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# Cost-Benefit Analysis of Employment Benefits and Support Measures

## Technical Study Prepared Under the Second Cycle for the Evaluation of the Labour Market Development Agreements

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**Cost-Benefit Analysis of Employment Benefits and Support Measures - Technical Study Prepared Under the Second Cycle for the Evaluation of the Labour Market Development Agreements**

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## *List of Abbreviations*

|       |   |
|-------|---|
| AHRDA | Aboriginal Human Resources Development Agreements |
| APE   | Action Plan Equivalent                            |
| CRA   | Canada Revenue Agency                             |
| CCTB  | Canadian Child Tax Benefit                        |
| EAS   | Employment Assistance Services                    |
| ESDC  | Employment and Social Development Canada          |
| EBSMs | Employment Benefits and Support Measures          |
| EI    | Employment Insurance                              |
| GST   | Good and Services Tax                             |
| HST   | Harmonized Sales Tax                              |
| JCP   | Job Creation Partnerships                         |
| LMDA  | Labour Market Development Agreement               |
| MAR   | Monitoring and Assessment Report                  |
| MSCPF | Marginal Social Cost of Public Funds              |
| SA    | Social Assistance                                 |
| SD    | Skills Development                                |
| SE    | Self-Employment                                   |
| TWS   | Targeted Wage Subsidies                           |

## *Executive Summary*

This technical report presents results from a cost-benefit analysis of Employment Benefits and Support Measures (EBSMs) delivered under the Labour Market Development Agreements (LMDAs) across Canada. Costs and benefits were examined for up to eight consecutive years that occurred between 2002 and 2012. Those years cover the participation period (i.e., two years for Employment Benefits and one year for Employment Assistance Services (EAS)) and six years post-program.

### **Methodology**

The cost-benefit results were examined for active and former Employment Insurance (EI) claimants who started their EBSM participation between 2002 and 2005. Results were produced for three indicators:

- **Net present value:** this indicator is calculated by subtracting the total costs from the total benefits observed over the participation period and the six years after the end of participation.
- **EI Part II cost-benefit ratio:** the ratio measures how much it costs in EI part II funds to achieve \$1 in benefits. The ratio was measured by dividing the direct program cost by the sum of discounted benefits measured over the participation period and the six-year post-program period.
- **Payback period:** this indicator estimates the amount of time required for benefits to equal costs. If the benefits were inferior to the costs six years post-program, the impacts over the following years were extrapolated using the average annual impacts measured over the fifth and sixth years of the post-program period.

Results were examined from three perspectives:

- **Individual:** compares the benefits an individual experienced as a result of EBSM participation (e.g., increases in employment earnings or in fringe benefits received) to the costs that the person had to pay to participate.
- **Government:** compares the benefits resulting from government's investments in EBSMs such as increased tax revenues and lower use of EI and Social Assistance (SA) benefits with the costs of delivering the program.
- **Social:** indicates whether the benefits related to delivering and participating in EBSMs (e.g., increased earnings for participants) recovered the costs from participating in and delivering this program (e.g., costs of delivering the program). This perspective is a combination of the individual and government ones.

Results were measured for active and former claimants separately and by EBSM type. Self-Employment (SE) was not examined, since the incremental impacts on earnings represent large decreases, thus the cost-benefit results would be negative. Also, due to methodological challenges, the incremental impacts on earnings for the individual may not be fully representative of SE participants' financial well-being. Such challenges are documented in the national technical report on *Analysis of the Profile, Outcomes and Medium-Term Incremental Impacts for the 2002-2005 Participants*.

The analysis took into account all the quantifiable costs and benefits directly related to EBSM delivery and participation that could be measured using the administrative data held by Employment and Social Development Canada (ESDC). While it is comprehensive in the sense that it accounts for the vast majority of possible direct costs and benefits, it is limited in the sense that it does not reflect larger economic and social impacts of EBSMs such as the multiplier effect that improving participant's income could have on the economy or the possible improvement in participant's wellbeing. The analysis accounted for the following costs and benefits. Those are defined in section 2.4 of the report:

- Program cost
- The Marginal Social Cost of Public Funds (MSCPF)
- Employment earnings
- Fringe benefits
- Federal and provincial income taxes
- Sales taxes
- Social Assistance (SA) and EI benefits collected

Program costs were measured using information on LMDA expenditures and new interventions reported in the EI Monitoring and Assessment Report (MAR). Other costs and benefits were assessed using linked administrative data from the EI Part I and II databank and CRA. Incremental impacts on earnings and use of EI and SA during participation and five years post-program were taken from the *Analysis of the Profile, Outcomes and Medium-Term Incremental Impacts for the 2002-2005 Participants*.<sup>1</sup> Impacts were generated over the sixth post-program years for the purpose of this report.

Note that impacts measured over the second year of participation and the six post-program years were discounted by 5% to bring them to a common base with the program cost and benefits incurred in the program start year. This 5% rate accounts for inflation and interest the government could have collected if the funds used to pay for the program had been invested.

## **Key Results**

Although impacts were examined from the three perspectives described in Methodology above, it should be noted that only the social perspective allows a sound assessment of program effectiveness in achieving its objectives of helping unemployed individuals to obtain and maintain employment and to generate EI savings.

For active claimants, results from the social perspective show that:

- The benefits of Targeted Wage Subsidies (TWS) and Job Creation Partnerships (JCP) exceeded the costs of those programs within 5.9 years. The total benefits six years after program end exceeded the costs by \$251 for TWS and \$366 for JCP.

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<sup>1</sup> ESDC, *Technical Report on the Analysis of Employment Benefits and Support Measures (EBSMs) Profile, Outcomes and Medium-Term Incremental Impacts* from 2002 to 2011 (Ottawa: ESDC, Evaluation Directorate, 2014)

- The benefits of Skills Development (SD) were \$4,600 lower than the costs six years after participation. However, the benefits would need to persist over 7.4 years in order to recover the costs.
- The benefits of EAS-only were \$3,280 lower than costs six years after the end of participation. The benefits would need to persist over 10.9 years to recover the costs. The cost-benefit result is partly due to the decreases in earnings experienced by active claimants during and immediately after participation. The main expected benefit from EAS is the return to employment by itself and not necessarily improvements in earnings that may follow as EAS do not focus on skill acquisition. Incremental impact analyses showed that EAS is achieving this objective since it increased participant's employment and decreases their EI use after participation. The value of the return in employment was not accounted for in this analysis since it is difficult to attribute a dollar figure to such an event. The decrease in EI use was also not considered from the social perspective because it represents a benefit for the government and a cost to the individual – both of them cancel each other out.

For former claimants, results from the social perspective show that:

- The benefits of TWS exceeded the costs during the second year of the participation period. The benefits six years after the end of participation exceeded the costs by \$12,452.
- The benefits of SD were \$5,254 below the costs, six years after the end of participation but costs could be recovered within 8.6 years after program end.
- Six years after program end, the benefits of JCP were \$10,257 below costs. The benefits may never recover the costs. However, JCP funds help develop the community and the local economy, but none of those benefits were accounted for in the cost-benefit analysis.

## Lessons Learned

In summary, of all EBSMs examined for **active claimants**, TWS and JCP had the most favourable results from both the individual and social perspectives. The payback period for SD would be 7.4 years from the social perspective for active claimants and 8.6 years for former claimants. Delivering this program requires a significant investment from the participants (i.e., foregone earnings while in training) and the government (i.e., program costs plus EI benefits paid during participation) but the benefits from training can last over many years, possibly a lifetime.

It would take more than 10 years for the benefits of EAS-only to recover its costs. These results are partly due to the reductions in employment earnings experienced by participants in the short-term after participation, even though this program is effective at helping unemployed individuals return to employment. With that respect it should be noted that evidence from the study on the effects of the timing of EAS-only participation<sup>2</sup> showed that participating in EAS early during an EI benefit period leads to better earnings and employment impacts as compared to participating later. This suggests that reaching unemployed individuals soon after they open an EI claim may improve the program success. Further analysis would be required to determine if this could also

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<sup>2</sup> ESDC, Draft Report on the National Results on the Effects of the Timing of Participation in Employment Assistance Services (Ottawa: ESDC, Evaluation Directorate, 2014)



improve the cost-benefit results. In addition, there are significant benefits associated with EAS that are not quantifiable.

For **former claimants**, TWS had the most favourable results from both the individual and social perspectives.

For **both active and former claimants** and for every EBSM examined in this analysis, the costs of delivering the program for government were always higher than the benefits six years after the end of participation (i.e., negative present value).

# ***1. Introduction***

This technical report presents results from a cost-benefit analysis of Employment Benefits and Support Measures (EBSMs) delivered under the Labour Market Development Agreements (LMDAs) in the thirteen provinces and territories. This study was conducted as part of the second cycle of LMDA evaluations.

The report includes the following:

- Introduction- including a description of the LMDAs and EBSMs
- Methodology
- Results
- Conclusion
- Supporting appendices

This analysis is based on the EBSM medium-term incremental impacts study completed in 2013-2014 which covered up to 100% of active and former Employment Insurance (EI) claimants who started an EBSM participation in the 2002-2005 period. Costs and benefits were examined over the participation period of one or two years and six years after the end of participation, – an observation period equaling up to eight consecutive years that occurred between 2002 and 2012.

The cost-benefit analysis addresses the following questions:

1. Are the benefits from EBSMs exceeding the costs within six years after the end of participation?
2. How much does it cost in EI part II funding to produce \$1 in benefits for the government and society?
3. How many years does it take for the benefits to recover the costs?

## **1.1 Labour Market Development Agreements**

LMDAs are bilateral agreements between the Government of Canada and each of the thirteen provinces and territories. Under the LMDAs, the federal government provides \$2 billion annually to provinces and territories to design, deliver and manage skills and employment programs, mainly targeted to unemployed Canadians eligible for EI. The objective of these programs and services is to assist individuals to obtain and/or keep employment.

The Agreements allow provinces and territories to have flexibility in designing and delivering programs and services that respond to their local and regional labour market needs at the same time aligning these programs and services with the categories of EBSMs under the parameters of Part II of the 1996 EI Act:

### ***Employment Benefits***

- **Skills Development (SD):** helps individuals to obtain basic to advanced employment skills. It provides direct assistance to individuals for training and, where applicable, contributions to provinces and territories (or to provincially/territorially funded training institutions) to cover

costs not included in tuition fees. SD-Regular participants may receive financial assistance to defray basic living costs, tuition and other incremental training-related costs. Participants in SD-Apprentices interventions receive income support during their training primarily through EI Part I. The SD-Apprentices intervention was not covered by this analysis.

- **Targeted Wage Subsidies (TWS):** further the work experience of participants by encouraging employers to hire unemployed individuals. It provides financial assistance, which covers a portion of the new hires' wages, as well as some employment-related costs.
- **Self-Employment (SE):** helps individuals to create jobs for themselves by starting a business or becoming self-employed. It provides financial assistance for basic living expenses and other personal needs while the participants develop and implement their business plan. SE also funds coordinators who ensure participants have access to business planning advice and expertise.
- **Job Creation Partnerships (JCP):** provide individuals with opportunities to gain work experience leading to ongoing employment. Limited-term projects that offer work experience receive financial assistance. Because these employment opportunities are often generated through locally developed projects in the public and non-profit sectors, this initiative also supports the community and the local economy.
- **Targeted Earnings Supplements:** encourage individuals to accept employment by offering them financial incentives. The province of Quebec is the only jurisdiction that offers similar programming— Supplément de retour au travail—to help participants with expenses related to returning to work, such as the costs of new tools, office supplies or clothing. This program is not evaluated under the joint federal/provincial/territorial LMDA evaluation process.

### *Support Measures*

- **Employment Assistance Services (EAS):** provide assistance to unemployed persons who require assistance to enter or return to the labour force. Assistance includes employment services such as job search assistance, group services focusing on short-term job search, re-entry activities and individual counseling.
- **Labour Market Partnerships:** enable employers, employee or employer associations, community groups, and communities to work together to develop or implement strategies to deal with labour force adjustments and meet human resources requirements. These support measures are **not** covered by the analysis.
- **Research and Innovation:** seek to identify better ways of helping people prepare for, return to or keep employment, and be productive participants in the labour force. Research and innovation is **not** covered by the analysis.

Individuals eligible to receive programs under the Employment Benefit category must be:

- Active (current) EI claimants (i.e., with an active EI claim at the time of participation).
- Former EI claimants whose benefit periods have ended within the past three years.
- Former EI claimants who had established a claim for maternity or parental benefits within the past five years and are returning to the labour force for the first time after having left work to care for new born or newly adopted child(ren).

All unemployed individuals are eligible to receive EAS.

## 2. Methodology

### 2.1 Scope of the study

This analysis covered up to 100% of participants who started participation in EBSMs between 2002 and 2005. Costs and benefits were examined over the participation period of one or two years and six years post-program, representing eight consecutive years between 2002 and 2012.

One of the main lessons learned from the first round of summative evaluations (that was supported by literature and expert advice) was the necessity of considering at least five years of post-program impacts in order to generate sound conclusions from a cost-benefit analysis, as impacts are often found to be larger in the medium-term compared to the short-term. To address this consideration, and for the purpose of this analysis, benefits and costs were observed during program participation and for up to six years after program completion.

Results were examined from the following three perspectives:

- **Individual:** compares the benefits an individual experienced as a result of EBSM participation to the costs that the person had to pay in order to participate.
- **Government:** examines how the government's investments in EBSMs generated benefits such as increased tax revenues, lower use of EI and Social Assistance (SA) benefits.
- **Social:** the social perspective consists of a combination of the individual and government perspectives.

The use of all three perspectives provides some insights about the costs and benefits for the individual and government. However, the social perspective includes a combination of the costs borne by the individual and the government as well as the benefits for both actors, and therefore more accurately reflects the program objective of helping unemployed individuals to find and maintain employment and to generate EI savings.

The cost-benefit results were generated separately for active and former EI claimants and for each EBSM except SE as the incremental impacts for this program showed large decreases in earnings that persisted over the medium-term, thus the cost-benefit results would be negative. It should be noted that incremental impacts on earnings for SE participants may not fully capture the financial well-being of these individuals because of methodological challenges and data limitations.

