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Request for Proposals: Creation of the Active Labour Market Program Data Platform

Evaluation Directorate, Employment and Social
Development Canada

Information Session
January 24, 2018



The opinions expressed in this presentation are those of the evaluators of the Evaluation Directorate and do not necessarily represent those of ESDC or the Federal Government.



Objectives of the Presentation

- Introduce the Active Labour Market Program Data Platform available from Employment and Social Development Canada to academic researchers in order to facilitate submissions under the Request for Proposals. **The full platform including data and metadata will be available in June 2018.**
- Provide interested researchers with sufficient information to inspire research ideas.
- Discuss its potential for research/Evaluation in the area of labour market programming.



Contents

Overview

- Background
- Proposals
- Privacy

Data Processing

- Population
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- Architecture

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- Model
- Application



Background

The Medium Term Performance Indicators was the starting point for the Active Labour Market Program Data Platform.

- Reduce dependence on surveys.
- Improve efficiency and utility.
- Create reliable and robust potential comparison groups.
- Develop performance indicators.
- Measure incremental impacts.



The new Active Labour Market Program Data Platform

- Expand scope of analysis to include Youth Employment Strategy; Indigenous Skills and Employment Training Strategy and Workforce Development Agreements which will replace the Labour Market Agreements.
- Additional concepts expressed as data entities that can be used on a larger scale by internal researchers, policy analysts, and ultimately external researchers and academics.
- The final data platform structure will be based on a relational data model that's flexible so that the data can be linked using different keys to create specific analytical files to answer their specific research question. **The platform is NOT a linked file.**
- Provide supplementary evidence to support the Employment Insurance Commission Annual Employment Insurance Monitoring and Assessment Report.
- Inform federal, provincial and territorial labour market policy, program development and evaluation in the context of the New Policy on Results.



Requirements

- Proposals must involve new research using the Active Labour Market Program Data Platform.
- Proposals must be national in scope (no provincial/territorial dimension).
- All proposals and papers will be reviewed.



Important Dates

- December 22 Request for proposals sent.
- January 24 Information session to introduce the new database.
- March 29 Proposals due.
- April 30 Researchers are informed of decision and given feedback from reviews.
- June 30 Data is released for successful bidders.
- End of July Information session on how to use the database.



Privacy

- The protection of personal information is a priority for Employment and Social Development Canada.
- Employment and Social Development Canada Act, Privacy Act, and other applicable laws.
- Unique personal identifier is masked.
- Access is via Employment and Social Development Canada infrastructure and only for approved contractors.
- Rigorous processes are in place should there be a breach.
- Only aggregate findings will be reported.



Population

The Active Labour Market Program Data Platform consists of all participants in ESDC's active labour market programs since 1996 and a sample* of non-participants who were eligible to participate as "active Employment Insurance claimant" clients, but never did. This includes, for example, the following groups:

- All Employment Insurance claimants** who participated in an ESDC active labour market program since 1996 and a sample of those who never did.
- Youth who are eligible to participate in labour market programs.
- Aboriginals who are eligible to participate in labour market programs.

** 20 to 100% depending on the jurisdictions*

*** Employment Insurance information since 1990*



Units of Observation

- As individuals in the data platform.
- Interventions assigned to individuals in the data platform.
- Program Participation - Action Plan Equivalents.
- Program Participation – Administratively Assigned Action Plans.
- Employment Insurance Claims.

Performance Indicators

- Employment/Self-employment earnings.
- Incidence of employment.
- Weeks and amount of Employment Insurance benefits paid.
- Amount of Social Assistance benefits collected.
- Dependence on income support.
- Time of Return to Employment.
- Benefit exhaustion rate.



Raw Data Sources

1. Employment and Social Development Canada Active Labour Market Program Data

- Employment Benefits and Support Measures under Labour Market Development Agreements: 1996-2016
- Youth Employment Strategy: 2003-2016
- Indigenous Skills and Employment Training Strategy and Skills and Partnership Fund: 2010-2016
- Aboriginal Human Resources Development Agreements: 1996-2010

2. Employment and Social Development Canada Employment Insurance Administrative Data

- Employment Insurance: 1990-2017
- Record of Employment: 1996-2017

3. Other Administrative Data

- Income Tax T1: 1996-2015
- Income Tax T4S : 1996-2015
- Canada Child Tax Benefit: 2006-2015

