Analysis of the Impact of Disability on Earnings Using the 2017 Canadian Survey on Disability: Final Report

Bruce L. Jones (FCIA) and Kelley McKeating (FCIA)

McKeating Actuarial Services, Inc.

Sponsored research – Exploratory research track

Table of contents

Introduction

Objectives of the Project

The Canadian Institute of Actuaries (CIA) and the authors had three objectives when embarking on this project:

1. The primary objective was to develop tables to quantify the difference in the income of individuals with disabilities when compared to the income of individuals without disabilities in order to help the court or the litigating parties to determine the value of the earnings-related economic losses sustained by injured individuals in matters where there is no expert vocational opinion or other evidence regarding the post-incident earning capacity of the injured party.

   Where there is residual earning capacity but no expert vocational opinion or other evidence regarding the level of annual residual earning capacity, the actuary or other economic loss expert may wish to rely on statistical estimates of income reduction corresponding to an appropriate subgroup of the Canadian population. In our opinion, the most suitable sources of data for this purpose are from nationally representative surveys conducted by Statistics Canada. The tables and analysis presented in this paper facilitate use of that survey data – subject to the cautions discussed elsewhere in this paper.

2. An important second objective of the project was to provide the actuary or other economic loss expert with the information required to guide appropriate use of the tables. As the courts have observed, it is critically important that any survey-based estimates correspond to a group whose characteristics and circumstances are consistent with those of the injured party. Due to sample size limitations and other factors, some of the results in the tables should be used with caution – as discussed elsewhere in this paper.

3. The third objective of the project was to briefly discuss the existing literature pertaining to labour force participation rates (LFPRs) and average earnings of disabled individuals in Canada.

Source of Data – Advantages and Limitations

Our analysis relies on data from the 2017 Canadian Survey on Disability (2017 CSD). Conducted by Statistics Canada, this is the most recent nationally representative survey of disabled individuals. The data set has the advantage of including information on a sample of persons without disabilities (PWOD), as well as a sample of persons with disabilities (PWD). The PWOD sample was not surveyed. Rather, data pertaining to these individuals was taken from information collected through the 2016 Census. This includes data on labour force participation and earnings, which were the focus of our analysis. The same census information was provided for the PWD sample.

While the 2017 CSD provides the most suitable data source for our purposes, it has a number of limitations. Survey data involves the respondents' subjective opinions about their own difficulties and limitations, and it relies on their memories for accurate responses to questions about the past. Also, there are inconsistencies in timing. The survey responses were provided in 2017, but the census data is as of May 2016 and earnings information is from Canada Revenue Agency (CRA) tax records for 2015. Finally, the profile of all disabled individuals in Canada may differ significantly from the profile of injured parties who are involved in personal injury litigation – in terms of the nature and combinations of their difficulties and limitations.

It is also important to recognize that the COVID-19 pandemic has resulted in significant changes in how people participate in the labour force, with many organizations providing work from home options on either a temporary or permanent basis. These changes have the potential to make it easier for disabled individuals to participate in the labour force and may therefore lead to higher rates of labour force participation in the future.

Approach to Creating Tables

This paper includes tables constructed using two different approaches:

- The first involves estimating LFPRs and average earnings for various subgroups of the Canadian population using data for respondents in those subgroups. Due to the overall sample size, broad age and educational attainment groupings were required in order to satisfy Statistics Canada confidentiality requirements.

- The second approach involves using regression methods to model LFPRs and average earnings. This allows us to take advantage of assumptions about relationships and patterns.

Literature review

Statistics Canada Surveys of Disability

The following Statistics Canada surveys, dating back to 1983, focus on disability.

Year	Name of Survey
1983/84	Canadian Health and Disability Survey
1986	Health and Activity Limitation Survey (HALS)
1991	Health and Activity Limitation Survey (HALS)
2001	Participation and Activity Limitation Survey (PALS)
2006	Participation and Activity Limitation Survey (PALS)
2012	Canadian Survey on Disability (CSD)
2017	Canadian Survey on Disability (CSD)

As discussed by Furrie (2018), the above surveys reflect an evolving concept of disability from a medical model that focuses on impairments toward a social model that acknowledges barriers to labour force participation. The surveys have also moved to greater recognition of mental health-related disabilities. Grondin (2016) describes some of the key differences in how the above surveys were designed. These differences make comparisons across surveys difficult or impossible. For example, differences between the 2012 CSD and the 2017 CSD are the main explanation for an increase in observed disability prevalence from 14% to 22% of the Canadian population.

The analysis pursued in this project uses data from the 2017 CSD. It is the most recent and therefore presumably most representative of current LFPRs and income levels of injured parties. However, results from the earlier surveys and the analysis methods used are relevant to the extent that they provide insights and inform our analysis approach.

The 2017 Canadian Survey on Disability (2017 CSD)

The 2017 CSD is a national survey of Canadians aged 15 and over whose activities are limited by a long-term condition or health-related problem. The survey was conducted from March 1 to August 31, 2017. Survey participants were sampled from those who indicated having a long-term condition or difficulties with activities of daily living on the 2016 Census long-form questionnaire (the YES sample). In order to calculate disability rates and to make comparisons between those with disabilities and those without, a sample of individuals without a disability was also drawn from the 2016 Census (the NO sample).

Extensive background on the 2017 CSD is provided in the Concepts and Methods Guide (Cloutier et al., 2018). The guide identifies the 10 disability types that are considered by the survey through the Disability Screening Questions (DSQs), as follows:

1. seeing
2. hearing
3. mobility
4. flexibility
5. dexterity
6. pain-related
7. learning
8. developmental
9. mental health-related
10. memory

The DSQs also ask about "any other" health problem or condition.

The DSQs have been included as Appendix C to this report. Familiarity with the DSQs is essential to interpreting the information presented in this report and the accompanying tables.

Details on the goals, development, and testing of the DSQs, as well as their use in determining severity scores, are outlined in Grondin (2016). The Concepts and Methods Guide also describes how the DSQs are used to identify a disability and determine disability severity scores. To be classified as having a disability of a given type (for example: seeing), it is not enough to have difficulty seeing. The individual must also be limited in their daily activities due to the difficulty.

The 2017 CSD contained many additional questions designed to collect information about disability characteristics, supports and barriers, education, and employment. This information is very useful in the development of social policy with respect to disability. However, since our analysis involves comparisons between those with disabilities and those without disabilities, the education and employment information collected by the CSD for the YES sample is not usable because there is no comparable data in the NO sample.

Fortunately, the 2017 CSD data is linked to the 2016 Census. For respondents in both the YES sample and the NO sample, census variables related to geography, education, labour force participation, and income (among other variables) are provided. It is important to recognize, though, that this information is as of May 10, 2016, whereas the CSD was conducted between March 1 and August 31, 2017.

Published Analyses of the 2017 CSD

Since the 2017 CSD only became available to researchers in 2019, there are understandably very few published analyses of this data.

Morris et al. (2018) present an analysis of the demographic, employment, and income characteristics of Canadians with disabilities based on the 2017 CSD. Disability type and severity are considered. Overall, disability prevalence was 22%, it was higher for females than males, and it increased with age. Pain-related disabilities were most common. Mental health-related disabilities were more common among youth than among adults. Two-thirds of individuals have two or more disability types. Employment rates (number employed divided by total population) decrease with severity of disability, but increase with education within each severity class. Median personal income also decreases with severity of disability, and employed individuals with disabilities have lower incomes than employed individuals without disabilities. While this study is related to our project objectives, the level of aggregation of the results is too high for the numbers to be useful for earnings loss estimation purposes.

Morris (2019) used data from the 2017 CSD to investigate the workplace accommodations needed by disabled individuals and the extent to which these needs are being met. While we did not consider workplace accommodations in our research, any public policy changes affecting workplace accommodations could lead to changes in the impact of disability on earnings in the future.

Statistics Canada (2020) has released a high-level summary of Canadians with mental health-related disabilities, based on data from the 2017 CSD. Among Canadians aged 15 and over, 7.3% had a mental health-related disability, and less than half of those aged 25–64 with a mental health-related disability were employed. Also, those with mental health-related disabilities felt limited at a younger age than those with other disability types. This is relevant to our research given that some injured individuals experience both physical health issues and mental health issues. The on-screen help text provided to 2017 CSD survey participants sets out the following examples of emotional, psychological, or mental health conditions: "anxiety, depression, bipolar disorder, substance abuse, anorexia, etc."

Berrigan et al. (2020) used the 2017 CSD to study educational, labour force, and income outcomes of individuals with developmental disabilities. The authors found significant disparities between this group and those with other disabilities.

Gupta et al. (2021) used the 2017 CSD to study employment outcomes and experiences of people with a seeing disability. The authors developed a logistic regression model that quantifies the impact of a variety of factors on employment rates of these individuals.

Analyses of Earlier Statistics Canada Disability Surveys

A number of relevant analyses of earlier disability surveys and other Canadian disability data have been published.

Arim (2015) used the 2012 CSD to make a number of comparisons of disabled Canadians versus non-disabled Canadians. The results are consistent with those obtained by Morris et al. (2018) using the 2017 CSD. Arim (2015) found that disability prevalence increased with age and was greater for females than males, pain-related disabilities were the most prevalent type, and most disabled individuals had more than one disability type. The percentage of non-disabled Canadians aged 25–64 with a university degree was nearly double that for disabled Canadians aged 25–64, and the percentage of non-disabled Canadians aged 15–64 who were employed was more than 50% more than that for disabled Canadians aged 15–64. Also, disabled Canadians aged 15–64 had substantially lower incomes

than their non-disabled counterparts, with more than one-third of the former group receiving only non-employment income.

