55-74 years participation and extent of participation in volunteer activities. The authors find that individuals with higher levels of education and those who attend religious services are more likely to formally volunteer. Additionally men and individuals with higher levels of education contribute more hours to formal volunteer activities. Hank & Stuck (2007) utilize a sub sample of individuals aged 50 years or older from the Survey of Health, Ageing, and Retirement in Europe to examine characteristics of older volunteers. The authors find that higher education is associated with an increased probability to participate in formal volunteer activities, while self-employment is associated with a decrease. Burr et al. (2005) use data from the American's Changing Lives survey looked at a sub sample of individuals aged 50 years and older and finds that age, higher levels of education, and family income are associated with the contribution of more hours.

<sup>19</sup> Most studies that consider informal volunteer activities focus on older adults. Choi et al. (2007) find individuals born outside of the United States spend less hours volunteering, except for women contributing more than 200 hours. Relative to individuals who rate religion as not important, those who rate it as very important contribute more hours; as did individuals with higher levels of education with the exception of men contributing more than 200 hours. Working for pay only decreases the number of hours for men contributing more than 200 hours. Mutchler et al. (2003) show individuals with higher levels of education are more likely to participate in informal volunteer activities and to contribute more hours. Additionally, men contribute more hours to informal volunteer activities. Hank & Stuck (2007) show females and individuals with higher levels of education are more likely to informally help and care for others. Additionally being employed is associated with a decreased likelihood of participation in informal help and care activities.

Studies analysing determinants of charitable giving are less abundant than studies on formal volunteer participation. Brown & Lankford (2002) find that having at least some college, a larger household size, and being older all increase amount of charitable donations, whereas being a single parent is associated with a decrease. Ho (2006) analyzes charitable giving the US using the Independent sector's 2001 Giving and Volunteering which samples individuals aged 21 years and older. The results show that higher levels of education and belonging to a religious organization significantly increase the probability of donating money to charity and the amount donated, while being married only increases the amount donated.

Rajan et al. (2009) use the 2000 NSGVP to examine which socio-demographic and personality traits influence giving. Results show that individuals with higher levels of education and income have an increased likelihood of giving. Whereas males, individuals born outside of Canada, and individuals who are less religious relative are less likely to give. Similarly, higher education, income and age are found to increase total amount of donations. Additionally, widows relative to married individuals donate more. Finally, numbers of members in the household and less religious individuals are found to contribute less money to charitable organizations. Feldman (2010) finds that being employed, having children under the age of 18 years, and level of education has no significant effect on monetary donations.

#### *2.4 Health as an input*

Given that volunteering is a productive activity it seems likely that health is an essential input to the provision of volunteering.<sup>20</sup> Interestingly, health is often not controlled for unless a sample of

---

<sup>20</sup> Sundeen et al. (2007) and Gallagher (1994) find health problems to be among the most common reasons for not volunteering. Furthermore, Li & Ferraro (2006) show poor health to be a barrier for middle-aged individuals.

older individuals is being analyzed.<sup>21</sup> Only a few studies consider the impact of health on philanthropic activities for the general population. Day & Devlin (1996) control for health status and finds that relative to individuals with poor health those in good and fair health are more likely to participate in formal volunteer activities and only those in good health are more likely to contribute a greater number of hours. Wilson & Musick (1997) show individuals with higher levels of functional health are more likely to participate in informal volunteer activities. Gallagher (1994) found poor health significantly reduces total hours spent on formal volunteer activities, although it does not significantly affect hours spent helping friends or participation of the two activities. Rajan et al. (2009) includes self-rated health as a control and finds that health does not significantly affect the probability an individual gives to charity, although it significantly affects amount given. However the effect does not follow a logical pattern since relative to individuals in excellent health those in very good health, good health, fair health, and poor health donate more, less, more, and less respectively.

### **3. Data**

---

<sup>21</sup> Most of the literature that controls for health status strictly examines older individuals. Dosman et al. (2006) find that health status significantly increased the probability of formally volunteering for an individual aged 45 years and older, although it was not a significant factor in the number of hours an individual formally or informally volunteered. Mutchler et al. (2003) find individuals with excellent/good health are more likely to informally volunteer and contributed more hours to informal volunteer activities, although the effects are insignificant for formal volunteer participation and formal volunteer hours. Choi (2003) shows better health is associated with an increased contribution of formal volunteer hours but did not affect probability of volunteering. Choi et al. (2007) find that number of diagnosed medical conditions significantly decreases the number of hours spent on formal and informal volunteer activities for both men and women volunteering between 1 to 200 hours. Hank & Stuck (2007) discover individuals who rated their health as fair or worse are significantly less likely to participate in formal, informal helping and caring activities relative to individuals who rated their health as good or better.

This study uses data from Statistics Canada's National Survey of Giving, Volunteering and Participating (NSGVP) and Canada Survey of Giving, Volunteering and Participating (CSGVP). The NSGVP was initially conducted in 1997 as a supplement the Labour force Survey and was again repeated in 2000. (Imagine) The NSGVP was then redesigned to be a standalone survey and renamed the CSGVP.<sup>22</sup> The CSGVP was conducted in 2004 and 2007 with plans by Statistics Canada for the survey to be conducted every three years (Hall et al., 2006). Several Canadian surveys ask questions about voluntary and civic participation, yet the NSGVP and CSGVP are considered the most comprehensive surveys describing the voluntary sector in Canada (Hall et al., 2001). The NSGVP and CSGVP surveys individuals aged 15 years and older, excluding individuals residing in the territories, living on Indian reserves, full-time members of the Canadian Armed Forces, inmates of institutions (Hall et al. 1998).

Summary statistics for the six dependent variables can be found in Table 1, found in the appendix. Similarly summary statistics for the independent variables can be found in Table 2. In all cases weighted statistics are reported.<sup>23</sup> The survey samples sizes consisted of 18,301, 14,724, 20,832, and 20,510 individuals being surveyed in 1997, 2000, 2004, and 2007 respectively. For the overall sample 31.4%, 26.7%, 45.2%, and 46.1% of individuals participated in formal volunteer activities in 1997, 2000, 2004, and 2007 respectively.<sup>24</sup> The overall average number of hours devoted to formal volunteering was 148.6, 161.7, 168.0, and 165.7 hours per year for 1997, 2000, 2004, and 2007 respectively. The overall rate of informal volunteer participation was 73.1% in 1997, 76.9% in 2000, 83.2% in 2004, and 83.7% in 2007. The

---

<sup>22</sup> Some measurement error may occur due to the reformatting of the CSGVP. Although variables selected for this study were asked in the exact same way or in a very similar manner. For example, hours spent formally volunteering were asked by organization for the year versus by organization for each month for the year.

<sup>23</sup> All analyses use normalized CSGVP and NSGVP weights. That is, sample weights are rescaled to sum to unity for each survey, so that all four surveys have equal weight.

<sup>24</sup> Formal volunteer participation is asked in the same manner for all four surveys, so there is no obvious reason for the jump in percentages.

average percentage of the surveyed individuals who gave money to charities was 78.0% in 1997, 78.1% in 2000, 85.1% in 2004, and 84.4% in 2007. Overall the average total amount donated to charities was \$238.90, \$259.42, \$400.20, and \$436.85 per year for 1997, 2000, 2004, and 2007 respectively. Lastly, 28.5%, 24.3%, 41.9%, and 41.9% of individuals participated in formal volunteer activities and donated money in 1997, 2000, 2004, and 2007 respectively.

For the purpose of this study data from all four years of surveys were pooled together to create one data set containing all 74,367 individuals. Pooling all data sets together offered the opportunity to observe changes in the business cycle by providing the variation over time necessary to examine the effect of the unemployment rate on philanthropic activities. For the pooled data set the 37.4% of individuals participated in volunteer activities with the average number of hours spent on formal volunteer activities being 162.1 per year. Informal volunteer activities were undertaken by 79% of individuals surveyed. Similarly, 81.4% of those surveyed gave money to a charity with an average total donation of \$337.31 per year. Finally, 34.1% of individuals participated in formal volunteer activities and donated money. The sub-sample of individuals aged 15 – 54 years consisted of 50,485 individuals.<sup>25</sup>

The province/year unemployment rates used in the analysis are obtained from Statistics Canada's CANSIM database. Statistics Canada obtains estimates of the unemployment rate from the Labour Force Survey (LFS); a household survey which is conducted monthly to obtain information on Canadians' labour market activities. The average unemployment rate was 9.7% in 1997, 6.9% in 2000, 7.2% in 2004, and 6.1% in 2007; resulting in an average unemployment rate of 7.5% for the pooled sample.

---

<sup>25</sup> Means and standard deviations of dependent and independent variables for the limited sample can be obtained from the author upon request.

#### 4. Empirical Model

The impact of the unemployment rate and other individual characteristics on philanthropic activities is estimated using:

$$phil\_act_{ip} = \beta_0 + \beta_1 URA_{ip} + \theta X_{ipt} + \delta_p + \phi_t + \varepsilon_{ip} \quad (1)$$

where  $phil\_act_{ip}$  is the philanthropic activity (formal volunteer participation, number of formal volunteer hours, informal volunteer participation, giving, total amount of donations, and combined formal volunteering and giving) for individual  $i$  in province  $p$ .<sup>26, 27</sup> The first key explanatory variable of interest is  $URA_{ip}$  which is the unemployment rate for individual  $i$  in province  $p$ . The selected unemployment rate is specified for an individual based on gender, province, and whether they are aged 15-24 years or 25 years and older.<sup>28</sup>

The matrix  $X_{ip}$  contains all selected control variables; these include gender, presence of child less than 18 years, self-reported health status<sup>29</sup> (excellent, very good, good, fair, and poor), marital status (single, married, divorced/separated, and widow/widower), household size (1, 2, 3,

---

<sup>26</sup> My specification implicitly assumes that the effect of each covariate is constant over time.

<sup>27</sup> All analyses were run for the dependent variable, total number of donations. This variable measures the number of times an individual donates money to a charity within a 12 month time period. All results for this dependent variable can be obtained from the author.

<sup>28</sup> The most specific and thus most accurate unemployment rate available from Statistics Canada was used; the unemployment rate was specific to province, gender and age group. For inquisitive purposes all regressions were run using URB, an employment rate specific to the individual's gender and province, and URC, an employment rate specific to the individual's province; these results can be found in Table 11 and 12.

<sup>29</sup> A casual relationship is not assumed since an endogeneity problem may exist. Some studies have find volunteering can increase an individual's self-reported health (Lum & Lightfoot, 2005; Luoh & Herzog, 2002; Van Willigen, 2000; Thoits & Hewitt, 2001; Moen et al., 1999; and Morrow-Howell, 2003) and decrease mortality (Musnick et al., 1999; and Oman et al., 1999); although most of these studies only look at older adults. Van Willigen (2000) observe lesser positive changes in health for younger adult volunteers and Li & Ferraro (2006) find health benefits for older adults but not for those in middle-age.

4, and 5 plus), highest level of education (less than high school diploma, high school diploma, some post secondary schooling, and post secondary diploma), labour force status (full-time, part-time, unemployed, and not in the labour force), household income (<\$20,000, \$20,000 - <\$40,000, \$40,000 - <\$60,000, and \$60,000 plus), personal income (<\$20,000, \$20,000 - <\$40,000, \$40,000 - <\$60,000, and \$60,000 plus), country of birth (Canada, not Canada), satisfaction with life (very satisfied, somewhat satisfied, somewhat dissatisfied, and very dissatisfied), time resided in community (<3 years, 3 - <5 years, 5 - <10 years, and 10 plus years), religious affiliation (none, Roman Catholic, Protestant, Other), religious service attendance (at least once a week, at least once a month, at least three or four times a year, at least once or twice a year, and not at all), and age group (15 – 24 years, 25 – 34 years, 35 – 44 years, 45 – 54 years, 55 – 64 years, and 65 plus years).<sup>30, 31, 32</sup> Finally province ( $\delta_p$ ) and time ( $\phi_t$ ) dummies are included.<sup>33</sup> All definitions for dependent and independent variables can be found in Table 3 and 4 respectively.

Equation (1) is first estimated for the overall sample (individuals aged 15 years and older) to observe the impact of the unemployment and other characteristics of individuals on the above philanthropic activities. Probit models are used for all dichotomous dependent variables and marginal effects are reported in the tables. OLS models are used for non-dichotomous dependent variables and beta co-efficients are reported in the tables. Heteroskedasticity is controlled for and

---

<sup>30</sup> A category for not stated values was made for the following categories: marital status, highest level of education, labour force status, hours worked, country of birth, health, satisfaction with life, religious service attendance, and religious service attendance. This was done so that all individuals remained in the sample, resulting in no observations being dropped and thus avoiding a sample bias. Results of marginal effects for all regression can be obtained from author upon request.

<sup>31</sup> Variables were checked for multicollinearity and variables with a correlation coefficient ( $\rho$ ) of  $|0.600|$  or higher excluding not stated categories are: single and married ( $\rho=-0.641$ ), no religious affiliation and no religious service attendance ( $\rho=0.633$ ), somewhat satisfied with life and very satisfied with life ( $\rho=-0.8360$ ), and working full-time and not in the labour force ( $\rho=-0.6452$ ).

<sup>32</sup> Two variables, age of children and race, found in previous literature to be an important determinant of philanthropic activity are not including in the analyses since the information was not available from all the surveys.

