Experimental Estimates of the Impact of Labour Market Activities on Health and Volunteering

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General Motivation

This paper is now part of a broader agenda that aims to improve our understanding of the impact of employment on measures of human capital, social capital and well-being.

In social psychology, sociology, and medicine, there is a tradition in studying health effects of unemployment. A common hypothesis in these areas holds that unemployment leads to emotional distress. Of course, this research primarily reports associations

The obvious empirical challenge relates to the endogeneity of employment.

We have access to data from a unique experiment funded by HRSDC and implemented by SRDC that randomly provided community based employment to individuals.

In this case the term unique is NOT overused

STRUCTURE OF THE TALK

Motivate the portion on health

Describe the CEIP experiment

Identification Strategy

Results Part 1

Motivate the portion on volunteering

Results Part 2

Conclusion

MOTIVATING HEALTH AS AN OUTCOME

This paper has a natural link to a large literature that exploits job displacements and more broadly on macroeconomic conditions.

A number of papers have analyzed the effects of job loss on various measures of health. A partial list includes Eliason and Storrie (2009), Sullivan and von Wachter (2009), and Rege et al, (forthcoming) who found harmful effects on mortality using data from Sweden, Pennsylvania, and Norway, respectively. Martikainen et al. and Browning et al. (2006) find no effects on mortality using data from Finland and Denmark.

In the CEIP experiment that I will describe we have plausibly exogenous variation in who gets a job, and later on who loses a job.

This paper can also be thought of as providing a window into the relationship between socioeconomic status and health.

The Controversial CEIP Experiment

Cape Breton is a region of Canada with sustained periods of high unemployment

Community Employment Innovation Project (CEIP) was designed to test whether community employment is a beneficial income security system for individuals on Employment Insurance (EI) or Income Assistance (IA).

Potential participants were selected from a population of current EI recipients that resided in the Cape Breton Regional Municipality. Selection of IA recipients is more complicated. The project recruited 1,006 volunteers among EI recipients and 516 among IA recipients.

The CEIP offered participants wages to work on community projects for up to three years, giving them a significant period of stable income as well as an opportunity to gain work experience, acquire new skills, and expand their network of contacts.


North Pole
Norwegian Sea
NORWAY
Greenland Sea
UK
RUSSIA
Arctic Ocean
Ellesmere Island
Alert
Kalaallit Nunaat
(Greenland)
(DENMARK)
ICELAND
Bering Strait
Arctic Circle
Beaufort Sea
Banks Island
Melville Island
Devon Island
Resolute
Baffin Bay
Alaska
(USA)
Inuvik
Victoria Island
Baffin Island
Davis Strait
Dawson
Yukon Territory
Great Bear Lake
Foxe Basin
Iqaluit
Labrador Sea
Atlantic Ocean
Whitehorse
Northwest Territories
Nunavut
Baker Lake
Hudson Strait
Pacific
Yellowknife
Great Slave Lake
Fort Nelson
Ungava Bay
Nain
Kuujjuaq
Newfoundland and Labrador
British Columbia
Hudson Bay
Fort McMurray
Lake Athabasca
Churchill
Prince George
Alberta
Edmonton
Reindeer Lake
Churchill Falls
St. John's
Newfoundland
Ocean
Vancouver Island
Saskatchewan
Manitoba
Lake Winnipeg
James Bay
Sept-Îles
Saint-Pierre and Miquelon (FRANCE)
Vancouver
Kamloops
Calgary
Sandy Lake
Quebec
Gulf of St. Lawrence
Victoria
Saskatoon
Charlottetown
Prince Edward Island
Regina
Winnipeg
Ontario
Fredericton
Québec
Halifax
Thunder Bay
Montréal
Nova Scotia
New Brunswick
UNITED STATES OF AMERICA
Ottawa
Lake Superior
Toronto
Lake Michigan
Lake Huron
Lake Ontario
Lake Erie
Atlantic Ocean
CANADA – Political
International boundary
370 km Exclusive Economic Zone (EEZ) boundary
Provincial/territorial boundary
Alberta Province/territory
Ottawa National capital
Regina Provincial/territorial capital
Kamloops Other locale
Scale
0 250 500 750 1 000 km

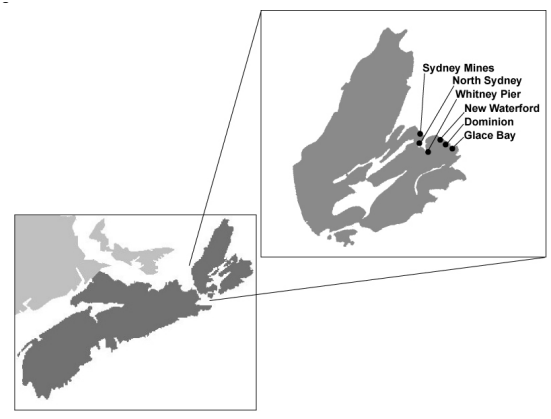


Figure 1: CEIP Communities - Cape Breton Regional Municipality, Nova Scotia

WHAT IT WAS IN A NUTSHELL

The Offer to Individuals

- 3 years of full-time employment, on locally developed projects in exchange for their entitlements to EI or IA
- In most respects, employment was designed to replicate full-time market jobs -> 35 hours per week, at $325 a week, EI/CPP insurable, 15 days annual leave, medical benefits
- Support Services: Some job-readiness and transferable skills training

The Offer to Communities

- A free workforce of 750 workers for up to five years
- Each community was required to elect a representative board, develop a strategic plan, and approve projects ->Local control given to communities – explicitly links projects to local needs

Half of the enrollees from the EI and IA samples were randomly assigned to the program group, or offered community based work and the other half to the control group.