More detailed analyses of the labour market participation and experience of disabled Canadians are presented by Turcotte (2014) and Till et al. (2015). Using the 2012 CSD, Turcotte (2014) observed that disabled Canadians within the 25–64 age bracket are older and less educated than those without disabilities. The employment rate decreases with severity of disability, even when adjusted for age, sex, education, and other factors. However, for those with a university degree, the employment rate among those with mild or moderate disabilities does not differ significantly from the employment rate among those with no disability. Individuals with disabilities that were mental or psychological had lower employment rates than those with other disability types. Turcotte (2014) also highlights occupational differences between disabled and non-disabled Canadians and the discrimination by employers that disabled individuals perceive. Till et al. (2015) used the 2012 CSD data to investigate the accommodations required by disabled Canadians in order to participate in the workforce. The most commonly stated accommodation was modified work hours. This was particularly true of disabled individuals with the potential to work. The authors define this group as those with previous work experience who are unemployed or not in the workforce, but not retired or completely prevented from working. Till et al. (2015) also explored the characteristics of this group and the employment barriers they face.

Brown (2017) examined the impact of disability on earnings using data from both of the PALS surveys and the 2012 CSD. In addition to tabulations of data from the surveys, the author provides tables of "wage gaps," which give the percentage reduction in earnings due to disability, obtained from fitted regression models that control for other important variables. The complete modelling results are not presented, making it difficult to assess the impact of various combinations of variables. Also, these analyses are now somewhat out of date.

Bruce et al. (2019) provide an extensive review of literature related to factors affecting labour force participation and earnings with a view to assessing personal injury damages. The concepts and ideas are very relevant, and some numerical summary information is provided.

Legal Decisions Pertaining to Earlier Statistics Canada Surveys

Brown and Emery (2010) cite several decisions from the Alberta Court of Queen's Bench in which the court expressed an openness to considering economic loss opinions based on an analysis of disability-related survey data. The common thread in these decisions, as described by Brown and Emery in their paper, is that it is critically important that any survey-based estimates correspond to a group whose characteristics and circumstances are consistent with those of the injured party.

We did not review the legal decisions cited by Brown and Emery, nor did we canvass the legal literature in other Canadian jurisdictions. The courts elsewhere in Canada may be less accustomed to seeing this approach to the evaluation of residual earning capacity. Actuaries are encouraged to research relevant legal decisions in the jurisdictions in which they practise. If the court in a certain jurisdiction is unaccustomed to seeing an approach that takes population labour force participation and/or average earnings for disabled individuals into account, then it would probably be advisable to discuss your proposed approach with counsel before proceeding.

Discussion of the 2017 CSD data

The goal of our analysis is to estimate the impact of disability on labour force participation and employment earnings for various subgroups of the Canadian population. We can do this by estimating LFPRs and average earnings for disabled and non-disabled individuals in specified subgroups. A given subgroup may be identified by both demographic variables (age, sex, educational attainment, etc.) and features of the disability (severity, type, duration, etc.), if disabled. If we could observe the entire Canadian population, we could estimate LFPRs and average earnings exactly. Since we cannot observe the entire population, we must rely on data from a survey subset of the population. The CSD survey data is linked to the 2016 Census, so that certain information from the census is included in the CSD data files. In particular, the labour force status and earnings variables used in our analysis are both from the census rather than from the CSD survey. This enables us to have labour force and earnings information for both disabled and non-disabled individuals.

The CSD survey was designed in such a manner that each respondent represents several individuals in the population. The number of individuals represented by a respondent is indicated by the "person weight" associated with that respondent. The number of respondents in the YES sample was 49,976, and the number of respondents in the NO sample was 137,414 (Cloutier et al., 2018). The sum of the person weights is the total population of Canada aged 15 and over in 2017: 9,820,170 for the YES sample and 18,188,690 for the NO sample, totalling 28,008,860.

The YES and NO samples in the CSD survey were used to create a data file for persons with disabilities (PWD) and a data file for persons without disabilities (PWOD). The PWD file includes individuals in the YES sample who met the definition of disability in the CSD. The PWOD file includes individuals in the NO sample as well as individuals in the YES sample who did not meet the definition of disability in the CSD. The sum of the person weights of respondents in the PWD file is 6,246,640, and the sum of the person weights of respondents in the PWOD file is 21,762,230 (Morris et al., 2018) for a total of 28,008,870. (The total differs from the sum in the preceding paragraph due to rounding of numbers to the nearest 10.) These PWD and PWOD numbers are the estimates of the number of disabled and non-disabled individuals aged 15 and over in the Canadian population in 2017.

Estimating LFPRs and Average Earnings

The person weights for a particular subgroup S of respondents can be used to estimate the LFPR for that subgroup of the population. Let S_L be the individuals in the subgroup who are in the labour force and S_N be the individuals in the subgroup who are not in the labour force. Then, $S_L \subset S$, $S_N \subset S$, and $S_L \cap S_N = \emptyset$. And the estimated LFPR is determined as follows:

$$Estimated\ LFPR\ for\ Canadians\ in\ subgroup\ S$$

$$= \frac{\sum_{i \in S_L}(person\ weight\ for\ person\ i)}{\sum_{i \in S_L \cup S_N}(person\ weight\ for\ person\ i)}$$

The average earnings of Canadians in subgroup *S* who are in the labour force can be estimated as follows:

$$Estimated\ average\ earnings\ of\ Canadians\ in\ subgroup\ S$$

$$= \frac{\sum_{i \in S_L}(earnings\ of\ person\ i) \times (person\ weight\ for\ person\ i)}{\sum_{i \in S_L}(person\ weight\ for\ person\ i)}$$

Since these estimates are based on a sample and not the entire Canadian population, there is uncertainty associated with the estimates. If different samples were drawn from the population, different estimates would be obtained. This is referred to as sampling variability. To quantify the sampling variability, the PWD and PWOD data files both provide 1,000 sets of "bootstrap weights" to enable one to estimate standard deviations. Each set of bootstrap weights is used in place of the person weights to recalculate the LFPR or average earnings estimate for those in a given subgroup. The resulting 1,000 estimates are treated like estimates that result from redoing the survey 1,000 times, where different survey participants are randomly selected each time. One can then calculate the standard deviation of the 1,000 estimates. This, multiplied by an adjustment factor, estimates the standard deviation of the LFPR or average earnings estimate.

Sampling variability of LFPR and average earnings estimates is illustrated using an estimate of the coefficient of variation (CV). The CV estimate obtained for each subgroup is equal to the standard deviation estimate obtained using the bootstrap weights divided by the LFPR or average earnings estimate for the subgroup. Therefore, the product CV x (LFPR or average earnings estimate) for a given subset approximates the standard deviation that one would obtain if one could repeat the CSD sampling a large number of times. According to Statistics Canada guidelines (Cloutier et al., 2018), a CV between 0.165 and 0.333 indicates high sampling variability and should be accompanied by a warning. A CV of 0.334 or greater indicates very high sampling variability and should be used with great caution.

Severity Classes

For each disability type, Statistics Canada established two severity classes:

1. less severe disability
2. more severe disability

The class for a respondent was determined based on a score that had to increase

- with the level of difficulty associated with the disability; and
- with the frequency of activity limitation.

Specifically, the score for each disability type was determined from the DSQs based on the following scoring grid:

	Frequency of Daily Activity Limitations				
Intensity of Difficulty	**Never**	**Rarely**	**Sometimes**	**Often**	**Always**
No difficulty	0	0	2	3	4
Some difficulty	0	0	4	6	12
A lot of difficulty	0	3	6	18	20
Cannot do	0	4	12	20	24

For example:

- If an individual answers "often" to Q010 and "some difficulty" to Q065 of the DSQs (see Appendix C), then their score for the "hearing" disability type would be 6.

The score for each disability type was then divided by 24 to generate an adjusted score that ranges from 0 to 1. Respondents with a score of 0.5 or more on the adjusted scale were placed in the "more severe" disability class. Those with a score less than 0.5 were placed in the "less severe" disability class. This approach was used for most disability types. However, there were some special cases that required different treatment. These are discussed in the Concepts and Methods Guide (Cloutier et al., 2018).

Four global severity classes were also established, based on the 10 disability types. The global severity class for a respondent was determined by averaging the score (ranging from 0 to 1) for the 10 disability types. The resulting average was used to determine the class as follows:

1. mild disability (average score < 0.05)
2. moderate disability (0.05 ≤ average score < 0.1)
3. severe disability (0.1 ≤ average score < 0.2)
4. very severe disability (average score ≥ 0.2)

Note that a respondent with the maximum score for two disability types will be in the very severe disability class: (1+1) / 10 = 0.2. However, a respondent with more than two disability types may be in the very severe class while not having the maximum score for any of the disability types.

Since the global severity classes are used in constructing the final tables of LFPRs and average earnings shown later in this paper, it is important that the method of determining the severity class be well understood by the actuary or other economic loss expert.

Educational Attainment

Educational attainment is used throughout our analysis. It is based on the variable **Census – Education: Highest certificate, diploma or degree**, provided in the CSD data sets for individuals without disabilities and for individuals with disabilities. Data for this variable was obtained from the respondents' answers in the 2016 Census. The answer categories are indicated in the table below. In order to achieve a more manageable number of categories, we grouped the CSD categories into Less than High School (<HS), High School (HS), Post-Secondary (PS), Bachelor's Degree (B), and Higher than Bachelor's Degree (>B), as shown in the right-hand column of this table:

Answer Category	Code	Our Category
No certificate, diploma or degree	01	<HS
Secondary (high) school diploma or equivalency certificate	02	HS
Trades certificate/diploma other than certificate of apprenticeship/qualification	03	PS
Certificate of apprenticeship/certificate of qualification	04	
Program of 3 months to 1 year (college, CEGEP/non-university certificate/diploma)	05	
Program of 1 to 2 years (college, CEGEP/non-university certificate/diploma)	06	
Program of more than 2 years (college, CEGEP/non-university certificate/diploma)	07	
University certificate or diploma below bachelor level	08	
Bachelor's degree	09	B
University certificate or diploma above bachelor level	10	>B
Degree in medicine, dentistry, veterinary medicine or optometry	11	
Master's degree	12	
Earned doctorate	13	
Suppressed	90	NA
Valid skip	96	
Don't know	97	
Refusal	98	
Not stated	99	

Distribution of Canadian Population

Tables 1-F and 1-M show (for females and males, respectively) the estimated distribution by age group, educational attainment category, and disability severity class (including no disability). Broad age ranges are used, and the higher educational categories are grouped in order to meet minimum respondent count requirements for each cell.