<sup>33</sup> Values for provincial and year fixed effects are not reported but are available from author upon request.

robust standard errors are reported. All analyses are conducted using normalized CSGVP and NSGVP weights.<sup>34</sup> Equation (1) is then re-estimated using the subsample of individuals aged 15-54 years. The estimated effect of the URA is hypothesized to be larger for the limited sample (those of prime working age) as it excludes those less likely to be affected by economic conditions (retired individuals). Since men and women exhibit different time use patterns (Verbrugge et al., 1996), all analyses are conducted for the overall sample as well as men and women samples separately.

## 5. Results

Tables 5 – 10 provide the regression results for the six measures of philanthropic activity for the full sample (ages 15+ years). Table 11 presents the marginal effects/coefficients and associated standard errors of the various unemployment rates for the six measures of philanthropic activity for the full sample, while Table 12 reports these results for the limited sample (ages 15-54 years); only the one unemployment rate (URA) is discussed in this paper.

### *Unemployment rate*

The unemployment rate is found to be statistically significant for only the following three measures of philanthropic activity: formal volunteer participation, total amount donated, and combined formal volunteer participation and giving. In Table 5 (formal volunteer participation), the unemployment rate is found to significantly affect volunteer participation at the 5% level for

---

<sup>34</sup> Recall that all sample weights are rescaled to sum to unity for each survey, so that all four surveys have equal weights.

the overall sample and when the sample is split by gender at the 1% level for men. For the overall sample, a 1 percentage point (pp) increase in the unemployment rate is associated with a 0.6pp increase in formal volunteer participation. Similarly, a 1pp increase in the unemployment rate for men is associated with a 1pp increase in men's formal volunteer participation. In Table 9 (giving), a 1pp increase in the unemployment rate is found to increase the amount of donations by \$7.32 per person per year for the overall sample; this is significant at the 5% level. Additionally, an effect is seen for the sample of men where by a 1pp increase in the unemployment rate increases total amount of donated by \$13.06 per person per year. Table 10 displays the results for analyses of combined formal volunteer participation and giving.<sup>35</sup> For the overall sample, a 1pp increase in the unemployment rate increases dual participation by 0.7pp; this is significant at the 1% level. When splitting the sample by gender the effect is only seen for the sample of men where by a 1pp increase in the unemployment rate increases dual participation by 1.1pp.

In order to verify the validity of the effect of the unemployment rate on the various philanthropic activities all regression are repeated using the limited sample which eliminates individuals of retirement age (those aged 55 years and older) who are hypothesized to be less influenced by changes in the unemployment rate. Table 12 reports the associated marginal effects and significance levels of the unemployment rate for all measures of philanthropic activity.<sup>36</sup> Using the limited sample the effect of the unemployment rate on formal volunteer participation is larger for the overall and male samples, compared to those of the full sample. The

---

<sup>35</sup> Marginal effects, standard errors, and significance levels of the covariates not cited for combined formal volunteer and givers can be obtained from the author upon request.

<sup>36</sup> Only marginal effects, standard errors, and significance levels of the unemployment rate for analyses using the limited sample are cited. All marginal effects, standard errors, and significance levels for other covariates are available from the author upon request.

effect for the overall sample increases from a 0.6pp to a 0.7pp increase with a 1pp increase in the unemployment; while the effect for the male sample increases from a 1.0pp to a 1.3pp increase in formal volunteer participation. Additionally, significance for the overall sample increases from the 5% level to the 1% level. However, the effect of the unemployment rate on women's formal volunteer participation remains insignificant. Furthermore, the effect for formal volunteer hours and informal volunteer participation remains insignificant for all samples.

When regressions are run for giving using the full sample, the effect of the unemployment rate is found to be insignificant for all groups; however when the sample of individuals aged 15-54 years is used the effect is larger and becomes significant. Specifically, for the overall sample a 1pp increase in the unemployment rate is associated with a 0.4pp increase in probably of giving. Similarly, a 1pp increase in the unemployment rate for men is associated with a 0.7pp increase in men's probability of giving. The effect for the female sample remains insignificant. Likewise, the effect of the unemployment rate on total amount of donations is larger and more significant when utilizing the limited sample. For the overall sample a 1pp increase in the unemployment rate is associated with an increase in total amount of donations of \$8.80 per year for an individual instead of the \$7.32 increase with the full sample; the significance level also increases from 5% to 1%. Similarly, for the sample of men a 1pp increase in the unemployment rate is associated with an increase in total amount of donations of \$20.48 per year for an individual instead of the \$13.06 increase with the full sample; the significance level also increases from 5% to 0.1%.

For combined formal volunteer participation and giving looking at the overall sample the effect of a 1pp change in the unemployment rate increases from a 0.7pp increase to a 0.9pp increase using the limited sample; with the significance level increasing from 1% to 0.1%.

Furthermore for men, the 1.3pp in dual participation associated with a 1pp in the unemployment rate using the limited sample is larger than that of the 1.1pp increase using the full sample.

The hypothesis that increases in the unemployment rate increase formal volunteer participation is supported. Furthermore since no significant effect on informal volunteer activities is found, the prediction that formal volunteer activities are affected more than informal activities is supported. Additionally, there is evidence to support the literature which suggests that formal volunteering and giving are complements. Finally, the contribution of men's volunteer activities could help explain findings of better health in recessionary periods.

### *Health*

Health is found to be important for participation in volunteer activities, even when controlling for age. Health is extremely important in influencing formal volunteer participation in particular. Relative to those with poor health, those in better health are more likely to participate in formal volunteer activities, significant at the 0.1 level (except for men in fair health which is only significant at the 5% level). Relative to individuals in poor health, those in excellent health have an increased likelihood of participation by 14.6pp, 12.4pp, and 16.5pp for the overall, men, and women samples respectively. Table 6 displays results for the analyses of formal volunteer hours. Health does not seem to affect formal volunteer hours as strongly as it is only significant for very good health relative to poor health.<sup>37</sup> Table 7 displays results for the analyses of informal volunteer participation. For informal volunteer participation, better health is found to be positive and significant at the 0.1% level for all categories relative to individuals in poor health. For

---

<sup>37</sup> Other literature finds health to be important for participation of volunteer activities but not intensity of participation (Health Canada, 2003)

instance, overall those in excellent health relative to those in poor health are 10.2pp more likely to participate.

The effect of better health on giving is positive and significant for the overall sample and when separating the sample by gender it is seen that this effect comes from men. Perhaps men in poor health save instead of donating in anticipation of missing work in the future due to illness. Table 8 displays results for the analyses for giving. Relative individuals in poor health individuals with excellent health have an increased likelihood to give by 3.19pp and 5.40pp for the overall and men samples respectively, both are significant at the 1% level. Health does not seem to affect amount of giving. Better self-rated health is found to significantly increase the probability of combined formal volunteer participation and giving. For example, relative to individuals in poor health those in excellent health are 13.4pp, 10.9pp, and 15.5pp more likely to simultaneously volunteer and donate for the overall, men, and women samples respectively; all values are significant at the 0.1% level. The results of this paper highlight the importance of health as an input to philanthropic activities.

### *Gender*

Male are less likely to participate in formal volunteer activities by 2.89pp, significant at the 0.1% level. It may be that women feel a greater sense of obligation to volunteer (Taniguchi, 2006). Although relative to females, males volunteer 18.67 more hours per year, significant at the 0.1% level. Being male decreases the likelihood of being an informal volunteer by 1.97pp, significant at the 0.1% level. Similarly, being male decreases the likelihood of giving by 6.63pp, significant at the 0.1% level. Relative to female, males donate less by \$15.87 per year.

### *Presence of Children*

The presence of a child less than 18 years has a large and very significant effect on formal volunteer participation. Significant at the 0.1% level, having a child less than 18 years increases the likelihood you formally volunteer by 10.8pp, 11.2pp and 9.77pp for the overall, men, and women samples respectively. Carlin (2001) suggests that women with children volunteer to demonstrate civic responsibility to their children. Additionally, certain activities and programs for children may require parental involvement. The finding that number of children to increase formal volunteer participation supports this idea (Sundeen et al., 2007). For the overall sample having a child less than 18 years increased the likelihood of informal volunteer participation by 2.11pp, significant at the 5% level. When looking at men and women separately it can be seen that this effect comes from women, since for women having a child less than 18 years increases the likelihood of participation by 2.48pp, significant at the 5% level. Finally, having a child less than 18 years increases the likelihood being a giver by 3.12pp, 4.29pp, 2.62pp for the overall, men, and women samples respectively, all of which are significant at the 0.1% level.

### *Marital Status*

For the female sample being married, relative to being single decreases the likelihood of formal volunteer participation by 4.0pp, significant at the 1% level. Perhaps a large percentage of married women surveyed have young children at home, resulting in lower participation; age of child was not available in the data sets. Additionally, relative to being single, widows and widowers are significantly less likely to participate in formal volunteer activities, significant at the 0.1% level for all samples. For informal volunteer participation relative to individuals who are single, those who are married are more likely to participate by 3.9pp (significant at the 0.1%),

4.4pp (significant at the 1% level), and 2.9pp (significant at the 5% level) for the overall, men, and women samples respectively. Furthermore relative to being single, divorced or separated individuals have an increased likelihood of participation of 3.2pp, significant at the 1% level. It is observed that this effect comes from men since relative to being single, divorced or separated men are at an increased likelihood of participation by 4.8pp, significant at the 0.1% level. Similarly, relative to being single, married individuals are more likely to give by 5.6pp, 5.0pp, 6.2pp for the overall, men, and women samples respectively, all of which are significant at the 0.1% level. Marital status does not seem to be all that significant in amount donated. Relative to single men widows give more by \$152.8 per year, significant at the 5% level. Moreover, relative to single women divorced or separated women give less by \$49.77 per year.

#### *Household Size*

For women, relative to those with a household size of one, women with a household size of two are 2.3pp less likely to participate, significant at the 5% level. Furthermore, relative to the household size of one, having a household size of three significantly reduces the likelihood of formal participation for all three samples, especially for women. All other household size categories relative to a household size of one are associated with a decreased likelihood of informal participation for the overall and female samples, as is a household size of three for the male-only sample. For all other household size categories relative to the household size of one there is a significant decrease in likelihood to give, except for the sample of men with a household size of two and the sample of women with a household size of four. For the overall and women samples relative to a household size of one all other household sizes decrease the total amount donated. This significant negative effect on donating is only seen in the men sample

for the household size of three and four relative to that of one. A household size of four has the largest negative effect, decreasing amount donated by \$91.04, \$84.27, \$92.70 per year for the overall, men, and women samples respectively; significant at the 0.1% level for the overall and women samples and at the 5% level for the male-only sample.

### *Education*

An individual's highest level of education is found to have a very significant effect on formal volunteer participation. Relative to individuals with university degrees, those with all other levels of education are less likely to formally participate; this was significant at the 0.1% level. For the overall and female samples individuals with higher levels of education contribute more hours per year. For the sample of men only those with less than a high school diploma, relative to those with university degrees contribute significantly less hours to formal volunteer activities. Relative to individuals with university degrees those with less than a high school diploma volunteer less hours per year, seen by 53.1 less hours, 59.5 less hours, and 48.3 less hours for the overall, men, and women samples respectively. Similarly, all highest level of education categories relative to that of a university degree are associated with a decreased likelihood of informal volunteer participation. These values are significant for all categories and samples except for women with some post secondary education. Looking at the overall sample, individuals with less than a high school education have a decreased likelihood of informal volunteer participation by 9.8pp, significant at the 0.1 level.

All other highest level of education categories for all samples relative to a university degree are associated with a decreased likelihood of giving, with the exception being the women sample for some post secondary schooling and a post secondary diploma. For example, having

less than a high school diploma relative to a university degree decreases the likelihood of being a giver by 12.0pp, 14.6pp, 9.6pp for the overall, men, and women samples respectively, all of which are significant at the 0.1% level. Highest level of education has a large effect on the total amount donated by an individual. Relative to individuals with a university degree, all other levels of education have a negative effect on amount donated, all significant at the 0.1% level. The largest effect being for individuals with less than a high school diploma, who relative to individuals with a university degree donate less, by \$283.7, \$276.4 and \$283.6 per year for the overall, men, and women samples respectively. Higher levels of education are associated with higher levels of all philanthropic activities; this is consistent with most of the studies cited in this paper. The above relationship suggests that either higher levels of education cause individuals to uptake formal volunteer activities or some other third factor causes the individuals to be interested in obtaining higher levels of education and participating in these activities.

#### *Labour Force Status*

Relative to individuals not in the labour force, working full-time decreases the likelihood of participation by 5.6pp, 6.3pp, and 5.0pp for the overall, men, and women samples respectively, all of which are significant at the 0.1 level. Working part-time significantly increases the likelihood of formal volunteer participation for the overall sample by 5.5pp, at the 0.1% level. It can be seen that this effect comes from women, since when looking at the female sample working part-time increases the likelihood of participation by 6.8pp, significant at the 0.1% level; while no effect was found using the male-only sample. Individuals who work full-time compared to those not in the labour force volunteer less hours as seen by 32.5 less hours, 23.1 less hours, and 40.2 less hours for the overall, men, and women samples respectively, this is

significant at the 0.1% level for the overall and women samples and at the 5% level for the sample of men. Similarly, those working part-time volunteer less hours, 19.9 and 21.3 less hours for the overall and women samples respectively, significant at the 1% level. Relative to not being in the labour force, working part-time increases the likelihood of informal participation by 3.1pp, significant at the 0.1 level; 3.7, significant at the 5% level; 2.8pp, significant at the 1% level, for the overall, men and women samples. Relative to those not in the labour force, unemployed individuals are significantly more likely to participate in informal volunteer activities.