Evidence indicates that random assignment was successfully implemented for CEIP

While the EI and IA samples represented disadvantaged populations and were similar in many respects, they differed in a few key areas:

• The EI sample is more likely to be male, older, less likely to volunteer and have a higher educational attainment.

SRDC study concludes that "all and all, results indicate that an employment program modeled on CEIP would be a cost-effective approach, generating nearly $1.40 in net benefits for individuals and communities for every dollar spent by government."

Numerous off the record discussions with HRSDC indicate that there was *some* dissatisfaction with this exercise. Yet the data we argue can be used to answer questions that may not have been the experimenters initial hypotheses but for the general research community.

Program skewered in the local press. My favorite quote "(The CEIP) is the thin edge of the wedge, a large step toward a less caring society, a more American, less Canadian culture."

Why Unique?

This program offered employment and at the 36 month point immediately cut funding leading to substantial displacement.

The primary data sources are administrative records and a baseline, 18-, 40-, and 54-month follow-up surveys. The timing of the surveys is somewhat fortuitous.

Statistics Canada used telephone surveys to learn about employment history, personal and household income, social capital, employability skills, household composition, attitudes, and health and well-being.

We will view this program strictly as an encouragement design and use being assigned to the treatment group of CEIP as our source to identify the impacts of employment on other human capital and social capital outcomes

