

# An Analysis of an Unemployment Insurance Benefit Extension in Canada: the Case of the Commodity-sector Workers

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# What do We do?

- The benefits of the unemployment insurance program can vary due to changes in the economy, such as a high unemployment rate
  - ▶ Part of the program is embedded in the EI entitlement matrix
  - ▶ There is a long history of pilot programs that usually extend benefits by 5 weeks and target frequent EI claimants
  - ▶ Some of these pilot projects or extensions under special circumstances can be extensive, such as the CERB in response to COVID-19
- It is important to understand how EI claimants use the extra unemployment insurance benefit
- This paper aims to estimate the effect of one of these extensions on claimants' behavior, specifically whether they use the additional benefits to extend their unemployment beyond what they would receive under the entitlement matrix

# “Commodities Cycle” Initiative

- The program of interest was announced in the 2016 federal budget
- This intervention was unique in several ways:
  - ▶ The selection criterion for regions was based on an INCREASE in local unemployment rate (UR) rather than a high LEVEL of UR
  - ▶ Much better targeted at cyclical rather than structural unemployment
  - ▶ Much better aligned with standard insurance principles
- This pilot project was called “Commodities Cycle” because it focused on regions impacted by the steep decline in global commodity prices in 2014-2015

## EI Economic Regions Selected for the CC Initiative

Province	Economic (Administrative) Region
Newfoundland and Labrador	E02 Newfoundland and Labrador
Ontario	E36 Sudbury, E38 Northern Ontario
Manitoba	E41 Northern Manitoba
Saskatchewan	E43 Saskatoon, E44 Southern Saskatchewan, E45 Northern Saskatchewan
Alberta	E46 Calgary, E47 Edmonton, E48 Northern Alberta, E49 Southern Alberta
British Columbia	E50 Southern Interior British Columbia, E55 Northern British Columbia
Yukon Territory	E59 Whitehorse
Nunavut	E64 Nunavut

# Who Qualify for the Program?

- In the designated regions, all claimants were eligible for an additional 5 weeks of benefits.
- Long Tenure Workers (LTWs) were eligible for an additional 10 weeks, 17 weeks, or 25 weeks, depending on the time they apply for the EI
- LTWs status were assigned based on their claims and contributions history:
  - ▶ No more than 35 weeks of benefits claimed in the five years before filing their current claim
  - ▶ Contribute at least 30% of the maximum EI in 7 of the past 10 years
- Outside of pilot projects, LTWs do not receive longer entitlements or more generous benefits

# The Benefit Extension of the CC Initiative

- From the week of Jan 04, 2015 to Jun 26, 2016 is a retroactive period
- The extension reduced for LTW over time

Table: Extra weeks by status and time period

		Before	Jan 04, 15 to Jun 26, 16	Jul 03, 16 to Sep 25, 16	Oct 02, 16 to Feb 19, 17	Feb 26, 17 to Jul 18, 17	After
Inside Pilot Region	LTW	0	25	25	17	10	0
	non-LTW	0	5	5	5	5	0
Outside Pilot Region	all	0	0	0	0	0	0

## Dataset: Employment Insurance Status Vector

- The Employment Insurance Status Vector (EISV) file is primary administrative data for EI claimants available from year 1997 and includes claims for regular EI benefits, EI maternity and parental benefits, and other types of benefits
- The EISV is a longitudinal dataset that tracks claimants' activity week by week throughout their claim
- The EISV also provide a summary of each claim weekly
- The variables in the EISV file include the reason for separation from employment, the claimant's previous occupation, the number of weeks of benefits received/on claim, entitlement weeks, and work activity during the claim
- However, the EISV file does not include information on earnings or work activity prior to the claim, except for the claimants' insurable hours/weeks and previous claims

# Why do We Evaluate EI Extension

- Unemployment benefits provide direct support to the unemployed
- However, there may be moral hazard effects where the unemployed do not search for new jobs intensively or accept appropriate offers, but rather make use of EI benefits
  - ▶ Scarring effect on the unemployed's long-term career prospects
  - ▶ Additional cost for the EI program
- The literature typically find a unemployed would remain in EI for 0.4-0.6 weeks longer for each additional week

## Quick Look of the Data

- Focus on claimants from the targeted regions
- Comparison group is pilot region in pre-pilot period from Jan 2013 to Dec 2014 and post-pilot period from Jul 2017 to Jul 2017
  - ▶ We skip the retrospective period

	<b>Year Before the CC</b>	<b>During the CC (03-Jul-16 to 02-Jul-17)</b>	<b>Year After the CC</b>
# of entitlement weeks	34.9	44.7	35.5
# total weeks on claim	34.4	44.3	33.2
# of benefit weeks paid	20.6	28.4	21.8