Simply, work allows for individuals to make connections they would have never made at home, potentially increasing volunteer opportunities (Putnam, 2000). Furthermore, companies may even require their employees to do volunteer work. However, working decreases the time available to spend doing these activities. Putnam (2000) refers to part-time work as the 'golden mean' because it allows individuals to make these connections but time is not as restricted as when an individual is working full-time, leaving more leisure time to contribute to volunteer activities.

Working full-time relative to individuals not in the labour force significantly ( $p < 0.001$ ) increases the likelihood of being a giver by 5.7pp, 4.9pp, 6.7pp for the overall, men, and women samples respectively. Additionally, at the 0.1% significance level working part-time relative to not being in the labour force is associated with an increased likelihood of giving by 4.5pp, 4.6pp, 4.4pp for the overall, men, and women samples respectively. For men, working full time increases the total amount of donations by \$56.8 per year, significant at the 1% level. Relative to individuals not in the labour force those who work part-time donate more seen by, \$52.8, significant at the 1% level, and 51.7, significant at the 5% level, more per year for the overall and female samples respectively.

### *Household income*

Household income increases the likelihood of formal volunteer participation. Relative to individuals with household incomes of <\$20,000 all those in higher income categories are more likely to participate; all of these values are significant at the 0.1% level except for men with a household income between \$20,000 - <\$40,000 for which it is significant at the 1% level. Individuals with higher incomes are more likely to be able to afford out of pocket expenses that come along with volunteering, such as transportation and child care costs. Significant effects of household income on formal volunteer hours are only seen for the sample of women with household incomes of \$60,000 or more relative to those with incomes of <\$20,000, they on average contribute 21.5 less hours per year, significant at the 5% level. Relative to individuals with household incomes of <\$20,000 those with higher household incomes are associated with higher levels informal volunteer participation, although when looking at the male and females samples this is seen for women for all categories of household income but is only seen for men with incomes of \$60,000 or more.

As expected all levels of household income relative to the lowest, <\$20,000, are associated with an increased likelihood to give significant at the 0.1% level. Additionally, relative to a household income of <\$20,000 individuals in all other household income categories for all samples significantly donate larger amounts. For example, individuals with household incomes of \$60,000 or more relative to those in the <\$20,000 category donate \$145.5, \$82.70, and \$178.3 more for the overall, men, and women samples respectively, all of which are significant at the 0.1% level. This is expected since individuals with higher income usually have more disposable income and thus are more likely to give and give more.

### *Personal Income*

Relative to individuals with a personal income of <\$20,000, those with personal incomes of \$40,000 - <\$60,000 are more likely to participate in formal volunteer activities, significant for the overall sample at the 1% level and for the female sample at the 5% level. Individuals with a personal income \$60,000 or more are also more likely to participate, significant for the overall and male sample at the 0.1% level. Relative to women with a personal income of <\$20,000, those in the \$40,000 - \$60,000 category volunteered 24.8 less hours, significant at the 1% level. Personal income does not seem to be as much of a factor in informal volunteer participation, as it is only significant at the 5% level (and positive) for men with incomes \$60,000 plus. Additionally relative to individuals with a personal income <\$20,000, all other categories of personal income for all samples are associated with an increased likelihood to give, except for the women sample with personal incomes \$20,000 - <\$40,000. Similarly, relative to individuals with personal income of <\$20,000 individuals in all other personal income categories for all samples significantly donate larger amounts. For example, relative to individuals with personal incomes of <\$20,000, those with a personal income of \$60,000 or more donate more by \$341.70, \$373.90, and \$327.60 for the overall, men, and women samples respectively, all of which are significant at the 0.1% level.

### *Country of birth*

Relative to individuals born in Canada those born outside of Canada have a decreased the likelihood of formal volunteer participation, significant at the at the 0.1% level for all samples. For the overall sample individuals born outside of Canada are 10.1pp less likely to participate in

formal volunteer activities. Relative to individuals born in Canada, those born outside of Canada contribute less hours, seen by 19.6, 20.8, and 17.6 less hours for the overall, men, and women samples respectively, significant at the 1% level for the overall sample and at the 5% level for the men and women samples.

Additionally, relative to individuals born in Canada those born outside of Canada are less likely to informally volunteer, this significant for all samples at the 0.1% level. Similarly, compared to individuals born in Canada those born outside of Canada are less likely to give by 3.8pp, 3.4pp, 4.11pp for the overall, men, and women samples; significant at the 0.1% level for the overall and women samples and at the 5% level for the men sample. Furthermore, individuals born outside of Canada donate less, this was found to be significant at the 5% level for the overall and men samples.

### *Satisfaction with Life*

For formal volunteer participation satisfaction with life is only significant for very satisfied individuals relative to those very dissatisfied. Looking at the overall sample, individuals who are very satisfied with life have an increases likelihood of participation by 9.7pp, significant at the 0.1% level. All categories of satisfaction with life relative to individuals very dissatisfied with life are associated with a significantly higher contribution of volunteer hours, except for the sample of men who are somewhat satisfied and somewhat dissatisfied with life. For example, relative to individuals very dissatisfied with life those very satisfied with life volunteer more hours, seen by 57.08 and 50.40 more hours for the overall and women samples respectively, significant at the 0.1%level. For the overall and male samples satisfaction with life only has a

positive and significant on giving for those very satisfied and somewhat satisfied relative to those very dissatisfied with life. Interestingly, relative to men very dissatisfied with life, men somewhat satisfied with life donate less, \$212.9 less per year, significant at the 5% level.

#### *Time residing in community*

Residing in the community longer is associated with increased probability of formal volunteer participation. Relative to <3years, all other categories significantly increase participation ( $p < 0.001$ ), except for males in the 3-<5years category for which it was only significant at the 10% level. As well, for the overall and male samples residing in the community 5 - <10years and 10 plus years relative to those residing in their community <3years is associated with a higher number of hours, significant at the 5% level. For informal volunteer participation, time resided in community is only significant for individuals living in their community for 10 years or more, relative to those living in their community <3 years. Similarly, only individuals who have resided in their community for 10 years or more are significantly more likely to be givers and give more. Relative to individuals who have resided in their community <3years, those who have resided for 10 plus years donate \$58.60, \$49.70, and \$65.83 more per year for the overall, men, and women samples respectively; significant at the 0.1 level for the overall and women samples and at the 5% level for the sample of men. Individuals living in their community longer must feel a greater tie to the community and perhaps a greater obligation to voluntary activities.

#### *Religious affiliation*

Relative to individuals with no religious affiliation, Roman Catholics are 9.6pp less likely to participate in formal volunteer activities, significant for all samples at the 0.1% level.

Additionally, women with a Roman Catholic affiliation volunteer 20.9 less hours per year, significant at the 5% level. Protestants have a significant increased likelihood of informal volunteer participation and individuals of other religious affiliations have a significant decreased likelihood of participation, except when looking at the women-only sample. Protestant individuals relative to those with no religious affiliation are more likely to give by 4.9pp, 5.5pp, and 4.1pp for the overall, men, and women samples respectively all of which are significant at the 0.1% level. Only for the sample of women is other religious affiliations significant and the effect is negative. Relative to individuals with no religious affiliation, those with a Roman Catholic affiliation donate less, that is \$133.40, \$114.90, \$153.60 less per year for the overall, men, and women samples respectively; all significant at the 0.1% level. Protestants donate more, significant at the 0.1% level. While for the overall and women samples individuals with other religious affiliations relative to those with none donate less, significant at the 1% level. Religious affiliation was not found to be as important as religious service attendance.

#### *Religious service attendance*

Religious service attendance seems to be very important in for all philanthropic activities. Relative to individuals who do not attend religious services, those who do are more likely to participate ( $p < 0.001$ ), with the magnitude of the increased likelihood increasing as the amount of services attended increases. For the overall sample, relative to those who do not attend any religious services those who attended services at least once a week are 29.1pp more likely to participate. Perhaps attending services increases the chance you will be asked to volunteer or a church may require its member to volunteer. Individuals who attend religious services at least once a week contribute more volunteer hours relative to those who attend no services, as seen by

61.2, 71.7, and 55.1 more hours per year for the overall, male, and female samples respectively, all of which are significant at the 0.1% level. For the overall sample, religious service attendance of at least once or twice a year relative to no service attendance has a negative effect on hours, 14.6 less hours per year significant at the 5% level. For informal volunteer participation, religious service attendance is positive and significant at the 0.1% level for the three highest religious attendance categories relative to no service attendance for all samples. For the overall and female sample, relative to individuals who do not attend religious services attendance, those who attend at least once or twice a year have an increased likelihood of participation, significant at the 1%.

For giving religious service attendance is once again important, it is positive and significant at the 0.1% level for all categories and samples relative to no service attendance. For example, relative to no service attendance, attending services at least once a week increases probability of giving by 11.8pp, 12.9pp, 10.6pp for the overall, men, and women samples respectively. Additionally, for all samples relative to individuals who do not attend any religious services those in all other categories donate significantly more ( $p < 0.001$ ). It also follows that the more an individual attends services the more they donate. For example, relative to individuals who do not attend any religious services, those who attend services at least once a week donate more, that is \$570.30, \$553.20, and \$586.10 more per year for the overall, men, and women samples respectively. Being a member of a church may bring about a sense of community or obligation between its member, making church members more likely to want to help other through their church and in the community. Additionally, the more an individual goes to services may be representative of how religious they are; religious individuals may be concerned with the after-life, thus contributed more hoping for a better after life. (Chang, 2005)

### *Age group*

Relative to individuals aged 35-44 years, those aged 25-34 years and 65 years and older are less likely to formally participate, this was significant for the overall and female sample at the 0.1% level and for the male sample at the 1% level. For the overall and women samples relative to individuals aged 35-44 years, those aged 15-24 and 25-34 years contribute significantly less hours to formal volunteer activities. Furthermore, for the overall and men sample those 65 plus years contribute significantly more hours. Moreover, relative to individuals aged 35-44 years, individuals aged 15-24 years and 25-34 years are significantly more likely to be informal volunteers; for the overall and male samples significance is at the 0.1% level and for the female sample it is at the 1% level for individuals aged 15-24 years and at the 10% level for individuals 25-34 years. While individuals aged 55-64 years and 65 plus years have a significant decreased likelihood of informal volunteer participation. Specifically, individuals aged 65 years or older have a decreased likelihood of participation by 11.8pp, 10.2pp, 13.3pp for the overall, men, and women samples, all of which are significant at the 0.1% level.

Furthermore, for all samples relative to individuals aged 35-44 years, individuals aged 15-24 years and 25-34 years are significantly less likely to give, while those aged 65 years or older are significantly more likely to be givers. Individuals aged 55-64 years are less likely to give, but only for the overall and female samples. Individuals aged 15-24 years and 25-34 years donate significantly less, except for the sample of men 25-34 years. Finally, individuals 45-54,

55-64, and 65 plus years all significantly donate more relative to individuals aged 35-44 years.<sup>38,39</sup>

## 6. Discussion and Conclusion

The objective of this study is to broaden our understanding of the determinants of volunteering and giving by examining the cyclical nature of various philanthropic activities. Education, income, marital status, household size, country of birth, health, satisfaction with life, time resided in community, religious affiliation and attendance, age, and gender are all found to be important determinants of the various philanthropic activities; this is in agreement with the literature.

Based on regression results for individuals of prime working age (ages 15-54 years), increases in the unemployment rate are found to increase three of the six measures of philanthropic activity considered: formal volunteer participation, giving, total amount of

---

<sup>38</sup> For all dependent variables, the full set of year dummies (using 1997 as the reference group) are individually significant at the 5% level or higher when the full overall sample is used, except for the year 2000 dummy in the total amount of donations regression.

<sup>39</sup> Using Ontario as the reference group, the significant provinces dummies (at the 5% level or higher) for the overall sample are: Newfoundland is negative for formal volunteer participation, combined formal volunteer participation and giving, and total amount of donations. Nova Scotia is positive for formal volunteer participation, giving, and combined formal volunteer participation and giving; although the effect is negative for total amount of donations. New Brunswick is negative for formal volunteer participation, combined formal volunteer participation and giving, and total amount of donations. Prince Edward Island is negative for total amount of donations. Quebec is negative for formal volunteer participation, informal volunteer participation, giving, combined formal volunteer participation and giving, and total amount of donations. While Manitoba is positive for formal volunteer participation, informal volunteer participation, giving, combined formal volunteer participation and giving, and total amount of donations. Saskatchewan is positive for formal volunteer participation, informal volunteer participation, and combined formal volunteer participation and giving. Alberta is positive for formal volunteer participation, combined formal volunteer participation and giving, and total amount of donations. British Columbia is positive for formal volunteer hours and negative for giving.

donations, and simultaneous formal volunteering and giving.<sup>40</sup> No unemployment rate effect is found for number of hours spent formally volunteering and informal volunteer participation. Interestingly, the unemployment rate is never found to affect the philanthropic activities of females.