### 2.2 Unit of Analysis

As for previous LMDA evaluation studies, the unit of analysis used in this study is the Action Plan Equivalent (APE). APEs regroup all EBSMs received by an individual within less than six months between the end of one EBSM and the start of the next. APEs are categorized based on the longest EBSM they encompassed except EAS-only APEs which include only EAS. Thus, in this report they are referred to as EAS-only.

The analysis included APEs that consisted only of LMDA interventions. APEs that included a combination of LMDA and Aboriginal Human Resource Development Agreement (AHRDA) interventions were excluded from the participant sample. The comparison group included individuals who had no participation in EBSMs or other programs such as AHRDA in the reference period.

## 2.3 Sources of Information and Data

This study relied on linked data from the EI Part I and II Databank and Income Tax records from Canada Revenue Agency (CRA). Information about earnings, use of EI and use of SA was taken from the 2013-2014 Stream 1 Study which measured impacts over five years post-program<sup>3</sup>. For the purpose of this study, impacts on these indicators were produced over one additional post-program year while further analysis was conducted to measure incremental impacts on income taxes paid over the six post-program years. The program cost was calculated using information available in the EI Monitoring and Assessment Report (MAR).

## 2.4 Definition of Costs and Benefits Included in the Analysis

### *Program Cost*

The program cost is incurred by the government for delivering the program. It includes the administration cost and the direct cost of programs and services and was estimated based on expenditures and number of new interventions reported in the EI MAR for the fiscal years 2002-03, 2003-04 and 2004-05. The program cost represents the sums of the operational cost per intervention and the administrative cost per intervention, calculated as follows:

- **Operational cost:** total expenditure by EBSM type divided by the number of new interventions by EBSM type.
- **Administration cost:** the LMDA administration cost is not available by EBSM type. The total administrative costs were assigned to each EBSM based on the proportion of the total LMDA operational expenditures (including funding for Labour Market Partnerships, Research Innovation and Pan Canadian Activities) by EBSM type. The figure was then divided by the number of new EBSM interventions.

Note that the operational and administration costs by intervention could not be estimated separately for active and former claimants, although the cost of delivering a particular EBSM may differ for active and former claimants.

Program cost was determined at the APE level based on the average composition of the APEs but only one principle EBSM was counted for each APE type. For example, as shown in Table 1 below, the average program cost for an active claimant's APEs that had SD as the principal intervention is \$8,500.

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<sup>3</sup> ESDC, *Technical Report on the Analysis of Employment Benefits and Support Measures Profile, Outcomes and Medium-Term Incremental Impacts* from 2002 to 2011 (Ottawa: ESDC, Evaluation Directorate, 2014)

**Table 1. Program Cost from 2002/03 to 2004/05**

| Principal EBSM  | Average Program Cost per Intervention |                     |          | Average number of EBSM per APE |      |      |      |      | Average Program Cost per APE (\$) |
|---|---------------------------------------|---------------------|----------|--------------------------------|------|------|------|------|-----------------------------------|
|   | Operational Cost                      | Administrative Cost | Total    |                                |      |      |      |      |                                   |
|   |                                       |                     |          | SD                             | TWS  | SE   | JCP  | EAS  |                                   |
| ACTIVE CLAIMANTS  |                                       |                     |          |                                |      |      |      |      |                                   |
| SD*   | \$7,150                               | \$316               | \$7,466  | 1.00                           | 0.03 | 0.01 | 0.01 | 1.00 | \$8,500                           |
| TWS   | \$4,689                               | \$207               | \$4,896  | 0                              | 1.00 | 0.01 | 0.01 | 1.66 | \$6,259                           |
| SE  | \$11,102                              | \$491               | \$11,593 | 0                              | 0.01 | 1.00 | 0.01 | 1.44 | \$12,717                          |
| JCP   | \$8,436                               | \$373               | \$8,809  | 0                              | 0.03 | 0.01 | 1.00 | 1.10 | \$9,834                           |
| EAS-Only  | \$663                                 | \$29                | \$692    | 0                              | 0    | 0.00 | 0    | 1.00 | \$692                             |
| FORMER CLAIMANTS  |                                       |                     |          |                                |      |      |      |      |                                   |
| SD*   | \$7,150                               | \$316               | \$7,466  | 1.00                           | 0.04 | 0.01 | 0.01 | 1.36 | \$8,766                           |
| TWS   | \$4,689                               | \$207               | \$4,896  | 0.07                           | 1.00 | 0    | 0.01 | 0.90 | \$6,102                           |
| SE  | \$11,102                              | \$492               | \$11,593 | 0.05                           | 0.01 | 1.00 | 0.02 | 1.00 | \$12,874                          |
| JCP   | \$8,436                               | \$373               | \$8,809  | 0.05                           | 0.02 | 0.01 | 1.00 | 1.11 | \$10,141                          |
| EAS-Only  | \$663                                 | \$29                | \$692    | 0                              | 0    | 0    | 0    | 1.00 | \$692                             |
| Source: Based on expenditure and number of new interventions reported in the EI MAR for 2002/03, 2003/04 and 2004/05. The APE composition is determined from EI Part II data.<br>*The average cost for SD includes the cost of delivering SD regular and SD apprenticeship. It is not possible to estimate the cost of delivering SD regular because expenditure information is not available for SD regular and SD apprentices separately. |                                       |                     |          |                                |      |      |      |      |                                   |

### ***The Marginal Social Cost of Public Funds***

The Marginal Social Cost of Public Funds (MSCPF) represents the loss incurred by society when raising additional revenues such as taxes to fund government spending. Advice was sought from Professor Beverly Dahlby from the University of Calgary in order to determine a proper rate and approach to account for the MSCPF in this cost-benefit analysis. Following the advice received from Professor Dahlby, the MSCPF was estimated as 20% of the program costs minus all changes in the government's revenues and plus changes in government's expenses six years after participation. In other words, the MSCPF represents 20% of the program cost, sales taxes, income taxes, impacts on EI and impacts on SA.

### ***Employment Earnings***

Employment earnings benefits consist of incremental impacts<sup>4</sup> on participants' earnings during and after participation. They were estimated based on propensity score matching. Earnings impacts during the program start year and the following year (in the case of Employment Benefits) reflect the earnings foregone by participants while participating (i.e., opportunity cost of participation).

<sup>4</sup> Details on the methodology used to generate the impacts are provided in the *Methodology Report for Stream 1 Study for 2013-2014: National Level Analysis of EBSM Incremental Impacts*.

### ***Fringe Benefits***

Benefits from being employed include “fringe benefits” such as employer-paid health and life insurance as well as pension contributions. As per Ministère et de la Solidarité Sociale du Québec (2006) and Social Research and Demonstration Corporation (2002), the rate used to calculate the fringe benefits was 15% of the incremental impact on earnings.

### ***Federal and Provincial Income Taxes***

Earnings gains or losses affect the amount of federal and provincial income taxes paid by EBSM participants. Incremental impacts on federal and provincial taxes paid were estimated based on CRA data, using the same methodology as for estimating the earnings impacts, i.e. propensity score matching.

### ***Sales Taxes***

An increase in employment earnings increases the sales taxes paid by the participants as they gain additional purchasing power. As per Ministère de l'Emploi et de la Solidarité Sociale du Québec (2006), the sales taxes paid were estimated by assuming that a part of the employment earnings gains is devoted to taxable consumer goods. A rate of 97% was used to estimate the national average propensity to consume, based on an average of the national household saving rate from 2002 to 2012 reported in Statistics Canada's Current accounts - Households, provincial and territorial, annual data. Since not all goods and services are taxable, the average share of the spending that could be used to buy taxable goods and services was estimated using data from Statistics Canada's Survey of Household Spending. This proportion is estimated at 52% for 2012. The sales tax rate represented the sum of the federal sales tax rate (6%) and the average of the provincial sales tax rate (5%) for 2002 to 2012. The sales taxes were estimated by applying these rates to the incremental impacts on earnings. In other words, the sales taxes represent the incremental impacts on earning \* the national propensity to save (97%) \* the proportion of household spending on taxable goods and services (52%) \* federal and provincial taxes rate (11%).

### ***SA and EI Benefits Collected***

Since the objective of EBSMs is to help individuals return to employment, it is expected that participants would reduce their use of SA and EI following participation, which would represent benefits from the government perspective. Incremental impacts on SA and EI were estimated using the same methodological approach as for the earnings impacts, i.e. estimated based on propensity score matching.

In general, the incremental impacts on SA and EI benefits collected after participation were relatively small in magnitude. This is likely because the amounts of EI and SA benefits collected before participation were also generally small.

## 2.5 Approach for Calculating Cost-Benefit Results

### 2.5.1 Discount Rate

The program cost is incurred at the time of delivering the program (i.e., program start year) while all other costs and benefits were observed over a period of up to eight years. In order to bring all costs and benefits to a common base, the estimates for the second year of participation and up to the sixth year post-program were discounted by 5% per year. In other words, the discount rate was applied as follows:

- the costs and benefits for the second year of participation were divided by 1.05;
- the cost and benefits for the first post-program year were divided by 1.05<sup>2</sup>;
- the costs and benefits for the second post-program year were divided by 1.05<sup>3</sup> and so on.

The 5% discount rate is consistent with past LMDA evaluation work as it accounts for inflation and interest on foregone government investment.

### 2.5.3 Accounting Framework

Table 2 below shows how costs and benefits were attributed to the individual, government and social perspectives.

| <b>Table 2. Accounting Framework</b> |                     |                   |               |   |
|--------------------------------------|---------------------|-------------------|---------------|---|
| <b>Costs and Benefits</b>            | <b>Perspectives</b> |                   |               | <b>Estimation Methods</b>   |
|                                      | <b>Individual</b>   | <b>Government</b> | <b>Social</b> |   |
| Program cost                         | 0                   | -                 | -             | Cost estimates based on expenditures reported in the EI MAR – See Table 1.  |
| MSCPF                                | 0                   | -                 | -             | 20% of the program cost, sales taxes, income taxes, impacts on EI and impacts on SA.  |
| Employment earnings                  | +                   | 0                 | +             | Incremental impacts on earnings during participation and over six years post-program. This indicator captures the earnings foregone during participation and the program benefits on earnings post-participation.       |
| Fringe benefits                      | +                   | 0                 | +             | 15% of incremental impacts on employment earnings   |
| Federal and provincial income taxes  | -                   | +                 | 0             | Incremental impacts on federal and provincial income tax rates  |
| Federal and provincial sales taxes   | -                   | +                 | 0             | Incremental impacts on earnings multiplied by the propensity to consume (97%), proportion of household spending on taxable goods and service (52%) and by the total average federal and provincial sales tax rate (11%) |
| Employment Insurance (EI)            | -/+                 | +/-               | 0             | Incremental impacts on EI use during and after participation  |
| Social Assistance (SA)               | -/+                 | +/-               | 0             | Incremental impacts on SA during and after participation  |



## 2.5.4 Indicators Used to Report the Cost-Benefit Analysis Results

Results from the cost-benefit analysis were measured for the following three indicators:

- **Net present value:** calculated by subtracting the total discounted costs from the total discounted benefits measured over the participation period and the six-year post-program period.
- **The EI part II cost-benefit ratio:** indicates how much it costs in EI part II funds to achieve \$1 in benefits. The cost-benefit ratio was measured by dividing the program cost by the sum of discounted benefits measured over the participation period and the six-year post-program period.
- **Payback period:** shows the amount of time required for the discounted benefits to equal the discounted costs. If the discounted benefits were inferior to the discounted costs six years after participation, the impacts over the following years were extrapolated using the average annual impacts measured over the fifth and sixth year of the post-program period.

## 2.6 Sensitivity Analysis

This analysis is based on a number of assumptions which are considered to be the most plausible according to the current context. Among other things, those assumptions pertain to the rates used to calculate the MSCPF and the sale taxes as well as to discount the costs and benefits. The results from this analysis would be different if other rates were used. With that respect, a sensitivity analysis was conducted to examine whether the cost-benefit results were sensitive to different assumptions. The findings from this sensitivity analysis are presented in Annex B of this report. The sensitivity analysis consisted of determining by how much the results for the net present value from the social perspective changed when variations were applied to the discount rate and the MSCPF, and to identify the net present value over longer period than the 6 post-program years covered in the main analysis.

## 2.7 Strengths and limitations

The analysis is limited in the sense that it only takes into account the quantifiable benefits and costs that are directly linked to EBSM delivery and participation and that could be estimated using available administrative data and the EI MAR. Overall, the calculation took into account most of the key costs and benefits but some other important factors were not considered because of data limitations. For example, out-of-pocket expenses incurred by participants to participate in the program (e.g., transportation, childcare, equipment, etc.) were not included in the equations because this information was not reflected in the available data. As a consequence, the results from the individual perspective were overestimated.

The analysis did not take into account the EI and Canada Pension Plan premiums as well as the Goods and Services Tax/Harmonized Sales Tax (GST/HST) credit and the Canadian Child Tax Benefit (CCTB). However, such benefits are very low compared to the other benefits included in this analysis. For example, in the cost-benefit analysis of EBSM similar programs conducted by the Quebec Government, the incremental impacts of training on active claimant's GST/HST

credit and CCTB approximated -\$24 and \$15 per year respectively (Ministère et de la Solidarité Sociale du Québec 2006).

The analysis did not capture “intangible”, non-pecuniary and indirect benefits that can emanate from finding employment. Intangible benefits may include improvement of participants’ mental and physical well-being associated with increased incomes (Butler-Jones 2008) and reduced duration of unemployment (Grün et al. 2010; McKee-Ryan et al. 2005; Jackson and Warr 1984). Other benefits could include a reduction in crime (Bjerk 2004; Leung 2004), increasing the labour supply and reducing pressure on wages (Calmfors and Lang 2003). In addition, shortening the duration of job loss and improving incomes may have spin-off benefits that improve the psychological and social impacts on partners and families (Mendolia 2014; Price 1992). As well, a number of studies have found that job loss and periods of low income can translate into relatively permanent reductions in income affecting children in those households (Oreopolos et al. 2005; Duncan 2005).

This analysis did not consider the multiplier effect that improving participant’s income may have on the economy as a whole since greater employment earnings may result in increasing the consumption which can lead to creating additional jobs. Also, this analysis did not account for the effect of EI part II investment on sustaining a service delivery infrastructure and creating jobs among the governmental program service providers.