Table 1-F: Percentage of Females Aged 15 and Over by Age Group, Educational Attainment, and Severity of Disability

Age Group	Educational Attainment	No Disability	Mild	Moderate	Severe	Very Severe	Total
15–34	<HS	4.6	0.4	0.3	0.3	0.2	5.7
15–34	HS	7.0	0.8	0.3	0.3	0.1	8.5
15–34	PS, B, >B	13.5	1.3	0.4	0.3	0.1	15.7
15–34	Total	25.1	2.5	1.0	0.9	0.5	30.0
35–49	<HS	1.2	0.2	0.1	0.1	0.2	1.8
35–49	HS	3.7	0.4	0.1	0.2	0.2	4.6
35–49	PS, B, >B	14.6	1.4	0.6	0.5	0.5	17.5
35–49	Total	19.4	2.0	0.8	0.9	0.9	24.0
50–59	<HS	1.5	0.2	0.2	0.3	0.3	2.5
50–59	HS	3.9	0.3	0.2	0.2	0.4	5.0
50–59	PS, B, >B	8.3	1.0	0.6	0.6	0.6	11.0
50–59	Total	13.7	1.4	1.0	1.1	1.3	18.5
60+	<HS	4.0	0.7	0.6	0.8	1.3	7.4
60+	HS	5.4	0.9	0.5	0.6	0.8	8.2
60+	PS, B, >B	8.0	1.2	0.8	1.1	1.0	12.0
60+	Total	17.4	2.8	1.9	2.4	3.0	27.6
Total	<HS	11.4	1.5	1.2	1.5	2.0	17.4
Total	HS	20.0	2.4	1.2	1.4	1.5	26.4
Total	PS, B, >B	44.4	4.8	2.4	2.4	2.2	56.2
Total	Total	75.7	8.7	4.7	5.3	5.6	100.0

Table 1-M: Percentage of Males Aged 15 and Over by Age Group, Educational Attainment, and Severity of Disability

Age Group	Educational Attainment	No Disability	Mild	Moderate	Severe	Very Severe	Total
15–34	<HS	5.8	0.5	0.2	0.3	0.2	7.0
15–34	HS	9.3	0.6	0.3	0.2	0.1	10.6
15–34	PS, B, >B	13.2	0.6	0.2	0.1	0.1	14.3
15–34	Total	28.4	1.7	0.7	0.6	0.4	31.9
35–49	<HS	2.0	0.2	0.1	0.1	0.2	2.6
35–49	HS	4.5	0.4	0.2	0.2	0.2	5.5
35–49	PS, B, >B	13.8	1.1	0.4	0.3	0.3	16.0
35–49	Total	20.3	1.8	0.7	0.7	0.7	24.2
50–59	<HS	1.8	0.3	0.2	0.2	0.3	2.7
50–59	HS	3.3	0.5	0.3	0.2	0.3	4.5
50–59	PS, B, >B	8.9	1.0	0.5	0.4	0.4	11.2
50–59	Total	14.1	1.7	0.9	0.7	1.0	18.4
60+	<HS	3.6	0.7	0.5	0.5	0.8	6.1
60+	HS	4.0	0.6	0.3	0.5	0.4	5.8
60+	PS, B, >B	9.4	1.4	1.0	1.0	0.9	13.6
60+	Total	17.0	2.7	1.8	2.0	2.1	25.6
Total	<HS	13.3	1.6	1.0	1.0	1.6	18.6
Total	HS	21.1	2.1	1.0	1.1	1.0	26.4
Total	PS, B, >B	45.4	4.2	2.1	1.8	1.7	55.1
Total	Total	79.8	7.9	4.2	3.9	4.2	100.0

Regression Modelling for Disability Survey Data

The number of survey respondents in a given subgroup may be very small, resulting in substantial uncertainty in LFPR and average earnings estimates.

The advantage of regression modelling is that it allows us to take advantage of patterns and relationships in order to reduce the number of quantities that need to be estimated, thereby reducing the uncertainty associated with the estimates. The cost of doing so is that, to the extent that assumed patterns and relationships are incorrect, bias is introduced. Despite this, it is often possible to construct a regression model that provides improved estimates.

LFPRs are typically modelled using a generalized linear model, either a logistic or a probit model. Both are appropriate for modelling a proportion, and they often yield similar results. Brown and Emery (2010) used a probit model to estimate LFPRs from the 2001 PALS survey.

Average earnings can be modelled using a standard multiple linear regression model, possibly with the logarithm of earnings as the response variable. This transformation may be appropriate, since earnings level is a positive variable with a distribution that is skewed to the right.

One of the issues pointed out by Brown and Emery (2010) is that, if employment earnings are modelled as indicated above and independent of the model for LFPRs, one may encounter selection bias. This is because we observe the earnings only for those who were in the labour force, and those individuals were not randomly selected from the population. Brown and Emery address this by using the so-called Heckman correction, proposed by Heckman (1976). This involves a two-step process where, in the first step, a probit model is fit to the labour force participation rates. In the second step, a linear regression model is fit to employment earnings, but an additional term is added to the model. This term is related to the fitted probability of being in the labour force obtained in the first step.

We do not believe that there is significant selection bias in our results, because all of the variables affecting labour force participation are used in modelling earnings. When this is the case, the Heckman correction is determined solely by the assumptions of its underlying model, which may not be correct. We therefore did not use the Heckman correction in our analysis.

Using the LFPR and Average Earnings Tables When Formulating an Expert Opinion

Actuaries using the attached tables and the other information in this paper when doing Actuarial Evidence Work (as defined in Paragraph 1120.04 of the CIA Standards of Practice) are reminded that they should consider and comply with the relevant paragraphs regarding the selection of assumptions in Part 4000 of the Standards of Practice (the AE-SOP).

An important consideration in deciding when, how, and if to rely on the attached tables is whether or not the injured party's characteristics are sufficiently aligned with the characteristics of the disabled individuals included in the 2017 Canadian Survey on Disability (2017 CSD). The objective of this section of the paper is to set out some potentially relevant considerations, and to remind actuaries that it is important to review this paper in its entirety before deciding if and how to use the tables in Appendices A and B.

As discussed elsewhere in this paper in more detail, two-thirds of the disabled CSD participants have two or more disability types. In contrast, some injured plaintiffs may have only one disability type. For example:

- visual impairment
- cognitive issues

With respect to injured individuals with cognitive issues subsequent to a traumatic brain injury, it is important to note that the injured individual's impairment may not always align well with the "type of disability" classifications in the 2017 CSD:

- If the individual experiences anxiety and/or depression, then the "mental health-related" type of disability would apply. However, this type also includes individuals with substance abuse problems and bipolar disorder (as two examples).

- If the individual experiences memory problems and/or periods of confusion, then the "memory" type of disability would apply.

It is important to review the DSQs in Appendix C when assessing the number of disability types that may apply to a specific injured individual. It is also important to review the DSQs in order to confirm which "intensity of difficulty" best applies to that individual.

Typically, the actuary or other economic loss expert would use the medical reports, life care plans, functional capacity evaluations, or other information provided by their client in order to answer the DSQs – as best possible – for both pre-incident and post-incident health status. In the alternative, the actuary or other economic loss expert may prefer to ask their client to answer the DSQs. It may be reasonable to assume, in the absence of evidence to the contrary, that any change in severity of disability is the result of the incident that is the basis of the litigation.

Whether or not it is possible and/or advisable to incorporate the LFPRs and average earnings amounts with respect to a specific injured individual is a matter of professional judgment. Actuaries are encouraged to review every aspect of this paper carefully before using the information contained herein.

Labour force participation rates

LFPRs were estimated using the variable **Census – Labour: Labour force status**, which provides information about whether an individual is employed, unemployed, or not in the labour force. This variable was obtained from the respondent's answers in the 2016 Census and refers to labour market activity during the week of Sunday, May 1, 2016, to Saturday, May 7, 2016.

Individuals reported themselves as unemployed if they were not working but looking for work. Those who were employed and those who were unemployed were considered to be in the labour force. Those who were not in one of those two categories were considered to **not** be in the labour force.

Each LFPR estimate pertains to a subset of the Canadian population. The estimate is obtained from the CSD sample for that subset by dividing the weighted sum of those in the subset who are in the labour force by the weighted sum of those in the subset who are either in the labour force or not in the labour force. The weight for an individual in the sample represents how many people in the Canadian population are represented by that individual.

LFPRs by Sex, Age, Educational Attainment, and Severity of Disability

The following tables provide crude estimates of LFPRs for females and males for various subgroups of the Canadian population.

Table 2-F: Crude Estimates of Labour Force Participation Rates for Females

Age Group	Educational Attainment	No Disability		Mild		Moderate		Severe		Very Severe	
		Rate %	CV	Rate %	CV	Rate %	CV	Rate %	CV	Rate %	CV
15–34	<HS	39.5	0.029	48.8	0.095	42.1	0.143	38.4	0.146	14.0	0.260
15–34	HS	71.6	0.012	77.6	0.034	70.9	0.070	66.8	0.074	57.1	0.105
15–34	PS, B, >B	85.5	0.006	92.4	0.014	90.5	0.032	82.2	0.052	81.5	0.058
35–49	<HS	66.4	0.037	55.5	0.228	41.2	0.250	41.7	0.275	23.4	0.270
35–49	HS	80.3	0.016	69.1	0.095	63.7	0.122	57.2	0.131	39.6	0.173
35–49	PS, B, >B	88.4	0.006	90.4	0.020	85.0	0.038	72.5	0.075	61.7	0.074
50–59	<HS	68.6	0.033	57.0	0.205	59.7	0.210	40	0.244	15.6	0.262
50–59	HS	78.3	0.017	78.6	0.068	59.6	0.128	45.9	0.174	31.4	0.185
50–59	PS, B, >B	85.9	0.010	77.5	0.053	74.5	0.068	56.8	0.103	48.6	0.099
60+	<HS	15.5	0.070	6.5	0.294	4.0	0.498	3.7	0.382	2.4	0.465
60+	HS	25.3	0.044	19.1	0.171	20.2	0.248	14.2	0.216	5.8	0.309
60+	PS, B, >B	32.6	0.030	22.8	0.135	25.4	0.157	16.4	0.184	8.8	0.208

Notes:

- Age groups are based on the age of the respondent in the 2016 Census (as of May 10, 2016).