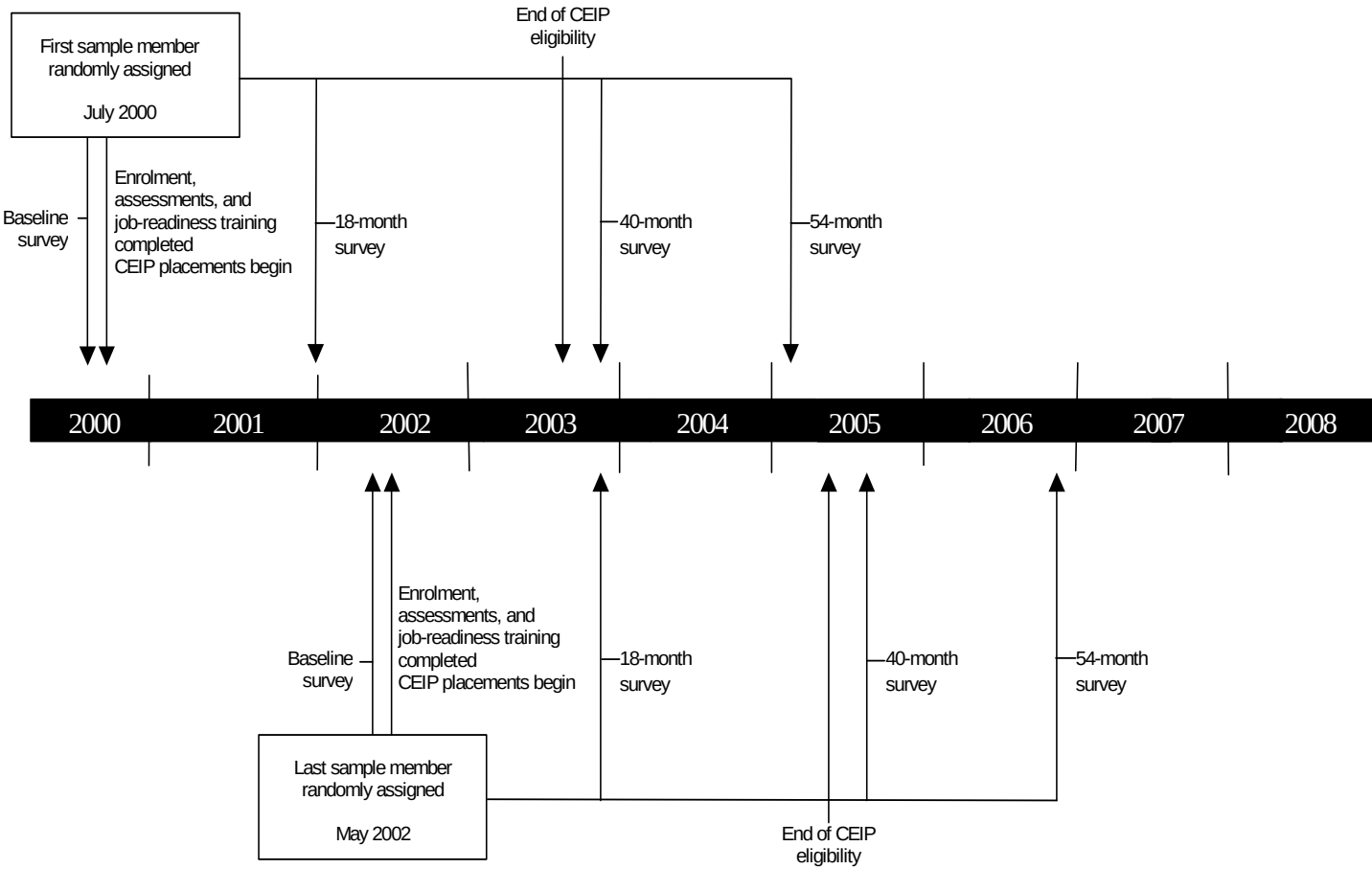
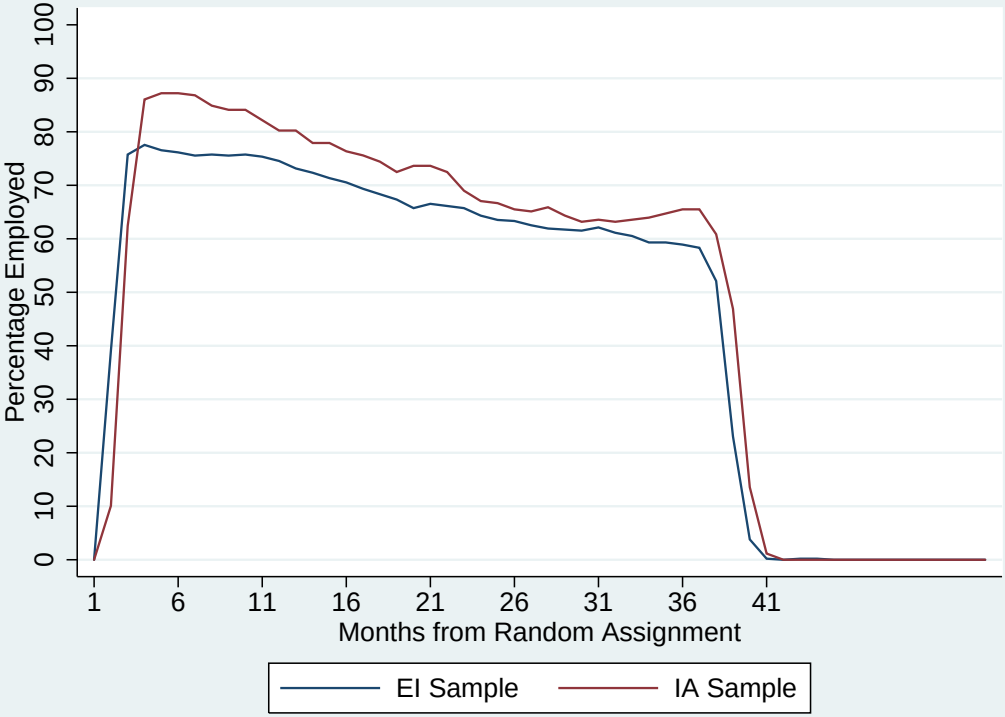
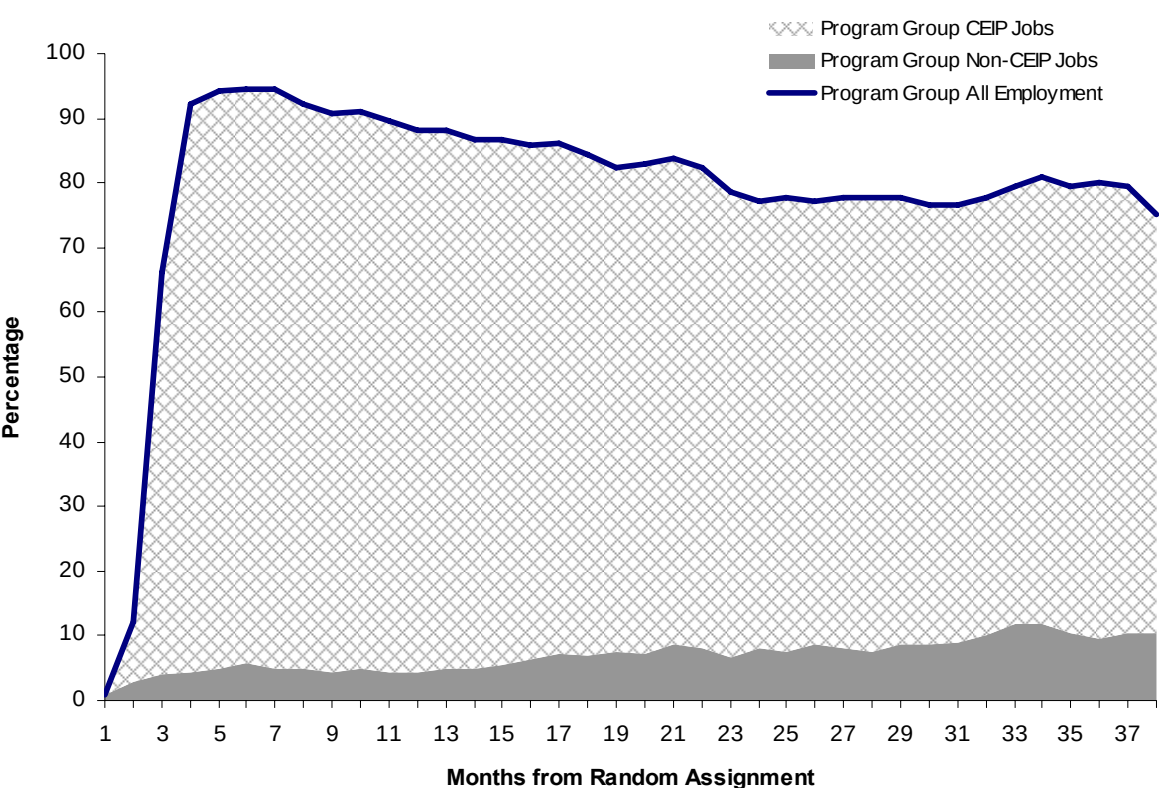