This analysis did not consider the displacement effect (e.g. Dahlberg and Forslund 2005). Participants may take away jobs that would otherwise be filled by other unemployed individuals (displacement effects). TWS is more likely than any other EBSMs to result in displacement effect. Accounting for this effect is beyond the scope of this study. However, if included, it would tend to decrease the net present value for the government and society. Finally, this analysis did not consider the possible effect of EBSMs on increasing skill prices.

It is noted that most of the costs and benefits based on incremental impacts (i.e., earnings, income taxes and EI and SA benefits) were statistically significant at the 95% level or above. The incremental impacts used in this analysis represent the average estimate. With that respect, readers should note that the standard deviation of those estimates was generally very minimal (i.e., the minimum and maximum value point estimates of the incremental impact were close to the average).

### ***3. Results***

The objective of EI Part II investment is to help individuals obtain and maintain employment and as a result, generate EI savings. The primary indicators of program success are incremental increases in earnings and incidence of employment, and decreases in EI use by participants. The incremental impact analysis conducted over five years post-program for active and former claimants who started their participation between 2002 and 2005 indicated that, with the exception of SE, EBSMs were generally effective at improving participants' earnings and incidence of employment. They were also effective at reducing the use of EI by active claimants who represented about 65% of LMDA participants in the 2002-2005 period. Former claimants in every EBSM (except SE) tended to increase their use of EI following participation. From a program success standpoint those findings are not necessarily negative. Former claimants claimed EI benefits up to three years before starting their participation which means that they were not necessarily actively engaged in the labour market prior to participating. An increase in EI use after participation may indicate that those individuals increased their labour market participation after their EBSM participation, since they had to work enough hours to requalify for EI.

In examining how the benefits from LMDA investments compare to the costs, it is important to acknowledge that most of the costs are borne by the government while the highest payback is for individuals who experienced earnings gains. EI savings and additional tax revenues for the government are relatively small when compared to the earnings gains themselves. In other words, the individual perspective is narrow, as the cost of participating for the individuals (i.e., foregone earnings during participation) is usually small compared to what it costs to deliver the program. Similarly, the government perspective is narrow since the cost of delivering the program is usually relatively high compared to the potential payback for the government (i.e., incremental increases in tax revenues and incremental savings to income supports).

In summary, it is important to consider costs and benefits from the individual and government perspectives combined (i.e., social perspective) in order to have a good appreciation of program efficiency in achieving its objective. As well, the goal of government's investment in social and employment programs is to benefit society in general and not necessarily to get a return on its investment. For example, a government would not make direct financial gains from building a bridge, but this bridge would result in significant economic benefits for society.

The cost-benefit results presented in Section 3 are organized by EBSM type. Readers should be aware that results for active claimants are not comparable to those for former claimants as incremental impacts were measured using two different comparison groups. The incremental impacts for active claimants were estimated relative to a comparison group of non-participants. For former claimants, the incremental impacts of SD, TWS and JCP were estimated relative to former claimants who participated in EAS-only.

Results focus on a summary of the total costs and benefits over the participation period and six years after participation. Annex A tables show the detailed costs and benefits for each of the participation and post-program years.

### **3.1 Skills Development (SD)**

SD funds a variety of training that varies from basic education to trade certificate. The current data do not identify what proportion of funds is allocated to each training type.

During the 2002 to 2005 period, funds allocated to SD regular and SD-apprentices represented about 54% of EBSM expenditures under the LMDAs.

Note: The cost of delivering SD used in this analysis pertains to both SD regular and SD-apprentices since expenditure information is not available for each intervention type separately. However, the benefits are those that relate solely to participation in SD-regular. Impacts and benefits from participating in SD-apprentices were never estimated in LMDA evaluations due to methodological constraints<sup>5</sup>. Due to a lack of data, it is not possible to tell how the inclusion of SD-apprentices in the cost calculation affects the cost-benefit results produced in this study.

Since SD mainly focuses on human capital development, it is fair to assume that impacts from this program would last over a long period, possibly a lifetime.

#### **3.1.1 Results for Active Claimants in SD**

The medium-term incremental impact analysis showed that SD is effective at improving active claimant's earnings and incidence of employment as well as reducing the use of EI and SA and the dependence on income support over five years after the end of participation. However, the reductions in EI use after participation did not compensate for the increases experienced during participation, thus Table 3 shows an increase in EI use. An increase in EI use during participation is expected, since participants can continue to claim their EI benefits while participating in SD. Also, the average duration of an SD APE was 45.5 weeks, which means that the average participant used almost all the EI benefits he/she was entitled to while participating.

As shown in Table 3, from the social perspective, the benefits of SD were \$4,600 lower than the cost of this program six years after the end of participation. However, assuming that the average benefits measured over the fifth and sixth year post-program would be maintained beyond this period, it would take 7.4 years for the benefits to recover the costs from the social perspective. In this regard, it is noted that delivering this program requires a significant investment from the participants (i.e., foregone earnings while in training) and the government (i.e., program costs plus EI benefits paid during participation) but the benefits from training can last over many years, possibly a lifetime.

The net present value six years after program end was positive from the individual perspective. The benefits of participating in SD exceeded the cost of participation by \$5,639. The opportunity cost of participating in SD is relatively high compared to other EBSMs, since participants were generally engaged in full-time training and were not available to work. However, the gains in earnings after participation compensated well for the loss during participation. Overall, it took 4.1 years for the benefits to match the costs.

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<sup>5</sup> It has not been possible to create an appropriate comparison group for SD-apprentices, as participants are generally expected to return to their employment at the end of their participation.

From the government perspective, the net present value six years after participation was negative (i.e., -\$10,239). In fact, the total benefits measured over the participation and the six-year post-program periods were negative and those may never recover the costs of delivering the program. These results may be partly attributed to the fact that the cost of delivering SD also includes a significant investment from EI Part I because participants can continue to claim their EI benefits while participating. Although the incremental impact analysis showed that participants reduced their use of EI after participation, decreases need to persist over more than six years after the end of participation to compensate for the use of EI during participation. As explained above, the decreases in EI use found after participation did not compensate for the increases in EI use after participation, thus Table 3 shows an increase in EI use.

| <b>Table 3. Cost-Benefit Results for Active Claimants in SD (n=64,283)<sup>1</sup></b>  |   |   |   |
|---|---|---|---|
| <b>Total Costs and Benefits Over the 2-Year Participation Period and 6 Years Post-program</b>   | <b>Perspective</b>                          |   |   |
|   | <b>Individual</b>                           | <b>Government</b>                           | <b>Social</b>                               |
| Program Cost  | N/A   | -\$8,500                                    | -\$8,500                                    |
| MSCPF   | N/A   | -\$1,707                                    | -\$1,707                                    |
| Employment earnings   | \$4,875                                     | \$0   | \$4,875                                     |
| Fringe benefits   | \$731                                       | \$0   | \$731                                       |
| EI benefits   | \$1,156                                     | -\$1,156                                    | \$0   |
| Sales tax paid  | -\$260                                      | \$260                                       | \$0   |
| Income taxes paid   | -\$844                                      | \$844                                       | \$0   |
| SA benefits   | -\$19                                       | \$19  | \$0   |
| <b>Net Present Value</b><br>(By how much did the benefits exceed the costs within 6 years after end of participation?)                        | <b>\$5,639</b>                              | <b>-\$10,239</b>                            | <b>-\$4,600</b>                             |
| <b>Cost-Benefit Ratio</b><br>(How much does it cost in EI part II funds to achieve \$1 in benefit within 6 years after end of participation?) | <b>N/A</b>                                  | <b>Negative benefits</b>                    | <b>\$2.20</b>                               |
| <b>Payback period</b><br>(How many years would it take for the benefits to recover the costs in the post-program period?)                     | <b>4.1 years after end of participation</b> | <b>Benefits may never recover the costs</b> | <b>7.4 years after end of participation</b> |

<sup>1</sup> Random sample of approximately 50% of participants

### 3.1.2 Results for Former Claimants in Skills Development (SD)

The medium-term incremental impact analysis for former claimants showed that SD was effective at increasing their earnings and incidence of employment. It was also effective at decreasing their use of SA and dependence on income support after participation. However, these individuals increased their use of EI in the program start year and in the second to fifth year after program end.

Since former claimants are not on EI at the time of participation, they may receive an income allowance from EI Part II while participating. One might expect the program cost of SD to be higher in the case of former claimants compared to active claimants but it is not possible to determine by how much because the cost per intervention could not be estimated separately for active and former claimants.

As shown in Table 4 below, the benefits need to persist over 8.6 years for society to recover the costs of SD for former claimants. Within the six years post-program period, the benefits were lower than the costs by \$5,254.

Within six years after the end of participation, the benefits experienced by individuals exceeded the cost of participation by \$3,574. The cost of their participation was recovered within 4.1 years after program end. As for active claimants, the earnings foregone by former claimants during participation were relatively important but the earnings gains in the six years after program end largely compensated for the loss.

The benefits that government collected from delivering SD to former claimants were \$8,827 lower than the costs. The benefits may never recover the costs of SD from the government perspective. In the case of former claimants, these results could be partly explained by the fact that SD participants increased their use of EI following participation.

| <b>Table 4. Cost-Benefit Results for Former Claimants in SD (n=42,513)</b>   |   |   |   |
|--|---|---|---|
| <b>Total Costs and Benefits Over the 2-Year Participation Period and 6 Years Post-program</b>  | <b>Perspective</b>                          |   |   |
|  | <b>Individual</b>                           | <b>Government</b>                           | <b>Social</b>                               |
| Program Cost   | \$0   | -\$8,766                                    | -\$8,766                                    |
| MSCPF  | \$0   | -\$1,471                                    | -\$1,471                                    |
| Employment earnings  | \$4,333                                     | \$0   | \$4,333                                     |
| Fringe benefits  | \$650                                       | \$0   | \$650                                       |
| EI benefits  | \$988                                       | -\$988                                      | \$0   |
| Sales tax paid   | -\$231                                      | \$231                                       | \$0   |
| Income taxes paid  | -\$501                                      | \$501                                       | \$0   |
| SA benefits  | -\$1,665                                    | \$1,665                                     | \$0   |
| <b>Net Present Value</b><br><i>(By how much did the benefits exceed the costs within 6 years after end of participation?)</i>                        | <b>\$3,574</b>                              | <b>-\$8,827</b>                             | <b>-\$5,254</b>                             |
| <b>Cost-Benefit Ratio</b><br><i>(How much does it cost in EI part II funds to achieve \$1 in benefit within 6 years after end of participation?)</i> | <b>N/A</b>                                  | <b>Negative benefits</b>                    | <b>\$2.50</b>                               |
| <b>Payback period</b><br><i>(How many years would it take for the benefits to recover the costs in the post-program period?)</i>                     | <b>4.1 years after end of participation</b> | <b>Benefits may never recover the costs</b> | <b>8.6 years after end of participation</b> |

### 3.2 Targeted Wage Subsidies (TWS)

TWS investment is used to temporarily fund a portion of the participant's salary while working for a participating employer. The goal of TWS is to encourage employers to hire individuals they would not hire without the subsidy in order to provide these individuals with a meaningful work experience. The subsidies are granted by the government directly to the employers.

From the government perspective, the subsidy is reflected in the program cost. It is reflected in the participant's earnings from the individual perspective and equals zero from the social perspective.

During the observed period, TWS represented 6% of total EBSM expenditures.

### **3.2.1 Results for Active Claimants in TWS**

Incremental impacts showed that TWS is effective at helping active claimants increase their employment earnings and incidence of employment and at decreasing the use of SA following participation. However, active claimants tended to increase their use of EI after participating in TWS. This may be partly due to the fact that TWS participation builds EI entitlement. Hours worked by the participants as part of the subsidized employment are insurable under EI. If the participants cannot secure permanent employment immediately after the end of the TWS participation, they are entitled to return on EI while looking for work.

As shown in Table 5, from the social perspective, the benefits of participating in TWS exceeded the costs by \$251 six years after the end of participation. It took 5.9 years for the benefits to recover the costs.

The benefits also exceeded the costs of participating from the individual perspective. Six years after the end of participation, the benefits exceeded the costs by \$6,745. It took 1 year after the end of participation for the individual to recover the costs related to participating in TWS. Such results were expected since the opportunity cost of participating in TWS is very low and almost non-existent as the participant is receiving a salary while participating.

Unlike the individual and the social perspectives, government did not recuperate its investment in TWS within the six years following the end of participation. The costs exceeded the benefits by \$6,495. It was also found that the benefits for the government may never recover the costs of delivering this program. These results could be partially explained by the increases in EI use experienced by participants following participation, which may due to the fact that TWS participation builds EI entitlement.

Although the benefits of delivering TWS may never recover the costs from the government perspective, this program has positive results from the individual and social perspectives. In fact, with JCP, TWS has the most favourable cost-benefit results of all EBSMs delivered to active claimants.

| <b>Table 5. Cost-Benefit Results for Active Claimants in TWS (n=18,767)</b>  |  |   |   |
|--|--|---|---|
| <b>Total Costs and Benefits Over the 2-Year Participation Period and 6 Years Post-program</b>  | <b>Perspective</b>                       |   |   |
|  | <b>Individual</b>                        | <b>Government</b>                           | <b>Social</b>                               |
| Program Cost   | \$0                                      | -\$6,259                                    | -\$6,259                                    |
| MSCPF  | \$0                                      | -\$1,082                                    | -\$1,082                                    |
| Employment earnings  | \$6,601                                  | \$0   | \$6,601                                     |
| Fringe benefits  | \$990                                    | \$0   | \$990                                       |
| EI benefits  | \$260                                    | -\$260                                      | \$0   |
| Sales tax paid   | -\$352                                   | \$352                                       | \$0   |
| Income taxes paid  | -\$319                                   | \$319                                       | \$0   |
| SA benefits  | -\$435                                   | \$435                                       | \$0   |
| <b>Net Present Value</b><br><i>(By how much did the benefits exceed the costs within 6 years after end of participation?)</i>                        | <b>\$6,745</b>                           | <b>-\$6,495</b>                             | <b>\$251</b>                                |
| <b>Cost-Benefit Ratio</b><br><i>(How much does it cost in EI part II funds to achieve \$1 in benefit within 6 years after end of participation?)</i> | <b>N/A</b>                               | <b>Negative benefits</b>                    | <b>\$1.00</b>                               |
| <b>Payback period</b><br><i>(How many years would it take for the benefits to recover the costs in the post-program period?)</i>                     | <b>1 year after end of participation</b> | <b>Benefits may never recover the costs</b> | <b>5.9 years after end of participation</b> |

### 3.2.2 Results for Former Claimants in TWS

Incremental impacts for former claimants showed that TWS participation helped them to increase their earnings and incidence of employment in the five years after program end. It also helped them to decrease their use of SA and their dependence on income support, but these individuals increased their use of EI after participation.