Details in Annex B



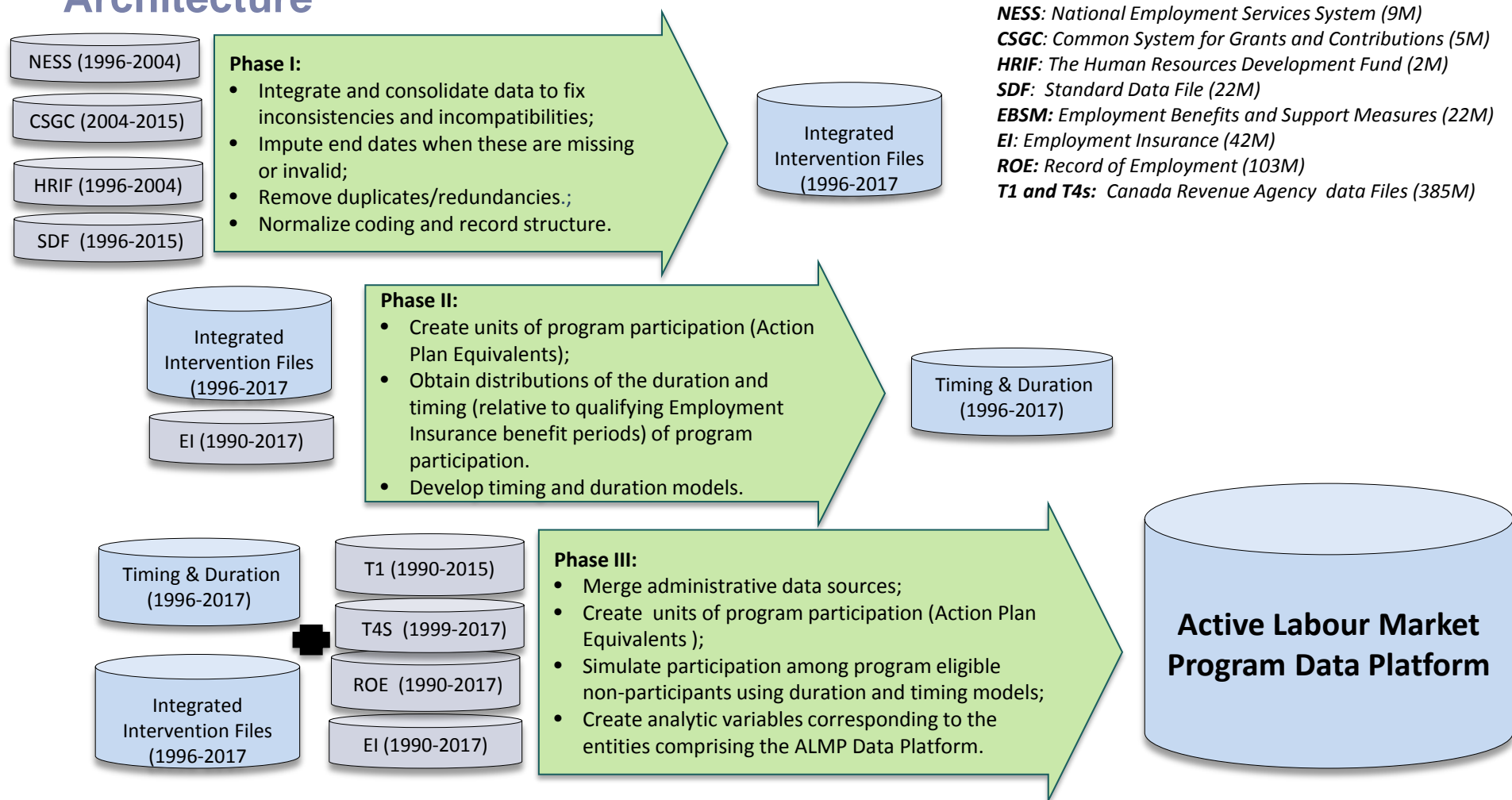
Sample

Employment Insurance claimants from 1990 to 2017:

- 100% Employment Insurance claimants who participated in the labour market programs across Canada from 1996 to 2017.
- 20 to 100% of Employment Insurance claimants who did not participate in labour market programs from 1990 to 2017:
 - 20% of individuals in: Quebec, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia.
 - 50% of individuals in: Newfoundland, Nova Scotia, and New Brunswick
 - 100% of individuals in: Prince Edward Island, Yukon, Northwest Territories, and Nunavut.



Architecture



Data Entities*

- 1# Individual Entity: Consists of all Labour Market Program Participants and a sample of individuals eligible to participate as “active Employment Insurance claimant clients”, but who never did during the observation period, and contains their fixed characteristics.
- 2# Integrated Labour Market Program Data Entity: Contains Active Labour Market Program interventions.
- 3# Employment Insurance Claims and Benefits Entity: Contains summary information about Employment Insurance claims established by individuals in the database.
- 4# Participation Data Entity: Contains information about units of participation, Action Plan Equivalents defined as sets of one or more co-ordinated interventions undertaken by individuals.
- 5# Comparison Group Entity: Contains hypothetical units of participation simulated for program-eligible non-participants under various intervention-type scenarios at various points (selection intervals) during the observation period.

**Details in Annex C*



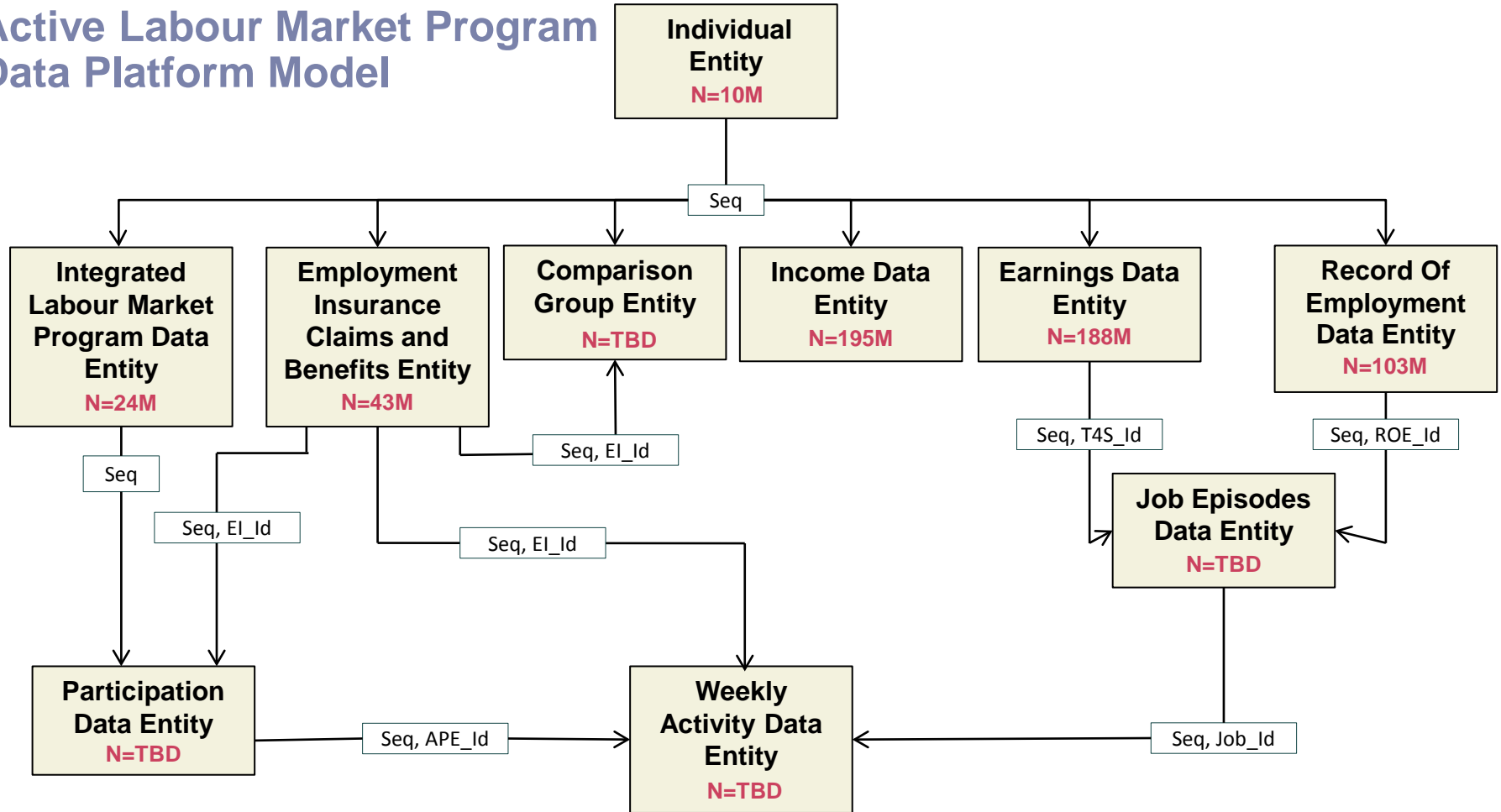
Data Entities* (continued)

- 6# Income Data Entity: Contains data on annual income sources, taxes, and some demographic characteristics for individuals in the database.
- 7# Earnings Data Entity: Contains information about earnings and contributions in respect of employment on an annual basis with specific employers.
- 8# Record of Employment Entity: Contains information issued to individuals by specific employers upon separation from jobs, including first and last date worked, insured earnings, insured weeks, and reason for separation.
- 9# Job Episodes Data Entity: Contains information on individuals' job spells with specific employers on an annual basis, obtained by linking records from the Record of Employment and Earnings Data entities.
- 10# Weekly Activity Entity: Contains week-based information on individuals' employment, Employment Insurance, active labour market program eligibility, and active labour market program attendance activities.