To better put the estimated effects in context, I follow the example of Oreopoulos et al. (2006) and assume that the unemployment rate increases by 5pp in a recession. Thus my results suggest that in a recession, formal volunteer participation increases by 3.5pp for the overall sample and increases 6.5pp for the men only sample. Similarly, giving increases by 2pp and 4pp, for the overall and male samples respectively. In a recession total amount of donations increase by \$44 per year for an individual in the overall sample, while men's donations increase by \$102.4 per year. Additionally, simultaneous volunteering and giving in a recession is associated with a 4.5pp increase for the overall sample and a 6.5pp increase for the men only sample.

Specifically, had a recession occurred in 2009, 676,771 more individuals aged 15-54 years would have participated in formal volunteer activities.<sup>41</sup> Similarly, 386,726 additional individuals would have donated money to charities.<sup>42</sup> Total donations would have increased by \$692,421,301. With a further increase of \$147,459,011 in donations due to the combined increase in givers and increase in total amount of donations during a recession.<sup>43</sup> Finally, had a

---

<sup>40</sup> The results of the sub-sample of prime age working individuals are discussed since these are the individuals are more likely to be directly affected by changes in the unemployment rate; whereas retired individuals are not as likely to be affected by such changes.

<sup>41</sup> According to the Statistics Canada's Population Estimates and Projections last updated in November, 30<sup>th</sup>, 2009, 19,336,300 individuals aged 15 – 54 years lived in Canada. Using the average formal volunteer rate of 37.355% for the pooled data set, and the increase of 3.5pp (for the limited sample) in a recessions, the increase the number of formal volunteers would be =  $19,336,300 * 0.40855 - 19,336,300 * 0.37355 = 7,899,845 - 7,223,074 = 676,771$  had a recession occurred in 2009.

<sup>42</sup> Increase in givers =  $19,336,300 * 0.83385 - 19,336,300 * 0.81385 = 16,123,574 - 15,736,848 = 386,726$ .

<sup>43</sup> Total amount given increases by  $19,336,300 * 0.81385 * \$44 = \$692,421,301$ . Further increase in donations due to more givers and increased donation amounts =  $386,726 * \$337.301 + 386,726 * \$44 = 130,443,067 + 17,015,944 = 147,459,011$ .

recession occurred in 2009 individuals simultaneously formally volunteering and giving would have increased by 870,134.<sup>44</sup>

The findings of this paper are not consistent with those of Ewings et al. (2002), who find that the formal volunteer rate and the unemployment rate are negatively related. As it is found that there is a positive relationship between the formal volunteer rate and the unemployment, the results highlight the importance of using individual data and controlling for additional correlated determinants.

The results are consistent with an opportunity cost of time story in which higher unemployment rates imply lower opportunity costs of time. It was expected that participation rates of formal volunteer activities might increase for several reasons. First, individuals may be more likely to be asked to volunteer, due to the increased need during times of high unemployment.<sup>45</sup> Second, awareness of this enhanced need may increase the level of utility individuals gain from helping others (private consumption model). Lastly, as the investment model suggests individuals may volunteer to gain experience that can be used for future work, to maintain skills, and to network in order to increase their chances of finding work when the economy recovers.

The opportunity cost of time story also suggests that number of volunteer hours will increase since in 'tough times' as individuals have more time available for leisure activities and have a lower opportunity cost of time. However, since no such effect is found it may be that individuals have a maximum number of hours they are willing to contribute to these activities and changes in economic conditions do not change these preferences.

---

<sup>44</sup> Increase in simultaneous volunteering and giving =  $19,336,300 * 0.38616 - 19,336,300 * 0.34116 = 7,466,906 - 6,596,772 = 870,134$ .

<sup>45</sup> The importance of being asked to volunteer by family, friends and coworkers was emphasized by Freeman (1997)

Similarly, with a lower opportunity cost of time it was expected that individuals would be more likely to participate in informal volunteer activities, nevertheless the findings of this study do not support this idea. However, 80% of individuals sampled already informally volunteer, thus there is not much room for variation as most individuals already informally participate.<sup>46</sup> Higher participation in informal versus formal volunteer activities is likely due to informal activities being seen as obligatory, while formal activities are seen as discretionary (Wilson & Musick, 1997; and Burr et al., 2005). The fact that an effect is seen for formal volunteer participation and not informal volunteer activities lends support to the investment model; since individuals formally volunteer to increase their chances of future work and/or higher wages, while informal volunteer activities are unlikely to offer these benefits.

The finding that giving and total amount of donations also increase in ‘tough times’ is consistent with the notion that volunteering and giving are complements. In times of higher unemployment, the time price of volunteering falls and both volunteering and giving increase. The concept that the two activities are complements is further supported by the finding that combined formal volunteer participation and giving increases as the unemployment rate increases.<sup>47, 48</sup> This complementary relationship most likely occurs since individuals receive utility from performing both activities (private consumption model). Additionally, giving often allows an individual to contribute to an organization for which they may not be able to volunteer

---

<sup>46</sup> To more clearly identify the complementary relationship of the two types of volunteer activities, a regression for formal volunteer participation is estimated controlling for informal volunteer participation. The marginal effect for informal volunteer participation is found to be positive (0.204) and significant at the 1% level, lending further support to the idea that the two types of volunteer activities are complements.

<sup>47</sup> To further confirm the complementary relationship between formal volunteer participation and giving, formal volunteer participation is estimated controlling for being a giver, the marginal effect of being a giver is found to be positive (0.186) and significant at the 1% level.

<sup>48</sup> Examination of why this result occurs is not possible in this paper, as a longitudinal data set with information on volunteering and giving is not available. Future research should attempt to explain these findings by examining if previous volunteers are now giving, previous givers are now volunteering, and/or individuals who neither volunteer nor give are now doing both activities.

(Handy & Katz, 2008). However, this relationship may be overstated as it may be the case that households are more likely to be asked for donations and/or are asked to donate larger amounts during these times.<sup>49</sup> Additionally, individuals may be responding to an awareness of the greater need for charitable donations throughout these periods.

Second, this paper provides limited support to a possible explanation of the counter cyclicity of health. As the voluntary health sector's contributions are associated with large health benefits to society, if the voluntary sector experiences increases in volunteer participation during recessions, health benefits to society may increase. Since participation does increase in 'tough times' this paper lends support to reasons explaining why increases in health are seen in recessions. However, this increase in health benefits is only attributable to men's increased volunteer efforts and females are documented to represent the majority of health sector volunteers (Health Canada, 2003).<sup>50</sup>

The inability to measure hours spent on informal volunteer activities is a limitation of this study. All surveys did not ask number of hours spent on informal volunteer activities and only two asked how often an individual informally participated. The changes in hours contributed to informal volunteer activities over the business cycle would have interesting to examine.

Future research should examine the reasons why volunteering and giving vary over the business cycle. For example, the changes in these activities may be influenced by changes in individuals' desire to improve job opportunities, network, contribute to the community, and/or individuals' likelihood of being asked to participate. Additionally, since the increases in philanthropic activity may not be enough to compensate for the increased demand for services, future studies should examine how demand changes for various philanthropic activities. As

---

<sup>49</sup> Just as Freeman (1997) emphasized the importance of being asked to volunteer, the same may be true for giving.

<sup>50</sup> Future research should focus on how this sector is affected by changes in economic conditions.

changes in economic conditions may affect the voluntary sectors differently, examination across sectors may produce interesting results. One would expect that in 'tough times' the arts and environment voluntary sectors would not experience large increases in demand for services while the human services sector would. A stronger understanding of voluntary sector changes over the business cycle will help individuals and organizations anticipate and prepare for the fluctuations in demand and supply of various philanthropic activities.

## 7. References

- Andreoni, J. (1990). Impure altruism and donations to public goods: A theory of warm-glow giving? *Economic Journal*, 100, 464-477.
- Andreoni, J., Gale, W. G., & Scholz, J. K. (1996). *Charitable contributions of time and money*. Available at: [http://www.altruists.org/static/files/Charitable%20Contributions%20of%20Time%20and%20Money%20\(James%20Andreoni\).pdf](http://www.altruists.org/static/files/Charitable%20Contributions%20of%20Time%20and%20Money%20(James%20Andreoni).pdf)
- Apinunmahakul, A., Barham, V., & Devlin R.A. (2009). Charitable Giving, Volunteering, and the Paid Labor Market. *Nonprofit and Voluntary Sector Quarterly* 2009; 38(1); 77-95.
- Brown, E., & Lankford, H. (1992). Gifts of money and gifts of time. *Journal of Public Economics*, 47, 321-341.
- Bryant, K.W., Jeon-Slaughter, H., Kang, H. and Tax, A. (2003). Participation in philanthropic activities: donating money and time. *Journal of Consumer Policy*, 26 (1), pp. 43-73.
- Burr, J. A., Choi, N. G., Mutchler, J. E., & Carol, F. G. (2005). Caregiving and Volunteering: Are Private and Public Helping Behaviors Linked? *Journal of Gerontology: SOCIAL SCIENCES*, 60B(5), S247–S256.
- Callen, J. (1994), Money donations, volunteering and organizational efficiency. *Journal of Productivity Analysis*, 5 (3), 215-28.
- Carlin, P. S. (2001). Evidence on the Volunteer Labour Supply of Married Women. *Southern Economic Journal*, 67(4), 801-824.

- Chang, W.C. (2005). Religious Giving, Non-religious Giving, and After-life Consumption. *Topics in Economic Analysis & Policy*: 5(1), Article 13.  
Available at: <http://www.bepress.com/bejeap/topics/vol5/iss1/art13>
- Chio, L. H. (2003). Factors Affecting Volunteerism among Older Adults. *Journal of Applied Gerontology*, 22, 179-196.
- Choi, N. G., Burr, J. A., Mutchler, J. E., & Caro, F. G. (2007). Formal and Informal Volunteer Activity and Spousal Caregiving Among Older Adults. *Research on Aging*, 29, 99.
- Clain, S. H. & Zech, C. E. (1999). Household Production Analysis of Religious and Charitable Activity. *American Journal of Economics and Sociology*, 58(4), 923-946.
- Day, K. M., & Devlin, R. A. (1996). Volunteerism and crowding out: Canadian econometric evidence. *Canadian Journal of Economics*, 29(1), 37-53.
- Dosman, D., Fast, J. Chapman, S. A., & Keating, N. (2006). Retirement and Productive Activity in Later Life. *Journal of Family and Economic Issues*, 27, 401-419.
- Duncan, B. (1999). Modeling charitable contributions of time and money. *Journal of Public Economics*, 72(2), 213-242.
- Ewing, R. L., Govekar, M. A., Govekar, L. & Rishi, M. (2002). Economics, Market Segmentation and Recruiting: Targeting Your Promotion to Volunteers' Needs. *Journal of Nonprofit & Public Sector Marketing*, 10(1), 61 — 76.
- Feldman, N. E. (2010). Time is Money: Choosing between Charitable Activities. *American Economic Journal: Economic Policy*, 2(1), 103-130.
- Freeman, R. (1997). Working for nothing: The supply of volunteer labor. *Journal of Labor Economics*, 15(1), S140-S166.

- Gallagher, S. K. (1994). Doing Their Share: Comparing Patterns of Help Given by Older and Younger. *Journal of Marriage and Family*, 56(3), 567-578.
- Garcia, I. & Marcuello C. (2002). Family model of contributions to non-profit organizations and labour supply. *Applied Economics*, 34, 259-265.
- Giving USA Foundation. *Giving USA Spotlight Issue 3 2008*. Available at:  
<http://www.ruotoloassoc.com/Spotlight3-2008Final.pdf>
- Hall, M. H., Knighton, T., Reed, P., Bussiere, P., McRae, D., & Bowen, P. (1998). Caring Canadians involved Canadians: Highlights from the 1997 National Survey of Giving, Volunteering and Participating. Ottawa: Statistics Canada.
- Hall, M. H., McKeown, L., & Roberts, K. (2001). Caring Canadians involved Canadians: Highlights from the 2000 National Survey of Giving, Volunteering and Participating. Ottawa: Statistics Canada.
- Hall, M. H., Lasby, D., Gumulka, G., Tryon, C. (2006). Caring Canadians involved Canadians: Highlights from the 2007 Canada Survey of Giving, Volunteering and Participating. Ottawa: Statistics Canada.
- Hall, M. H., Lasby, D., Ayer, S., & Gibbons, W. D. (2009). Caring Canadians involved Canadians: Highlights from the 2007 Canada Survey of Giving, Volunteering and Participating. Ottawa: Statistics Canada.
- Handy, F., Katz, E. (2008). Donating behaviour: if time is money, which to give? A preliminary analysis. *Journal of Economic Studies*, 35(4), 323-332.
- Hank, K. & Stuck S. (2007). Volunteer work, informal help, and care among the 50+ in Europe: further evidence for 'linked' productive activities at older ages. *Social Science Research*, 37(4), 1-26.