The net present value six years after the end of participation was positive from the social and individual perspectives. For society, the benefits from TWS exceeded the costs by \$12,452. Costs were recovered during the second year of the participation period.

As depicted in Table 6, the benefits for individuals, exceeded costs by \$17,325 six years after program end. The costs were recovered within the participation year which is not unexpected given that participants receive a salary while participating. As a result there is almost no opportunity cost related to participation.

From the government perspective, the benefits from TWS were \$4,874 lower than the cost of delivering the program six years after the end of participation. Although the benefits could persist over a longer period, they may never recover the costs as the benefits would need to persist over more than 40 years in order to equal the costs. As for active claimants, these results could be partly explained by the fact that TWS helps to build EI entitlement and former claimants increased their use of EI after participation.

Overall, of all EBSMs, TWS had the most positive results from the individual and social perspectives for former claimants.



| <b>Table 6. Cost-Benefit Results for Former Claimants in TWS (n=24,523)</b>  |                                      |                           |   |
|--|--------------------------------------|---------------------------|---|
| <b>Total Costs and Benefits Over the 2-Year Participation Period and 6 Years Post-program</b>  | <b>Perspectives</b>                  |                           |   |
|  | <b>Individual</b>                    | <b>Government</b>         | <b>Social</b>                                       |
| Program Cost   | \$0                                  | -\$6,102                  | -\$6,102  |
| MSCPF  | \$0                                  | -\$812                    | -\$812  |
| Employment earnings  | \$16,839                             | 0                         | \$16,839  |
| Fringe benefits  | \$2,526                              | 0                         | \$2,526   |
| EI benefits  | \$3,328                              | -\$3,328                  | \$0   |
| Sales tax paid   | -\$898                               | \$898                     | \$0   |
| Income taxes paid  | -\$1,951                             | \$1,951                   | \$0   |
| SA benefits  | -\$2,519                             | \$2,519                   | \$0   |
| <b>Net Present Value</b><br><i>(By how much did the benefits exceed the costs within 6 years after end of participation?)</i>                        | <b>\$17,325</b>                      | <b>-\$4,874</b>           | <b>\$12,452</b>                                     |
| <b>Cost-Benefit Ratio</b><br><i>(How much does it cost in EI part II funds to achieve \$1 in benefit within 6 years after end of participation?)</i> | <b>N/A</b>                           | <b>\$5.00</b>             | <b>\$0.30</b>                                       |
| <b>Payback period</b><br><i>(How many years would it take for the benefits to recover the costs in the post-program period?)</i>                     | <b>Within the program start year</b> | <b>More than 40 years</b> | <b>Within the 2<sup>nd</sup> participation year</b> |

### 3.3 Job Creation Partnerships (JCP)

JCP fund limited-term projects generally implemented by public or non-for-profit organizations who offer a work experience to LMDA participants. In addition to helping the participants obtain ongoing employment through the provision of work experience in the funded projects, JCP also benefits the communities where the projects are implemented. However, the positive impacts for the communities were not accounted for in this cost-benefit analysis as those benefits are not captured in the administrative data and are difficult to quantify. In this context, the benefits from the social perspective presented in Tables 7 and 8 are likely underestimated.

Overall, JCP represented 4% of the total EBSM investment in the 2002 to 2005 period.

Participants do not receive a salary while employed by a JCP project. Active claimants continue to receive their EI Part I benefits during participation and receive an income allowance from EI Part II funds once they exhaust their EI benefits. The average duration of a JCP APE is 33 weeks for active claimants, which means that these individuals can use a significant part of their EI benefits while participating. As for SD, delivering JCP to active claimants requires an important investment from EI Part I funds.

Since former claimants are not actively on EI during the JCP participation, they receive an income allowance from EI Part II funds. Such an income allowance is reflected in the program cost. As for SD, one might expect the program cost of JCP to be higher in the case of former claimants compared to active claimants but it is not possible to determine by how much, since the cost per intervention could not be estimated separately for active and former claimants.

### **3.3.1 Results for Active Claimants in JCP**

Participation in JCP led to incremental gains in earnings and incidence of employment after participation for active claimants. It also led to incremental reductions in their use of EI and SA benefits and dependence on income support in the five years after participation.

Even if the incremental impact analysis showed that active claimants decreased their use of EI following participation, when looking at both the in- and post-program periods combined, it was found that active claimants generally increased their EI use (as shown in Table 7). This is because the decreases after participation did not compensate for the increases during participation. As mentioned above, increases in EI use were expected during the participation period.

The net present value six years after the end of participation was positive for the social and individual perspectives. The benefits of JCP for society exceeded the costs by \$366 and took about 5.9 years to recover the investment.

From the individual perspective, the benefits exceeded the costs by \$9,996 and the costs were recovered within 2.3 years. Unlike TWS, there is an opportunity cost from participating in JCP although this program provides participants with a job experience. Participants experienced incremental decreases in their earnings while participating, mainly because they continue to receive EI benefits instead of a salary. The earnings gains they had after participating were larger than the earnings forgone during participation.

From the government perspective, the benefits of delivering JCP were \$9,630 lower than the costs six years after the end of participation. In order for the government to recover the costs of this intervention, benefits would need to be maintained over 18.3 years after program end. Part of these results can be attributed to the fact that JCP participants continue to claim EI while participating and the reductions in EI benefits received after participation did not compensate for their use of EI during participation.

Along with TWS, JCP had the most favourable results from the social and individual perspectives of all EBSMs delivered to active claimants.

| <b>Table 7 Cost-Benefit Results for Active Claimants in JCP (n=5,055)</b>  |   |  |   |
|--|---|--|---|
| <b>Total Costs and Benefits Over the 2-Year Participation Period and 6 Years Post-program</b>  | <b>Perspective</b>                          |  |   |
|  | <b>Individual</b>                           | <b>Government</b>                            | <b>Social</b>                               |
| Program Cost   | \$0   | -\$9,834                                     | -\$9,834                                    |
| MSCPF  | \$0   | -\$1,605                                     | -\$1,605                                    |
| Employment earnings  | \$10,265                                    | \$0  | \$10,265                                    |
| Fringe benefits  | \$1,540                                     | \$0  | \$1,540                                     |
| EI benefits  | \$2,043                                     | -\$2,043                                     | \$0   |
| Sales tax paid   | -\$548                                      | \$548  | \$0   |
| Income taxes paid  | -\$3,011                                    | \$3,011                                      | \$0   |
| SA benefits  | -\$294                                      | 294  | \$0   |
| <b>Net Present Value</b><br><i>(By how much did the benefits exceed the costs within 6 years after end of participation?)</i>                        | <b>\$9,996</b>                              | <b>-\$9,630</b>                              | <b>\$366</b>                                |
| <b>Cost-Benefit Ratio</b><br><i>(How much does it cost in EI part II funds to achieve \$1 in benefit within 6 years after end of participation?)</i> | <b>N/A</b>                                  | <b>\$48.20</b>                               | <b>\$1.00</b>                               |
| <b>Payback period</b><br><i>(How many years would it take for the benefits to recover the costs in the post-program period?)</i>                     | <b>2.3 years after end of participation</b> | <b>18.3 years after end of participation</b> | <b>5.9 years after end of participation</b> |

### 3.3.2 Results for Former Claimants in JCP

Incremental impact results over the six year post-program period showed that former claimants improved their earnings and incidence of employment after participation. They decreased their use of SA and their dependence on income support, but increased their use of EI.

The net present value of JCP six years post-program was negative from the social and government perspectives and it would take just over six years for the benefits to equal the costs from the individual perspective.

The benefits of JCP were \$10,257 lower than the costs from the social perspective. The benefits of JCP participation may never recover the costs from the social perspective.

From the individual perspective, the benefits of JCP were \$267 lower than the costs. It would take a little more than six years for the benefits to net out the costs. In fact, the benefits need to persist over 6 additional months to recover the costs (i.e., a payback period of 6.6 years).

From the government perspective, the benefits of delivering JCP were \$9,990 lower than the costs six years after participation. The analysis also showed that from this same perspective, the benefits may never recover the costs. As for other EBSMs offered to former claimants, the results can be explained by the increases in EI use experienced after participation. As well, it should be noted that JCP has the second-highest cost per intervention of all EBSMs.

| <b>Table 8. Cost-Benefit Results for Former Claimants in JCP (n=5,013)</b>   |   |  |  |
|--|---|--|--|
| <b>Total Costs and Benefits Over the 2-Year Participation Period and 6 Years Post-program</b>  | <b>Perspective</b>                          |  |  |
|  | <b>Individual</b>                           | <b>Government</b>                          | <b>Social</b>                              |
| Program Cost   | \$0   | -\$10,141                                  | -\$10,141                                  |
| MSCPF  | \$0   | -\$1,665                                   | -\$1,665                                   |
| Employment earnings  | \$1,348                                     | \$0  | \$1,348                                    |
| Fringe benefits  | \$202                                       | \$0  | \$202                                      |
| EI benefits  | \$960                                       | -\$960                                     | \$0  |
| Sales tax paid   | -\$72                                       | \$72                                       | \$0  |
| Income taxes paid  | -\$1,016                                    | \$1,016                                    | \$0  |
| SA benefits  | -\$1,688                                    | \$1,688                                    | \$0  |
| <b>Net Present Value</b><br><i>(By how much did the benefits exceed the costs within 6 years after end of participation?)</i>                        | <b>-\$267</b>                               | <b>-\$9,990</b>                            | <b>-\$10,257</b>                           |
| <b>Cost-Benefit Ratio</b><br><i>(How much does it cost in EI part II funds to achieve \$1 in benefit within 6 years after end of participation?)</i> | <b>N/A</b>                                  | <b>\$67.10</b>                             | <b>Negative benefits</b>                   |
| <b>Payback period</b><br><i>(How many years would it take for the benefits to recover the costs in the post-program period?)</i>                     | <b>6.6 years after end of participation</b> | <b>Benefits may never recover the cost</b> | <b>Benefits may never recover the cost</b> |

### 3.4 Employment Assistance Services (EAS) only

EAS provide assistance to unemployed individuals to enter or return to the labour force. The assistance offered includes a variety of services such as computer access for job search, group sessions to prepare for an interview, counselling, action plan development, First Aid course, etc. The administrative data, however, do not allow to identify what proportion of EAS interventions belong to each category or the intensity of services offered to participants. While EAS are often provided along with other EBSMs, this analysis examined only participants who received one or more EAS without participating in other EBSMs. This is referred to as EAS-only. The average length of an EAS-only APE is 12 weeks compared to between 27 to 50 weeks for other EBSMs.

EAS represented about 29% of total EBSM expenditures between 2002 and 2005. This is the second highest share after SD. The cost per EAS-only APE approximates \$700 while the cost per APE for other EBSMs is in the \$6,000 to \$13,000 range, making EAS the least expensive EBSM.

Unlike other EBSMs, EAS do not focus on skill acquisition and human capital development. The medium-term incremental impact analysis showed that EAS interventions are achieving the goal of helping active claimants to re-enter the labour market. Participants generally increased their incidence of employment and reduced their use of EI and their dependence on income support following participation. However, they had decreases in earnings in the first two years after the end of participation which suggests that they obtained lower paying jobs or worked less hours after participation compared to the comparison group. Such a result is not unexpected because, in the short-term, taking a lower paying job would generally provide better earnings than staying on EI.

Overall, the goal of EAS is not to help participants acquire more skills, thus it is not necessarily expected that this intervention would increase participant's earnings in the short-term after participation. This represents a challenge in terms of conducting a cost-benefit analysis for EAS as it is not possible to attribute a dollar figure to the return to employment. However, including earnings in the cost-benefit calculation is still very relevant as it allows assessing whether the cost of participating for the individual and society, as well as the short-term decreases in earnings can be recovered at some point.

### **3.4.1 Results for Active Claimants in EAS-only**

The cost-benefit analysis was conducted only for active claimants, since it is not possible to evaluate incremental impacts for former claimants using administrative data.

The net present value six years after participation was negative from all three perspectives. For the social perspective, the net present value was -\$3,280. The benefits were still negative six years after participation mainly because the earnings gains experienced by participants starting the third year post-program did not compensate for the loss during participation and in the first two years after participation. However, assuming that the average benefits measured over the fifth and sixth years post-program would be maintained over time, it would take 10.9 years after participation for the benefits to recover the costs.

For the individual, the net present value six years after program end was -\$2,096. Similar to the social perspective, the benefits need to persist over 10.5 years to equal the costs.

For government, the net present value six years after the end of participation was -\$1,185. As for the social perspective, the benefits were still negative six years after program end. However, assuming that the average benefits measured over the fifth and sixth year post-program would be maintained over time, it would take 11.7 years for the benefits to recover the costs.

| <b>Table 9. Cost-Benefit Results for Active Claimants in EAS-only (n=38,564)<sup>1</sup></b>                                     |  |  |  |
|--|--|--|--|
| <b>Total Costs and Benefits Over the 1-Year Participation Period and 6 Years Post-program</b>                                    | <b>Perspective</b>                           |  |  |
|  | <b>Individual</b>                            | <b>Government</b>                            | <b>Social</b>                                |
| Program Cost   | \$0  | -\$692                                       | -\$692                                       |
| MSCPF  | \$0  | -\$197                                       | -\$197                                       |
| Employment earnings  | -\$2,079                                     | \$0  | -\$2,079                                     |
| Fringe benefits  | -\$312                                       | \$0  | -\$312                                       |
| EI benefits  | -\$617                                       | \$617  | \$0  |
| Sales tax paid   | \$111  | -\$111                                       | \$0  |
| Income taxes paid  | \$544  | -\$544                                       | \$0  |
| SA benefits  | \$257  | -\$257                                       | \$0  |
| <b>Net Present Value</b><br><i>(By how much did the benefits exceed the costs within 6 years after end of participation?)</i>    | <b>-\$2,096</b>                              | <b>-\$1,185</b>                              | <b>-\$3,280</b>                              |
| <b>Cost-Benefit Ratio</b><br><i>(How much does it cost to achieve \$1 in benefit within 6 years after end of participation?)</i> | <b>N/A</b>                                   | <b>Negative benefits</b>                     | <b>Negative benefits</b>                     |
| <b>Payback period</b><br><i>(How many years would it take for the benefits to recover the costs in the post-program period?)</i> | <b>10.5 years after end of participation</b> | <b>11.7 years after end of participation</b> | <b>10.9 years after end of participation</b> |

<sup>1</sup> Random sample of approximately 10% of participants

## ***4. Conclusion***

In summary, of all EBSMs examined for active claimants, TWS and JCP had the most favourable results from both the individual and social perspectives. From the social perspective, TWS and JCP investments can be recovered in 5.9 years for active claimants.