**Details in Annex C*



Active Labour Market Program Data Platform Model



TBD: To Be Determined



Application: Net Impact Evaluation

- Action Plan Equivalents
- Several reference periods were studied.
- Applied non-experimental methodology.
- Cases Studies (see in Annex A):
 - Estimating the Impact of Active Labour Market Programs using Administrative Data and Matching Methods.
 - Estimating the effects related to the timing of participation in employment assistance services using rich administrative data.
 - Cost-Benefit Analysis of Employment Benefits and Support Measures.

Methodology questions to explore

- Units of analysis
- Sequence, order and multiple interventions
- Heterogeneity effect
- Duration or intensity of intervention
- Longitudinal analysis
- Regression discontinuity
- Instrumental variables
- Predictive analysis (machine learning)
- Explore Indigenous and Youth programmes



Next Steps

- Finalize data model to facilitate understanding of data elements by researchers in March 2018.
- Test Employment and Social Development Canada infrastructure to be used to access database in May 2018.
- Release the full data Platform in June 2018.
- Release complete data dictionary (Metadata) in June 2018 .



Annex A: References

- 1. Canadian Journal of Program Evaluation, Volume 32, Fall 2017, **Making Evaluation More Responsive to Policy Needs: The Case of the Labour Market Development Agreements**, Retrieved from <https://evaluationcanada.ca/canadian-journal-program-evaluation/volume-32-2017/fall> (English version); <https://evaluationcanada.ca/fr/canadian-journal-program-evaluation/volume-32-2017/fall> (French version).
- 2. Statistics Canada Symposium 2016 Growth in Statistical Information: Challenges and Benefits. **A Case Study in Administrative Data Informing Policy Development**. Retrieved from <https://www.statcan.gc.ca/eng/conferences/symposium2016/program/14714-eng.pdf> .
- 3. Statistics Canada Symposium 2016 Growth in Statistical Information: Challenges and Benefits. **Estimating the Impact of Active Labour Market Programs using Administrative Data and Matching Methods**. Retrieved from <https://www.statcan.gc.ca/eng/conferences/symposium2016/program/14740-eng.pdf> .
- 4. Statistics Canada Symposium 2016 Growth in Statistical Information: Challenges and Benefits. **Estimating the effects related to the timing of participation in employment assistance services using rich administrative data**. Retrieved from <http://www.statcan.gc.ca/eng/conferences/symposium2016/program/14718-eng.pdf>.
- 5. Employment and Social Development Canada. (2016). **Cost-Benefit Analysis of Employment Benefits and Support Measures (Internal report)**. Presented at the Annual Conference of the Société Canadienne de Science Economique in Ottawa in May 2017.



Annex A: References (Continued)

- 6. Employment and Social Development Canada. (2016). **Employment Insurance Monitoring and Assessment Report 2013/14: Incremental impacts for 2002-2005 and 2007-2008 Employment Benefits and Support Measures participants at the National level, by age and gender.** Section III (<https://www.canada.ca/en/employment-social-development/programs/ei/ei-list/reports/monitoring2016/chapter3.html>) .
- 7. Employment and Social Development Canada. (2015). **Employment Insurance Monitoring and Assessment Report 2014/15 National evaluation of Employment Benefits and Support Measures: incremental impacts for the "long-tenured workers" Employment Insurance claimant category and cost-benefit analysis of Employment Benefits and Support Measures.** Section III (<https://www.canada.ca/en/employment-social-development/programs/ei/ei-list/reports/monitoring2015/chapter3.html>) .
- 8. Employment and Social Development Canada. (2014). **Employment Insurance Monitoring and Assessment Report 2013/14: Incremental impacts over three years post-program for all active and former claimants who started participation in 2007-2008.** Section III (<http://www.esdc.gc.ca/en/reports/ei/monitoring2014/chapter3.page#h2.30>) .
- 9. Employment and Social Development Canada. (2013). **Employment Insurance Monitoring and Assessment Report 2012/13: Incremental impacts over five years post-program for all active and former Employment Insurance claimants who started their Employment Benefits and Support Measures participation between 2002 and 2005.** Section III (<http://www.esdc.gc.ca/en/reports/ei/monitoring2013/chapter3.page#h2.3>) .



Annex B: Raw Data Sources

#	Files	Format	Periods	Main Variables	# of records
1	Masked Social Insurance Number master file	Text	1990 - 2017	7	10,415,104
2	Standardized Data File/Labour Market Development Agreements	SAS	1996 - 2010	31	18,573,090
3	New Standardized Data File/Labour Market Development Agreements	SAS	2010 - 2017	31	4,371,816
4	Standardized Data File/Indigenous Skills Employment Training Strategy	Text	2010- 2017	20	636,624
5	Standardized Data File/First Nations Job Fund	SAS	2011- 2017	20	9,372
6	Standardized Data File/ Skills and Partnership Fund	SAS	2010- 2017	15	56,676
7	National Employment Services System intervention File/Labour Market Development Agreements	Text	1996 - 2004	11	3,017,199
8	National Employment Services System Transaction File/Labour Market Development Agreement	Text	1996 - 2004	11	6,960,229
9	National Employment Services System Client File/Labour Market Development Agreements	Text	1996 - 2004	8	9,488,709
10	Human Resources Development Fund /Labour Market Development Agreements	Text	1996 - 2004	6	2,149,965



Annex B: Raw Data Sources (Continued)

#	Files	Format	Periods	Main Variables	# of records
11	Common System for Grants and Contributions /Labour Market Development Agreements- Client File	SAS	2004- 2017	10	5,290,700
12	Common System for Grants and Contributions /Labour Market Development Agreements- Action Plan File	SAS	2004- 2017	15	3,226,144
13	Common System for Grants and Contributions /Labour Market Development Agreements- Intervention File	SAS	2004- 2017	20	6,722,241
14	Common System for Grants and Contributions /Youth Employment Strategy – Client File	SAS	2003- 2017	10	247,465
15	Common System Grants and Contribution /Youth Employment Strategy - Action Plan File	SAS	2003- 2017	10	236,339
16	Common System for Grants and Contributions /Youth Employment Strategy – Intervention File	SAS	2003- 2017	20	262,471