- Coefficient of variation (CV) = standard deviation / LFPR.

- According to Statistics Canada, a CV between 0.165 and 0.333 indicates high sampling variability and should be accompanied by a warning. A CV of 0.334 or greater indicates very high sampling variability and should be used with great caution.

- When reviewing the above table, it is important to consider the CV estimate as well as the LFPR estimate.

Table 2-M: Crude Estimates of Labour Force Participation Rates for Males

Age Group	Educational Attainment	No Disability		Mild		Moderate		Severe		Very Severe	
		Rate %	CV	Rate %	CV	Rate %	CV	Rate %	CV	Rate %	CV
15–34	<HS	48.2	0.022	45.0	0.097	39.2	0.158	30.6	0.183	18.0	0.207
15–34	HS	79.4	0.009	80.1	0.035	63.1	0.097	52.1	0.117	40.9	0.164
15–34	PS, B, >B	90.7	0.005	90.8	0.025	76.3	0.107	80.9	0.085	68.0	0.120
35–49	<HS	84.9	0.018	88.6	0.052	46.6	0.213	61.3	0.144	31.0	0.364
35–49	HS	92.6	0.009	79.7	0.085	82.2	0.065	65.8	0.127	34.4	0.198
35–49	PS, B, >B	95.8	0.004	95.0	0.018	93.2	0.024	80.2	0.058	56.5	0.122
50–59	<HS	81.0	0.022	76.8	0.091	75.4	0.106	24.3	0.311	14.4	0.307
50–59	HS	88.2	0.014	82.1	0.067	83.2	0.068	66.2	0.151	47.2	0.188
50–59	PS, B, >B	90.7	0.007	93.8	0.020	82.8	0.054	61.3	0.107	41.0	0.147
60+	<HS	28.8	0.047	16.8	0.235	26.6	0.260	15.8	0.232	4.4	0.349
60+	HS	41.1	0.033	30.2	0.169	19.7	0.268	23.3	0.227	8.6	0.264
60+	PS, B, >B	40.5	0.022	37.6	0.090	31.8	0.128	26.1	0.131	19.3	0.148

Notes:

- Age groups are based on the age of the respondent in the 2016 Census (as of May 10, 2016).

- Coefficient of variation (CV) = standard deviation / average earnings.

- According to Statistics Canada, a CV between 0.165 and 0.333 indicates high sampling variability and should be accompanied by a warning. A CV of 0.334 or greater indicates very high sampling variability and should be used with great caution.

- When reviewing the above table, it is important to consider the CV estimate as well as the average earnings estimate.

Each LFPR estimate represents a sex/age/educational attainment/severity of disability grouping. These estimates are crude in the sense that they have not been adjusted for the impact of other factors, such as marital status. Therefore, the estimates give only a rough indication of how LFPRs are affected by sex, age, education, and severity of disability.

The age and educational attainment groupings were determined so that Statistics Canada confidentiality rules could be met. Specifically, a rate estimate cannot be released if the number of respondents who contribute to the numerator is less than 10. Ages up to 34 and educational attainments higher than high school had to be combined in order to satisfy this rule.

For each rate in the above tables, an estimate of the CV is given so that the sampling variability can be understood. The method of determining the CV estimates and their interpretation was described earlier.

The tables show that the crude LFPR estimates generally increase with educational attainment, decrease with severity of disability, and increase then decrease with age.

Other Variables

The impact of other variables on LFPRs was explored. The following variables were considered:

- region
- type of disability
- cause of disability
- duration of disability
- marital status
- occupation

We first conducted a preliminary investigation to assess whether or not these variables might be important in modelling LFPRs. Further investigation of these variables was then pursued during the regression analysis phase of the project.

Region

For the purpose of this analysis, provinces and territories were grouped as follows:

- Atlantic provinces – New Brunswick, Newfoundland and Labrador, Nova Scotia, Prince Edward Island
- Québec
- Ontario
- Prairie provinces – Alberta, Manitoba, Saskatchewan
- British Columbia
- Territories – Yukon, Northwest Territories, Nunavut

For each region, LFPR estimates are consistently and significantly lower for those with severe or very severe disabilities than those with no disability or mild or moderate disabilities. However, there is generally no significant difference between those with no disability and those with mild or moderate disabilities.

Also, differences in LFPR estimates among regions for each severity category are small and within the variability of the estimates. Our regression analysis confirmed that region is not a significant variable in modelling LFPRs.

Type of Disability

In personal injury matters, the type of disability is often the best understood and most relevant element of the disabled individual's injury profile.

Our preliminary analysis showed clear differences in LFPR estimates by type of disability. In particular, LFPRs are low for those with learning and developmental disabilities, but high for those with seeing and hearing disabilities. LFPRs are more moderate (neither high nor low) for individuals with disabilities related to mobility, flexibility, dexterity, pain, and mental health.

However, the data regarding type of disability is complex. Most disabled individuals in the CSD report more than one type of disability, whereas some injured plaintiffs may report only one or two disability types.

The most common combinations reported by those in the CSD data set may not be well aligned with the combinations reported by the medical experts in a specific personal injury matter.

The following table shows estimates of the percentage of the Canadian disabled population aged 15 and over by severity class and number of disability types.

Severity	Number of Types of Disability				
	1	**2**	**3**	**4+**	**Total**
Mild	24.8	11.6	0.8	0	**37.2**
Moderate	4.0	3.5	7.5	4.8	**19.8**

Severe	0.5	3.8	7.5	9.0	**20.8**
Very Severe	0	0.1	2.7	19.3	**22.1**
Total	**29.3**	**19.0**	**18.5**	**33.1**	**99.9**

Due to rounding, the percentages in the above table do not sum to 100%.

As one would expect based on how the severity classes are constructed, there is a strong relationship between the severity class and the number of disability types. Where there are multiple types of disability, the relative impacts of severity class versus type of disability are challenging to discern.

Although it would be helpful, in some personal injury matters, to be able to refer to LFPR estimates based on a single type of disability, the coefficients of variation would necessarily be high as a result of the small number of individuals in some CSD cells. After much consideration, we concluded that it would be more useful and practical to model the impact of severity class only.

Cause of Disability

The "main medical condition" of a disabled individual is the medical condition that causes them the most difficulty or limits their activities the most. This condition is associated with one or more of the following causes:

- existed at birth
- hereditary
- disease or illness
- work conditions
- accident or injury
- aging
- stress or trauma
- undetermined cause
- other cause

LFPRs do not differ significantly by cause of disability. Specifically, those whose main medical condition was "caused by an accident or injury" do not have significantly different LFPRs from those whose main medical condition has a different cause.

Duration of Disability

For the purpose of investigating LFPRs by duration of disability, duration was calculated as the respondent's age last birthday at the time of the 2016 Census minus the earliest age at which the activity limitation associated with a disability type began. The resulting durations were then grouped as follows:

- less than 5 years
- 5–9 years
- 10–19 years
- at least 20 years

We observe that LFPRs do not vary significantly by duration of disability.

Occupation

Results of the analysis of LFPRs by occupational category are not useful because an occupation is coded only if the respondent worked sometime between January 1, 2015, and the date of the 2016 Census. Those with a coded occupation have very high LFPRs. In other words, the LFPR estimates have a very substantial upward bias.

Marital Status

The marital status categories on the CSD data file are:

- never married

- married

- common law

- separated

- divorced

- widowed

As one might expect, we observe significant differences in LFPRs by marital status for females. This was not the case for males. Also, LFPRs appear to be lower for widowed individuals. However, there is substantial variability due to the small numbers of widows, particularly at younger ages. LFPRs for disabled individuals who were never married are lower than for those who are separated or divorced, particularly for males. Regression analysis suggests, though, that the latter observation is not statistically significant.

Adjusted LFPR Estimates

Given that LFPRs appear to differ by marital status, the crude LFPR estimates presented in Tables 2-F and 2-M earlier in this paper may be misleading due to differing distributions of marital status in the various cells presented in those tables.

Suppose that one calculates a ratio of LFPR estimates, say for individuals with very severe disability versus individuals with no disability. That ratio would reflect both differences in labour force participation due to disability and differences in labour force participation due to differences in the marital status distribution for the two groups.

Tables 3-F and 3-M below provide LFPR estimates that adjust for marital status so that such ratios, when used, reflect the impact of disability only. This adjustment was accomplished by estimating the LFPR for each marital status within each group in the table and weighting those estimates by the overall estimates of the percentage of the entire sex/age group with each marital status.

Table 3-F: Adjusted Estimates of Labour Force Participation Rates for Females

Age Group	Educational Attainment	No Disability		Mild		Moderate		Severe		Very Severe	
		Rate %	CV	Rate %	CV	Rate %	CV	Rate %	CV	Rate %	CV
15–34	<HS	42.9	0.035	54.5	0.094	35.8	0.128	41.2	0.136	23.6	0.296
15–34	HS	71.5	0.013	77.8	0.033	71.8	0.065	67.1	0.072	55.7	0.104
15–34	PS, B, >B	85.5	0.006	92.6	0.014	91.9	0.023	78.1	0.067	81.8	0.056
35–49	<HS	64.8	0.039	61.1	0.138	51.8	0.198	55.7	0.161	17.7	0.366
35–49	HS	80.6	0.016	65.4	0.104	63.8	0.119	59.9	0.122	45.6	0.157
35–49	PS, B, >B	88.6	0.006	90.0	0.020	85.1	0.037	71.4	0.085	62.7	0.079
50–59	<HS	69.5	0.031	57.1	0.190	60.9	0.163	29.5	0.315	17.5	0.276
50–59	HS	79.0	0.016	78.5	0.059	61.1	0.096	45.1	0.161	35.1	0.172
50–59	PS, B, >B	86.1	0.010	76.5	0.051	69.7	0.071	59.6	0.098	51.3	0.099
60+	<HS	16.4	0.068	7.8	0.265	3.3	0.413	5.0	0.393	2.7	0.423
60+	HS	25.0	0.043	20.2	0.163	18.4	0.211	15.3	0.209	6.7	0.293
60+	PS, B, >B	30.8	0.030	22.0	0.131	26.0	0.147	15.6	0.167	8.3	0.203

Notes:

- LFPR estimates are adjusted for marital status so that comparisons across disability severity categories reflect the impact of severity differences and not differences in marital status distribution.