It would take 7.4 years for SD investments to be recovered from the social perspective. It should be acknowledged that delivering SD requires a significant investment from the participants (i.e., foregone earnings while in training) and government (i.e., program costs plus EI benefits paid during participation) but the benefits from training can last over many years.

It would take more than 10 years for the benefits of EAS-only to recover its costs. These results are partly due to the reductions in employment earnings experienced by participants in the short-term after participation, even though this program is effective at helping unemployed individuals return to employment. With that respect it should be noted that evidence from the study on the effects of the timing of EAS-only participation<sup>6</sup> showed that participating in EAS early during an EI benefit period leads to better earnings and employment impacts as compared to participating later. This suggests that reaching unemployed individuals soon after they open an EI claim may improve the program success. Further analysis would be required to determine if this could also improve the cost-benefit results. In addition, there are significant benefits associated with EAS that are not quantifiable.

For former claimants, TWS had the most favourable results from both the individual and social perspectives. From the social perspective, the costs of TWS can be recovered within the participation period. The cost of SD for former claimants would be recuperated within 8.6 years from the social perspective while it took 4.1 years for the costs incurred by the individual to equal the benefits of participation. Results for JCP show that the individual would recover the costs of participating within 6.6 years but society may never recover its investment. However, JCP funds help develop the community and the local economy, but none of those benefits were accounted for in the cost-benefit analysis.

For both active and former claimants and for every EBSM examined in this analysis, the costs of delivering the program for government were always higher than the benefits six years after the end of participation (i.e., negative present value).

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<sup>6</sup> ESDC, Draft Report on the National Results on the Effects of the Timing of Participation in Employment Assistance Services (Ottawa: ESDC, Evaluation Directorate, 2014)

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## Annex A - Detailed Results

| <b>Table A1. Detailed Results - Active Claimants in Skills Development (n=64,283)<sup>1</sup></b> |                           |                                |                            |                  |                  |                  |                  |                  |
|---|---------------------------|--------------------------------|----------------------------|------------------|------------------|------------------|------------------|------------------|
|   | <b>In-program period</b>  |                                | <b>Post-program period</b> |                  |                  |                  |                  |                  |
|   | <b>Program start year</b> | <b>Additional Program Year</b> | <b>1st year</b>            | <b>2nd year</b>  | <b>3rd year</b>  | <b>4th year</b>  | <b>5th year</b>  | <b>6th year</b>  |
| <b>INDIVIDUAL</b>   |                           |                                |                            |                  |                  |                  |                  |                  |
| Program cost  | N/A                       | N/A                            | N/A                        | N/A              | N/A              | N/A              | N/A              | N/A              |
| MSCPF   | N/A                       | N/A                            | N/A                        | N/A              | N/A              | N/A              | N/A              | N/A              |
| Employment earnings   | -\$4,747                  | -\$4,010                       | \$185                      | \$1,773          | \$2,531          | \$2,947          | \$3,029          | \$3,168          |
| Fringe benefits   | -\$712                    | -\$602                         | \$28                       | \$266            | \$380            | \$442            | \$454            | \$475            |
| EI benefits   | \$1,847                   | \$211                          | -\$426                     | -\$188           | -\$105           | -\$70            | -\$51            | -\$61            |
| Sales tax paid  | \$253                     | \$214                          | -\$10                      | -\$95            | -\$135           | -\$157           | -\$162           | -\$169           |
| Income taxes paid   | \$383                     | \$404                          | \$9                        | -\$209           | -\$315           | -\$355           | -\$381           | -\$380           |
| SA benefits   | \$21                      | \$42                           | \$33                       | -\$7             | -\$25            | -\$27            | -\$23            | -\$33            |
| <b>Net Present Value</b>  | <b>-\$2,955</b>           | <b>-\$6,696</b>                | <b>-\$6,877</b>            | <b>-\$5,338</b>  | <b>-\$3,007</b>  | <b>-\$227</b>    | <b>\$2,639</b>   | <b>\$5,639</b>   |
| <b>GOVERNMENT</b>   |                           |                                |                            |                  |                  |                  |                  |                  |
| Program cost  | -\$8,500                  | \$0                            | \$0                        | \$0              | \$0              | \$0              | \$0              | \$0              |
| MSCPF   | -\$2,201                  | -\$174                         | \$79                       | \$100            | \$116            | \$122            | \$124            | \$128            |
| Employment earnings   | N/A                       | N/A                            | N/A                        | N/A              | N/A              | N/A              | N/A              | N/A              |
| Fringe benefits   | N/A                       | N/A                            | N/A                        | N/A              | N/A              | N/A              | N/A              | N/A              |
| EI benefits   | -\$1,847                  | -\$211                         | \$426                      | \$188            | \$105            | \$70             | \$51             | \$61             |
| Sales tax paid  | -\$253                    | -\$214                         | \$10                       | \$95             | \$135            | \$157            | \$162            | \$169            |
| Income taxes paid   | -\$383                    | -\$404                         | -\$9                       | \$209            | \$315            | \$355            | \$381            | \$380            |
| SA benefits   | -\$21                     | -\$42                          | -\$33                      | \$7              | \$25             | \$27             | \$23             | \$33             |
| <b>Net Present Value</b>  | <b>-\$13,205</b>          | <b>-\$14,250</b>               | <b>-\$13,777</b>           | <b>-\$13,178</b> | <b>-\$12,482</b> | <b>-\$11,751</b> | <b>-\$11,010</b> | <b>-\$10,239</b> |
| <b>SOCIAL</b>   |                           |                                |                            |                  |                  |                  |                  |                  |
| Program cost  | -\$8,500                  | \$0                            | \$0                        | \$0              | \$0              | \$0              | \$0              | \$0              |
| MSCPF   | -\$2,201                  | -\$174                         | \$79                       | \$100            | \$116            | \$122            | \$124            | \$128            |
| Employment earnings   | -\$4,747                  | -\$4,010                       | \$185                      | \$1,773          | \$2,531          | \$2,947          | \$3,029          | \$3,168          |
| Fringe benefits   | -\$712                    | -\$602                         | \$28                       | \$266            | \$380            | \$442            | \$454            | \$475            |
| EI benefits   | \$0                       | \$0                            | \$0                        | \$0              | \$0              | \$0              | \$0              | \$0              |
| Sales tax paid  | \$0                       | \$0                            | \$0                        | \$0              | \$0              | \$0              | \$0              | \$0              |
| Income taxes paid   | \$0                       | \$0                            | \$0                        | \$0              | \$0              | \$0              | \$0              | \$0              |
| SA benefits   | \$0                       | \$0                            | \$0                        | \$0              | \$0              | \$0              | \$0              | \$0              |
| <b>Net Present Value</b>  | <b>-\$16,160</b>          | <b>-\$20,946</b>               | <b>-\$20,654</b>           | <b>-\$18,516</b> | <b>-\$15,489</b> | <b>-\$11,978</b> | <b>-\$8,371</b>  | <b>-\$4,600</b>  |

<sup>1</sup> Random sample of approximately 50% of participants

Note: All values for the additional program year up to the sixth post-program year inclusively were discounted by 5% to bring them to a common basis with the values for the program start year.

| <b>Table A2. Detailed Results - Former Claimants in Skills Development (n=42,513)</b> |                           |                                |                            |                  |                  |                 |                 |                 |
|---|---------------------------|--------------------------------|----------------------------|------------------|------------------|-----------------|-----------------|-----------------|
|   | <b>In-program period</b>  |                                | <b>Post-program period</b> |                  |                  |                 |                 |                 |
|   | <b>Program start year</b> | <b>Additional Program Year</b> | <b>1st year</b>            | <b>2nd year</b>  | <b>3rd year</b>  | <b>4th year</b> | <b>5th year</b> | <b>6th year</b> |
| <b>INDIVIDUAL</b>   |                           |                                |                            |                  |                  |                 |                 |                 |
| Program cost  | N/A                       | N/A                            | N/A                        | N/A              | N/A              | N/A             | N/A             | N/A             |
| MSCPF   | N/A                       | N/A                            | N/A                        | N/A              | N/A              | N/A             | N/A             | N/A             |
| Employment earnings   | -\$2,405                  | -\$2,316                       | \$450                      | \$1,339          | \$1,669          | \$1,822         | \$1,881         | \$1,893         |
| Fringe benefits   | -\$361                    | -\$347                         | \$67                       | \$201            | \$250            | \$273           | \$282           | \$284           |
| EI benefits   | \$395                     | -\$67                          | -\$49                      | \$148            | \$179            | \$159           | \$137           | \$87            |
| Sales tax paid  | \$128                     | \$124                          | -\$24                      | -\$71            | -\$89            | -\$97           | -\$100          | -\$101          |
| Income taxes paid   | \$45                      | \$150                          | \$7                        | -\$102           | -\$138           | -\$147          | -\$154          | -\$163          |
| SA benefits   | -\$236                    | -\$318                         | -\$177                     | -\$181           | -\$195           | -\$189          | -\$184          | -\$185          |
| <b>Net Present Value</b>  | <b>-\$2,433</b>           | <b>-\$5,208</b>                | <b>-\$4,933</b>            | <b>-\$3,599</b>  | <b>-\$1,923</b>  | <b>-\$102</b>   | <b>\$1,760</b>  | <b>\$3,574</b>  |
| <b>GOVERNMENT</b>   |                           |                                |                            |                  |                  |                 |                 |                 |
| Program cost  | -\$8,766                  | \$0                            | \$0                        | \$0              | \$0              | \$0             | \$0             | \$0             |
| MSCPF   | -\$1,820                  | \$22                           | \$49                       | \$41             | \$49             | \$55            | \$60            | \$72            |
| Employment earnings   | \$0                       | \$0                            | \$0                        | \$0              | \$0              | \$0             | \$0             | \$0             |
| Fringe benefits   | \$0                       | \$0                            | \$0                        | \$0              | \$0              | \$0             | \$0             | \$0             |
| EI benefits   | -\$395                    | \$67                           | \$49                       | -\$148           | -\$179           | -\$159          | -\$137          | -\$87           |
| Sales tax paid  | -\$128                    | -\$124                         | \$24                       | \$71             | \$89             | \$97            | \$100           | \$101           |
| Income taxes paid   | -\$45                     | -\$150                         | -\$7                       | \$102            | \$138            | \$147           | \$154           | \$163           |
| SA benefits   | \$236                     | \$318                          | \$177                      | \$181            | \$195            | \$189           | \$184           | \$185           |
| <b>Net Present Value</b>  | <b>-\$10,918</b>          | <b>-\$10,785</b>               | <b>-\$10,494</b>           | <b>-\$10,246</b> | <b>-\$9,954</b>  | <b>-\$9,625</b> | <b>-\$9,262</b> | <b>-\$8,827</b> |
| <b>SOCIAL</b>   |                           |                                |                            |                  |                  |                 |                 |                 |
| Program cost  | -\$8,766                  | \$0                            | \$0                        | \$0              | \$0              | \$0             | \$0             | \$0             |
| MSCPF   | -\$1,820                  | \$22                           | \$49                       | \$41             | \$49             | \$55            | \$60            | \$72            |
| Employment earnings   | -\$2,405                  | -\$2,316                       | \$450                      | \$1,339          | \$1,669          | \$1,822         | \$1,881         | \$1,893         |
| Fringe benefits   | -\$361                    | -\$347                         | \$67                       | \$201            | \$250            | \$273           | \$282           | \$284           |
| EI benefits   | \$0                       | \$0                            | \$0                        | \$0              | \$0              | \$0             | \$0             | \$0             |
| Sales tax paid  | \$0                       | \$0                            | \$0                        | \$0              | \$0              | \$0             | \$0             | \$0             |
| Income taxes paid   | \$0                       | \$0                            | \$0                        | \$0              | \$0              | \$0             | \$0             | \$0             |
| SA benefits   | \$0                       | \$0                            | \$0                        | \$0              | \$0              | \$0             | \$0             | \$0             |
| <b>Net Present Value</b>  | <b>-\$13,351</b>          | <b>-\$15,993</b>               | <b>-\$15,427</b>           | <b>-\$13,846</b> | <b>-\$11,877</b> | <b>-\$9,727</b> | <b>-\$7,503</b> | <b>-\$5,254</b> |

Note: All values for the additional program year up to the sixth post-program year inclusively were discounted by 5% to bring them to a common basis with the values for the program start year.