- Before period and after period have similar stats, however, the outcomes are higher during the CC
- Results are similar if we compare to regions outside the targeted regions

## Regression

- Using the entitlement matrix and the unemployment rate, we can calculate the entitlement week each claimant suppose to get – determine who is treated
- Estimating the following using data from one year before the pilot project to the end of the pilot project:

$$Y_{i,t} = X\beta + \beta_1 PP_{i,t} + \beta_{10} T_{10,i,t} + \beta_{17} T_{17,i,t} + \beta_{25} T_{25,i,t} + \epsilon_{i,t}$$

where  $T_n$ ,  $n = \{10, 17, 25\}$ , indicate the observation is treated with  $n$  extra weeks  
 $PP_{i,t}$  indicates if the claim start during the pilot project

Table: Pilot region, before and during pilot period

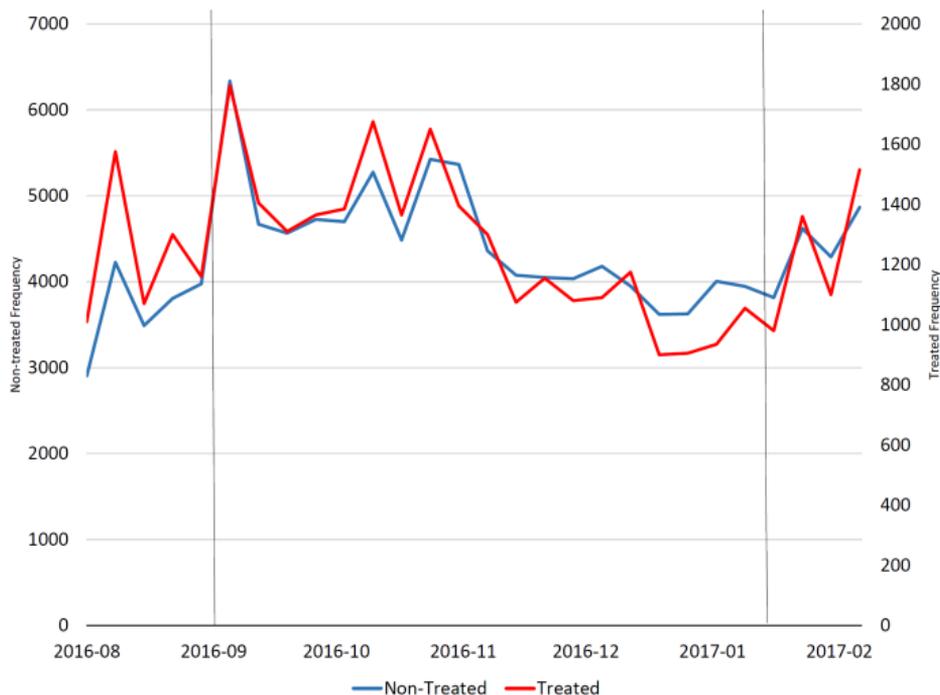
treatment indicator	No. of entitlement weeks awarded	No. of benefit weeks collected	No. of weeks of active claim status
PP (+ 5 weeks)	3.53	5.57	7.05
+ 10 weeks	6.82	3.46	6.70
+ 17 weeks	13.13	6.14	8.01
+ 25 weeks	20.83	8.63	13.19

- All estimates are significant at 1%

# Discontinuity I: Time

- Take advantage of the high frequency of data available (weekly)
- Compare the behavior of claimants just before and after the policy change that reduced entitlements weeks for LTWs in the targeted regions (e.g., from +25 to +17 weeks).
- Assuming the timing of job loss (and hence begin the EI benefits) is random, the assignment of extra weeks can be treated as random
  - ▶ We do not observe any significant bunching around the policy change
  - ▶ Other variables such as age and insured hours are not significantly different before and after the policy change
- Focus on the period +/- 10 weeks around the reduction in extra weeks awarded, from +25 to +17 and from +17 to +10.