Figure 2: Project Timeline


Percentage Employed
0
10
20
30
40
50
60
70
80
90
100
1
6
11
16
21
26
31
36
41
Months from Random Assignment
EI Sample
IA Sample


Program Group CEIP Jobs
Program Group Non-CEIP Jobs
Program Group All Employment
Percentage
100
90
80
70
60
50
40
30
20
10
0
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3
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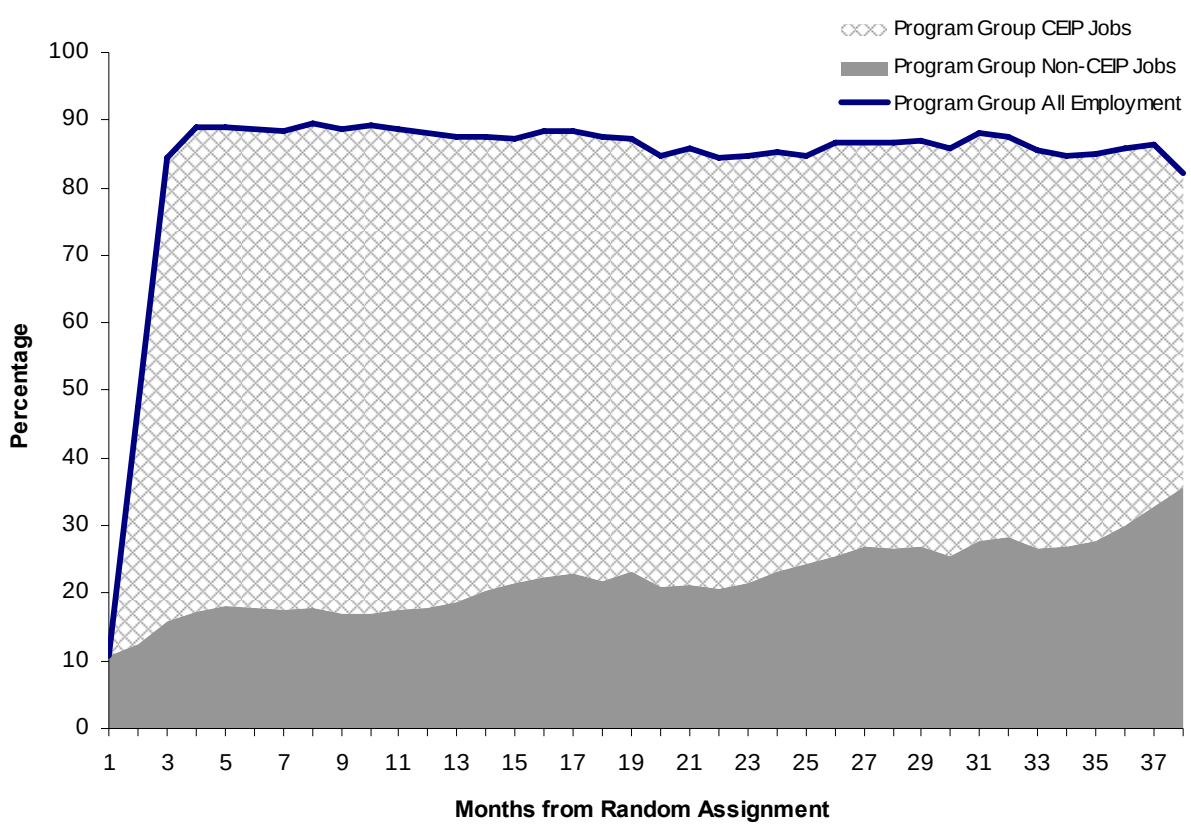
Months from Random Assignment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Percentage
100
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35
37
Months from Random Assignment