| <b>Table A3. Detailed Results - Active Claimants in Targeted Wage Subsidies (n=18,767)</b> |                           |                                |                            |                 |                 |                 |                 |                 |
|--|---------------------------|--------------------------------|----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|  | <b>In-program period</b>  |                                | <b>Post-program period</b> |                 |                 |                 |                 |                 |
|  | <b>Program start year</b> | <b>Additional Program Year</b> | <b>1st year</b>            | <b>2nd year</b> | <b>3rd year</b> | <b>4th year</b> | <b>5th year</b> | <b>6th year</b> |
| <b>INDIVIDUAL</b>  |                           |                                |                            |                 |                 |                 |                 |                 |
| Program cost   | N/A                       | N/A                            | N/A                        | N/A             | N/A             | N/A             | N/A             | N/A             |
| MSCPF  | N/A                       | N/A                            | N/A                        | N/A             | N/A             | N/A             | N/A             | N/A             |
| Employment earnings  | -\$1,404                  | \$716                          | \$600                      | \$839           | \$1,437         | \$1,422         | \$1,440         | \$1,551         |
| Fringe benefits  | -\$211                    | \$107                          | \$90                       | \$126           | \$216           | \$213           | \$216           | \$233           |
| EI benefits  | \$100                     | -\$198                         | -\$2                       | \$45            | \$32            | \$81            | \$109           | \$92            |
| Sales tax paid   | \$75                      | -\$38                          | -\$32                      | -\$45           | -\$77           | -\$76           | -\$77           | -\$83           |
| Income taxes paid  | \$296                     | \$89                           | -\$5                       | -\$76           | -\$113          | -\$158          | -\$173          | -\$179          |
| SA benefits  | -\$24                     | -\$82                          | -\$72                      | -\$53           | -\$52           | -\$45           | -\$49           | -\$59           |
| <b>Net Present Value</b>   | <b>-\$1,168</b>           | <b>-\$574</b>                  | <b>\$6</b>                 | <b>\$842</b>    | <b>\$2,286</b>  | <b>\$3,723</b>  | <b>\$5,190</b>  | <b>\$6,745</b>  |
| <b>GOVERNMENT</b>  |                           |                                |                            |                 |                 |                 |                 |                 |
| Program cost   | -\$6,259                  | \$0                            | \$0                        | \$0             | \$0             | \$0             | \$0             | \$0             |
| MSCPF  | -\$1,341                  | \$46                           | \$22                       | \$26            | \$42            | \$40            | \$38            | \$46            |
| Employment earnings  | \$0                       | \$0                            | \$0                        | \$0             | \$0             | \$0             | \$0             | \$0             |
| Fringe benefits  | \$0                       | \$0                            | \$0                        | \$0             | \$0             | \$0             | \$0             | \$0             |
| EI benefits  | -\$100                    | \$198                          | \$2                        | -\$45           | -\$32           | -\$81           | -\$109          | -\$92           |
| Sales tax paid   | -\$75                     | \$38                           | \$32                       | \$45            | \$77            | \$76            | \$77            | \$83            |
| Income taxes paid  | -\$296                    | -\$89                          | \$5                        | \$76            | \$113           | \$158           | \$173           | \$179           |
| SA benefits  | \$24                      | \$82                           | \$72                       | \$53            | \$52            | \$45            | \$49            | \$59            |
| <b>Net Present Value</b>   | <b>-\$8,047</b>           | <b>-\$7,771</b>                | <b>-\$7,639</b>            | <b>-\$7,485</b> | <b>-\$7,234</b> | <b>-\$6,996</b> | <b>-\$6,769</b> | <b>-\$6,495</b> |
| <b>SOCIAL</b>  |                           |                                |                            |                 |                 |                 |                 |                 |
| Program cost   | -\$6,259                  | \$0                            | \$0                        | \$0             | \$0             | \$0             | \$0             | \$0             |
| MSCPF  | -\$1,341                  | \$46                           | \$22                       | \$26            | \$42            | \$40            | \$38            | \$46            |
| Employment earnings  | -\$1,404                  | \$716                          | \$600                      | \$839           | \$1,437         | \$1,422         | \$1,440         | \$1,551         |
| Fringe benefits  | -\$211                    | \$107                          | \$90                       | \$126           | \$216           | \$213           | \$216           | \$233           |
| EI benefits  | \$0                       | \$0                            | \$0                        | \$0             | \$0             | \$0             | \$0             | \$0             |
| Sales tax paid   | \$0                       | \$0                            | \$0                        | \$0             | \$0             | \$0             | \$0             | \$0             |
| Income taxes paid  | \$0                       | \$0                            | \$0                        | \$0             | \$0             | \$0             | \$0             | \$0             |
| SA benefits  | \$0                       | \$0                            | \$0                        | \$0             | \$0             | \$0             | \$0             | \$0             |
| <b>Net Present Value</b>   | <b>-\$9,214</b>           | <b>-\$8,345</b>                | <b>-\$7,633</b>            | <b>-\$6,643</b> | <b>-\$4,948</b> | <b>-\$3,273</b> | <b>-\$1,579</b> | <b>\$251</b>    |

Note: All values for the additional program year up to the sixth post-program year inclusively were discounted by 5% to bring them to a common basis with the values for the program start year.

**Table A4. Detailed Results - Former Claimants in Targeted Wage Subsidies (n=24,523)**

|                          | In-program period  |                         | Post-program period |                 |                 |                 |                 |                 |
|--------------------------|--------------------|-------------------------|---------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                          | Program start year | Additional Program Year | 1st year            | 2nd year        | 3rd year        | 4th year        | 5th year        | 6th year        |
| <b>INDIVIDUAL</b>        |                    |                         |                     |                 |                 |                 |                 |                 |
| Program cost             | N/A                | N/A                     | N/A                 | N/A             | N/A             | N/A             | N/A             | N/A             |
| MSCPF                    | N/A                | N/A                     | N/A                 | N/A             | N/A             | N/A             | N/A             | N/A             |
| Employment earnings      | \$3,237            | \$3,394                 | \$1,936             | \$1,598         | \$1,659         | \$1,703         | \$1,627         | \$1,686         |
| Fringe benefits          | \$486              | \$509                   | \$290               | \$240           | \$249           | \$255           | \$244           | \$253           |
| EI benefits              | \$391              | \$814                   | \$616               | \$431           | \$327           | \$273           | \$221           | \$255           |
| Sales tax paid           | -\$173             | -\$181                  | -\$103              | -\$85           | -\$89           | -\$91           | -\$87           | -\$90           |
| Income taxes paid        | -\$304             | -\$406                  | -\$261              | -\$212          | -\$208          | -\$195          | -\$190          | -\$176          |
| SA benefits              | -\$481             | -\$559                  | -\$351              | -\$264          | -\$234          | -\$215          | -\$198          | -\$216          |
| <b>Net Present Value</b> | <b>\$3,156</b>     | <b>\$6,728</b>          | <b>\$8,854</b>      | <b>\$10,562</b> | <b>\$12,265</b> | <b>\$13,996</b> | <b>\$15,613</b> | <b>\$17,325</b> |
| <b>GOVERNMENT</b>        |                    |                         |                     |                 |                 |                 |                 |                 |
| Program cost             | -\$6,102           | \$0                     | \$0                 | \$0             | \$0             | \$0             | \$0             | \$0             |
| MSCPF                    | -\$1,107           | \$66                    | \$20                | \$26            | \$41            | \$45            | \$51            | \$45            |
| Employment earnings      | \$0                | \$0                     | \$0                 | \$0             | \$0             | \$0             | \$0             | \$0             |
| Fringe benefits          | \$0                | \$0                     | \$0                 | \$0             | \$0             | \$0             | \$0             | \$0             |
| EI benefits              | -\$391             | -\$814                  | -\$616              | -\$431          | -\$327          | -\$273          | -\$221          | -\$255          |
| Sales tax paid           | \$173              | \$181                   | \$103               | \$85            | \$89            | \$91            | \$87            | \$90            |
| Income taxes paid        | \$304              | \$406                   | \$261               | \$212           | \$208           | \$195           | \$190           | \$176           |
| SA benefits              | \$481              | \$559                   | \$351               | \$264           | \$234           | \$215           | \$198           | \$216           |
| <b>Net Present Value</b> | <b>-\$6,642</b>    | <b>-\$6,244</b>         | <b>-\$6,124</b>     | <b>-\$5,968</b> | <b>-\$5,723</b> | <b>-\$5,450</b> | <b>-\$5,145</b> | <b>-\$4,874</b> |
| <b>SOCIAL</b>            |                    |                         |                     |                 |                 |                 |                 |                 |
| Program cost             | -\$6,102           | \$0                     | \$0                 | \$0             | \$0             | \$0             | \$0             | \$0             |
| MSCPF                    | -\$1,107           | \$66                    | \$20                | \$26            | \$41            | \$45            | \$51            | \$45            |
| Employment earnings      | \$3,237            | \$3,394                 | \$1,936             | \$1,598         | \$1,659         | \$1,703         | \$1,627         | \$1,686         |
| Fringe benefits          | \$486              | \$509                   | \$290               | \$240           | \$249           | \$255           | \$244           | \$253           |
| EI benefits              | \$0                | \$0                     | \$0                 | \$0             | \$0             | \$0             | \$0             | \$0             |
| Sales tax paid           | \$0                | \$0                     | \$0                 | \$0             | \$0             | \$0             | \$0             | \$0             |
| Income taxes paid        | \$0                | \$0                     | \$0                 | \$0             | \$0             | \$0             | \$0             | \$0             |
| SA benefits              | \$0                | \$0                     | \$0                 | \$0             | \$0             | \$0             | \$0             | \$0             |
| <b>Net Present Value</b> | <b>-\$3,486</b>    | <b>\$484</b>            | <b>\$2,730</b>      | <b>\$4,594</b>  | <b>\$6,543</b>  | <b>\$8,546</b>  | <b>\$10,468</b> | <b>\$12,452</b> |

Note: All values for the additional program year up to the sixth post-program year inclusively were discounted by 5% to bring them to a common basis with the values for the program start year.

**Table A5. Detailed Results - Active Claimants in Job Creation Partnerships (n=5,055)**

|                          | In-program period  |                         | Post-program period |                  |                  |                  |                  |                 |
|--------------------------|--------------------|-------------------------|---------------------|------------------|------------------|------------------|------------------|-----------------|
|                          | Program start year | Additional Program Year | 1st year            | 2nd year         | 3rd year         | 4th year         | 5th year         | 6th year        |
| <b>INDIVIDUAL</b>        |                    |                         |                     |                  |                  |                  |                  |                 |
| Program cost             | N/A                | N/A                     | N/A                 | N/A              | N/A              | N/A              | N/A              | N/A             |
| MSCPF                    | N/A                | N/A                     | N/A                 | N/A              | N/A              | N/A              | N/A              | N/A             |
| Employment earnings      | -\$4,760           | -\$1,474                | \$1,722             | \$2,440          | \$2,838          | \$3,110          | \$3,290          | \$3,099         |
| Fringe benefits          | -\$714             | -\$221                  | \$258               | \$366            | \$426            | \$466            | \$494            | \$465           |
| EI benefits              | \$2,563            | \$272                   | -\$498              | -\$190           | -\$45            | -\$11            | -\$41            | -\$7            |
| Sale tax paid            | \$254              | \$79                    | -\$92               | -\$130           | -\$151           | -\$166           | -\$176           | -\$165          |
| Income taxes paid        | \$234              | -\$4                    | -\$256              | -\$466           | -\$551           | -\$605           | -\$663           | -\$700          |
| SA benefits              | -\$59              | \$10                    | -\$33               | -\$43            | -\$56            | -\$45            | -\$35            | -\$32           |
| <b>Net Present Value</b> | <b>-\$2,482</b>    | <b>-\$3,821</b>         | <b>-\$2,718</b>     | <b>-\$741</b>    | <b>\$1,719</b>   | <b>\$4,468</b>   | <b>\$7,337</b>   | <b>\$9,996</b>  |
| <b>GOVERNMENT</b>        |                    |                         |                     |                  |                  |                  |                  |                 |
| Program cost             | -\$9,834           | \$0                     | \$0                 | \$0              | \$0              | \$0              | \$0              | \$0             |
| MSCPF                    | -\$2,565           | -\$71                   | \$176               | \$166            | \$161            | \$165            | \$183            | \$181           |
| Employment earnings      | \$0                | \$0                     | \$0                 | \$0              | \$0              | \$0              | \$0              | \$0             |
| Fringe benefits          | \$0                | \$0                     | \$0                 | \$0              | \$0              | \$0              | \$0              | \$0             |
| EI benefits              | -\$2,563           | -\$272                  | \$498               | \$190            | \$45             | \$11             | \$41             | \$7             |
| Sales tax paid           | -\$254             | -\$79                   | \$92                | \$130            | \$151            | \$166            | \$176            | \$165           |
| Income taxes paid        | -\$234             | \$4                     | \$256               | \$466            | \$551            | \$605            | \$663            | \$700           |
| SA benefits              | \$59               | -\$10                   | \$33                | \$43             | \$56             | \$45             | \$35             | \$32            |
| <b>Net Present Value</b> | <b>-\$15,391</b>   | <b>-\$15,819</b>        | <b>-\$14,765</b>    | <b>-\$13,770</b> | <b>-\$12,806</b> | <b>-\$11,813</b> | <b>-\$10,715</b> | <b>-\$9,630</b> |
| <b>SOCIAL</b>            |                    |                         |                     |                  |                  |                  |                  |                 |
| Program cost             | -\$9,834           | \$0                     | \$0                 | \$0              | \$0              | \$0              | \$0              | \$0             |
| MSCPF                    | -\$2,565           | -\$71                   | \$176               | \$166            | \$161            | \$165            | \$183            | \$181           |
| Employment earnings      | -\$4,760           | -\$1,474                | \$1,722             | \$2,440          | \$2,838          | \$3,110          | \$3,290          | \$3,099         |
| Fringe benefits          | -\$714             | -\$221                  | \$258               | \$366            | \$426            | \$466            | \$494            | \$465           |
| EI benefits              | \$0                | \$0                     | \$0                 | \$0              | \$0              | \$0              | \$0              | \$0             |
| Sales tax paid           | \$0                | \$0                     | \$0                 | \$0              | \$0              | \$0              | \$0              | \$0             |
| Income taxes paid        | \$0                | \$0                     | \$0                 | \$0              | \$0              | \$0              | \$0              | \$0             |
| SA benefits              | \$0                | \$0                     | \$0                 | \$0              | \$0              | \$0              | \$0              | \$0             |
| <b>Net Present Value</b> | <b>-\$17,873</b>   | <b>-\$19,640</b>        | <b>-\$17,483</b>    | <b>-\$14,511</b> | <b>-\$11,086</b> | <b>-\$7,344</b>  | <b>-\$3,378</b>  | <b>\$366</b>    |

Note: All values for the additional program year up to the sixth post-program year inclusively were discounted by 5% to bring them to a common basis with the values for the program start year.