- Age groups are based on the age of the respondent in the 2016 Census (as of May 10, 2016).

- Coefficient of variation (CV) = standard deviation / LFPR.

- According to Statistics Canada, a CV between 0.165 and 0.333 indicates high sampling variability and should be accompanied by a warning. A CV of 0.334 or greater indicates very high sampling variability and should be used with great caution.

- When reviewing the above table, it is important to consider the CV estimate as well as the LFPR estimate.

Table 3-M: Adjusted Estimates of Labour Force Participation Rates for Males

Age Group	Educational Attainment	No Disability		Mild		Moderate		Severe		Very Severe	
		Rate %	CV	Rate %	CV	Rate %	CV	Rate %	CV	Rate %	CV
15–34	<HS	55.9	0.017	52.5	0.063	49.2	0.099	34.3	0.111	35.6	0.106
15–34	HS	80.9	0.008	81.7	0.031	69.2	0.068	60.6	0.076	49.8	0.103
15–34	PS, B, >B	89.4	0.006	89.1	0.031	79.1	0.097	76.4	0.098	60.7	0.148
35–49	<HS	85.8	0.016	89.6	0.032	49.2	0.199	72.7	0.111	35.1	0.299
35–49	HS	92.7	0.008	89.5	0.027	86.1	0.044	69.1	0.102	49.1	0.169
35–49	PS, B, >B	95.6	0.004	94.9	0.019	92.8	0.023	82.4	0.046	57.2	0.119
50–59	<HS	81.6	0.021	73.2	0.083	76.7	0.063	30.8	0.308	19.1	0.316
50–59	HS	88.3	0.013	83.0	0.053	79.7	0.056	64.9	0.155	41.4	0.173
50–59	PS, B, >B	90.1	0.008	94.1	0.018	83.7	0.042	60.6	0.104	46.8	0.127
60+	<HS	29.3	0.045	19.6	0.222	23.9	0.209	17.6	0.216	5.0	0.345
60+	HS	41.0	0.033	32.6	0.151	17.5	0.250	22.1	0.215	8.1	0.254
60+	PS, B, >B	40.1	0.023	38.1	0.087	31.6	0.121	26.9	0.123	18.9	0.138

Notes:

- LFPR estimates are adjusted for marital status so that comparisons across disability severity categories reflect the impact of severity differences and not differences in marital status distribution.

- Age groups are based on the age of the respondent in the 2016 Census (as of May 10, 2016).

- Coefficient of variation (CV) = standard deviation / LFPR.

- According to Statistics Canada, a CV between 0.165 and 0.333 indicates high sampling variability and should be accompanied by a warning. A CV of 0.334 or greater indicates very high sampling variability and should be used with great caution.

- When reviewing the above table, it is important to consider the CV estimate as well as the LFPR estimate.

Many of the LFPR estimates in Tables 3-F and 3-M are similar to the corresponding crude estimates in Tables 2-F and 2-M. Where they differ substantially, this difference is due to a marital status distribution in the sex/age/education/severity group that differs substantially from the marital status in the sex/age group. These are exactly the differences that our adjustment is intended to address, so that observed differences across severity groups are due to differences in severity and not differences in marital status. Therefore, Tables 3-F and 3-M are preferred when such comparisons of LFPR estimates are desired.

The main advantage of the two sets of tables (2-F/2-M and 3-F/3-M) is that the broad groupings result in LFPR estimates that, for the most part, behave reasonably in terms of anticipated orderings.

The main disadvantage is that the broad groupings may result in important differences being missed, specifically differences by age within age group and differences between the educational attainments PS, B and >B. Also, even though LFPRs are estimated for broad groupings, many of the CVs are quite high.

Regression modelling of LFPRs

Individuals without Disabilities

LFPR estimates for non-disabled individuals, based on the CSD data, are shown in Figures 1-F and 1-M (for females and males, respectively). The figures show LFPRs by age and educational attainment. The LFPR estimates for individual ages are represented by the dots, and the LFPR estimates for extreme age groups are represented by the thick horizontal lines. Extreme ages are grouped because sample sizes are small, and data confidentiality requirements had to be met.

Figure 1-F: Estimated Labour Force Participation Rates for Females
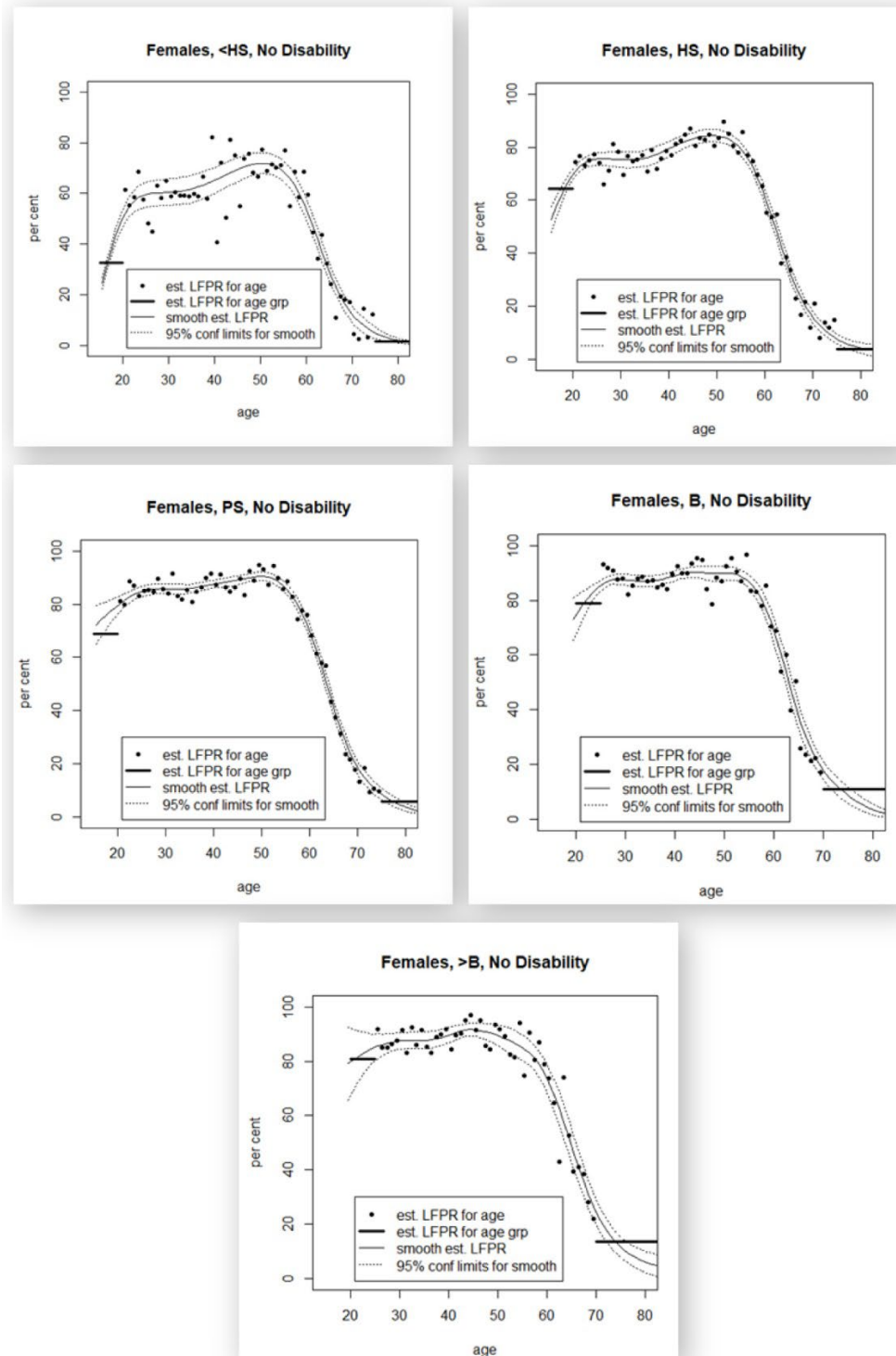
Figure 1-M: Estimated Labour Force Participation Rates for Males
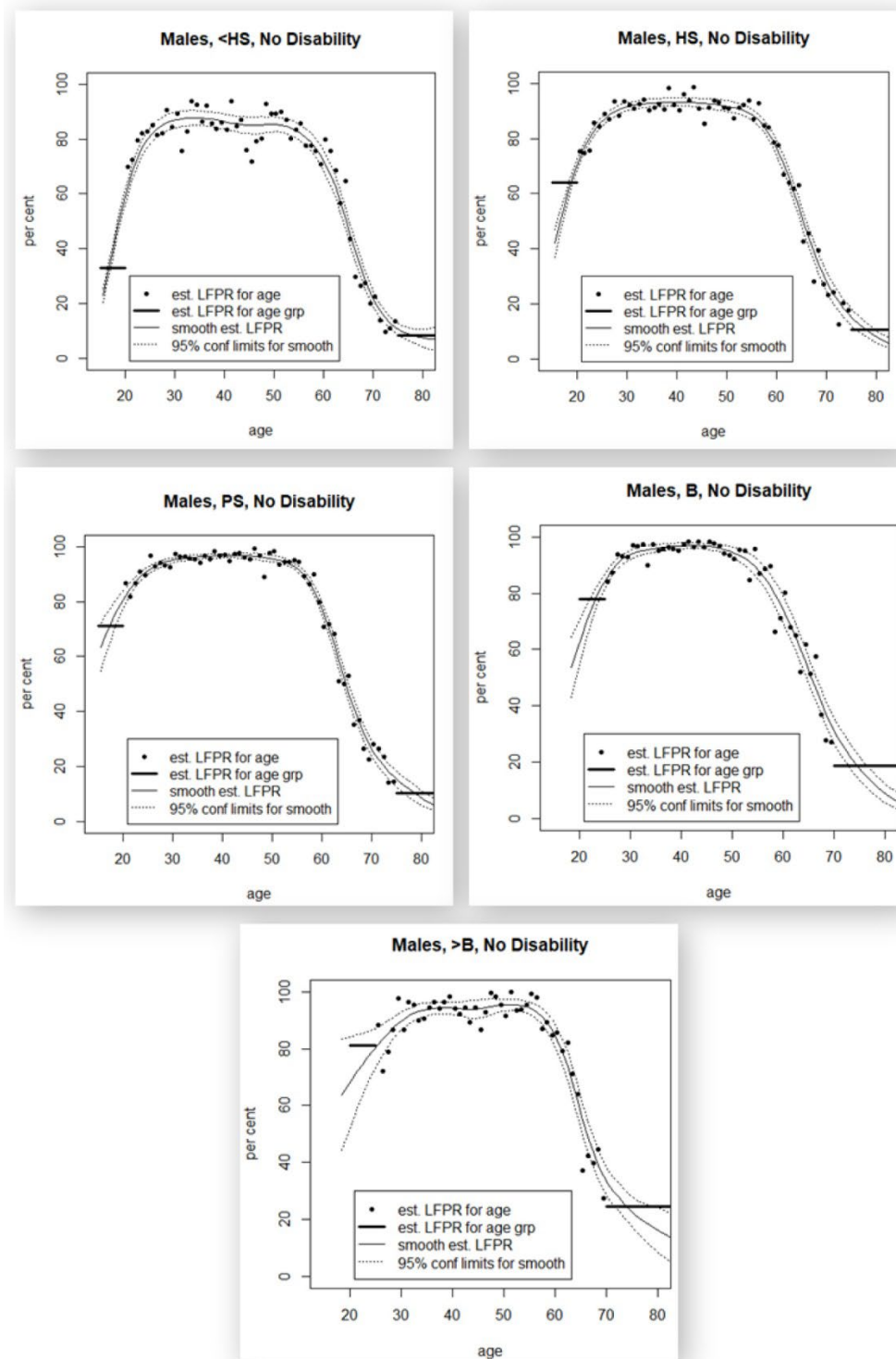
Each graph in the above figures exhibits a clear pattern of LFPRs with age. As expected (and observed for broad age groups), LFPRs increase at the younger ages, as individuals enter the labour force, and decrease as individuals retire at older ages. Since this age pattern is so striking, it is useful to model it in addition to providing estimates based on broad age groups.