Annex B: Raw Data Sources (Continued)

#	Files	Format	Periods	Main Variables	# of records
17	Record of Employment	Text	1990-2017	30	103,298,147
18	Status Vector file (Employment Insurance part 1) weekly information on Employment Insurance benefit	Text	1990-2017	50	267,433,222
19	Status Vector: National Occupation Code 2011	SAS	1990-2017	4	15,526,989
20	Status Vector: Education	SAS	1990-2017	3	13,676,654
21	Canada Revenue Agency Administrative Income Tax Data File	SAS	1990 - 2015	15	195,079,732
22	Canada Revenue Agency Administrative Earnings Data File	SAS	1999 - 2015	15	188,323,170



Annex C: Entities

- 1. Individual Entity
 - This entity contains a single record for each individual in the database containing data about the individual's fixed characteristics;
 - The characteristics are taken from the most reliable source;
 - **Main data elements:** Sequence number, Date of birth, Gender, Visible minority status, Entry into the labour force status, and Aboriginal status.

- 2. Integrated Labour Market Program (ILMP) Data Entity
 - Each record in this entity is in respect of an intervention assigned to a labour market program client;
 - These records were created by editing, merging and normalizing data from various ESDC active labour market program data collection systems.
 - There are as many ILMP records per individual as the number of interventions assigned to the individual during the observation period;
 - This entity contains intervention records for 100% of labour market intervention clients between 1996 and 2016 (e.g. Labour Market Development Agreement clients, Youth Employment Strategy clients, and Indigenous Skills Employment Training Strategy clients);
 - **Main data elements:** Sequence number, intervention identification number, Program code, Intervention code, Intervention start date, Intervention end date, Intervention outcome code, disability status, and Province.



Annex C: Entities (Continued)

- 3. Employment Insurance Claims and Benefits Entity
 - Each record in this entity represents an Employment Insurance claim established by an individual in the database.
 - Each record contains summary information about the Employment Insurance claim.
 - Each individual has as many records in this entity as the number of Employment Insurance claims he or she has established during the observation period.
 - Some records in this entity may be in respect of Employment Insurance claims that did not lead to participation in an ESDC labour market intervention program.
 - **Main data elements** : Sequence number, Benefit period commencement date, date last report was received from claimant, Benefit Period Termination date, Office where claim was processed, Province, Economic region, Occupation code, weekly benefit amount, insured earnings in rate calculation period, number of insured hours, most recent benefit type, industry of employment before Benefit Period Commencement, claim termination code, total benefit weeks received, total amount of benefits received, and reason for separation.

- 4. Program Participation Entity
 - Each record in this entity represents a unit of program participation, defined as a single or a set of interventions, which jointly determine labour market outcomes for each individual.
 - These interventions may have been assigned under different programs, and may have been co-ordinated to achieve desired individual goals.
 - The unit of participation in this entity is referred to as an “Action Plan Equivalent” and contains one or more interventions (as defined in the integrated labour market program data entity) that were assigned within 183 days of one another.
 - Each record in this entity is a unit of analysis used in the definition of performance indicators and in the net impact evaluation of labour market programs.
 - There may be multiple Action Plan Equivalents per individual, and multiple interventions per Action Plan Equivalent.
 - This file contains records from 1996 to 2017.
 - **Main data elements**: Sequence number, Start date/End date of Action Plan Equivalent, year and quarter (selection interval) in which participation started, principal category of Action Plan Equivalent, and number of gap days.



Annex C: Entities (Continued)

- 5. Comparison Group Entity
 - Records in this entity are in respect of individuals who are eligible to participate as “active Employment Insurance claimant” clients in labour market intervention programs at various times during the observation period (selection intervals), but do not. These individuals are potential comparison group candidates.
 - Each record represents a period of participation simulated under a specific intervention-type scenario in a specific selection interval.
 - The same comparison group candidate may have several participation records within the same selection interval, each simulated under a different intervention type scenario.
 - Comparison group candidates may have simulated participation records in all the selection intervals in which they were eligible to participate.
 - This file contains records from 1996 to 2016.
 - **Main data elements:** Sequence number, Action Plan Equivalent start date/end date, and Participation Status by quarter.

- 6. Income data entity
 - Each record in this entity represents an income tax return filed by an individual in the database;
 - An income tax return record contains the individual’s income from various sources, provincial and federal income taxes, and some demographic data (marital status, number of children for whom Goods and Services Tax credit is being claimed, spouse’s net income).
 - Each individual has as many tax return records as the number of tax returns filed during the observation period.
 - Income tax return data is available only two years after it is collected.
 - **Main data elements:** Sequence number, Tax Year, Taxing province, Marital status, child care expenses, number of child benefits claimed, Net business income, Net employment commissions income, Canada/Quebec Pension Plan contributions, Canada/Quebec Pension Plan self-employment contributions, Canada/Quebec Pension Plan benefits, T4 earnings, Net farm income, Net fishing income, other employment income, other income, Old age security, Social assistance, Total income, total taxable income, Net provincial tax reported, Net Federal tax reported, and Spouse’s net income.



Annex C: Entities (Continued)

- 7. Earning data entity
 - T4 supplementary records contain information about gross and insurable earnings paid to individuals by an employer, various deductions, non-taxable aboriginal earnings, and some socio-economic data.
 - There is one T4 supplementary record corresponding to each employer for whom the individual worked in each calendar year.
 - It is only available two years after being collected.
 - This file contains data from 1990 to 2015.
 - **Main data elements:** Sequence number, Tax year, business identification number, industry code, province of employment, gross earnings, insured earnings, boarding and lodging benefits, eligible tax exempt aboriginal retirement allowances, tax-exempt aboriginal earnings, Canada/Quebec Pension Plan contributions, Employment Insurance premiums, and union dues.

- 8. Record of Employment data entity
 - A Record of Employment is issued by an employer each time an individual separates from employment.
 - The Record of Employment contains critical information needed to establish an Employment Insurance claim (first date worked, last date worked, reason for separation, insured earnings in the 26 weeks before separation, insured hours), as well as the employer identifier.
 - There are as many Records of Employment per individual as the number of times he/she separated from employment during the observation period.
 - **Main data elements:** Sequence number, employment type, first date of employment, separation date, Record of Employment issue date, reason for separation, insured hours in 52 weeks preceding separation, Business ID code, industry code, and pointer to the record in the Employment Insurance claims and benefits entity. if any, to which the Record of Employment is linked.