# Frequency of Claimants over Time



The pattern in the frequency of claimants is similar for those getting extra entitlement weeks and for those did not

# Entitlement Weeks over Time

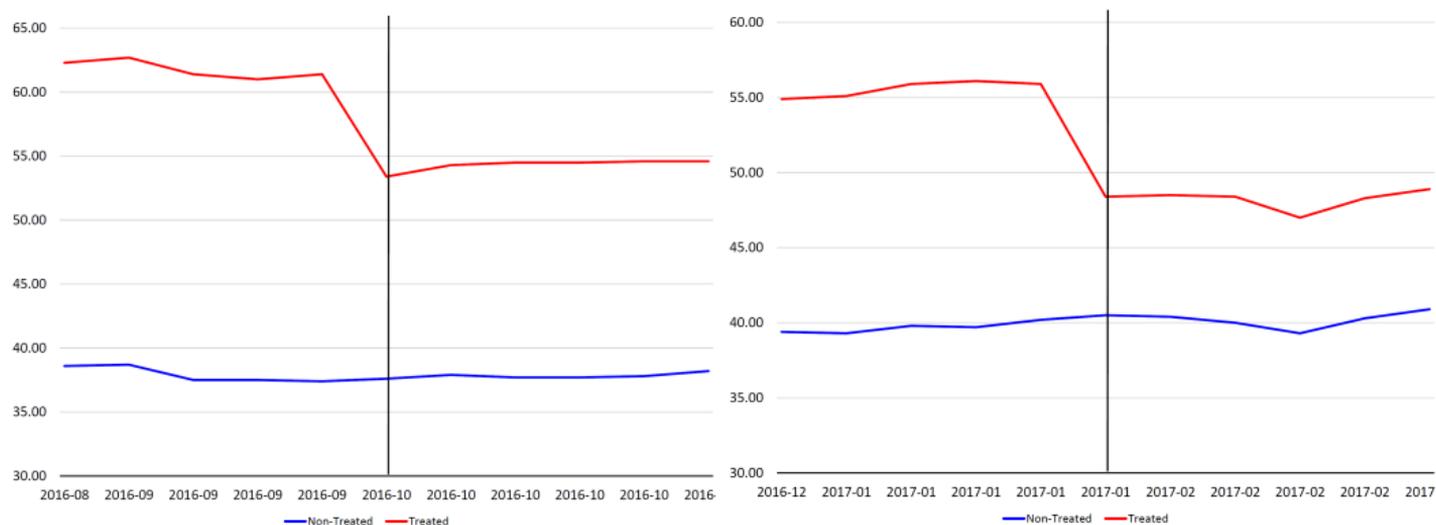


Figure: Entitlement Weeks +/- 5 weeks from the Policy change

The treated group in the targeted regions experience significant drop in term of entitlement weeks, when the policy change from +25 to +17 (and from +17 to +10)