Rather than using a simple function to capture the age pattern, we used smoothing splines to achieve smooth LFPR estimates that follow the pattern in the data. The resulting smooth estimates are represented by the thin solid curves

in Figures 1-F and 1-M. We consider these estimates to be our best estimates of the population LFPRs, as we expect these LFPRs to vary smoothly with age.

The dotted curves in Figures 1-F and 1-M represent approximate 95% confidence limits for the population LFPRs. They are obtained by repeating the smoothing spline estimation using each of the 1,000 sets of bootstrap weights. The standard deviation of the resulting bootstrap estimates for a given age (multiplied by an adjustment factor) provides an approximate standard deviation associated with the corresponding LFPR estimate. A normal distribution assumption then leads to the upper and lower confidence limits given by

$$LFPR\ estimate\ \pm 1.96\ \times (standard\ deviation).$$

The approximate confidence intervals reflect our uncertainty about the population LFPR estimates that arises from the fact that we have observed a sample and not the entire Canadian population.

Individuals with Disabilities

To obtain LFPR estimates for disabled individuals, the estimates for non-disabled individuals were adjusted using a probit regression model.

As discussed above, we observed significant differences in LFPRs by marital status for females. This was not the case for males.

Since the economic loss expert does not always have information regarding the marital status of the injured individual and since the marital status may change over time in any event, and in order to minimize the complexity of the results presented in this paper, we decided to control for marital status rather than model the impact of marital status.

This ensures that married disabled females are compared with married non-disabled females, separated disabled females are compared with separated non-disabled females, etc., in modelling the impact of variables related to the disability. Therefore, the impact of these variables is not distorted by different distributions of marital status in the disabled and non-disabled groups.

Our approach to controlling for marital status involved the following steps:

1. Adjust the LFPR estimates for non-disabled females to reflect marital status.

2. For disabled lives, model the LFPRs as an adjustment to the marital status-specific estimates based on variables related to the disability.

3. Apply the adjustment in Step 2 to the original LFPR estimates that do not reflect marital status.

4. Use the resulting adjusted LFPR estimates, which do not depend on marital status, for disabled lives.

Since the impact of marital status on male LFPRs was negligible, no adjustments were made for males.

We described earlier how the global severity class is determined for CSD respondents. The four classes (mild, moderate, severe, very severe) reflect the frequency of activity limitations and the intensity of difficulty for all disability types. There is a clear relationship between the severity class variable and LFPRs. We therefore used the severity class variable in modelling LFPRs for disabled individuals.

How to Use the LFPR Tables

The tables in Appendix A show estimated LFPRs for non-disabled and disabled individuals, obtained using the modelling approach described above. These tables should be viewed as information that may be helpful to an economic loss expert in developing appropriate LFPR assumptions and an expert opinion regarding residual earning capacity. The tables should not be used without careful consideration. And in many cases, a range of scenarios could be illustrated in order to assist the court and the parties.

Like Tables 3-F and 3-M, the tables in Appendix A are appropriate for comparisons of LFPRs of disabled versus non-disabled individuals since adjustments have been made to reflect differences in the marital status distribution.

For the most part, the LFPRs in the tables in Appendix A conform to the orderings we expect – increasing with educational attainment, decreasing with severity of disability. However, this is not universally true. Where departures exist, they are small and well within the variability indicated by the coefficient of variation (CV) estimates.

As noted earlier, according to Statistics Canada, CV estimates between 0.165 and 0.333 indicate high sampling variability, and CV estimates of 0.334 and above indicate very high sampling variability. Our tables provide many estimates with high and very high sampling variability, particularly at the extreme ages. However, even where the CV is less than 0.165, the uncertainty may be substantial. For example, suppose we have an LFPR estimate of 80% with a corresponding CV estimate of 0.050. The estimated standard deviation is 80% x 0.050 = 4%. Any LFPR within two

standard deviations of our estimate is plausible, since an approximate 95% confidence interval (CI) for the population LFPR is given by $LFPR\ estimate \pm 1.96 \times (standard\ deviation)$.

Therefore, it would not be unreasonable to believe that the true underlying LFPR could be anywhere in the range from 72% to 88%.

Ratios of LFPR Estimates

As discussed above, Tables 3-F and 3-M are appropriate when one wishes to use a ratio of LFPR estimates. In doing so, it is important to recognize that there is sampling variability in both the numerator estimate and the denominator estimate. This needs to be reflected in establishing a range of possibilities for the ratio. An approximate CV of the ratio estimate can be obtained as follows:

Suppose we want to estimate the ratio $R = \frac{N}{D}$, and we have the estimates $\widehat{N}$ and $\widehat{D}$ with coefficients of variation $CV(\widehat{N})$ and $CV(\widehat{D})$. If $\widehat{R} = \frac{\widehat{N}}{\widehat{D}}$, then

$$CV(\widehat{R}) \cong \sqrt{\{CV(\widehat{N})\}^2 + \{CV(\widehat{D})\}^2}.$$

This formula is based on the bivariate delta method assuming that $\widehat{N}$ and $\widehat{D}$ are independent.

An approximate 95% CI for R is given by $\widehat{R} \pm 1.96 \times \widehat{R} \times CV(\widehat{R})$. It should be kept in mind that the above formula for the CV is approximate, it is applied using approximate inputs, and then it is interpreted using an approximate CI formula. Results should therefore be used with caution.

One may also want to consider the range of ratio values spanned by ratios calculated using numerators in an approximate 95% CI for N and denominators in an approximate 95% CI for D. This results in a more conservative (generally wider) interval than the approximate CI for R.

Example

Suppose we wish to establish a range of values to reflect the sampling variability associated with the estimate of the ratio of the LFPR for a very severely disabled female aged 40 whose highest educational attainment is a bachelor's degree to the LFPR for a corresponding individual with no disability. We obtain the following estimates from Appendix A:

Characteristics	Table	LFPR	CV
Sex=F, Age=40, Educ=B, Severity=Very Severe	A.5-F	68.8%	0.112
Sex=F, Age=40, Educ=B, Severity=No Disability	A.1-F	89.3%	0.010

We can calculate the following:

$Ratio\ Estimate = 68.8/89.3 = 0.770$

$CV\ of\ Ratio \cong \sqrt{0.112^2 + 0.010^2} = 0.112$

$Approx\ 95\%\ CI = (0.770 - 1.96 \times 0.770 \times 0.112, 0.770 + 1.96 \times 0.770 \times 0.112) = (0.601, 0.939)$

We can also consider approximate 95% CIs for the numerator and denominator:

Numerator: $(68.8 - 1.96 \times 68.8 \times 0.112, 68.8 + 1.96 \times 68.8 \times 0.112) = (53.7, 83.9)$

Denominator: $(83.9 - 1.96 \times 83.9 \times 0.010, 83.9 + 1.96 \times 83.9 \times 0.010) = (82.3, 85.5)$

Then, consider the interval that contains all numerators and denominators in the above CIs:

$$(53.7/85.5, 83.9/82.3) = (0.628, 1.02)$$

The results suggest that ratios ranging from 0.6 to 1 could be considered plausible based on the sampling variability of our estimates.

Average earnings

We preface our discussion of average earnings by noting that the CSD was not designed for the estimation of earnings differences between disabled and non-disabled individuals while reflecting a variety of other relevant variables (sex, age group, educational attainment, severity of disability, etc.). Sample sizes are not large enough for this purpose, and the variability associated with estimates is unacceptably large in many cases.