- Harbaugh, W.T. (1998), What do donations buy? A model of philanthropy based on prestige and warm-glow. *Journal of Public Economics*, 67(2), 269-84.
- Health Canada (2003). The voluntary health sector looking to the future of Canadian health policy and research PartI. Health Policy Research Series. Available at: <http://dsp-psd.pwgsc.gc.ca/Collection/H13-5-02-9E.pdf>
- Ho, A. (2006). *Charitable giving: what makes a person generous?* Available at: [http://aladinrc.wrlc.org/bitstream/1961/3602/1/etd\\_ath6.pdf](http://aladinrc.wrlc.org/bitstream/1961/3602/1/etd_ath6.pdf)
- Imagine Canada Research. (2008). Trends in individual donations: 1984-2005. *Bulletin, Vol. 14, No.1*
- Jones, F. (1999). Seniors who volunteer. *Perspectives on Labor and Income*, 11(3), 9–17.
- Katz, E. & Rosenberg, J. (2005). An economic interpretation of institutional volunteering European. *Journal of Political Economy*, 21(2), 429-43.
- Li, Y. & Ferraro, K. F. (2006). Volunteering in Middle and Later Life: Is Health a Benefit, Barrier or Both? *Social Forces*, 85(1), 497-519.
- Lum, T. Y, & Lightfoot, E. (2005). The Effects of Volunteering on the Physical and Mental Health of Older People *Research on Aging*, 27, 31-55.
- Luoh, M.C., & Herzog, A. R. (2002). Individual Consequences of Volunteer and Paid Work in Old Age: Health and Mortality. *Journal of Health and Social Behavior*, 43(4), 490-509
- Menchik, P., & Weisbrod, B. (1987). Volunteer labor supply. *Journal of Public Economics*, 32, 159-183.
- Moen, P., Dempster-McClain, & Williams Jr., R. M. (1989) Social Integration and Longevity: An Event History Analysis of Women's Roles and Resilience. *American Sociological Review*, 54(4), 635-647.

- Morgan, J., Dye, R., & Hybels, J. (1977). Results from two national surveys of philanthropic activity, in: *U.S. Department of Treasury, Research Papers sponsored by the Commission on Private Philanthropy and Public Needs I, 1577324.*
- Morrow-Howell, N., Hinterlong, J., Rozario, P. A., & Tang, F. (2003). Effects of Volunteering on the Well-Being of Older Adults. *Journal of Gerontology: social sciences, 58B(3), S137–S145*
- Musick, M. A., Herzog, A. R., & House, J. S. (1999). Volunteering and Mortality Among Older Adults: Findings From a National Sample. *Journal of Gerontology: social sciences, 54B(3), S173-S180*
- Mutchler, J. E., Burr, J. A., & Caro, F. G. (2003). From Paid Worker to Volunteer: Leaving the Paid Workforce and Volunteering in Later Life. *Social Forces, 81(4), 1267-1293.*
- No author. Correlation Coefficient. (2010). Available at: <http://mathbits.com/mathbits/tisection/statistics2/correlation.htm>
- Oman, D., Thoresen, C. E., & McMahon K. (1999). Volunteerism and Mortality among the Community-dwelling Elderly. *Journal of Health Psychology, 4(3), 301–316.*
- Oreopoulos, P., von Wachter, T. And Heisz, A. (2006). The short- and long-term career effects of graduating in a recession: Hysteresis and heterogeneity in the market for college graduates, NBER Working Papers 12159, National Bureau of Economic Research.
- Pho, Y. H. (2008). The value of volunteer labor and the factors influencing participation: evidence for the United States from 2002 through 2005. *Review of Income and Wealth, 54(2), 220-236.*
- Prouteau, L. & Wolff, F. (2006). Does voluntary work pay off in the labor market? *Journal of Socio-Economics, 35(6), 992-1013.*

- Putnam, R. (2000). *Bowling alone*. New York: Simon & Schuster.
- Rajan, S. S., Pink, G. H., & Dow, W. H. (2009). Sociodemographic and Personality Characteristics of Canadian Donors Contributing to International Charity. *Nonprofit and Voluntary Sector Quarterly*, 38, 413-440.
- Rotolo, T. & Wilson, J. (2006). Substitute or Complement? Spousal Influence on Volunteering. *Journal of Marriage and Family*, 68, 305–319.
- Rotolo, T. & Wilson, J. (2007). The Effects of Children and Employment Status on the Volunteer Work of American Women. *Nonprofit and Voluntary Sector Quarterly*, 36(3), 487-503.
- Ruhm, C. J. (2000). Are recessions good for you health? *The Quarterly Journal of Economics*, 115(5), 887-893.
- Schram, V. R. & Dunsing, M. M. (1981) Influences on Married Women's Volunteer Work Participation. *Journal of Consumer Research*, 7, 372-379.
- Simmons, W. O., & Emanuele, R. (2007). Male-female giving differentials: are women more altruistic? *Journal of Economic Studies*, 34(6), 534-550.
- Statistics Canada (1997), National Survey of Giving, Volunteering, and Participating. Public Use Microdata File, Statistics Canada, Ottawa
- Statistics Canada (2000), National Survey of Giving, Volunteering, and Participating. Public Use Microdata File, Statistics Canada, Ottawa
- Statistics Canada (2004a), Canada Survey of Giving, Volunteering, and Participating. Public Use Microdata File, Statistics Canada, Ottawa

Statistics Canada. (2004b). *Non-profit institutions and volunteering: Economic contribution*.

Available at: <http://www.statcan.gc.ca/daily-quotidien/051212/dq051212b-eng.htm>,

Statistics Canada, Ottawa

Statistics Canada (2007), Canada Survey of Giving, Volunteering, and Participating. Public Use

Microdata File, Statistics Canada, Ottawa

Statistics Canada . (2009). Population estimates and projections tables. Available at:

<http://www40.statcan.gc.ca/l01/cst01/demo10a-eng.htm>, Statistics Canada, Ottawa

Sundeen, R. A., Raskoff, S. A., & Garcia, M. C. (2007). Differences in Perceived Barriers to

Volunteering to Formal Organizations: Lack of Time Versus Lack of Interest. *Nonprofit management & leadership*, 17(3), 279-300.

Tang, F. (2008). Socioeconomic Disparities in Voluntary Organization Involvement Among

Older Adults. *Nonprofit and Voluntary Sector Quarterly*, 37, 57-75.

Taniguchi H. (2006). Men's and Women's Volunteering: Gender Differences in the Effects of

Employment and Family Characteristics. *Nonprofit and Voluntary Sector Quarterly*, 35, 83-101.

Thoits, P.A. and Hewitt, L.N. (2001). Volunteer work and well-being. *Journal of Health and*

*Social Behavior*, 42(2), 115-31.

Vaillancourt, F. (1994). To volunteer or not Canada, 1987. *Canadian Journal of Economics*,

27(4), 813-26.

Van Willigen, M. (2000). Differential Benefits of Volunteering Across the Life Course. *Journal*

*of Gerontology: social sciences*, 55B(5), S308–S318.

Verbrugge, L. M., Gruber-Baldini, A. L., & Fozard, J. L. (1996). Age differences and age changes in activities: Baltimore longitudinal study of aging. *Journal of Gerontology: Social Sciences*, *51B(1)*, S30– S41.

Web, N. J., & Abzug, R. (2008). Do Occupational Group Members Vary in Volunteering Activity? *Nonprofit and Voluntary Sector Quarterly*, *37*, 689-708

Wilson, J., & Musick, M. (1997). Who cares? Toward an integrated theory of volunteer work. *American Sociological Review*, *62*, 694-713.

W. K Kellogg Foundation. (2009) The quiet crisis: The impact of the economic downturn on the nonprofit sector. Available at: <http://www.civicenterprises.net/pdfs/quietcrisis.pdf>

## 8. Tables

Table 1: Summary Statistics for Dependent Variables: Mean(%) and Standard Deviations in Brackets

	1997			2000		
	Overall (n=18,301)	Men (n=7,915)	Women (n=10,386)	Overall (n=14,724)	Men (n=6,422)	Women (n=8,302)
Formal Volunteer	31.371 (0.463)	29.341 (0.660)	33.329 (0.648)	26.702 (0.476)	25.234 (0.693)	28.120 (0.653)
Formal Volunteer Hours	148.646 (3.390)	160.034 (5.802)	138.991 (3.853)	161.700 (4.153)	169.490 (6.639)	154.949 (5.202)
Informal Volunteer	73.118 (0.596)	70.908 (0.905)	75.248 (0.774)	76.883 (0.675)	75.609 (1.034)	78.097 (0.873)
Giver of Money	77.968 (0.566)	74.587 (0.877)	81.228 (0.710)	78.067 (0.635)	75.147 (0.985)	80.886 (0.801)
Total Amount of Donations	238.903 (7.994)	242.737 (9.113)	235.507 (12.733)	259.423 (8.157)	259.879 (11.715)	259.015 (11.361)
Formal Volunteer and Giver	28.474 (0.435)	26.283 (0.614)	30.587 (0.614)	24.285 (0.447)	22.408 (0.637)	26.097 (0.623)

  

	2004			2007		
	Overall (n=20,832)	Men (n=8,791)	Women (n=12,041)	Overall (n=20,510)	Men (n=8,865)	Women (n=11,645)
Formal Volunteer	45.242 (0.512)	43.688 (0.760)	46.750 (0.686)	46.089 (0.532)	45.139 (0.780)	47.013 (0.724)
Formal Volunteer Hours	167.981 (3.651)	168.250 (5.558)	167.737 (4.802)	165.661 (3.904)	167.611 (5.918)	163.840 (5.144)
Informal Volunteer	83.224 (0.416)	83.220 (0.627)	83.227 (0.549)	83.682 (0.441)	83.640 (0.638)	83.722 (0.609)
Giver of Money	85.086 (0.420)	82.370 (0.677)	87.719 (0.496)	84.415 (0.437)	82.067 (0.676)	86.700 (0.555)
Total Amount of Donations	400.195 (9.870)	431.345 (16.768)	371.825 (11.053)	436.846 (10.144)	452.562 (15.354)	422.376 (13.421)
Formal Volunteer and Giver	41.850 (0.496)	39.860 (0.732)	43.781 (0.669)	41.856 (0.512)	40.459 (0.745)	43.215 (0.701)

Table 1 continued

	Pooled Data Set		
	Overall (n=74,367)	Men (n=31,993)	Women (n=42,374)
Formal Volunteer	37.355 (0.230)	35.869 (0.379)	38.795 (0.354)
Formal Volunteer Hours	162.087 (1.931)	166.592 (3.018)	158.056 (2.469)
Informal Volunteer	79.210 (0.272)	78.333 (0.412)	80.056 (0.356)
Giver of Money	81.385 (0.263)	78.551 (0.410)	84.130 (0.328)
Total Amount of Donations	337.310 (4.620)	351.255 (6.984)	324.704 (6.127)
Formal Volunteer and Giver	34.116 (0.247)	32.265 (0.357)	35.909 (0.339)

\*Using individuals 15 years and older. The summary statistics are weighted. The weights are normalized to sum up to one for each survey.

Table 2: Summary Statistics of Independent Variables for Pooled Data Set: Mean and Standard Deviations in Brackets

	Overall		Men		Women	
	Mean	SD	Mean	SD	Mean	SD
Male	49.110	0.304	-	-	-	-
Child less than 18 years	33.914	0.286	33.349	0.426	34.459	0.383
<i>Unemployment Rates</i>						
URA	7.477	0.023	7.739	0.038	7.225	0.027
URB	7.342	0.012	7.610	0.019	7.083	0.014
URC	7.367	0.011	7.364	0.017	7.370	0.015
<i>Marital Status</i>						
Single	26.492	0.280	29.575	0.433	23.517	0.355
Married	61.016	0.295	62.937	0.443	59.161	0.394
Divorced/Separated	7.014	0.126	5.256	0.155	8.711	0.195
Widow/Widower	5.237	0.114	2.065	0.116	8.298	0.193
<i>Household Size</i>						
One	13.104	0.150	11.191	0.205	14.950	0.217
Two	32.547	0.270	32.384	0.399	32.704	0.364
Three	19.489	0.251	20.790	0.390	18.233	0.317
Four	21.220	0.262	21.412	0.386	21.035	0.357
Five Plus	13.641	0.251	14.223	0.381	13.078	0.328
<i>Highest Level of Education</i>						
Less Than High School	22.589	0.259	22.607	0.383	22.571	0.350
High School Diploma	17.885	0.240	17.303	0.356	18.446	0.324
Some Post Secondary Schooling	8.124	0.169	7.967	0.247	8.275	0.232
Post Secondary Diploma	29.439	0.269	29.278	0.407	29.594	0.353
University Degree	17.201	0.220	18.294	0.335	16.147	0.286
<i>Labour Force Status</i>						
Full-time	47.235	0.303	57.027	0.450	37.785	0.392
Part-time	11.582	0.194	7.582	0.253	15.443	0.291
Unemployed	3.042	0.112	3.248	0.178	2.843	0.137
Not in the Labour Force	31.107	0.277	25.578	0.389	36.443	0.388

Table 2 continued.