10 Results

Table 3: Summary Statistics

Variable	**Mean**	**St. Dev.**	**Min.**	**Max.**	**Mean Control**	**Mean Program**
Age	38.76	10.56	19	65	38.69	38.84
Male	0.5158	0.499	0	1	0.536	0.495
High school	0.507	0.499	0	1	0.504	0.510
College	0.1306	0.336	0	1	0.114	0.147
University	0.0358	0.185	0	1	0.042	0.029
Single	0.359	0.479	0	1	0.351	0.366
Married	0.446	0.497	0	1	0.441	0.450
Separated	0.087	0.282	0	1	0.098	0.077
Divorced/widowed	0.105	0.307	0	1	0.107	0.103
Years at current location	12.66	13.35	0.5	62	12.33	12.98
Relatives in Cape Breton	0.971	0.168	0	1	0.957	0.984
Household size	3.0	1.21	1	6	2.97	3.03
No. of firms worked for	1.633	0.967	0	5	1.62	1.64
Household income	27,106	17,953	1	140,000	26,564	27,630
job	0.438	0.496	0	1	0.394	0.481

Table 2: Sample Sizes for CEIP Participant Surveys

Wave	Program	Control	Total
Baseline	757	757	1514
18-month	707	656	1363
40-month	651	611	1262
54-month	599	553	1152

We did test for the presence of selective attrition

Today we will treat the missing data as random

Context matters

If we break down the treatment effects across sites and look really at those who first started we get some different effects.

Anticipation matters and it seems that implementation evolved to mitigate undesirable features of the program design

We will break down effects of job loss to those assigned in the first months, to those later on.

We think it is reasonable to assume job loss at the 36 month point can be treated in a manner analogous to those displaced in the broader literature for the early participants.

Interesting results are robust (but economic significance) does dip to the full sample

Empirical Model

The standard model of health human capital developed by Grossman (1972)

Inputs enter into a health production function that we will linearize as follows

$$H_{it}=\gamma_0+\gamma_1 X_{it}+\gamma_2 E_{it}+\varepsilon_{it2}$$

Several issues

- **Health is an ordinal variable**
- **Measure of employmemt**
- **The major empirical concern relates to the endogeneity of Eit.**
- **We consider three different measures of Eit in the analysis**

Details

We do not have data on the precise time spent on labour, so we proxy it with employment status, a dummy = 1 if the respondent reported being employed full-time at the time of the survey.

We use a control function approach since 2SLS is only consistent when the Stage 2.

This involves determining the projection of the endogenous explanatory variable onto the exogenous variables and adding the error term in the reduced form equation for the endogenous regressor in the structural equation for the outcome of interest in order to control for endogeneity.

Asymptotically inefficient relative to MLE, but is computationally convenient. Main challenge is that since the control function is estimated and not the true first-stage errors, we use the bootstrap procedure to account for this additional uncertainty.

ENCOURAGEMENT

Use information on access to CEIP employment programs that was conditionally randomly assigned

Similar to an encouragement design (Holland 1988).

Random assignment of encouragement to accept the treatment ensures that one of the assumptions of the IV argument is true.

Only the treatment itself and not encouragement alone affects the outcome.

In this structure, there can be substantial selection bias in accepting the treatment, but this can removed through an instrumental variable analysis. Prototype for IV design.

Main Results Part 1

The impact of having a job on health at wave 1 is positive and significant. The IV result is nearly double the size.

The impact of losing a job on health at wave 2 is negative and significant. The IV result is more than double the size.

The role of household income also changes across waves

While tests cannot reject the OLS results can offset, the IV estimates are different

The coefficient on the instrument reported in Table 5 for each employment measure is significant at the 1% level

Hausman test rejects the consistency of the OLS estimates for every specification reported in Table 3.

CONTROL FUNCTION ESTIMATES

ORDINAL OUTCOME

Wave	**1**	**1**	**2**	**2**
Sample	**All**	**First 3 months**	**All**	**First 3 months**
Impact of having a job	**0.543 (0.226)**	**0.788 (0.361)**	0.201 (0.304)	0.299 (0.485)
Impact of losing a job			**-1.203 (0.508)**	**-2.997 (0.595)**

Note: The general pattern of results is robust to alternative definitions of health and estimators.