Annex C: (Continued)

9. Annual job episodes entity

- Each record in this entity represents a job episode of an individual in the database within a calendar year, defined as a continuous stretch of employment with a specific employer within a calendar year.
- If the individual experienced an interruption of employment with a given employer the date of interruption signifies the end of the job episode. If the individual returned to the same job, the new start date signifies the start of a new job episode with the same employer, and a new job-episode record.
- Records in this entity are created by linking T4 supplementary records and records of employment.
- **Main data elements** Sequence number, first date of annual job episode, last date of annual job episode, average weekly earnings, average aboriginal earnings, and job episode type.

10. Weekly activity entity

- This entity represents an integration of all the entities into an analytical vector describing each week of the observation period;
- Each individual has as many records in this entity as the number of weeks in the observation period.
- Each record describes the individual in a given week with respect to Employment Insurance status, program participation status, program eligibility status, T4 earnings, aboriginal earnings, and job-episode in effect.
- Contains information on Employment Insurance claimants and their benefits including labour market program participation from 1990-2016.
- **Main data elements:** Sequence number, Week code, Employment Insurance status, Employment Insurance type, Employment Insurance amount, Reported earnings, Participation/Eligibility status, conflict status, intervention combination, T4 earnings, and aboriginal earnings.



Analysis of Incremental Impacts for the Participation in Employment Benefits and Support Measures

Information Session

January 24, 2018



Subject

- Presents the example of producing incremental impacts for active Employment Insurance claimants who participated in Employment Benefits and Support Measures (EBSMs) delivered under the Labour Market Development Agreements (LMDAs).
- Content:
 - Background
 - Methodology for incremental impact analysis
 - Results
 - Conclusion
 - Further Studies



Background

- The analysis covered most active claimants who started participation in EBSMs between April 1, 2002 and March 31, 2005 across Canada.
 - Active claimants are those who started participation in EBSMs while collected Employment Insurance benefits.
- Four categories of EBSMs were examined:
 - **Skills Development** helps participants to obtain employment skills by giving them financial assistance for attending classroom training. Investments are made in occupational training, essential skills training, adult basic education and language training.
 - **Targeted Wage Subsidies** assist participants to obtain on-the-job work experience by providing employers with financial assistance toward the wages of participants.
 - **Job Creation Partnership** projects provide participants with opportunities to gain work experience. Activities of the project help develop the community and the local economy.
 - **Employment Assistance Services** provide employment assistance to unemployed persons. This may include individual counselling, action planning, job search assistance, job-finding clubs and case management.



Methodology

- Used propensity score matching (Kernel Matching) combined with Difference-in-Differences.
 - Inverse Probability Weighting and Nearest Neighbour were used to validate results.
- Up to 75 variables used in the propensity score model include:
 - Age, sex, Indigenous status, person with disability, immigrant, visible minority, marital status, location (Employment Insurance region).
 - Skill levels (NOC), industry (NAICS) of occupation prior to participation, reason for job separation, new-entrant to the labour market.
 - Previous participation in EBSMs during the 5 years pre-participation
 - Insured hours, earnings, use of EI benefits, use of SA benefits in the 5 years before participation.
- The unit of analysis used in examining the incremental impacts was the Action Plan Equivalent, which regroups all EBSM interventions an individual participated in within an interval of six months of each other (i.e., gap of six months or less between the end of one intervention and the beginning of the following one).



Methodology (Cont'd)

- The following table presents the number of participants and comparison group cases. Comparison cases were active EI claimants with no EBSM participation during the 2002-2005 reference period.

	Participants		Comparison cases		Ratio participants: comparison cases
	Sample selected	Number of individuals	Sample selected	Number of individuals	
Skills Development	50% of all participants	63,481	5% of eligible comparison cases	274,062	1:4
Targeted Wage Subsidies	100%	18,767	10% of eligible comparison cases	263,176	1:14
Job Creation Partnerships	100%	5,055	10% of eligible comparison cases	288,055	1:57
Employment Assistance Services	10% of all participants	37,382	5% of eligible comparison cases	146,284	1:4
Total	N/a	145,373	N/a	1,232,040	N/a



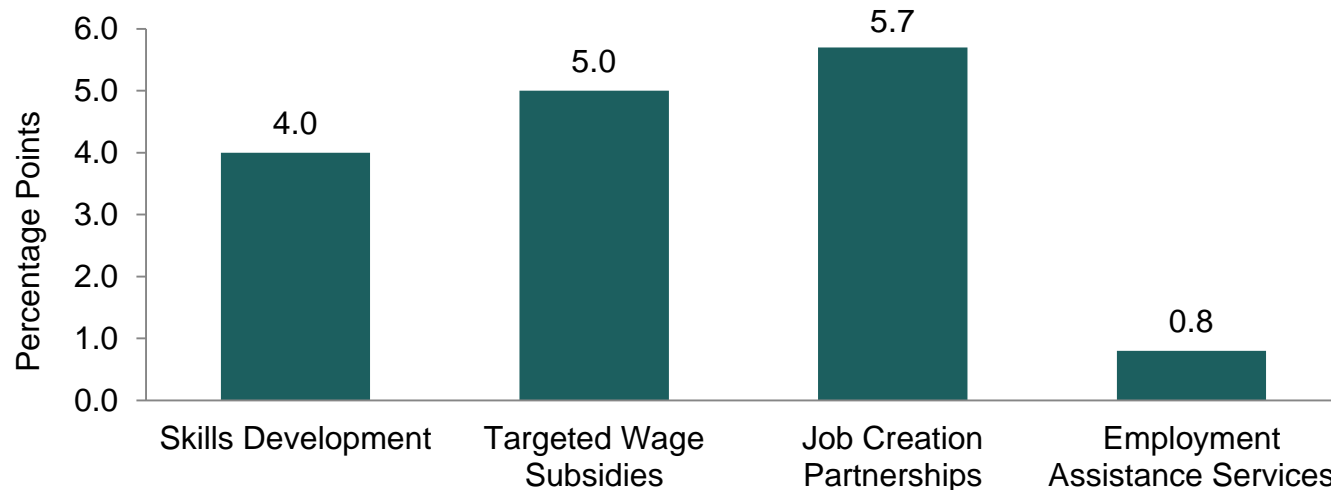
Methodology (Cont'd)

- The incremental impacts were estimated for the program and the post-program periods:
 - the participation period (i.e., start year of participation and the year after)
 - five years following the end of participation
 - the cumulative post-program period
 - the cumulative in- and post-program period
- Impacts were estimated for the following indicators:
 - employment/self-employment earnings
 - incidence of employment
 - amount of Employment Insurance benefits collected
 - number of weeks in receipt of Employment Insurance benefits
 - amount of Social Assistance benefits collected and
 - level of dependence on income support (i.e., ratio of Employment Insurance benefits plus Social Assistance benefits collected divided by all sources of income and earnings).