The tables below may be useful in guiding actuaries who must make assumptions about the impact of disability on earnings. However, it is essential to understand the uncertainty.

Tables 4-F and 4-M provide estimates of average earnings for females and males, respectively. The underlying earnings amount for an individual is their employment income, which is defined by Statistics Canada as "all income received as wages, salaries and commissions from paid employment and net self-employment income from farm or non-farm unincorporated business and/or professional practice during the reference period." This amount comes from the CRA's income tax return records for the calendar year 2015.

Each average earnings estimate below pertains to a subset of the Canadian population. It is obtained from the CSD sample for that subset by dividing the weighted total earnings of those in the subset who are in the labour force by the weighted number of individuals in the subset who are in the labour force.

For each average earnings estimate provided in the tables, an estimate of the coefficient of variation is given so that the sampling variability can be understood. Each average earnings estimate represents a sex/age/education/severity of disability grouping. These estimates do not control for the impact of other factors, and therefore give only a rough indication of how average earnings are affected by sex, age, education, and severity of disability.

Note that, for those with no disability, the average earnings estimates are given both for individuals working full time, full year, as well as for all individuals in the labour force (employed, and not employed but looking for work). For those with a disability, the average earnings estimates pertain to all individuals in the labour force. In other words, except for the leftmost columns, the denominators include those who are unemployed but looking for work as well as those who are employed. With respect to those who are employed, all of the denominators include those who had no income in 2015.

Table 4-F: Crude Estimates of Average Earnings for Females

Age Group	Educational Attainment	No Disability (Full Time Full Year)		No Disability		Mild	
		Average Earnings	CV	Average Earnings	CV	Average Earnings	CV
15–34	<HS	$27,210	0.049	$9,350	0.048	$8,910	0.236
15–34	HS	$32,940	0.027	$16,720	0.022	$15,790	0.081
15–34	PS, B, >B	$47,910	0.014	$32,860	0.015	$32,720	0.050
35–49	<HS	$34,940	0.052	$26,270	0.048	$18,630	0.296
35–49	HS	$44,660	0.031	$37,390	0.031	$42,670	0.193
35–49	PS, B, >B	$65,830	0.016	$52,510	0.014	$47,230	0.041
50–59	<HS	$35,450	0.041	$28,550	0.040	$21,860	0.157
50–59	HS	$49,530	0.037	$41,680	0.031	$34,210	0.111
50–59	PS, B, >B	$66,120	0.021	$55,260	0.019	$54,910	0.071
60+	<HS	$33,000	0.116	$23,770	0.077	$15,390	0.196
60+	HS	$45,500	0.070	$30,780	0.056	$28,320	0.152
60+	PS, B, >B	$72,540	0.068	$51,480	0.100	$45,750	0.235

Table 4-F: Crude Estimates of Average Earnings for Females (continued)

Age Group	Educational Attainment	Moderate		Severe		Very Severe	
		Average Earnings	CV	Average Earnings	CV	Average Earnings	CV
15–34	<HS	$23,440	0.196	$12,380	0.292	$23,550	0.524
15–34	HS	$23,010	0.132	$16,920	0.221	$15,360	0.201
15–34	PS, B, >B	$36,920	0.147	$36,310	0.145	$26,440	0.238
35–49	<HS	$67,070	0.159	$25,220	0.314	$34,720	0.128
35–49	HS	$43,260	0.102	$34,530	0.242	$33,980	0.195
35–49	PS, B, >B	$60,670	0.079	$51,800	0.145	$40,140	0.142
50–59	<HS	$53,650	0.134	$25,550	0.182	$30,930	0.236
50–59	HS	$32,690	0.131	$20,680	0.306	$48,280	0.264
50–59	PS, B, >B	$64,160	0.117	$51,580	0.130	$40,390	0.162
60+	<HS	$45,220	0.269	$19,700	0.496	$16,760	0.327
60+	HS	$40,330	0.199	$27,420	0.209	$33,170	0.520
60+	PS, B, >B	$57,970	0.208	$50,760	0.234	$31,540	0.307

Notes:

- Age groups are based on the age of the respondent in the 2016 Census (as of May 10, 2016).

- Average earnings are based on employment income for calendar year 2015.

- Coefficient of variation (CV) = standard deviation / average earnings.

- According to Statistics Canada, a CV between 0.165 and 0.333 indicates high sampling variability and should be accompanied by a warning. A CV of 0.334 or greater indicates very high sampling variability and should be used with great caution.

- When reviewing the above table, it is important to consider the CV estimate as well as the average earnings estimate.

Table 4-M: Crude Estimates of Average Earnings for Males

Age Group	Educational Attainment	No Disability (Full Time Full Year)		No Disability		Mild	
		Average Earnings	CV	Average Earnings	CV	Average Earnings	CV
15–34	<HS	$39,470	0.054	$18,090	0.042	$23,930	0.137
15–34	HS	$43,800	0.022	$27,050	0.018	$22,910	0.085
15–34	PS, B, >B	$61,020	0.014	$45,380	0.014	$45,250	0.088
35–49	<HS	$48,830	0.059	$41,220	0.048	$42,430	0.146
35–49	HS	$63,170	0.029	$54,630	0.026	$47,900	0.114
35–49	PS, B, >B	$88,850	0.019	$79,520	0.017	$73,320	0.065
50–59	<HS	$53,660	0.046	$46,640	0.046	$43,250	0.195
50–59	HS	$62,580	0.031	$56,130	0.032	$47,530	0.166
50–59	PS, B, >B	$97,840	0.037	$87,800	0.036	$112,470	0.289
60+	<HS	$45,090	0.045	$36,480	0.054	$35,750	0.194
60+	HS	$49,420	0.065	$42,450	0.065	$33,230	0.229
60+	PS, B, >B	$81,330	0.048	$60,860	0.041	$40,030	0.161

<div align="center">Table 4-M: Crude Estimates of Average Earnings for Males (continued)</div>

Age Group	Educational Attainment	Moderate		Severe		Very Severe	
		Average Earnings	CV	Average Earnings	CV	Average Earnings	CV
15–34	<HS	$23,440	0.196	$12,380	0.292	$23,550	0.524
15–34	HS	$23,010	0.132	$16,920	0.221	$15,360	0.201
15–34	PS, B, >B	$36,920	0.147	$36,310	0.145	$26,440	0.238
35–49	<HS	$67,070	0.159	$25,220	0.314	$34,720	0.128
35–49	HS	$43,260	0.102	$34,530	0.242	$33,980	0.195
35–49	PS, B, >B	$60,670	0.079	$51,800	0.145	$40,140	0.142
50–59	<HS	$53,650	0.134	$25,550	0.182	$30,930	0.236
50–59	HS	$32,690	0.131	$20,680	0.306	$48,280	0.264
50–59	PS, B, >B	$64,160	0.117	$51,580	0.130	$40,390	0.162
60+	<HS	$45,220	0.269	$19,700	0.496	$16,760	0.327
60+	HS	$40,330	0.199	$27,420	0.209	$33,170	0.520
60+	PS, B, >B	$57,970	0.208	$50,760	0.234	$31,540	0.307

Notes:

- Age groups are based on the age of the respondent in the 2016 Census (as of May 10, 2016).

- Average earnings are based on employment income for calendar year 2015.

- Coefficient of variation (CV) = standard deviation / average earnings.

- According to Statistics Canada, a CV between 0.165 and 0.333 indicates high sampling variability and should be accompanied by a warning. A CV of 0.334 or greater indicates very high sampling variability and should be used with great caution.

- When reviewing the above table, it is important to consider the CV estimate as well as the average earnings estimate.

As with LFPRs in the previous section, we observe that – for all disability severities and most ages – average earnings increase with educational attainment. We also observe that average earnings generally decrease with disability severity.

Other Variables

The impact of other variables on average earnings was also explored.

Region

The analysis revealed significant differences in earnings by region, with higher averages in the Prairies, the Territories, and Ontario. These differences exist for disabled and non-disabled individuals alike, and for both males and females.

Type of Disability

Differences in average earnings by type of disability are not significant. The variability is high for some types, likely because few individuals in those categories are in the labour force. However, given that individuals are in the labour force, average earnings do not appear to differ much based on the type of disability.

Cause of Disability

As was the case with LFPRs, differences in average earnings between "accident or injury" and other causes are not significant.

Duration of Disability

Differences in average earnings by duration of disability are generally not significant.

Marital Status

As with LFPRs, there appear to be differences in average earnings by marital status, though variability is high.

Adjusted Average Earnings Estimates

In order to obtain estimates of average earnings that differ by severity of disability due to the impact of disability and not due to differences in the distribution by region or marital status, we calculated the adjusted estimates that are shown in Tables 5-F and 5-M. This was accomplished by estimating the average earnings for each region/marital status combination within each group in the table and weighting those estimates by the overall estimates of the percentage of the entire sex/age group with each region/marital status combination.

Table 5-F: Adjusted Estimates of Average Earnings for Females

Age Group	Educational Attainment	No Disability		Mild		Moderate		Severe		Very Severe	
		Average Earnings	CV	Average Earnings	CV	Average Earnings	CV	Average Earnings	CV	Average Earnings	CV
15–34	<HS	$9,350	0.048	$8,910	0.236	$23,440	0.196	$12,380	0.292	$23,550	0.524
15–34	HS	$16,720	0.022	$15,790	0.081	$23,010	0.132	$16,920	0.221	$15,360	0.201
15–34	PS, B, >B	$32,860	0.015	$32,720	0.050	$36,920	0.147	$36,310	0.145	$26,440	0.238
35–49	<HS	$26,270	0.048	$18,630	0.296	$67,070	0.159	$25,220	0.314	$34,720	0.128
35–49	HS	$37,390	0.031	$42,670	0.193	$43,260	0.102	$34,530	0.242	$33,980	0.195
35–49	PS, B, >B	$52,510	0.014	$47,230	0.041	$60,670	0.079	$51,800	0.145	$40,140	0.142
50–59	<HS	$28,550	0.040	$21,860	0.157	$53,650	0.134	$25,550	0.182	$30,930	0.236
50–59	HS	$41,680	0.031	$34,210	0.111	$32,690	0.131	$20,680	0.306	$48,280	0.264
50–59	PS, B, >B	$55,260	0.019	$54,910	0.071	$64,160	0.117	$51,580	0.130	$40,390	0.162
60+	<HS	$23,770	0.077	$15,390	0.196	$45,220	0.269	$19,700	0.496	$16,760	0.327
60+	HS	$30,780	0.056	$28,320	0.152	$40,330	0.199	$27,420	0.209	$33,170	0.520
60+	PS, B, >B	$51,480	0.100	$45,750	0.235	$57,970	0.208	$50,760	0.234	$31,540	0.307

Notes:

- Age groups are based on the age of the respondent in the 2016 Census (as of May 10, 2016).