| <b>Table A6. Detailed Results - Former Claimants in Job Creation Partnerships (n=5,013)</b> |                           |                                |                            |                  |                  |                  |                  |                  |
|---|---------------------------|--------------------------------|----------------------------|------------------|------------------|------------------|------------------|------------------|
|   | <b>In-program period</b>  |                                | <b>Post-program period</b> |                  |                  |                  |                  |                  |
|   | <b>Program start year</b> | <b>Additional Program Year</b> | <b>1st year</b>            | <b>2nd year</b>  | <b>3rd year</b>  | <b>4th year</b>  | <b>5th year</b>  | <b>6th year</b>  |
| <b>INDIVIDUAL</b>   |                           |                                |                            |                  |                  |                  |                  |                  |
| Program cost  | N/A                       | N/A                            | N/A                        | N/A              | N/A              | N/A              | N/A              | N/A              |
| MSCPF   | N/A                       | N/A                            | N/A                        | N/A              | N/A              | N/A              | N/A              | N/A              |
| Employment earnings   | -\$2,242                  | -\$601                         | \$788                      | \$709            | \$947            | \$738            | \$752            | \$256            |
| Fringe benefits   | -\$336                    | -\$90                          | \$118                      | \$106            | \$142            | \$111            | \$113            | \$38             |
| EI benefits   | \$183                     | -\$229                         | \$40                       | \$245            | \$118            | \$216            | \$193            | \$193            |
| Sales tax paid  | \$120                     | \$32                           | -\$42                      | -\$38            | -\$51            | -\$39            | -\$40            | -\$14            |
| Income taxes paid   | -\$61                     | -\$86                          | -\$110                     | -\$164           | -\$160           | -\$164           | -\$157           | -\$114           |
| SA benefits   | -\$302                    | -\$287                         | -\$251                     | -\$222           | -\$220           | -\$175           | -\$118           | -\$114           |
| <b>Net Present Value</b>  | <b>-\$2,639</b>           | <b>-\$3,899</b>                | <b>-\$3,355</b>            | <b>-\$2,718</b>  | <b>-\$1,942</b>  | <b>-\$1,254</b>  | <b>-\$512</b>    | <b>-\$267</b>    |
| <b>GOVERNMENT</b>   |                           |                                |                            |                  |                  |                  |                  |                  |
| Program cost  | -\$10,141                 | \$0                            | \$0                        | \$0              | \$0              | \$0              | \$0              | \$0              |
| MSCPF   | -\$2,016                  | \$114                          | \$73                       | \$36             | \$62             | \$32             | \$25             | \$10             |
| Employment earnings   | \$0                       | \$0                            | \$0                        | \$0              | \$0              | \$0              | \$0              | \$0              |
| Fringe benefits   | \$0                       | \$0                            | \$0                        | \$0              | \$0              | \$0              | \$0              | \$0              |
| EI benefits   | -\$183                    | \$229                          | -\$40                      | -\$245           | -\$118           | -\$216           | -\$193           | -\$193           |
| Sales tax paid  | -\$120                    | -\$32                          | \$42                       | \$38             | \$51             | \$39             | \$40             | \$14             |
| Income taxes paid   | \$61                      | \$86                           | \$110                      | \$164            | \$160            | \$164            | \$157            | \$114            |
| SA benefits   | \$302                     | \$287                          | \$251                      | \$222            | \$220            | \$175            | \$118            | \$114            |
| <b>Net Present Value</b>  | <b>-\$12,097</b>          | <b>-\$11,414</b>               | <b>-\$10,979</b>           | <b>-\$10,764</b> | <b>-\$10,390</b> | <b>-\$10,196</b> | <b>-\$10,048</b> | <b>-\$9,990</b>  |
| <b>SOCIAL</b>   |                           |                                |                            |                  |                  |                  |                  |                  |
| Program cost  | -\$10,141                 | \$0                            | \$0                        | \$0              | \$0              | \$0              | \$0              | \$0              |
| MSCPF   | -\$2,016                  | \$114                          | \$73                       | \$36             | \$62             | \$32             | \$25             | \$10             |
| Employment earnings   | -\$2,242                  | -\$601                         | \$788                      | \$709            | \$947            | \$738            | \$752            | \$256            |
| Fringe benefits   | -\$336                    | -\$90                          | \$118                      | \$106            | \$142            | \$111            | \$113            | \$38             |
| EI benefits   | \$0                       | \$0                            | \$0                        | \$0              | \$0              | \$0              | \$0              | \$0              |
| Sales tax paid  | \$0                       | \$0                            | \$0                        | \$0              | \$0              | \$0              | \$0              | \$0              |
| Income taxes paid   | \$0                       | \$0                            | \$0                        | \$0              | \$0              | \$0              | \$0              | \$0              |
| SA benefits   | \$0                       | \$0                            | \$0                        | \$0              | \$0              | \$0              | \$0              | \$0              |
| <b>Net Present Value</b>  | <b>-\$14,736</b>          | <b>-\$15,313</b>               | <b>-\$14,334</b>           | <b>-\$13,483</b> | <b>-\$12,331</b> | <b>-\$11,450</b> | <b>-\$10,561</b> | <b>-\$10,257</b> |

Note: All values for the additional program year up to the sixth post-program year inclusively were discounted by 5% to bring them to a common basis with the values for the program start year.

| <b>Table A7. Detailed Results - Active Claimants in Employment Assistance Services (n=38,564)<sup>1</sup></b> |                    |                     |                 |                 |                 |                 |                 |
|---|--------------------|---------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|   | In-program period  | Post-program period |                 |                 |                 |                 |                 |
|   | Program start year | 1st year            | 2nd year        | 3rd year        | 4th year        | 5th year        | 6th year        |
| <b>INDIVIDUAL</b>   |                    |                     |                 |                 |                 |                 |                 |
| Program cost  | N/A                | N/A                 | N/A             | N/A             | N/A             | N/A             | N/A             |
| MSCPF   | N/A                | N/A                 | N/A             | N/A             | N/A             | N/A             | N/A             |
| Employment earnings   | -\$2,913           | -\$1,045            | -\$253          | \$300           | \$531           | \$581           | \$720           |
| Fringe benefits   | -\$437             | -\$157              | -\$38           | \$45            | \$80            | \$87            | \$108           |
| EI benefits   | \$697              | -\$430              | -\$283          | -\$217          | -\$183          | -\$107          | -\$96           |
| Sales tax paid  | \$155              | \$56                | \$14            | -\$16           | -\$28           | -\$31           | -\$38           |
| Income taxes paid   | \$351              | \$260               | \$113           | \$43            | -\$40           | -\$81           | -\$101          |
| SA benefits   | \$60               | \$90                | \$28            | \$20            | \$24            | \$28            | \$7             |
| <b>Net Present Value</b>  | <b>-\$2,087</b>    | <b>-\$3,312</b>     | <b>-\$3,731</b> | <b>-\$3,556</b> | <b>-\$3,174</b> | <b>-\$2,696</b> | <b>-\$2,096</b> |
| <b>GOVERNMENT</b>   |                    |                     |                 |                 |                 |                 |                 |
| Program cost  | -\$692             | \$0                 | \$0             | \$0             | \$0             | \$0             | \$0             |
| MSCPF   | -\$391             | \$5                 | \$26            | \$34            | \$45            | \$38            | \$46            |
| Employment earnings   | \$0                | \$0                 | \$0             | \$0             | \$0             | \$0             | \$0             |
| Fringe benefits   | \$0                | \$0                 | \$0             | \$0             | \$0             | \$0             | \$0             |
| EI benefits   | -\$697             | \$430               | \$283           | \$217           | \$183           | \$107           | \$96            |
| Sales tax paid  | -\$155             | -\$56               | -\$14           | \$16            | \$28            | \$31            | \$38            |
| Income taxes paid   | -\$351             | -\$260              | -\$113          | -\$43           | \$40            | \$81            | \$101           |
| SA benefits   | -\$60              | -\$90               | -\$28           | -\$20           | -\$24           | -\$28           | -\$7            |
| <b>Net Present Value</b>  | <b>-\$2,346</b>    | <b>-\$2,317</b>     | <b>-\$2,164</b> | <b>-\$1,960</b> | <b>-\$1,687</b> | <b>-\$1,458</b> | <b>-\$1,185</b> |
| <b>SOCIAL</b>   |                    |                     |                 |                 |                 |                 |                 |
| Program cost  | -\$692             | \$0                 | \$0             | \$0             | \$0             | \$0             | \$0             |
| MSCPF   | -\$391             | \$5                 | \$26            | \$34            | \$45            | \$38            | \$46            |
| Employment earnings   | -\$2,913           | -\$1,045            | -\$253          | \$300           | \$531           | \$581           | \$720           |
| Fringe benefits   | -\$437             | -\$157              | -\$38           | \$45            | \$80            | \$87            | \$108           |
| EI benefits   | \$0                | \$0                 | \$0             | \$0             | \$0             | \$0             | \$0             |
| Sales tax paid  | \$0                | \$0                 | \$0             | \$0             | \$0             | \$0             | \$0             |
| Income taxes paid   | \$0                | \$0                 | \$0             | \$0             | \$0             | \$0             | \$0             |
| SA benefits   | \$0                | \$0                 | \$0             | \$0             | \$0             | \$0             | \$0             |
| <b>Net Present Value</b>  | <b>-\$4,433</b>    | <b>-\$5,630</b>     | <b>-\$5,895</b> | <b>-\$5,516</b> | <b>-\$4,861</b> | <b>-\$4,154</b> | <b>-\$3,280</b> |

<sup>1</sup> Random sample of approximately 10% of participants

Note: All values for the additional program year up to the sixth post-program year inclusively were discounted by 5% to bring them to a common basis with the values for the program start year.



## *Annex B - Sensitivity Analysis*

The estimates generated for the main cost-benefit analysis were based on available data and most appropriate assumptions. A sensitivity analysis was conducted to examine by how much the net present value from the social perspective changed when variations are applied to the discount rate, Marginal Social Cost of Public Funds (MSCPF) and duration of the benefits and costs:

- **Discount rate:** While the principal cost-benefit analysis used a discount rate of 5%, the sensitivity analysis tested by how much the net present value changed when a discount rate of 3%, 5% or 7% was applied.
- **MSCPF:** In the main cost-benefit analysis, the MSCPF rate was defined as 1.2, while the sensitivity analysis tested different scenarios using MSCPF rates of 1, 1.2, and 1.5.
- **Duration:** Available data allow to estimate benefits and costs over six years after the end of participation (or 7 to 8 years after the start of participation). The sensitivity analysis examined the net present value, cost-benefit ratio and payback periods for SD and TWS when the costs (with the exception of the program costs) and benefits were extrapolated over 15 and 25 years. The analysis over 15 and 25 years was not conducted for JCP and EAS-only as participation in these two programs may not necessarily generate impacts over such a long period. Benefits and costs beyond the observation period were extrapolated using the average of the estimates for the fifth and sixth year post-program.

### **1. Results for active claimants (Table B1)**

#### **SD**

- The main cost-benefit analysis (i.e., a 6-year post-program period with a 5% discount rate and MSCPF rate of 1.2) estimated a net present value of -\$4,600 and a payback period of 7.4 years.
- When measuring costs and benefits over the participation period and six years post-program, but changing the discount rate and/or MSCPF rate, the best case scenario (3% discount rate and MSCPF rate of 1) resulted in a net present value of -\$1,328 and a payback of 6.3 years.
- In the worst case scenario (7% discount rate and MSCPF rate of 1.5), the net present value was -\$8,668 and the payback period was 8.9 years.
- No matter what rates were used for discounting and for the MSCFP, the net present value ranged between \$12,955 and \$29,672 when costs and benefits were extrapolated over a 15 year post-program period. The net present value ranged between \$25,635 and \$56,628 when benefits and costs were extrapolated over 25 years.

#### **TWS**

- The main cost-benefit analysis showed a net present value of \$251 and a 5.9 year payback period.
- When using different discount and MSCPF rates and measuring costs and benefits over the six-year post-program period, the best case scenario was a net present value of \$2,190 and a 4.9 year payback period.

- The worst case scenario showed a net present value of -\$2,181 with a payback period of 7.5 years.
- The net present value ranged between \$7,998 and \$17,162 and between \$13,967 and \$29,734 when costs and benefits were extrapolated over a 15 and a 25 year post-program period respectively.

### JCP

- Results from the principal cost-benefit analysis were a net present value of \$366 and a 5.9 year payback period.
- The best case scenario generated by the sensitivity analysis had a net present value of \$3,781 and a 5.1 year payback period.
- The worst case scenario found a net present value of -\$3,849 with a payback period of 7.2 years.