<i>Household Income</i>										
<\$20,000	15.169	0.210	12.214	0.301	18.019	0.292				
\$20,000 - < \$40,000	23.272	0.254	21.886	0.373	24.610	0.344				
\$40,000 - < \$60,000	21.106	0.249	21.540	0.371	20.687	0.333				
\$60,000 plus	40.453	0.299	44.360	0.451	36.684	0.395				
<i>Personal Income</i>										
<\$20,000	44.149	0.304	32.593	0.443	55.300	0.399				
\$20,000 - < \$40,000	28.261	0.271	29.052	0.409	27.497	0.356				
\$40,000 - < \$60,000	15.558	0.214	20.133	0.354	11.128	0.239				
\$60,000 plus	12.062	0.184	18.267	0.323	6.074	0.174				
<i>Country of Birth</i>										
Canada	75.669	0.294	75.233	0.441	76.091	0.390				
Not Canada	17.729	0.269	18.169	0.406	17.304	0.355				
<i>Health</i>										
Excellent	24.591	0.257	25.087	0.381	24.112	0.346				
Very Good	30.895	0.277	31.686	0.421	30.131	0.363				
Good	25.690	0.268	25.901	0.405	25.487	0.351				
Fair	11.104	0.192	10.009	0.276	12.161	0.268				
Poor	3.803	0.116	3.454	0.160	4.141	0.167				
<i>Satisfaction With Life</i>										
Very Satisfied	45.350	0.299	44.382	0.444	46.285	0.400				
Somewhat satisfied	44.201	0.304	45.250	0.455	43.188	0.403				
Somewhat dissatisfied	4.943	0.142	4.798	0.215	5.083	0.186				
Very Dissatisfied	1.149	0.070	1.134	0.105	1.163	0.091				
<i>Time Resided in Community</i>										
<3 years	13.778	0.215	13.495	0.318	14.051	0.289				
3 - < 5 years	9.990	0.192	10.042	0.283	9.940	0.260				
5 - < 10 years	12.007	0.203	11.948	0.309	12.063	0.265				
10 plus years	57.394	0.304	57.723	0.455	57.077	0.406				
<i>Religious Affiliation</i>										
Roman Catholic	37.929	0.297	36.986	0.443	38.839	0.398				
Protestant	25.973	0.242	23.382	0.347	28.473	0.335				
Other	6.140	0.180	6.227	0.264	6.055	0.245				
None	21.822	0.248	25.098	0.389	18.661	0.310				

Table 2 continued.

<i>Religious Service Attendance</i>							
At Least Once A Week	17.518	0.221	15.317	(0.322)	19.641	0.303	
At Least Once A Month	11.227	0.192	10.680	(0.280)	11.756	0.262	
At Least Three or Four Times A Year	10.793	0.187	9.956	(0.261)	11.601	0.267	
At Least Once or Twice Times A Year	11.288	0.193	11.298	(0.288)	11.278	0.258	
Not At All	7.167	0.175	7.223	(0.261)	7.114	0.233	
<i>Age Group</i>							
15 - 24 years	16.631	0.245	17.280	(0.367)	16.004	0.326	
25 - 34 years	17.697	0.239	18.109	(0.367)	17.299	0.306	
35 - 44 years	20.287	0.238	20.684	(0.356)	19.903	0.319	
45 - 54 years	18.082	0.235	18.341	(0.352)	17.832	0.312	
55 - 64 years	12.254	0.185	12.109	(0.274)	12.393	0.251	
65 plus years	15.050	0.202	13.476	(0.288)	16.569	0.283	

\*Using individuals 15 years and older. The summary statistics are weighted. The weights are normalized to sum up to one for each survey.

Table 3: Dependent Variable Definitions

Formal Volunteer	Dummy variable, 1 if formally volunteered in past 12 months; 0 otherwise
Formal Volunteer Hours	Total Number of hours spent formally volunteering in the past 12 months, conditional on being a formal volunteer
Informal Volunteer	Dummy variable, 1 if informally volunteered in past 12 months; 0 otherwise
Giver of Money	Dummy variable, 1 if gave money in past 12 months; 0 otherwise
Total Amount of Donations	Total amount of money donated in the past 12 months, conditional on being a giver
Formal Volunteer and Giver	Dummy variable, 1 if formally volunteered and gave money in past 12 months; 0 otherwise

Table 4: Independent Variable Definitions

<i>Unemployment Rates</i>	
URA	Average yearly unemployment rate assigned by gender, age (15-24 years or 25+ years), and province
URB	Average yearly unemployment rate assigned by gender and province
URC	Average yearly unemployment rate assigned by province
<i>Gender</i>	
Male	Dummy variable, 1 if male; 0 otherwise
Female	Dummy variable, 1 if female; 0 otherwise: reference group
<i>Children</i>	
Presence of child less than 18yrs	Dummy variable, 1 if individual has a child less than 18 years; 0 otherwise
No child less than 18 years	Dummy variable, 1 if individual does not have a child less than 18 years; 0 otherwise: reference group
<i>Marital Status</i>	
Single	Dummy variable, 1 if single; 0 otherwise: reference group
Married	Dummy variable, 1 if married; 0 otherwise
Divorced/Separated	Dummy variable, 1 if divorced or separated; 0 otherwise
Widow/Widower	Dummy variable, 1 if widow or widower; 0 otherwise
<i>Household Size</i>	
One	Dummy variable, 1 if one member in household; 0 otherwise: reference group
Two	Dummy variable, 1 if two members in household; 0 otherwise
Three	Dummy variable, 1 if three members in household; 0 otherwise
Four	Dummy variable, 1 if four members in household; 0 otherwise
Five Plus	Dummy variable, 1 if five members in household; 0 otherwise
<i>Highest Level of Education</i>	
Less Than High School	Dummy variable, 1 if less than high school diploma; 0 otherwise
Diploma	Dummy variable, 1 if high school diploma; 0 otherwise
High School Diploma	Dummy variable, 1 if some post secondary schooling; 0 otherwise
Some Post Secondary	Dummy variable, 1 if post secondary diploma; 0 otherwise
Schooling	Dummy variable, 1 if university degree; 0 otherwise: reference group
Post Secondary Diploma	
University Degree	

Table 4 continued.

<i>Labour Force Status</i>	
Full-time	Dummy variable, 1 if work 30 hours or more a week; 0 otherwise
Part-time	Dummy variable, 1 if work <30 hours a week; 0 otherwise
Unemployed <sup>51</sup>	Dummy variable, 1 if unemployed ; 0 otherwise
Not in the Labour Force <sup>52</sup>	Dummy variable, 1 if not in the labour force; 0 otherwise: reference group
<i>Household Income</i>	
<\$20,000	Dummy variable, 1 if household income is <\$20,000; 0 otherwise: reference group
\$20,000 - < \$40,000	Dummy variable, 1 if household income in range \$20,000 - < \$40,000; 0 otherwise
\$40,000 - < \$60,000	Dummy variable, 1 if household income in range \$40,000 - < \$60,000; 0 otherwise
\$60,000 plus	Dummy variable, 1 if household income n range \$60,000 or more; 0 otherwise
<i>Personal Income</i>	
<\$20,000	Dummy variable, 1 if personal income is <\$20,000; 0 otherwise: reference group
\$20,000 - < \$40,000	Dummy variable, 1 if personal income in range \$20,000 - < \$40,000; 0 otherwise
\$40,000 - < \$60,000	Dummy variable, 1 if personal income in range \$40,000 - < \$60,000; 0 otherwise
\$60,000 plus	Dummy variable, 1 if personal income in range \$60,000 or more; 0 otherwise
<i>Country of Birth</i>	
Canada	Dummy variable, 1 if born in Canada; 0 otherwise: reference group
Not Canada	Dummy variable, 1 if born outside of Canada; 0 otherwise
<i>Health</i>	
Excellent	Dummy variable, 1 if self-rated health is excellent; 0 otherwise
Very Good	Dummy variable, 1 if self-rated health is very good; 0 otherwise
Good	Dummy variable, 1 if self-rated health is good; 0 otherwise
Fair	Dummy variable, 1 if self-rated health is fair; 0 otherwise
Poor	Dummy variable, 1 if self-rated health is poor; 0 otherwise: reference group

<sup>51</sup> An individual is unemployed if: 1) they are not working, had actively looked for work in the past four weeks, and are available for work. 2) they are not working and had not actively looked for work in the past four weeks since they are expecting to return to their previous job from which they had been laid off. 3) they had not looked for a job in the past four weeks, but are available to work and have a job they are to start in four weeks or less.

<sup>52</sup> An individual is not in the labour force if they are neither employed nor unemployed.

Table 4 continued.

*Satisfaction With Life*

Very Satisfied	Dummy variable, 1 if very satisfied with life; 0 otherwise
Somewhat satisfied	Dummy variable, 1 if somewhat satisfied with life; 0 otherwise
Somewhat dissatisfied	Dummy variable, 1 if somewhat dissatisfied with life; 0 otherwise
Very Dissatisfied	Dummy variable, 1 if very dissatisfied with life; 0 otherwise: reference group
<i>Time Resided in Community</i>	
<3 years	Dummy variable, 1 if lived in the community <3 years; 0 otherwise: reference group
3 - < 5 years	Dummy variable, 1 if lived in the community 3 - < 5 years; 0 otherwise
5 - < 10 years	Dummy variable, 1 if lived in the community 5 - < 10 years; 0 otherwise
10 plus years	Dummy variable, 1 if lived in the community 10 years or more; 0 otherwise
<i>Religious Affiliation</i>	
Roman Catholic	Dummy variable, 1 if Roman Catholic; 0 otherwise
Protestant	Dummy variable, 1 if Protestant; 0 otherwise
Other	Dummy variable, 1 if other religious affiliation; 0 otherwise
None	Dummy variable, 1 if no religious affiliation; 0 otherwise: reference group
<i>Religious Service Attendance</i>	
At Least Once A Week	Dummy variable, 1 if attend religious services at least once a week; 0 otherwise
At Least Once A Month	Dummy variable, 1 if attend religious services at least once a month; 0 otherwise
At Least Three or Four Times A Yr	Dummy variable, 1 if attend religious services at least three or four times a year; 0 otherwise
At Least Once or Twice Times A Yr	Dummy variable, 1 if attend religious services at least once or twice a year; 0 otherwise
Not At All	Dummy variable, 1 if do not attend religious services; 0 otherwise: reference group
<i>Age Group</i>	
15 - 24 years	Dummy variable, 1 if individual is aged 15 - 24 years; 0 otherwise
25 - 34 years	Dummy variable, 1 if individual is aged 25 - 34 years; 0 otherwise
35 - 44 years	Dummy variable, 1 if individual is aged 35 - 44 years; 0 otherwise: reference group
45 - 54 years	Dummy variable, 1 if individual is aged 45 - 54 years; 0 otherwise
55 - 64 years	Dummy variable, 1 if individual is aged 55 - 64 years; 0 otherwise
65 plus years	Dummy variable, 1 if individual is aged 65 + years; 0 otherwise
Province	Dummy variables for all 10 provinces, 1 if individuals lives in the province; 0 otherwise: Ontario = reference group
Year	Dummy variables for all four years, 1 if survey was taken that year; 0 otherwise: 1997 = ref group

Table 5: Full Sample Results for Formal Volunteer Participation

	Overall		Men		Women	
	M.E.	SE	M.E.	SE	M.E.	SE
Unemployment Rate (URA)	0.00608**	0.00243	0.0107***	0.00397	-0.000157	0.00467
Male	0.0289***	0.00589	-	-	-	-
Child less than 18 years	0.108***	0.00919	0.112***	0.0138	0.0977***	0.0125
<i>Marital Status</i>						
Married	-0.0101	0.00927	0.0213	0.0142	-0.0399***	0.0125
Divorced/Separated	0.0133	0.0113	0.0338*	0.0179	-0.0108	0.0147
Widow/Widower	0.0447***	0.0128	-0.0601**	0.0238	0.0534***	0.0159
<i>Household Size</i>						
Two	-0.00329	0.00879	0.00979	0.0140	-0.0228**	0.0116
Three	0.0425***	0.0108	-0.0404**	0.0161	0.0502***	0.0146
Four	-0.00668	0.0125	-0.00777	0.0183	-0.0118	0.0172
Five Plus	-0.00323	0.0144	-0.00953	0.0207	-0.00300	0.0200
<i>Highest Level of Education</i>						
Less Than High School	-0.209***	0.00802	-0.195***	0.0111	-0.224***	0.0116
High School Diploma	-0.155***	0.00815	-0.153***	0.0114	-0.158***	0.0117
Some Post Secondary Schooling	0.0896***	0.0110	0.0765***	0.0158	-0.101***	0.0154
Post Secondary Diploma	-0.104***	0.00779	0.0998***	0.0109	-0.109***	0.0112
<i>Labour Force Status</i>						
Full-time	0.0557***	0.00804	0.0633***	0.0124	0.0498***	0.0107
Part-time	0.0546***	0.0105	0.0293	0.0179	0.0678***	0.0129
Unemployed	-0.00107	0.0163	-0.0349	0.0233	0.0317	0.0227
<i>Household Income</i>						
\$20,000 - < \$40,000	0.0418***	0.00956	0.0426***	0.0162	0.0482***	0.0120
\$40,000 - < \$60,000	0.0688***	0.0109	0.0931***	0.0184	0.0570***	0.0139
\$60,000 plus	0.0979***	0.0115	0.108***	0.0185	0.101***	0.0152
<i>Personal Income</i>						
\$20,000 - < \$40,000	-0.00388	0.00799	-0.0143	0.0129	-0.00596	0.0105
\$40,000 - < \$60,000	0.0277***	0.0106	0.00925	0.0159	0.0334**	0.0150
\$60,000 plus	0.0527***	0.0126	0.0508***	0.0182	0.0258	0.0187
<i>Country of Birth</i>						
Not Canada	-0.101***	0.00767	0.0960***	0.0112	-0.105***	0.0105

Table 5 continued.