# Responses: Number of Weeks of Active Claim Status

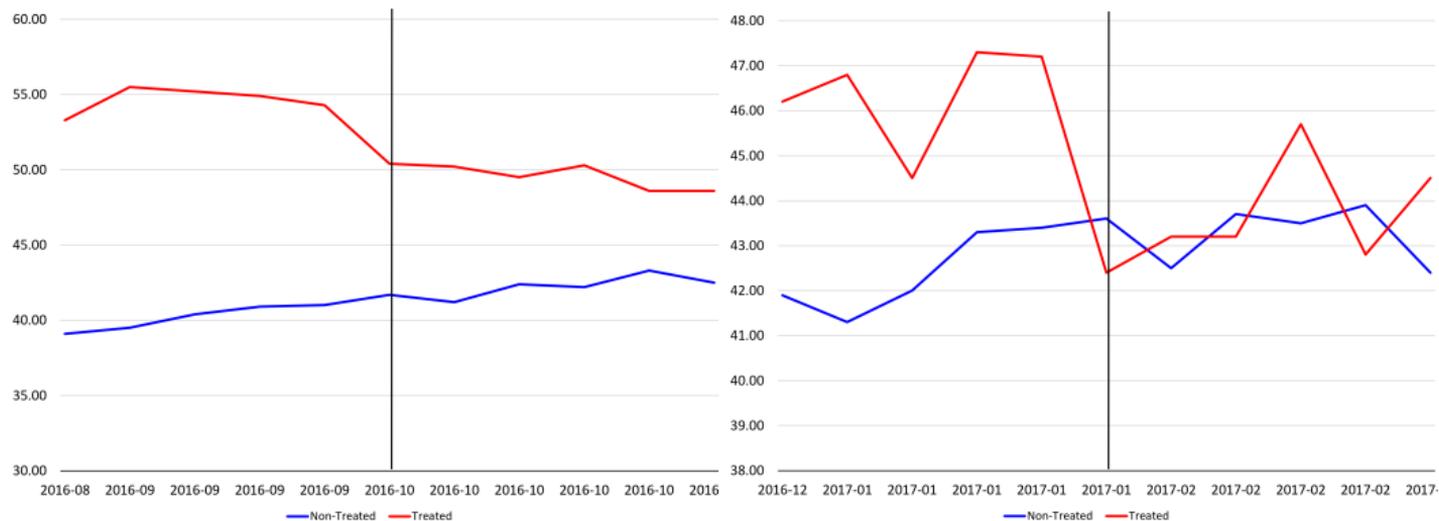


Figure: Total Weeks on Claim +/- 5 weeks from the Policy change

# Responses: Number of Benefit Weeks Collected

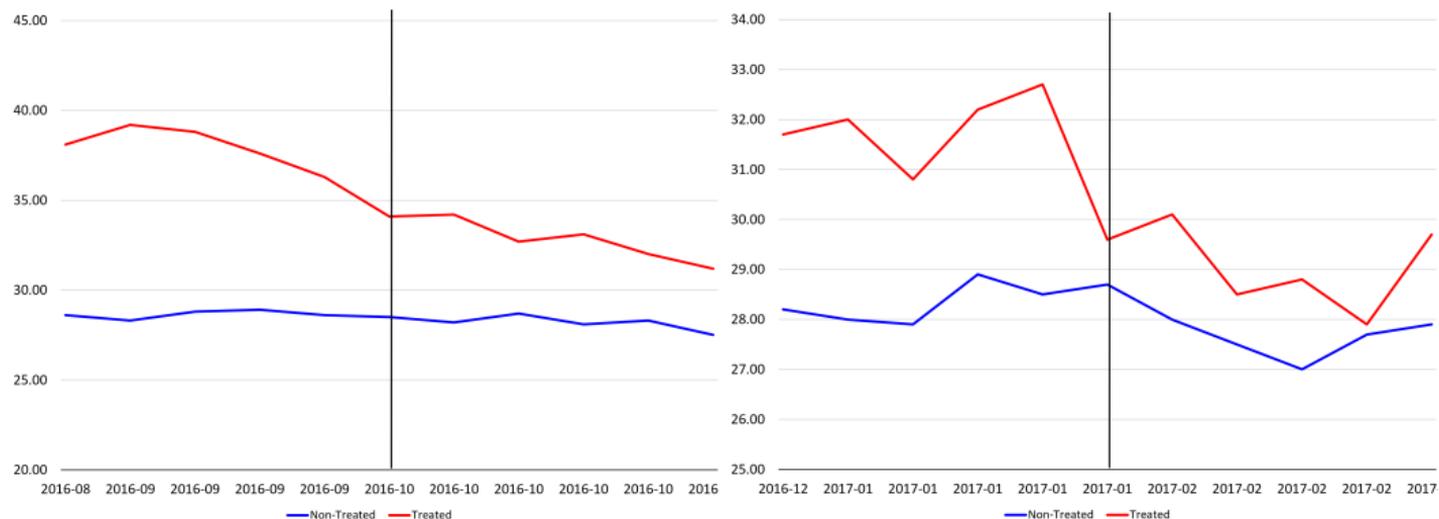


Figure: Number of Benefit Weeks Collected +/- 5 weeks from the Policy change

# Regression

- Below, we will estimate the following regression

$$Y = \alpha + \sum_{p=1}^n \beta_p t^p + \beta_T T + X\beta + \epsilon$$

where  $\sum_{p=1}^n \beta_p t^p$  is fitted with a polynomial function on the time variables,  $T$  is equal to 1 if the  $t > c$  and  $c$  is the time when the policy change

Table: Coefficient of the threshold variable,  $T$

	Bandwidth	No. of entitlement weeks awarded	No. of weeks of active claim status	No. of benefit weeks collected
Oct, 2016	10	-7.664***	-5.033***	-2.563**
(+25 to +17)	15	-7.696***	-4.873***	-2.118*
Feb, 2017	10	-7.174***	-6.656**	-3.870**
(+17 to +10)	15	-7.191***	-4.031**	-2.624*

control vars: age, insured hour, noc, economic region, UR, gender

# Conclusion

- In general, EI claimants stay in the program for an additional 10 weeks and collect approximately 8 more weeks of benefits under the CC project
- After controlling for various variables in a regression, claimants receive between 0.57 and 0.9 additional weeks of benefits and remain active in the EI program for an additional 0.8 to 1.4 weeks for each extra week received
- When examining the response just before and after the policy change, claimants stay active in the program for an additional 0.5 to 0.7 weeks for each extra week, but only receive an additional 0.25 to 0.5 weeks of benefits for each extra week received
- Future plans include exploring the discontinuity using the qualifications of LTWs, specifically that they must not have claimed more than 35 weeks in the previous 5 years.