Results – Participants Have Higher Probability of Being Employed Relative to Non-Participants

Change in Probability of Being Employed in Participants Relative to Non-Participants (Annual Average over 5 Years Post Participation)

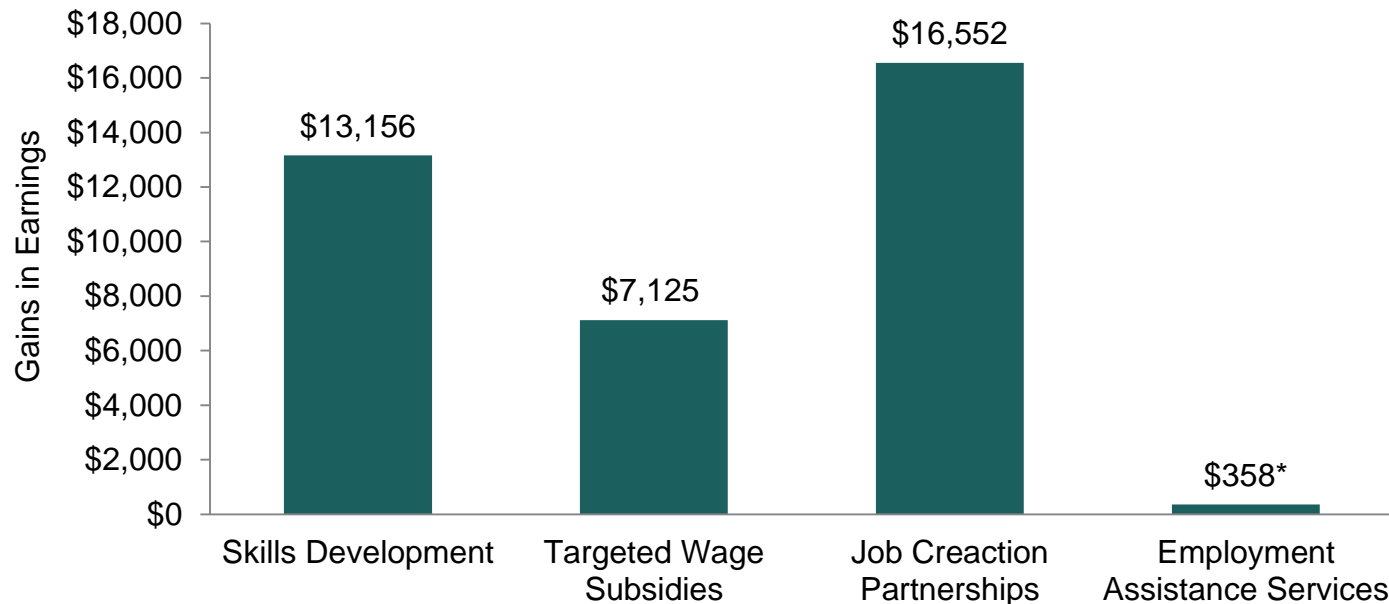


- Employment Assistance Services are relatively modest activities such as counselling, job search assistance and case management. By themselves, they are not expected to lead to substantial effects on labour market outcomes.
- Providing Employment Assistance Services earlier (first 4 weeks) in the Employment Insurance claim generates significantly greater returns (Timing of Participation Study).



Results – Participants Increased their Earnings Relative to Non-Participants

**Increase Earnings of Participants Relative to Non-Participants
(Cumulative Gain in Earnings 5 Years Post Participation)**

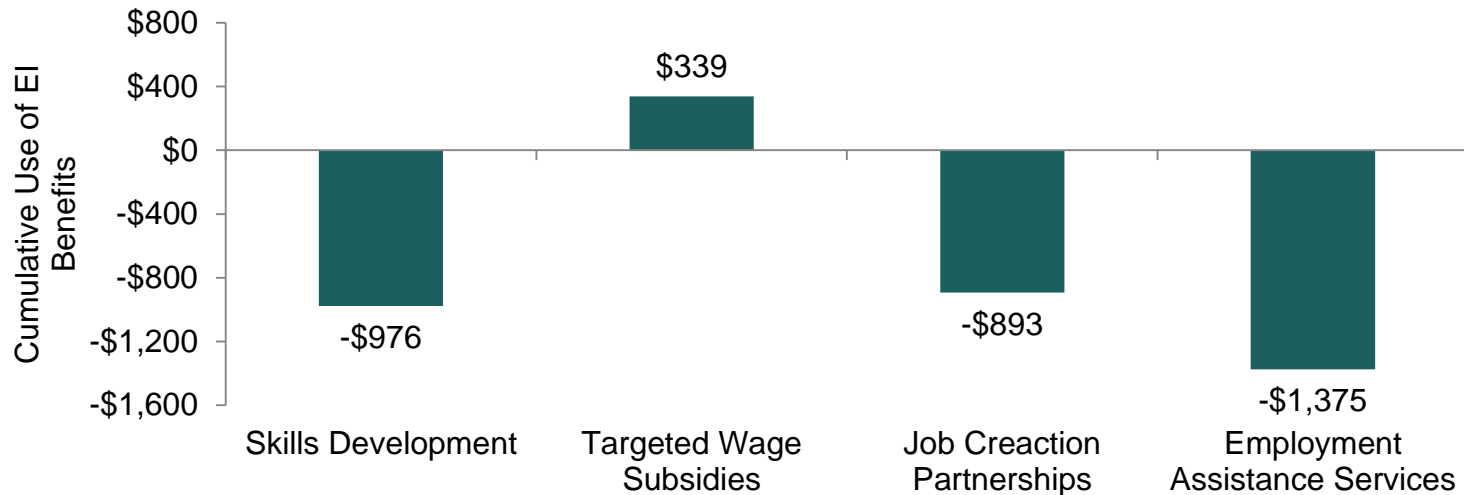


* The estimate is not statistically significant at the 95% confidence level



Results – Most Participants Reduced the Use of Employment Insurance

Decreased Employment Insurance of Participants Relative to Non-Participants (Cumulative Impacts 5 Years Post Participation)



- It is not surprising to observe an increase in Employment Insurance benefits for active claimants who participated in Targeted Wage Subsidies since they build entitlement to Employment Insurance while working (that is participating in the program).



Conclusions

- EBSMs are achieving their intended objectives as they are generally effective at improving the employment earnings and incidence of employment as well as at reducing the use of Employment Insurance for active claimants.