Table 11: Estimation of Probability of Employment: First-Stage OLS Results

VARIABLES	Wave 1	Wave 2	Wave 3	Wave 4
treat	**0.00989**	**0.366*** **	**-0.0872*** **	**-0.0435**
	(0.0204)	**(0.0250)**	**(0.0296)**	**(0.0326)**
bage	0.00721	0.0228**	0.0368***	0.0523***
	(0.00702)	(0.00922)	(0.0102)	(0.0114)
bagesq	-9.32e-05	-0.000313***	-0.000529***	-0.000758***
	(8.64e-05)	(0.000113)	(0.000125)	(0.000137)
male	-0.146***	0.00869	0.0287	0.0119
	(0.0233)	(0.0270)	(0.0338)	(0.0367)
hschool	-0.0317	-0.0301	0.0171	-0.0443
	(0.0224)	(0.0274)	(0.0341)	(0.0375)
college	0.0235	0.0395	0.0987**	0.0674
	(0.0377)	(0.0416)	(0.0502)	(0.0522)
univ	-0.0442	-0.120*	0.154*	0.0727
	(0.0561)	(0.0725)	(0.0802)	(0.0861)
breswage	-0.00231	-0.00990**	0.00496	0.00451
	(0.00246)	(0.00453)	(0.00439)	(0.00568)
bmarried	0.0195	0.0442	0.0575	0.0155
	(0.0320)	(0.0370)	(0.0459)	(0.0484)
bsepdiv	0.00485	0.0351	0.0993**	-0.0137
	(0.0349)	(0.0391)	(0.0502)	(0.0547)
hhincome	-7.01e-07	1.42e-05***	1.29e-05***	1.18e-05***
	(3.07e-06)	(2.50e-06)	(2.29e-06)	(2.47e-06)
hhincomesq	-0	-1.26e-10***	-8.22e-11***	-8.88e-11***
	(5.21e-11)	(0)	(0)	(0)
Constant	-0.0637	-0.0546	-0.471**	-0.656**
	(0.160)	(0.210)	(0.239)	(0.258)
Observations	1386	1165	1059	878
R^2	0.068	0.257	0.121	0.143
rmse	0.371	0.411	0.474	0.471
ll	-580.0	-601.9	-697.0	-569.6

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Motivating Looking at Volunteering Outcomes

Huge interdisciplinary literature examining how employment affects volunteering.

Examined by theorists, Arrow (1974), Becker (1974), Rose-Ackerman (1982) & Andreoni (1998) and empirically Menchik and Weisbrod (1987), Freeman (1997), Vaillancourt (1994) &Apinunmahakul and Devlin (2008).

Main focus is on investment or consumption motives to explain why people undertake volunteer activities.

Employment plays an important role in volunteering, but the direction of its effect on volunteering behaviour is not ex-ante obvious.

According to one view, employment has a negative effect
- it reduces the free time available to individuals that could be used for volunteering. Testable prediction is volunteering activity negatively related to the wage rate.

The other view argues that employment status imposes extra time demands on people, but also provides opportunities to them to socialize in their communities. Musick and Wilson (2008) suggest that people's time can be elastic if they are sufficiently motivated to take on a number of tasks, and that having a paid job increases the likelihood of individuals learning about volunteer opportunities or being asked to do volunteer work.

Volunteering also provides access to social networks which, in turn, can enhance employment opportunities

Easy to postulate other mechanisms linking employment and volunteering

Table 7: Volunteer rate by personal and economic characteristics, Nova Scotia 2007

	Volunteer rate (percent)	Average Annual volunteer hours (hours)	Population distribution (percent)	Percentage of total volunteer hours (percent)
Total	55.3	183	100.0	100.0
Age				
15 to 24	64.7	132	16.0	13.5
25 to 34	53.4	164	14.5	12.5
35 to 44	58.3	189	17.4	19.0
45 to 54	58.9	161	19.5	18.4
55 to 64	52.1	180	15.7	14.6
65 and older	43.9	298	17.0	22.0
Sex				
Male	52.6	182	48.6	46.3
Female	57.8	183	51.4	53.7
Marital Status				
Married or common-law	57.7	176	60.8	61.5
Single, never married	57.1	181	25.3	26.0
Separated or divorced	45.6	192	7.7	6.7
Education				
Less than high school	45.4	129	19.2	11.2
Graduated from high school	44.5	188	15.5	13.0
Some postsecondary	46.8	179	9.3	7.8
Postsecondary diploma	57.8	183	34.7	36.5
University degree	72.7	205	21.2	31.5
Labour force status				
Employed	59.8	164	62.7	60.9
Not in the labour force	51.3	211	34.8	37.5
Household income				
Less than $20,000	38.6	188	15.4	11.1
$20,000 to $39,999	43.4	168	21.9	15.8
$40,000 to $59,999	51.8	208	18.5	19.8
$60,000 to $79,999	65.8	206	16.4	22.0
$80,000 to $99,999	66.0	182	10.4	12.4
$100,000 or more	72.7	151	17.4	19.0
Presence of children in household				
No children	49.3	203	67.5	67.0
Pre-schooled aged children only	47.4	93	5.5	2.4
Pre-school & school aged children	63.5	195	3.6	-
School aged children only	73.3	154	23.4	26.2

Source: Hall et al. (2009)

Some Vocabulary

Formal Volunteering versus Informal Volunteering - Formal volunteering or helping is defined as any contribution of unpaid time to the activities of formal organizations. Informal volunteering or informal helping is any assistance given directly to non-household individuals, that is, not through a formal organization

In the CEIP data lots of questions under each so we have lots of knowledge on time spent and on less aggregate activities. We are probably not exploiting all of the information.