### EAS

- The main cost-benefit analysis showed that the net present value six years after program end was -\$3,280; while the benefits need to persist over 10.9 years to equal the costs.
- Under the best case scenario, the net present value was -\$2,880 six years after program end and the payback period was 9.8 years.
- The worst case scenario showed a net present value of -\$3,792 and a payback period of 12.5 years.

| <b>Table B1. Results from the Sensitivity Analysis for Active Claimants</b> |              |                      |   |                                |   |
|---|--------------|----------------------|---|--------------------------------|---|
| <b>Parameters</b>   |              |                      | <b>Results from Society Perspective</b> |                                |   |
| <b>Duration</b>   | <b>MSCPF</b> | <b>Discount rate</b> | <b>Net Present Value (\$)</b>           | <b>Cost-benefit ratio (\$)</b> | <b>Payback period after program end (years)</b> |
| <b>Skills Development (SD)</b>  |              |                      |   |                                |   |
| 6 years post-program  | 1.00         | 0.03                 | -\$1,328                                | 1.2                            | 6.3   |
|   |              | 0.05                 | -\$2,894                                | 1.5                            | 6.8   |
|   |              | 0.07                 | -\$4,268                                | 2.0                            | 7.5   |
|   | 1.2          | 0.03                 | -\$2,974                                | 1.5                            | 6.7   |
|   |              | <b>0.05</b>          | <b>-\$4,600</b>                         | <b>2.2</b>                     | <b>7.4</b>                                      |
|   |              | 0.07                 | -\$6,028                                | 3.4                            | 8.1   |
|   | 1.5          | 0.03                 | -\$5,442                                | 2.8                            | 7.3   |
|   |              | 0.05                 | -\$7,160                                | 6.3                            | 8.0   |
|   |              | 0.07                 | -\$8,668                                | negative                       | 8.9   |
| 15 years post-program   | 1.00         | 0.03                 | \$29,672                                | 0.2                            | 6.3   |
|   |              | 0.05                 | \$21,841                                | 0.3                            | 6.8   |
|   |              | 0.07                 | \$15,600                                | 0.4                            | 7.5   |
|   | 1.2          | 0.03                 | \$29,122                                | 0.2                            | 6.7   |
|   |              | 0.05                 | \$21,009                                | 0.3                            | 7.4   |
|   |              | 0.07                 | \$14,542                                | 0.4                            | 8.1   |
|   | 1.5          | 0.03                 | \$28,298                                | 0.2                            | 7.3   |
|   |              | 0.05                 | \$19,761                                | 0.3                            | 8.0   |
|   |              | 0.07                 | \$12,955                                | 0.4                            | 8.9   |
| 25 years post-program   | 1.00         | 0.03                 | \$55,702                                | 0.1                            | 6.3   |
|   |              | 0.05                 | \$39,163                                | 0.2                            | 6.8   |
|   |              | 0.07                 | \$27,250                                | 0.2                            | 7.5   |

|                                      |      |      |          |          |      |
|--------------------------------------|------|------|----------|----------|------|
|                                      | 1.2  | 0.03 | \$56,072 | 0.1      | 6.7  |
|                                      |      | 0.05 | \$38,944 | 0.2      | 7.4  |
|                                      |      | 0.07 | \$26,604 | 0.2      | 8.1  |
|                                      | 1.5  | 0.03 | \$56,628 | 0.1      | 7.3  |
|                                      |      | 0.05 | \$38,614 | 0.2      | 8.0  |
|                                      |      | 0.07 | \$25,635 | 0.2      | 8.9  |
| Targeted Wage Subsidies (TWS)        |      |      |          |          |      |
| 6 years post-program                 | 1.00 | 0.03 | \$2,190  | 0.7      | 4.9  |
|                                      |      | 0.05 | \$1,333  | 0.8      | 5.3  |
|                                      |      | 0.07 | \$574    | 0.9      | 5.6  |
|                                      | 1.2  | 0.03 | \$1,130  | 0.8      | 5.5  |
|                                      |      | 0.05 | \$251    | 1.0      | 5.9  |
|                                      |      | 0.07 | -\$528   | 1.1      | 6.4  |
|                                      | 1.5  | 0.03 | -\$461   | 1.1      | 6.2  |
|                                      |      | 0.05 | -\$1,373 | 1.3      | 6.8  |
|                                      |      | 0.07 | -\$2,181 | 1.5      | 7.5  |
|                                      |      |      |          |          |      |
| 15 years post-program                | 1.00 | 0.03 | \$17,162 | 0.3      | 4.9  |
|                                      |      | 0.05 | \$13,279 | 0.3      | 5.3  |
|                                      |      | 0.07 | \$10,169 | 0.4      | 5.6  |
|                                      | 1.2  | 0.03 | \$16,466 | 0.3      | 5.5  |
|                                      |      | 0.05 | \$12,488 | 0.3      | 5.9  |
|                                      |      | 0.07 | \$9,301  | 0.4      | 6.4  |
|                                      | 1.5  | 0.03 | \$15,422 | 0.3      | 6.2  |
|                                      |      | 0.05 | \$11,300 | 0.4      | 6.8  |
|                                      |      | 0.07 | \$7,998  | 0.4      | 7.5  |
|                                      |      |      |          |          |      |
| 25 years post-program                | 1.00 | 0.03 | \$29,734 | 0.2      | 4.9  |
|                                      |      | 0.05 | \$21,645 | 0.2      | 5.3  |
|                                      |      | 0.07 | \$15,796 | 0.3      | 5.6  |
|                                      | 1.2  | 0.03 | \$29,344 | 0.2      | 5.5  |
|                                      |      | 0.05 | \$21,057 | 0.2      | 5.9  |
|                                      |      | 0.07 | \$15,064 | 0        | 6.4  |
|                                      | 1.5  | 0.03 | \$28,758 | 0.2      | 6.2  |
|                                      |      | 0.05 | \$20,175 | 0.2      | 6.8  |
|                                      |      | 0.07 | \$13,967 | 0.3      | 7.5  |
| Job Creation Partnerships (JCP)      |      |      |          |          |      |
| 6 years post-program                 | 1.00 | 0.03 | \$3,781  | 0.7      | 5.1  |
|                                      |      | 0.05 | \$1,971  | 0.8      | 5.4  |
|                                      |      | 0.07 | \$370    | 1.0      | 5.9  |
|                                      | 1.2  | 0.03 | \$2,269  | 0.8      | 5.5  |
|                                      |      | 0.05 | \$366    | 1.0      | 5.9  |
|                                      |      | 0.07 | -\$1,318 | 1.2      | 6.4  |
|                                      | 1.5  | 0.03 | \$2      | 1.0      | 6.0  |
|                                      |      | 0.05 | -\$2,041 | 1.3      | 6.5  |
|                                      |      | 0.07 | -\$3,849 | 1.6      | 7.2  |
| Employment Assistance Services (EAS) |      |      |          |          |      |
| 6 years post-program                 | 1.00 | 0.03 | -\$2,880 | negative | 9.8  |
|                                      |      | 0.05 | -\$3,083 | negative | 10.8 |
|                                      |      | 0.07 | -\$3,262 | negative | 12.4 |
|                                      | 1.2  | 0.03 | -\$3,061 | negative | 9.8  |
|                                      |      | 0.05 | -\$3,280 | negative | 10.9 |

|  |     |      |          |          |      |
|--|-----|------|----------|----------|------|
|  | 1.5 | 0.07 | -\$3,474 | negative | 12.4 |
|  |     | 0.03 | -\$3,333 | negative | 9.8  |
|  |     | 0.05 | -\$3,576 | negative | 9.9  |
|  |     | 0.07 | -\$3,792 | negative | 12.5 |

## 2. Results for Former Claimants

### SD

- In the main cost-benefit analysis, the net present value six years post-program was -\$5,254 and the payback period was 8.6 years.
- When varying the discount rate and the MSCPF rate, the best scenario (discount rate of 3% and MSCPF rate of 1), showed a net present value of -\$2,779 with a payback period of 7.2 years.
- In the worst scenario (discount rate of 7% and MSCPF rate of 1.5), the net present value was -\$8,415 and the payback period was 11.2 years.
- The net present value ranged between \$4,607 and \$16,092 when costs and benefits were extrapolated over 15 years and between \$12,243 and \$31,937 when they were extrapolated over 25 years.

### TWS

- For TWS, the main cost-benefit analysis showed a net present value of \$12,452. The costs were recovered during the second year of participation.
- The best scenario was a net present value of \$14,394 and costs were recovered during the second year of participation.
- In the least favourable scenario, the net present value was \$10,168 and the costs were recovered during the first year after participation.
- The net present value ranged between \$21,456 and \$30,965 when costs and benefits were extrapolated over 15 years and between \$28,075 and \$44,878 when they were extrapolated over 25 years.

### JCP

- The principal analysis found a net present value of -\$10,257 and a payback period of over 50 years for JCP.
- The best scenario generated in the sensitivity analysis represented a net present value of -\$8,200 and a payback period of 22.4 years.
- In the worst scenario, the net present value was -\$13,149 while the benefits need to persist over more than 50 years to recover the costs.

| Table B2. Results from the Sensitivity Analysis for Former Claimants |       |               |                                  |                         |  |
|--|-------|---------------|----------------------------------|-------------------------|--|
| Parameters   |       |               | Results from Society Perspective |                         |  |
| Duration   | MSCPF | Discount rate | Net Present Value (\$)           | Cost-benefit ratio (\$) | Payback period after program end (years) |
| Skills Development (SD)  |       |               |                                  |                         |  |
| 6 years post-program   | 1.00  | 0.03          | -\$2,779                         | 1.5                     | 7.2                                      |
|  |       | 0.05          | -\$3,783                         | 1.8                     | 7.9                                      |
|  |       | 0.07          | -\$4,666                         | 2.1                     | 8.9                                      |
|  | 1.2   | 0.03          | -\$4,219                         | 1.9                     | 7.8                                      |
|  |       | 0.05          | -\$5,254                         | 2.5                     | 8.6                                      |
|  |       | 0.07          | -\$6,165                         | 3.4                     | 9.8                                      |
|  | 1.5   | 0.03          | -\$6,377                         | 3.7                     | 8.6                                      |
|  |       | 0.05          | -\$7,461                         | 6.7                     | 9.7                                      |
|  |       | 0.07          | -\$8,415                         | 25.0                    | 11.2                                     |
|  |       |               |                                  |                         |  |
| 15 years post-program  | 1.00  | 0.03          | \$16,092                         | 0.4                     | 7.2                                      |
|  |       | 0.05          | \$11,275                         | 0.4                     | 7.9                                      |
|  |       | 0.07          | \$7,428                          | 0.5                     | 8.9                                      |
|  | 1.2   | 0.03          | \$15,231                         | 0.4                     | 7.8                                      |
|  |       | 0.05          | \$10,265                         | 0.5                     | 8.6                                      |
|  |       | 0.07          | \$6,300                          | 0.6                     | 9.8                                      |
|  | 1.5   | 0.03          | \$13,941                         | 0.4                     | 8.6                                      |
|  |       | 0.05          | \$8,751                          | 0.5                     | 9.7                                      |
|  |       | 0.07          | \$4,607                          | 0.7                     | 11.2                                     |
|  |       |               |                                  |                         |  |
| 25 years post-program  | 1.00  | 0.03          | \$31,937                         | 0.2                     | 7.2                                      |
|  |       | 0.05          | \$21,819                         | 0.3                     | 7.9                                      |
|  |       | 0.07          | \$14,520                         | 0.4                     | 8.9                                      |
|  | 1.2   | 0.03          | \$31,563                         | 0.2                     | 7.8                                      |
|  |       | 0.05          | \$21,133                         | 0.3                     | 8.6                                      |
|  |       | 0.07          | \$13,609                         | 0.4                     | 9.8                                      |
|  | 1.5   | 0.03          | \$31,002                         | 0.2                     | 8.6                                      |
|  |       | 0.05          | \$20,105                         | 0.3                     | 9.7                                      |
|  |       | 0.07          | \$12,243                         | 0.4                     | 11.2                                     |
| Targeted Wage Subsidies (TWS)  |       |               |                                  |                         |  |
| 6 years post-program   | 1.00  | 0.03          | \$14,394                         | 0.3                     | 2 <sup>nd</sup> participation year       |
|  |       | 0.05          | \$13,264                         | 0.3                     | 2 <sup>nd</sup> participation year       |
|  |       | 0.07          | \$12,252                         | 0.3                     | 2 <sup>nd</sup> participation year       |
|  | 1.2   | 0.03          | \$13,606                         | 0.3                     | 2 <sup>nd</sup> participation year       |
|  |       | 0.05          | \$12,452                         | 0.3                     | 2 <sup>nd</sup> participation year       |
|  |       | 0.07          | \$11,418                         | 0.3                     | 2 <sup>nd</sup> participation year       |
|  | 1.5   | 0.03          | \$12,424                         | 0.3                     | 1.4                                      |
|  |       | 0.05          | \$11,233                         | 0.4                     | 1.5                                      |
|  |       | 0.07          | \$10,168                         | 0.4                     | 1.5                                      |
|  |       |               |                                  |                         |  |
| 15 years post-program  | 1.00  | 0.03          | \$30,965                         | 0.2                     | 2 <sup>nd</sup> participation year       |
|  |       | 0.05          | \$26,485                         | 0.2                     | 2 <sup>nd</sup> participation year       |
|  |       | 0.07          | \$22,872                         | 0.2                     | 2 <sup>nd</sup> participation year       |
|  | 1.2   | 0.03          | \$30,594                         | 0.2                     | 2 <sup>nd</sup> participation year       |
|  |       | 0.05          | \$26,006                         | 0.2                     | 2 <sup>nd</sup> participation year       |
|  |       | 0.07          | \$22,605                         | 0.2                     | 2 <sup>nd</sup> participation year       |
|  | 1.5   | 0.03          | \$30,037                         | 0.2                     | 1.4                                      |
|  |       | 0.05          | \$28,287                         | 0.2                     | 1.5                                      |

|                                 |      |      |           |          |                                    |
|---------------------------------|------|------|-----------|----------|------------------------------------|
|                                 |      | 0.07 | \$21,456  | 0.2      | 1.5                                |
| 25 years post-program           | 1.00 | 0.03 | \$44,878  | 0.1      | 2 <sup>nd</sup> participation year |
|                                 |      | 0.05 | \$35,744  | 0.1      | 2 <sup>nd</sup> participation year |
|                                 |      | 0.07 | \$29,099  | 0.2      | 2 <sup>nd</sup> participation year |
|                                 | 1.2  | 0.03 | \$44,857  | 0.1      | 2 <sup>nd</sup> participation year |
|                                 |      | 0.05 | \$35,498  | 0.1      | 2 <sup>nd</sup> participation year |
|                                 |      | 0.07 | \$28,689  | 0.2      | 2 <sup>nd</sup> participation year |
|                                 | 1.5  | 0.03 | \$44,826  | 0.1      | 1.4                                |
|                                 |      | 0.05 | \$35,128  | 0.1      | 1.5                                |
|                                 |      | 0.07 | \$28,075  | 0.2      | 1.5                                |
| Job Creation Partnerships (JCP) |      |      |           |          |                                    |
| 6 years post-program            | 1.00 | 0.03 | -\$8,200  | 5.2      | 22.4                               |
|                                 |      | 0.05 | -\$8,592  | 6.5      | 35.9                               |
|                                 |      | 0.07 | -\$8,942  | 8.5      | Over 50 years                      |
|                                 | 1.2  | 0.03 | -\$9,845  | 34.3     | 26.1                               |
|                                 |      | 0.05 | -\$10,257 | negative | Over 50 years                      |
|                                 |      | 0.07 | -\$10,625 | negative | Over 50 years                      |
|                                 | 1.5  | 0.03 | -\$12,313 | negative | 32.1                               |
|                                 |      | 0.05 | -\$12,754 | negative | Over 50 years                      |
|                                 |      | 0.07 | -\$13,149 | negative | Over 50 years                      |