<i>Health</i>									
Excellent	0.146****	0.0167	0.124****	0.0255	0.165****	0.0218			
Very Good	0.132****	0.0160	0.0992****	0.0244	0.165****	0.0210			
Good	0.111****	0.0159	0.0809****	0.0243	0.140****	0.0208			
Fair	0.0726****	0.0168	0.0574**	0.0258	0.0870****	0.0219			
<i>Satisfaction With Life</i>									
Very Satisfied	0.0966****	0.0275	0.0888**	0.0427	0.104****	0.0348			
Somewhat satisfied	0.0239	0.0274	0.0149	0.0424	0.0333	0.0347			
Somewhat dissatisfied	-0.0132	0.0288	-0.0396	0.0429	0.0105	0.0374			
<i>Time Resided in Community</i>									
3 - < 5 years	0.0426****	0.0116	0.0309*	0.0170	0.0550****	0.0158			
5 - < 10 years	0.0627****	0.0111	0.0570****	0.0164	0.0696****	0.0149			
10 plus years	0.0895****	0.00828	0.0816****	0.0122	0.0969****	0.0112			
<i>Religious Affiliation</i>									
Roman Catholic	0.0955****	0.00901	0.0785****	0.0127	-0.116****	0.0127			
Protestant	0.000449	0.00894	0.0132	0.0129	-0.0177	0.0124			
Other	-0.107****	0.0135	-0.102****	0.0192	-0.116****	0.0190			
<i>Religious Service Attendance</i>									
At Least Once A Week	0.291****	0.00913	0.285****	0.0142	0.297****	0.0119			
At Least Once A Month	0.166****	0.0107	0.172****	0.0161	0.159****	0.0143			
At Least Three or Four Times A Year	0.111****	0.0106	0.122****	0.0158	0.102****	0.0142			
At Least Once or Twice Times A Year	0.0721****	0.0100	0.0725****	0.0146	0.0714****	0.0137			
<i>Age Group</i>									
15 - 24 years	0.0401*	0.0215	0.0301	0.0383	0.0429	0.0335			
25 - 34 years	0.0608****	0.00833	-0.0399***	0.0123	0.0794****	0.0114			
45 - 54 years	0.0121	0.00905	0.0292**	0.0129	-0.00874	0.0126			
55 - 64 years	-0.0147	0.0105	-0.0146	0.0150	-0.0221	0.0148			
65 plus years	0.0641****	0.0115	-0.0493***	0.0168	0.0888****	0.0159			
<i>Provincial Fixed Effects</i>									
Year Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes			
Observations	74274	31900	42374	42374	42374	42374			
Pseudo R-squared	0.137	0.134	0.143	0.143	0.143	0.143			
<i>Marginal effects; Robust standard errors in parentheses</i>									
* significant at 10%; ** significant at 5%; *** significant at 1%; **** significant at 0.1%									

Table 6: Full Sample Results for Formal Volunteer Hours

	Overall		Men		Women	
	$\beta$	SE	$\beta$	SE	$\beta$	SE
Unemployment Rate (URA)	0.236	1.557	0.0403	2.787	2.474	2.571
Male	18.67***	4.400	-	-	-	-
Child less than 18 years	-11.67*	6.441	-12.77	9.581	-11.66	8.822
<i>Marital Status</i>						
Married	-11.89	7.420	-15.81	13.43	-10.44	8.548
Divorced/Separated	11.06	9.642	1.565	15.12	14.74	12.19
Widow/Widower	-17.11	12.93	-34.18*	19.19	-8.420	15.80
<i>Household Size</i>						
Two	3.375	8.104	2.145	12.63	3.343	10.86
Three	-2.463	9.710	-5.902	13.55	-0.0342	13.90
Four	-2.624	10.81	-3.420	15.28	-3.484	15.32
Five Plus	7.794	12.27	5.180	16.70	7.918	17.96
<i>Highest Level of Education</i>						
Less Than High School	-53.13***	7.169	-59.54***	10.25	-48.29***	9.963
High School Diploma	-20.70***	6.598	-16.22	10.31	-26.68***	8.443
Some Post Secondary Schooling	-16.57**	7.423	-18.05	11.35	-17.79*	9.792
Post Secondary Diploma	-13.38***	5.145	-3.710	7.999	-22.29***	6.595
<i>Labour Force Status</i>						
Full-time	-32.51***	6.678	-23.11**	11.29	-40.15***	8.273
Part-time	-19.94***	6.520	-22.20*	12.66	-21.33***	7.458
Unemployed	0.645	12.06	10.32	20.12	-6.963	14.94
<i>Household Income</i>						
\$20,000 - < \$40,000	-1.999	8.181	19.78	13.71	-16.24	10.22
\$40,000 - < \$60,000	-4.860	8.426	5.435	14.94	-10.61	10.13
\$60,000 plus	-8.583	8.864	12.30	15.23	-21.54**	10.90
<i>Personal Income</i>						
\$20,000 - < \$40,000	-6.587	6.507	-4.969	12.59	-8.299	7.610
\$40,000 - < \$60,000	-13.18*	7.939	-5.282	15.21	-24.76***	8.877
\$60,000 plus	-8.228	9.151	-14.66	15.19	2.897	12.94
<i>Country of Birth</i>						
Not Canada	-19.58***	6.117	-20.80**	9.107)	-17.56**	8.171

Table 6 continued.

<i>Health</i>									
Excellent									
Very Good									
Good									
Fair									
<i>Satisfaction With Life</i>									
Very Satisfied									
Somewhat satisfied									
Somewhat dissatisfied									
<i>Time Resided in Community</i>									
3 - < 5 years									
5 - < 10 years									
10 plus years									
<i>Religious Affiliation</i>									
Roman Catholic									
Protestant									
Other									
<i>Religious Service Attendance</i>									
At Least Once A Week									
At Least Once A Month									
At Least Three or Four Times A Year									
At Least Once or Twice Times A Year									
<i>Age Group</i>									
15 - 24 years									
25 - 34 years									
45 - 54 years									
55 - 64 years									
65 plus years									
<i>Provincial Fixed Effects</i>									
Year Fixed effects									
Observations									
R-squared									
Robust standard errors in parentheses;									
* significant at 10%, ** significant at 5%, *** significant at 1%; **** significant at 0.1%									

Table 7: Full Sample Results for Informal Volunteer Participation

	Overall				Men		Women	
	M.E.	SE	M.E.	SE	M.E.	SE	M.E.	SE
Unemployment Rate (URA)	-0.000196	0.00242	-0.00198	0.00414	-0.00257	0.00461		
Male	0.0197***	0.00587						
Child less than 18 years	0.0211**	0.00877	0.0161	0.0135	0.0248**	0.0116		
<i>Marital Status</i>								
Married	0.0386***	0.00956	0.0440***	0.0153	0.0294**	0.0121		
Divorced/Separated	0.0320***	0.00973	0.0483***	0.0139	0.0188	0.0133		
Widow/Widower	-0.00427	0.0128	-0.0193	0.0247	-0.00341	0.0155		
<i>Household Size</i>								
Two	-0.0269***	0.00909	-0.0191	0.0143	-0.0355***	0.0119		
Three	0.0534***	0.0122	-0.0395**	0.0179	0.0684***	0.0169		
Four	-0.0435***	0.0137	-0.00553	0.0191	0.0821***	0.0196		
Five Plus	-0.0472***	0.0160	-0.0360	0.0224	-0.0578**	0.0228		
<i>Highest Level of Education</i>								
Less Than High School	0.0981***	0.0110	-0.105***	0.0156	0.0901***	0.0153		
High School Diploma	0.0707***	0.0107	0.0763***	0.0159	0.0662***	0.0142		
Some Post Secondary Schooling	-0.0294**	0.0131	-0.0500**	0.0199	-0.00976	0.0167		
Post Secondary Diploma	-0.0243***	0.00864	-0.0230*	0.0126	-0.0258**	0.0117		
<i>Labour Force Status</i>								
Full-time	-0.00122	0.00798	-0.00477	0.0122	0.00681	0.0105		
Part-time	0.0313***	0.00926	0.0372**	0.0167	0.0283***	0.0108		
Unemployed	0.0362**	0.0158	0.0491**	0.0226	0.0256	0.0215		
<i>Household Income</i>								
\$20,000 - < \$40,000	0.0256***	0.00862	0.00277	0.0152	0.0396***	0.0102		
\$40,000 - < \$60,000	0.0521***	0.00949	0.0262	0.0168	0.0683***	0.0112		
\$60,000 plus	0.0606***	0.0109	0.0393**	0.0184	0.0737***	0.0135		
<i>Personal Income</i>								
\$20,000 - < \$40,000	-0.00180	0.00817	0.0164	0.0131	-0.0138	0.0106		
\$40,000 - < \$60,000	-0.0110	0.0114	0.0102	0.0170	-0.0268*	0.0162		
\$60,000 plus	0.0113	0.0123	0.0358**	0.0172	-0.0195	0.0200		
<i>Country of Birth</i>								
Not Canada	0.0772***	0.00878	0.0706***	0.0131	0.0857***	0.0116		

Table 7 continued.

<i>Health</i>										
Excellent	0.102****	0.0114	0.0960****	0.0175	0.104****	0.0148				
Very Good	0.0990****	0.0117	0.0885****	0.0180	0.105****	0.0151				
Good	0.109****	0.0108	0.103****	0.0165	0.111****	0.0138				
Fair	0.0771****	0.0109	0.0804****	0.0165	0.0717****	0.0143				
<i>Satisfaction With Life</i>										
Very Satisfied	-0.00366	0.0249	-0.0145	0.0409	0.00751	0.0319				
Somewhat satisfied	-0.0203	0.0249	-0.0366	0.0409	-0.00333	0.0317				
Somewhat dissatisfied	-0.0199	0.0281	-0.0238	0.0463	-0.0147	0.0352				
<i>Time Resided in Community</i>										
3 - < 5 years	0.00346	0.0112	0.00960	0.0162	-0.00161	0.0152				
5 - < 10 years	0.0133	0.0102	0.0210	0.0153	0.00648	0.0134				
10 plus years	0.0279****	0.00846	0.0231*	0.0127	0.0330****	0.0112				
<i>Religious Affiliation</i>										
Roman Catholic	0.00427	0.00878	0.0170	0.0126	-0.00918	0.0121				
Protestant	0.0307****	0.00823	0.0217*	0.0125	0.0365****	0.0107				
Other	-0.0345**	0.0165	-0.0434*	0.0250	-0.0267	0.0215				
<i>Religious Service Attendance</i>										
At Least Once A Week	0.0825****	0.00708	0.0769****	0.0115	0.0857****	0.00871				
At Least Once A Month	0.0542****	0.00854	0.0632****	0.0129	0.0468****	0.0111				
At Least Three or Four Times A Year	0.0571****	0.00840	0.0646****	0.0129	0.0510****	0.0108				
At Least Once or Twice Times A Year	0.0284****	0.00882	0.0215	0.0133	0.0353****	0.0114				
<i>Age Group</i>										
15 - 24 years	0.0762****	0.0172	0.104****	0.0305	0.0736****	0.0256				
25 - 34 years	0.0338****	0.00833	0.0496****	0.0122	0.0185*	0.0111				
45 - 54 years	-0.0175*	0.00941	-0.0165	0.0135	-0.0184	0.0130				
55 - 64 years	-0.0353****	0.0116	-0.0420**	0.0171	-0.0308**	0.0156				
65 plus years	-0.118****	0.0145	-0.102****	0.0213	-0.133****	0.0197				
Provincial Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes				
Year Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes				
Observations	71796		30805		40991					
Pseudo R-squared	0.086		0.081		0.096					

Robust standard errors in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%; \*\*\*\* significant at 0.1%

Table 8: Full Sample Results for Giving

	Overall		Men		Women	
	M.E.	SE	M.E.	SE	M.E.	SE
Unemployment Rate (URA)	0.00292	0.00196	0.00493	0.00350	0.00193	0.00316
Male	0.0663***	0.00535	-	-	-	-
Child less than 18 years	0.0312***	0.00720	0.0429***	0.0118	0.0262***	0.00843
<i>Marital Status</i>						
Married	0.0561***	0.00841	0.0501***	0.0140	0.0618***	0.00970
Divorced/Separated	-0.00233	0.00934	-0.00129	0.0158	0.000991	0.0105
Widow/Widower	0.00608	0.0120	-0.0225	0.0268	0.0183	0.0122
<i>Household Size</i>						
Two	-0.0223***	0.00803	-0.00919	0.0131	-0.0286***	0.00986
Three	-0.0337***	0.0107	-0.0326*	0.0167	-0.0300**	0.0132
Four	-0.0379***	0.0119	-0.0554***	0.0193	-0.0168	0.0139
Five Plus	0.0741***	0.0154	0.0975***	0.0244	-0.0448**	0.0179
<i>Highest Level of Education</i>						
Less Than High School	-0.120***	0.0116	-0.146***	0.0173	0.0961***	0.0148
High School Diploma	0.0667***	0.0108	0.0806***	0.0167	0.0557***	0.0135
Some Post Secondary Schooling	-0.0321**	0.0127	-0.0422**	0.0196	-0.0224	0.0156
Post Secondary Diploma	-0.0231***	0.00889	-0.0321**	0.0138	-0.0148	0.0108
<i>Labour Force Status</i>						
Full-time	0.0573***	0.00686	0.0490***	0.0120	0.0671***	0.00740
Part-time	0.0449***	0.00698	0.0460***	0.0131	0.0436***	0.00741
Unemployed	0.0175	0.0125	0.0323*	0.0194	0.000878	0.0153
<i>Household Income</i>						
\$20,000 - < \$40,000	0.0527***	0.00683	0.0529***	0.0125	0.0467***	0.00763
\$40,000 - < \$60,000	0.0637***	0.00762	0.0665***	0.0141	0.0539***	0.00842
\$60,000 plus	0.105***	0.00866	0.116***	0.0158	0.0846***	0.00965
<i>Personal Income</i>						
\$20,000 - < \$40,000	0.0159**	0.00702	0.0287**	0.0120	0.00966	0.00813
\$40,000 - < \$60,000	0.0399***	0.00851	0.0597***	0.0136	0.0266**	0.0110
\$60,000 plus	0.0537***	0.00929	0.0729***	0.0145	0.0486***	0.0125
<i>Country of Birth</i>						
Not Canada	0.0379***	0.00827	-0.0339**	0.0134	0.0411***	0.00983

Table 8 continued.