Table 5: Frequency of Volunteering

	Wave 1		Wave 2		Wave 3		Wave 4	
	P	C	P	C	P	C	P	C
How often did formal volunteering in past 12 months (percent)								
Never	51.2	46.1	53.1	62.8	52.8	66.7	55.3	65.0
Less than once a month	16.0	18.4	11.9	9.6	12.7	7.7	12.7	7.8
Once a month	10.7	10.9	13.0	10.6	10.4	8.9	10.0	8.6
Once a week	9.8	9.0	11.6	7.3	11.3	9.2	9.0	9.1
Few times a week	9.7	12.3	8.0	8.0	9.4	6.2	10.9	7.3
Everyday	2.5	3.3	2.3	1.7	3.4	1.3	2.0	2.2

P: Program group; C: Control group

Table 6: Volunteer and donor rates, population aged 15 and older, Canada, 2007

	Number of volunteers (thousands)	Volunteer rate (percent)	Number of donors (thousands)	Donor rate (percent)
Canada	12,478	46.1	22,841	84.4
Nova Scotia	431	55.3	675	86.6

Source: Hall et al. (2009)

Model

Similar to Menchik and Weisbrod (1987), we model the volunteering activity of an individual who faces an exogenously determined wage rate, .
The individuals are assumed to attempt to maximize their utility functions, assumed to be quasi-concave and increasing in all goods, subject to a budget constraint and social capital production function.
As in other studies, individuals choose time spent on leisure, market work and volunteer activities as well as conventional consumption expenditures.

We solve the model and end up with an equation (that has been linearized) like

$$V_{it}=\gamma_0 + \gamma_1 X_{it} + \gamma_2 E_{it} + \varepsilon_{it2}$$

Same issues and empirical analyses

- **Volunteering is an ordinal variable**
- **We consider multiple measure of employment and treat as endogenous.**

Results

Our results suggest that age, gender, educational levels, and marital status are major predictors of volunteering behaviour. This finding, and the direction of our effects, are broadly in line with earlier studies on the determinants of volunteering behaviour (Menchik & Weisbrod 1987, Vaillancourt 1994, Day &Devlin 1996, Webb&Abzug 2008).

The positive effect of employment on volunteering in Wave-2 is associated with a context where employers have an incentive in hiring the project participants, and where the organizational settings where these participants are hired provide significant opportunities, and perhaps some encouragement, for participants to engage in formal volunteering.
The negative effect of employment on volunteering in the next two waves comes in the context of employment eligibility for these participants and when they no longer face the same organizational environment. It is possible that those who continue to be employed after the end of project employment are at the higher end of the skill (and unobserved ability) distribution of the participants, and that they either cut back on their volunteering levels in an environment where jobs are scarce, or were already volunteering at lower levels and were focusing more on their jobs.

Notice that he effect of employment is that the effect is positive in the first wave (i.e., Wave-2), and is then strongly negative for the next two waves.

Comparing results for each wave with and without controlling for endogeneity, the most important thing to note is that failure to control for endogeneity severely underestimates the effect of employment on volunteering levels.

We find large and significant effects on measures of formal volunteering. A result we will discuss in more detail on the coming slides.

The instruments are equally strong in this half of the study.

We also examined the impacts of employment on informal volunteering

Informal volunteering entails providing unpaid help to friends or neighbours, and which could take the form of providing support to the sick or elderly, doing house or maintenance work, driving people to appointments or baby-sitting for someone who is not a relative or a member of their household.

In both waves 2 and 3, being employed generates a significant decrease in levels of informal volunteering in the empirical specifications.