Further Studies

- Incremental impact analysis for the 2007-2008 cohort of participants.
- Incremental impacts by age groups and gender.
- Cost-Benefits analysis.
- Timing of participation in Employment Assistance Services.
- Heterogeneity of treatment effects study.
- Incremental impacts for various types of participants and sub-groups such as displaced long-tenured workers, repeat users of Employment Insurance and for those who are seasonally employed.
- What are the labour market outcomes and incremental impacts for Aboriginal participants who lives in rural versus urban areas?
- What programs and services are most effective for youth (LMDA versus Youth Employment Strategy)?
- Developing and testing a statistical referral tool.



Analysis of Employment Insurance Income Benefits

Information Session

January 24, 2018



Objective

Present some of the analysis developed through the years using the Records of Employment, the Status Vector and the tax files for the evaluation of Employment Insurance Income Benefits

Content

- Types of Benefits
- Evaluation Themes
- Examples of Methods Used
- Examples of Indicators
- Study Examples
 1. Descriptive Analysis of Labour Market Displacement
 2. Impact Analysis of the Extension of EI Benefit Entitlement of Long-Tenured Workers
 3. Impact Analysis of the Extended Duration Pilot Projects and Initiative
- Evaluation Projects Completed and in Progress



Types of Benefits

	\$ million	% share
Regular benefits	\$12,122.2	68.6%
Work-Sharing benefits	\$38.8	0.2%
Fishing benefits	\$272.3	1.5%
Special benefits	\$5,249.6	29.7%
Parental benefits	\$2,643.5	50.4%
Sickness benefits	\$1,456.0	27.7%
Maternity benefits	\$1,110.9	21.2%
Compassionate care benefits	\$18.4	0.3%
Benefits for Parents of Critically Ill Children benefits	\$20.9	0.4%

Amount paid in Employment Insurance benefits by benefit type, Canada, 2015/2016; Source: Employment Insurance Monitoring and Assessment Report for the fiscal year beginning April 1, 2015 and ending March 31, 2016, Chapter 2, Section 1.1.



Evaluation Themes

- Coverage, contributions, eligibility by socio-economic status and type of claimants
- Pre and post claim employment
- Benefit Usage by claimants and firms
- Impact of program design changes

Examples of Methods Used

- Descriptive
- Difference in Difference
- Regression Discontinuities
- Regional Longitudinal Panel Data
- Before-And-After
- Fixed Effects



Examples of Indicators

- Percentage of job separators with enough insurable hours to qualify
- Weeks and amount of EI benefits paid
- Benefit exhaustion rate: percentage of pure regular benefit claims for which all weeks of regular entitlements are paid
- Probability of working while on claim
- Post-claim earnings



Study Example 1. Descriptive Analysis of Labour Market Displacement

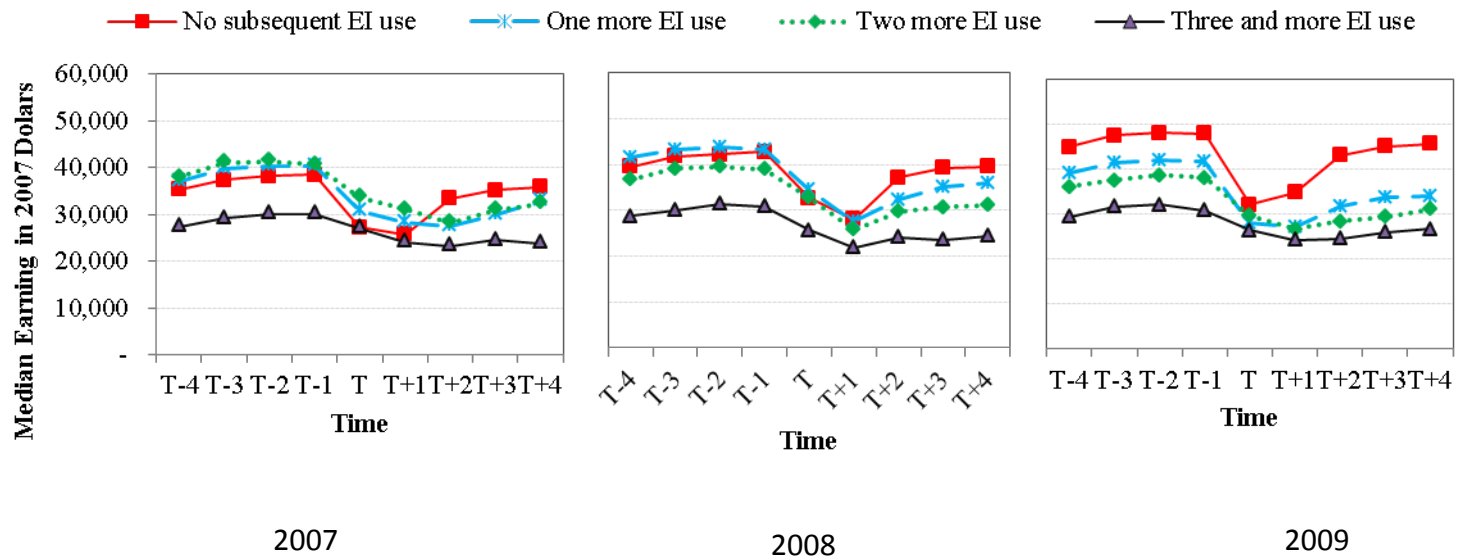
Questions:

- What are the characteristics of first-time EI claimants who experience job displacement in terms of age, industry, gender, employment earnings, and EI use?
- How often does the receipt of one EI claim after a period of stable employment lead to frequent/repeated EI use?
- How are employment earnings associated with a single EI claim? With multiple claims?



Study Example 1. Descriptive Analysis of Labour Market Displacement (Cont'd)

Earnings for First-time Displaced EI Claimants with Continuous Employment Earnings after Displacement, by Subsequent EI Use, 2007 to 2009 Cohorts



Study Example 2. Impact Analysis of the Extension of Employment Insurance Benefit Entitlement for Long-Tenured Workers

- During the 2008-09 downturn, the EI program provided additional weeks of benefit entitlement to long-tenured workers (LTWs) under the *Extension of Employment Insurance Regular Benefits for Long-Tenured Workers* (EEILTW)
- While this initiative was one of many aimed at stimulating spending, it also provided a natural experiment to examine the impact of extended benefits on post-claim income

Questions

- What did post-unemployment spell income look like for EI claimants (and LTWs in particular)?
- Did the additional benefit entitlement result in improved income for claimants following their unemployment spell?