<i>Health</i>									
Excellent	0.0319***	0.0118	0.0540***	0.0186	0.0109	0.0147			
Very Good	0.0265**	0.0117	0.0449**	0.0189	0.00999	0.0142			
Good	0.0326***	0.0112	0.0478***	0.0181	0.0204	0.0133			
Fair	0.0297***	0.0112	0.0590***	0.0171	0.00605	0.0143			
<i>Satisfaction With Life</i>									
Very Satisfied	0.0696***	0.0187	0.102***	0.0314	0.0381*	0.0210			
Somewhat satisfied	0.0390**	0.0186	0.0716**	0.0316	0.00763	0.0208			
Somewhat dissatisfied	0.0169	0.0191	0.0467	0.0294	-0.0132	0.0244			
<i>Time Resided in Community</i>									
3 - < 5 years	0.00478	0.00935	0.0136	0.0148	-0.00429	0.0115			
5 - < 10 years	0.00454	0.00939	0.0221	0.0147	-0.0122	0.0117			
10 plus years	0.0369***	0.00736	0.0478***	0.0121	0.0278***	0.00855			
<i>Religious Affiliation</i>									
Roman Catholic	0.00565	0.00776	0.0193	0.0120	-0.00732	0.00964			
Protestant	0.0486***	0.00669	0.0548***	0.0108	0.0406***	0.00811			
Other	-0.0203	0.0143	-0.000918	0.0222	-0.0367**	0.0177			
<i>Religious Service Attendance</i>									
At Least Once A Week	0.118***	0.00518	0.129***	0.00924	0.106***	0.00567			
At Least Once A Month	0.0890***	0.00591	0.109***	0.00958	0.0708***	0.00703			
At Least Three or Four Times A Year	0.0808***	0.00610	0.0865***	0.0104	0.0731***	0.00687			
At Least Once or Twice Times A Year	0.0433***	0.00704	0.0519***	0.0114	0.0360***	0.00831			
<i>Age Group</i>									
15 - 24 years	0.0845***	0.0208	-0.0981**	0.0398	-0.0742***	0.0283			
25 - 34 years	0.0388***	0.00901	-0.0355**	0.0139	0.0404***	0.0112			
45 - 54 years	0.00449	0.00859	0.00309	0.0134	0.0102	0.0104			
55 - 64 years	0.0236***	0.00905	0.0133	0.0149	0.0351***	0.0100			
65 plus years	0.0385***	0.00965	0.0476***	0.0157	0.0331***	0.0113			
Provincial Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes			
Year Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes			
Observations	74274		31900		42374				
Pseudo R-squared	0.167		0.163		0.170				
Marginal effects; Robust standard errors in parentheses									
* significant at 10%; ** significant at 5%; *** significant at 1%; **** significant at 0.1%									

Table 9: Full Sample Results for Total Amount of Donations

	Overall		Men		Women	
	$\beta$	SE	$\beta$	SE	$\beta$	SE
Unemployment Rate (URA)						
Male	7.319**	3.062	13.06**	5.329	2.073	5.676
Child less than 18 years	-15.87*	9.607	-	-	-	-
<i>Marital Status</i>	2.649	13.73	6.836	19.00	4.052	20.61
Married	-1.365	17.42	9.816	20.91	-23.67	27.48
Divorced/Separated	-13.73	21.93	32.44	40.17	-49.77*	26.67
Widow/Widower	8.135	26.10	152.8**	70.69	-42.83	29.67
<i>Household Size</i>						
Two	-49.60***	18.83	-30.99	33.57	-58.08***	21.63
Three	-66.68***	24.05	-63.89*	33.22	-59.92*	35.53
Four	91.04***	22.28	-84.27**	36.22	92.70***	27.75
Five Plus	-51.52**	24.76	-42.17	39.67	-52.80*	31.80
<i>Highest Level of Education</i>						
Less Than High School	283.7***	16.56	276.4***	24.02	283.6***	22.55
High School Diploma	212.7***	17.39	220.2***	27.12	199.3***	22.05
Some Post Secondary Schooling	180.7***	18.45	187.4***	27.15	167.3***	24.80
Post Secondary Diploma	181.3***	16.04	237.9***	23.27	125.5***	21.64
<i>Labour Force Status</i>						
Full-time	2.928	12.88	56.78***	19.08	-33.94*	17.79
Part-time	52.79***	17.46	23.74	21.80	51.72**	23.18
Unemployed	25.24	19.24	48.51	29.85	10.30	24.54
<i>Household Income</i>						
\$20,000 - < \$40,000	49.87***	11.30	52.01***	19.12	35.54***	13.19
\$40,000 - < \$60,000	82.33***	12.92	63.18***	21.49	77.44***	15.68
\$60,000 plus	145.5***	14.62	82.70***	22.65	178.3***	18.49
<i>Personal Income</i>						
\$20,000 - < \$40,000	53.27***	11.42	46.09***	14.65	57.37***	15.61
\$40,000 - < \$60,000	101.5***	15.57	109.7***	19.34	112.6***	23.23
\$60,000 plus	341.7***	27.03	373.9***	28.71	327.6***	52.88
<i>Country of Birth</i>						
Not Canada	-35.89**	14.34	-46.41**	22.81	-22.27	17.94

Table 9 continued.

<i>Health</i>									
Excellent	3.429	28.20	-30.01	59.82	23.87	25.03			
Very Good	6.051	27.93	-25.97	59.61	26.31	24.01			
Good	10.88	27.95	-33.15	59.67	41.30*	24.21			
Fair	-15.66	27.80	-41.65	58.43	1.673	25.63			
<i>Satisfaction With Life</i>									
Very Satisfied	-43.54	50.37	-167.3	107.5	39.29	35.17			
Somewhat satisfied	-91.56*	49.92	-212.9**	106.8	-8.626	34.51			
Somewhat dissatisfied	-80.35	49.62	-204.7*	105.1	-0.0230	36.46			
<i>Time Resided in Community</i>									
3 - < 5 years	31.65*	17.82	19.44	29.53	42.21**	20.79			
5 - < 10 years	43.86***	16.81	39.52	28.04	47.29**	19.96			
10 plus years	58.60***	12.98	49.70**	21.81	65.83***	15.29			
<i>Religious Affiliation</i>									
Roman Catholic	133.4***	13.08	114.9***	21.16	153.6***	15.18			
Protestant	135.9***	13.22	162.1***	21.49	109.0***	15.43			
Other	-64.21***	22.94	-59.14	36.89	-75.68***	27.37			
<i>Religious Service Attendance</i>									
At Least Once A Week	570.3***	18.09	553.2***	26.08	586.1***	24.67			
At Least Once A Month	188.9***	14.43	205.5***	26.42	173.8***	14.27			
At Least Three or Four Times A Year	95.69***	12.66	103.5***	22.48	92.65***	13.80			
At Least Once or Twice Times A Year	59.61***	10.85	64.45***	18.61	58.65***	11.99			
<i>Age Group</i>									
15 - 24 years	110.7***	29.92	-119.8**	49.55	-94.43**	44.68			
25 - 34 years	-33.24**	15.18	-0.699	21.95	-58.60***	20.61			
45 - 54 years	62.79***	18.22	46.46*	25.03	79.17***	27.47			
55 - 64 years	66.99***	19.49	51.98*	26.52	92.03***	28.90			
65 plus years	116.2***	23.20	160.5***	32.74	98.54***	33.62			
Provincial Fixed Effects	Yes		Yes		Yes				
Year Fixed effects	Yes		Yes		Yes				
Observations	64979		27143		37836				
R-squared	0.126		0.126		0.132				
Robust standard errors in parentheses									
* significant at 10%; ** significant at 5%; *** significant at 1%; **** significant at 0.1%									

Table 10: Full Sample Results for Formal Volunteer Participation and Giving

	Overall		Men		Women	
	M.E.	SE	M.E.	SE	M.E.	SE
URA	0.00700***	0.00226	0.0108***	0.00367	0.00482	0.00436
<i>Health</i>						
Excellent	0.134***	0.0166	0.109***	0.0250	0.155***	0.0218
Very Good	0.125***	0.0159	0.0907***	0.0239	0.158***	0.0209
Good	0.101***	0.0157	0.0694***	0.0237	0.132***	0.0208
Fair	0.0691***	0.0167	0.0525**	0.0253	0.0837***	0.0219
All other covariates	Yes		Yes		Yes	

Marginal effects; Robust standard errors in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%; \*\*\*\* significant at 0.1%

Table 11: Full Sample Results For Regressions Using Different Unemployment Rates

	Formal Volunteer Participation			Formal Volunteer Hours			Informal Volunteer Participation		
	Overall	Men	Women	Overall	Men	Women	Overall	Men	Women
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
URA	0.00608** (0.00243)	0.0107*** (0.00397)	-0.000157 (0.00467)	0.236 (1.557)	0.0403 (2.787)	2.474 (2.571)	-0.000196 (0.00242)	-0.00198 (0.00414)	-0.00257 (0.00461)
URB	0.00821** (0.00354)	0.0102* (0.00537)	-0.00344 (0.00777)	5.000* (2.601)	2.969 (4.090)	3.629 (5.210)	-0.000165 (0.00353)	0.000596 (0.00550)	-0.0107 (0.00736)
URC	0.00718 (0.00462)	0.0127* (0.00664)	0.00343 (0.00639)	1.918 (3.316)	3.236 (5.035)	0.774 (4.334)	-0.00384 (0.00456)	-0.00308 (0.00683)	-0.00419 (0.00598)
<hr/>									
	Giving			Total Amount of Donations			Formal Volunteering and Giving		
	Overall	Men	Women	Overall	Men	Women	Overall	Men	Women
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
URA	0.00292 (0.00196)	0.00493 (0.00350)	0.00193 (0.00316)	7.319** (3.062)	13.06** (5.329)	2.073 (5.676)	0.00700*** (0.00226)	0.0108*** (0.00367)	0.00482 (0.00436)
URB	0.000830 (0.00321)	0.00558 (0.00524)	0.00141 (0.00604)	12.54** (5.473)	6.609 (8.871)	33.48** (13.20)	0.00584* (0.00332)	0.00655 (0.00498)	-0.00271 (0.00738)
URC	0.00707* (0.00410)	0.00452 (0.00655)	0.00885* (0.00489)	19.45** (7.807)	13.35 (10.91)	26.71** (11.16)	0.00578 (0.00434)	0.00752 (0.00616)	0.00579 (0.00608)
Marginal effects; Standard errors in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%; **** significant at 0.1%									

Table 12: Limited Sample Results For Regressions Using Different Unemployment Rates

	Formal Volunteer Participation			Formal Volunteer Hours			Informal Volunteer Participation		
	Overall	Men	Women	Overall	Men	Women	Overall	Men	Women
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
URA	0.00739*** (0.00273)	0.0131*** (0.00439)	0.00161 (0.00530)	-0.899 (1.657)	-2.373 (2.936)	3.085 (2.654)	-0.000178 (0.00245)	-0.000433 (0.00421)	-0.00284 (0.00457)
URB	0.0111** (0.00437)	0.0155** (0.00659)	0.00106 (0.00984)	1.945 (2.981)	-2.331 (4.732)	4.426 (5.713)	-0.000654 (0.00402)	0.00268 (0.00634)	-0.0128 (0.00829)
URC	0.0126** (0.00577)	0.0175** (0.00815)	0.00900 (0.00810)	-1.462 (3.731)	-3.035 (5.797)	0.0936 (4.760)	-0.00269 (0.00521)	-0.00169 (0.00786)	-0.00319 (0.00672)
				Total Amount of Donations					
	Giving			Formal Volunteering and Giving					
	Overall	Men	Women	Overall	Men	Women			
	(1)	(2)	(3)	(1)	(2)	(3)			
URA	0.00449** (0.00223)	0.00766** (0.00391)	0.00141 (0.00355)	8.798*** (3.241)	20.48*** (5.678)	0.251 (6.304)	0.00883*** (0.00254)	0.0132*** (0.00404)	0.00742 (0.00495)
URB	0.00106 (0.00400)	0.00840 (0.00648)	-0.00534 (0.00746)	19.21*** (6.286)	24.40** (10.51)	31.22** (15.83)	0.00805** (0.00410)	0.0104* (0.00608)	0.00187 (0.00932)
URC	0.00702 (0.00511)	0.00820 (0.00808)	0.00585 (0.00605)	28.98*** (9.316)	34.03*** (12.91)	26.78** (13.50)	0.0103* (0.00540)	0.0104 (0.00751)	0.0117 (0.00769)

Marginal effects; Standard errors in parentheses. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%; \*\*\*\*: significant at 0.1%