Losing a job does increase the amount of informal volunteering

Table 9: Impact of Employment on Formal Volunteering: LPM in First Stage

VARIABLES	Wave 2 CF	Wave 2	Wave 3 CF	Wave 3	Wave 4 CF	Wave 4
job	**0.658*** **	**0.0475**	**-4.083*** **	**-0.170** **	**-5.642*** **	**-0.0805**
	(0.190)	**(0.0744)**	**(0.885)**	**(0.0867)**	**(2.073)**	**(0.0958)**
bage	-0.0151	-0.00371	0.105**	-0.0423	0.274**	-0.0198
	(0.0297)	(0.0290)	(0.0446)	(0.0289)	(0.112)	(0.0323)
bagesq	0.000292	0.000129	-0.00137**	0.000738**	-0.00387**	0.000388
	(0.000370)	(0.000358)	(0.000597)	(0.000355)	(0.00160)	(0.000407)
male	-0.207***	-0.201***	-0.238***	-0.325***	-0.231**	-0.284***
	(0.0772)	(0.0772)	(0.0834)	(0.0816)	(0.109)	(0.106)
hschool	0.306***	0.273***	0.237**	0.154*	0.0377	0.265**
	(0.0844)	(0.0834)	(0.0948)	(0.0934)	(0.142)	(0.115)
college	0.224**	0.227**	0.605***	0.196	0.655***	0.256*
	(0.108)	(0.107)	(0.169)	(0.140)	(0.225)	(0.145)
univ	0.588***	0.517***	0.925***	0.353**	0.887***	0.509**
	(0.158)	(0.161)	(0.203)	(0.178)	(0.267)	(0.202)
kid2	0.108	0.0768	0.123	0.0808	-0.0407	0.189*
	(0.104)	(0.105)	(0.108)	(0.106)	(0.133)	(0.111)
kid3	0.210*	0.222*	-0.0367	0.299**	-0.434	0.323**
	(0.119)	(0.119)	(0.147)	(0.124)	(0.301)	(0.145)
kid4	0.355**	0.363**	0.277	0.535***	-0.0394	0.434*
	(0.167)	(0.169)	(0.197)	(0.189)	(0.278)	(0.236)
breswage	0.0219**	0.0173*	0.0240	0.00697	0.0333**	0.00954
	(0.00944)	(0.00952)	(0.0150)	(0.0148)	(0.0153)	(0.0135)
bmarried	0.173	0.194*	0.157	-0.0806	0.236	0.133
	(0.113)	(0.113)	(0.138)	(0.119)	(0.151)	(0.141)
bsepdiv	0.0898	0.106	0.258*	-0.124	-0.222	-0.146
	(0.114)	(0.114)	(0.149)	(0.122)	(0.140)	(0.141)
hhincome	-1.49e-05**	-3.81e-06	6.13e-05***	1.20e-05**	7.43e-05***	9.46e-06
	(7.59e-06)	(6.82e-06)	(1.25e-05)	(5.92e-06)	(2.50e-05)	(7.25e-06)
hhincomesq	1.58e-10**	5.63e-11	-3.89e-10***	-7.93e-11	-5.57e-10***	-7.05e-11
	(7.97e-11)	(7.43e-11)	(8.52e-11)	(5.59e-11)	(1.96e-10)	(7.69e-11)
Observations	1162	1162	1055	1055	875	875
ll	-1513	-1519	-1325	-1336	-1115	-1120
R^2	0.025	0.021	0.037	0.028	0.0246	0.0208

Standard errors, in parentheses, bootstrapped for all columns. *** p<0.01, ** p<0.05, * p<0.1

Table 13: Reasons for Volunteering at Wave 2 (18-month) Survey

Reasons for Volunteering	% of participants
To help cause in which personally believe	15.7
Because friends volunteer	3.2
To improve job skills	1.2
To improve job opportunities	1.7
To fulfill religious obligations/beliefs	2.7
Enjoy helping other people	85.9
Required by school/employer/government	0.8
Already work for volunteer organization	1.4
Something to do	4.8
No of observations	1062

Table 14: Forms of Volunteering (in percentages)

Formal Volunteering	Wave 2	Wave 3	Wave 4
Did canvassing, campaigning or fundraising	54.4	46.7	56.7
Serve as an unpaid member of a Board or Committee	32.7	28.7	35.1
Provide information/help to educate/influence public opinion	29.7	28.1	32.5
Organize or supervise activities for an organization	60.4	58.4	59.2
Did consulting, executive, office or admin work	27.9	24.4	27.5
Teach or coach for an organization	27.7	25.1	24.0
Provide care or support, inc counseling & friendly visits	27.9	27.3	31.4
Collect/serve/deliver food as a volunteer through an orgn	36.6	31.1	38.0
Did volunteer driving on behalf of an organization	27.4	19.2	25.1
Did formal volunteering through some other way	35.9	25.7	38.0
Observations	566	505	458

We explore the channels connecting employment and volunteering from our data. First, examine the stated reasons for engaging in formal volunteering. Note, job-related reasons are rarely reported. Possible that respondents who volunteered for job-related reasons or because of social sanctions may have internalized the more socially acceptable reasons for volunteering.

When we formally look at the specific channels through which respondents volunteer, it appears that job-related reasons are significant. The most important forms of volunteering are organizing or supervising activities for an organization; canvassing, campaigning or fundraising; and collecting, serving or delivering food as a volunteer through an organization.
All appear to be strongly related to the employment context.

The least important forms of volunteering are providing information to influence public opinion; providing care or support; and volunteer driving on behalf of an organization. These forms of volunteering appear to be less closely related to the job-related reasons. I

Taken together

Our results appear to be consistent with much of the intuition in Freeman (1997)

He suggests that standard labor supply explanations of volunteering account for only a minor part of volunteer behavior.

Many volunteer only when requested to do so. He suggests that volunteering is a “conscience good or activity" - something that people feel morally obliged to do when asked, but which they would just as soon let someone else do

Our results suggest that organizational context may be an important determinant of the levels of formal volunteering, and thus our results focus attention on the precise channels through which employment and volunteering may be connected.

Conclusions

This study uses data from the Cape Breton CEIP to estimate how changes in employment affect health and volunteering measures.

To overcome endogeneity of employment we use a control function approach.

The first set of results provides strong evidence that employment status has a substantial effect on different measures of health.

The results also suggest that the effect of employment on health is significantly different than the effect of unemployment on health, thereby rejecting an assumption implicit with many panel data estimators.

The impact of employment on health does not seem to operate primarily through the income channel.

On volunteering, Freeman (1997) speculative piece seems to be right on the money.