Study Example 2. Impact Analysis of the Extension of Employment Insurance Benefit Entitlement for Long-Tenured Workers (Cont'd)

Regression results - Log income 2012 on weeks5 - LTW indicates the LATE

	Model 1		Model 2		Model 3	
	coef	se	coef	se	coef	se
LTW	0.005	0.089	0.209	0.145	0.038	0.113
Weeks5	0.011	0.011	0.096*	0.048	0.029	0.025
LTW * Weeks5	-0.037*	0.014	-0.102	0.058	-0.062*	0.032
Weeks5 squared			-0.008	0.004	-0.002	0.001
LTW * Weeks5 squared			0.010	0.005	0.001	0.002
Observations	7,199		7,199		10,757	
Bandwidth	+/- 10		+/- 10		+/- 15	

Weeks 5: Claimants have received no more than 35 weeks of regular EI benefits in previous 5 years (Forcing Variable)

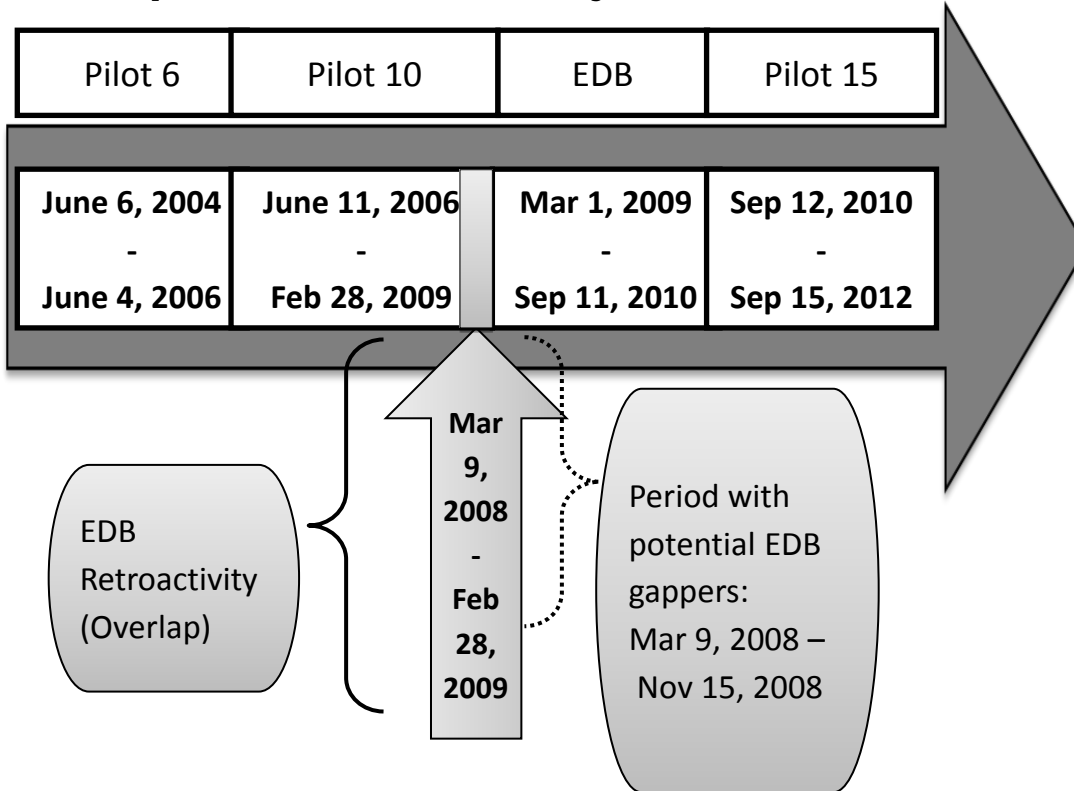
Models also run with controls (age, gender, province, job attachment) without impacting results

* Indicates statistical significance at 5% confidence level



Study Example 3. Pilot Projects and the Extended duration of EI regular benefits initiative

Intake periods of Pilot Projects and EDB initiative



- The Extended duration of EI regular benefits (EDB) initiative increased payable regular benefits by five weeks up to maximum of 50 weeks.
- Pilot Project No15 related to extended benefits (Pilot 15) provided five additional weeks of payable regular benefits up to the maximum of 45 weeks in 21 economic regions with high unemployment.

Study Example 3. Pilot Projects and the Extended duration of EI regular benefits initiative (Cont'd)

Outcome Variables	Selected Covariates	Coefficients	P>t	95% Confidence Interval		N
Claim Length (in weeks)	Pilot 6&10*Non Pilot	-1.64	0.00	-2.45	-0.83	726,039
	Pilot15* Non Pilot	-1.45	0.00	-2.02	-0.88	
	No Extension	-1.31	0.00	-1.90	-0.73	
Entitlement Exhaustion Rate (a) (% points)	Pilot 6&10*Non Pilot	5.3	-	1.34	9.18	726,039
	Pilot15* Non Pilot	5.2	-	2.53	7.85	
	No Extension	7.0	-	4.29	9.64	
Regular Entitlement Usage Rate (%)	Pilot 6&10*Non Pilot	-1.85	0.094	-4.03	0.32	726,039
	Pilot15* Non Pilot	-0.75	0.253	-2.06	0.55	
	No Extension	-0.21	0.747	-1.54	1.11	

Source: EI Administrative data (a): average marginal effect



Evaluation Projects Completed and in Progress

Completed

- 2010. Evaluation of the Pilot Project to Extend Employment Insurance Benefits by Five Weeks: 2004-2009
- 2011. Summative Evaluation of New Entrants and Re-Entrants
- 2014. Evaluation of the Extension of Employment Insurance Regular Benefits for Long-Tenured Workers
- 2014. Evaluation of the Career Transition Assistance Initiative
- 2015. Evaluation of the Employment Insurance pilot projects calculating benefit rate based on claimant's 14 highest weeks of insurable earnings and providing increased access to Employment and Unemployment Benefits for new entrants and re-entrants
- 2016. Evaluation of the Work-Sharing Program
- 2016. Evaluation of the Employment Insurance Special Benefits for Self-employed Workers
- Evaluation of the Extended Duration of EI Regular Benefits Initiative and the Pilot Project No. 15 Relating to Extended Benefits
- 2018. Evaluation of the Working While on Claim (WWC) Pilot Projects (final report drafted)
- 2018. Evaluation of the Connecting Canadians with Available Jobs (CCAJ) Initiative (final report drafted)

Supplemental Studies are also produced every year in support of the Employment Insurance Monitoring and Assessment Report

In Progress

- Evaluation of Job Bank
- Evaluation of Labour Market Outcomes
- Evaluation of the EI Sickness Benefits
- Evaluation of Parents of Critically Ill Children