- Average earnings are based on employment income for calendar year 2015.

- Coefficient of variation (CV) = standard deviation / average earnings.

- According to Statistics Canada, a CV between 0.165 and 0.333 indicates high sampling variability and should be accompanied by a warning. A CV of 0.334 or greater indicates very high sampling variability and should be used with great caution.

When reviewing the above table, it is important to consider the CV estimate as well as the average earnings estimate.

Table 5-M: Adjusted Estimates of Average Earnings for Males

Age Group	Educational Attainment	No Disability		Mild		Moderate		Severe		Very Severe	
		Average Earnings	CV	Average Earnings	CV	Average Earnings	CV	Average Earnings	CV	Average Earnings	CV
15–34	<HS	$20,210	0.035	$21,510	0.098	$17,310	0.162	$14,250	0.095	$10,800	0.040
15–34	HS	$29,380	0.016	$23,830	0.059	$25,960	0.060	$11,620	0.121	$14,820	0.101
15–34	PS, B, >B	$43,540	0.014	$41,830	0.086	$38,480	0.064	$34,180	0.093	$19,410	0.168
35–49	<HS	$41,770	0.048	$35,520	0.125	$44,940	0.036	$22,110	0.042	$14,010	0.090
35–49	HS	$54,450	0.025	$50,150	0.063	$50,190	0.030	$29,770	0.160	$37,670	0.023
35–49	PS, B, >B	$78,800	0.017	$72,880	0.063	$53,300	0.052	$52,830	0.194	$42,270	0.119
50–59	<HS	$48,750	0.043	$31,770	0.124	$40,350	0.069	$7,600	0.106	$11,480	0.157
50–59	HS	$56,320	0.032	$44,970	0.125	$26,190	0.127	$20,480	0.130	$23,420	0.100
50–59	PS, B, >B	$87,080	0.033	$109,440	0.235	$57,230	0.101	$50,830	0.097	$30,240	0.128
60+	<HS	$36,740	0.047	$29,740	0.200	$45,090	0.053	$11,780	0.448	$9,640	0.280
60+	HS	$42,480	0.063	$23,170	0.159	$24,470	0.110	$24,280	0.162	$21,480	0.464
60+	PS, B, >B	$60,720	0.039	$38,780	0.140	$49,930	0.115	$42,650	0.199	$34,950	0.343

Notes:

- Average earnings estimates are adjusted for marital status and region so that comparisons across disability severity categories reflect the impact of severity differences and not differences in marital status/region distribution.

- Age groups are based on the age of the respondent in the 2016 Census (as of May 10, 2016).

- Average earnings are based on employment income for calendar year 2015.

- Coefficient of variation (CV) = standard deviation / average earnings.

- According to Statistics Canada, a CV between 0.165 and 0.333 indicates high sampling variability and should be accompanied by a warning. A CV of 0.334 or greater indicates very high sampling variability and should be used with great caution.

- It is important to consider the CV estimate as well as the average earnings estimate.

Many of the adjusted average earnings estimates in Tables 5-F and 5-M are similar to the corresponding crude estimates in Tables 4-F and 4-M. The adjusted estimates are preferred when we wish to make comparisons of average earnings across severity groups and to ensure that the differences are due to differences in severity and not differences in region or marital status.

As with the LFPR tables, the main advantage of the two sets of tables is that the broad groupings result in average earnings estimates that, for the most part, behave reasonably in terms of anticipated orderings.

The main disadvantage is that the broad groupings may result in important differences that are missed, specifically differences by age within age group and differences between the educational attainments PS, B, and >B. Also, even though the average earnings amounts are estimated for broad groupings, many of the CVs are quite high.

How to Use the Average Earnings Tables

Tables 4-F/4-M and 5-F/5-M show average earnings estimates for non-disabled and disabled individuals. These tables should be viewed as information that may be helpful to an economic loss expert in developing appropriate LFPR assumptions and an expert opinion regarding residual earning capacity. The tables should not be used without careful consideration. And in many cases, a range of scenarios could be illustrated in order to assist the court and the parties. It is important to recognize that the estimates reflect average earnings over broad age ranges and may not be appropriate for ages near the endpoints of these ranges.

Tables 5-F and 5-M are appropriate for comparisons of average earnings of disabled versus non-disabled individuals, since adjustments have been made to reflect differences in the marital status/region distribution.

Ratios of Average Earnings Estimates

If one wishes to use a ratio of average earnings estimates for comparison purposes, Tables 5-F and 5-M would be appropriate. When using such ratios, it is important to recognize that there is sampling variability in both the numerator estimate and the denominator estimate. This needs to be reflected in establishing a range of possibilities for the ratio. The formula on page 36 can be used to estimate the CV of a ratio of average earnings estimates.

Example

Suppose we wish to establish a range of values to better understand the sampling variability associated with the estimate of the ratio of the average earnings for a very severely disabled female aged 35–49 whose highest educational attainment is more than high school to the average earnings for a corresponding individual with no disability. We obtain the following estimates from Table 5-F:

Characteristics	Table	Average Earnings	CV
Sex=F, Age Group=35-49, Educ=PS,B,>B, Severity=Very Severe	5-F	$26,220	0.100
Sex=F, Age Group=35-49, Educ=PS,B,>B, Severity=No Disability	5-F	$52,770	0.014

We can calculate the following:

$Ratio\ Estimate = 26,220/52,770 = 0.497$

$CV\ of\ Ratio \cong \sqrt{0.100^2 + 0.014^2} = 0.101$

$Approx\ 95\%\ CI = (0.497 - 1.96 \times 0.497 \times 0.101, 0.497 + 1.96 \times 0.497 \times 0.101) = (0.399, 0.595)$

We can also consider approximate 95% CIs for the numerator and denominator:

Numerator: $(26,220 - 1.96 \times 26,220 \times 0.100, 26,220 + 1.96 \times 26,220 \times 0.100)$
$$= (21,061, 31,359)$$

Denominator: $(52,770 - 1.96 \times 52,770 \times 0.014, 52,770 + 1.96 \times 52,770 \times 0.014)$
$$= (51,322, 54,218)$$

Then consider the interval that contains all numerators and denominators in the above CIs:

$$(21,061/54,218, 31,359/51,322) = (0.388, 0.611)$$

The results suggest that ratios ranging from 0.4 to 0.6 could be considered plausible based on the sampling variability of our estimates.

Regression Modelling of Average Earnings

Average earnings were modelled using a similar approach to our modelling of LFPRs. First, a smooth progression (by age) of average earnings estimates for individuals without disabilities was obtained for each sex and for each of the five educational attainment categories. Then, a regression model was used to adjust the estimates for individuals without disabilities in order to obtain estimates for individuals with disabilities for each severity and each sex, age, and educational attainment, controlling for marital status and region. The model, out of necessity, assumes that the age progression of average earnings estimates for individuals with disabilities follows that of individuals without disabilities with the same sex and educational attainment. While there is certainly no evidence against this assumption, sample sizes are such that variability is large, and age progressions for disabled individuals could be quite different.

We therefore have three potential sources of error in the resulting estimates for disabled lives – sampling error in estimating the adjustment parameters for disabled individuals, error in the model assumption that the age progression is the same as for individuals without disabilities, and sampling error in the smooth estimates obtained for individuals without disabilities. Unfortunately, the resulting estimates behave poorly, and variability is high. As a result, we determined that it would be inappropriate to provide tables of those estimates for disabled lives. However, there is value in understanding the age progression for individuals without disabilities, and those tables are provided in Appendix B.

Individuals without Disabilities

Average earnings estimates for non-disabled individuals, based on the CSD data, are shown in Figures 2-F and 2-M (for females and males, respectively). The figures show average earnings by sex, age, and educational attainment. The average earnings estimates for individual ages are represented by the dots, and the estimates for extreme age groups are represented by the thick horizontal lines. Extreme ages are grouped because sample sizes are small, and data confidentiality requirements had to be met.

Each graph in the figures exhibits a clear pattern of average earnings with age. Average earnings increase at the younger ages, as individuals advance in their careers, and decrease as individuals work less at older ages. It is useful to model this pattern in addition to providing estimates based on broad age groups.

Rather than using a simple function to capture the age pattern, we used smoothing splines to achieve smooth average earnings estimates that follow the pattern in the data. The resulting smooth estimates are represented by the thin solid curves in Figures 2-F and 2-M. We consider these estimates to be our best estimates of the population average earnings, as we expect these amounts to vary smoothly with age. Tables of these estimates are provided in Appendix B.

The dotted curves in Figures 2-F and 2-M represent approximate 95% confidence limits for the population average earnings. They are obtained by repeating the smoothing spline estimation using each of the 1,000 sets of bootstrap weights. The standard deviation of the resulting bootstrap estimates for a given age (multiplied by an adjustment factor) provides an approximate standard deviation associated with the corresponding average earnings estimate. A normal distribution assumption then leads to the upper and lower confidence limits given by

$$average\ earnings\ estimate\ \pm 1.96\ \times (standard\ deviation).$$

The approximate CIs reflect our uncertainty about the population average earnings estimates that arises from the fact that we have observed a sample and not the entire Canadian population. The tables in Appendix B provide the coefficients of variation obtained from these standard deviation estimates.

Figure 2-F: Estimated Average Earnings for Females
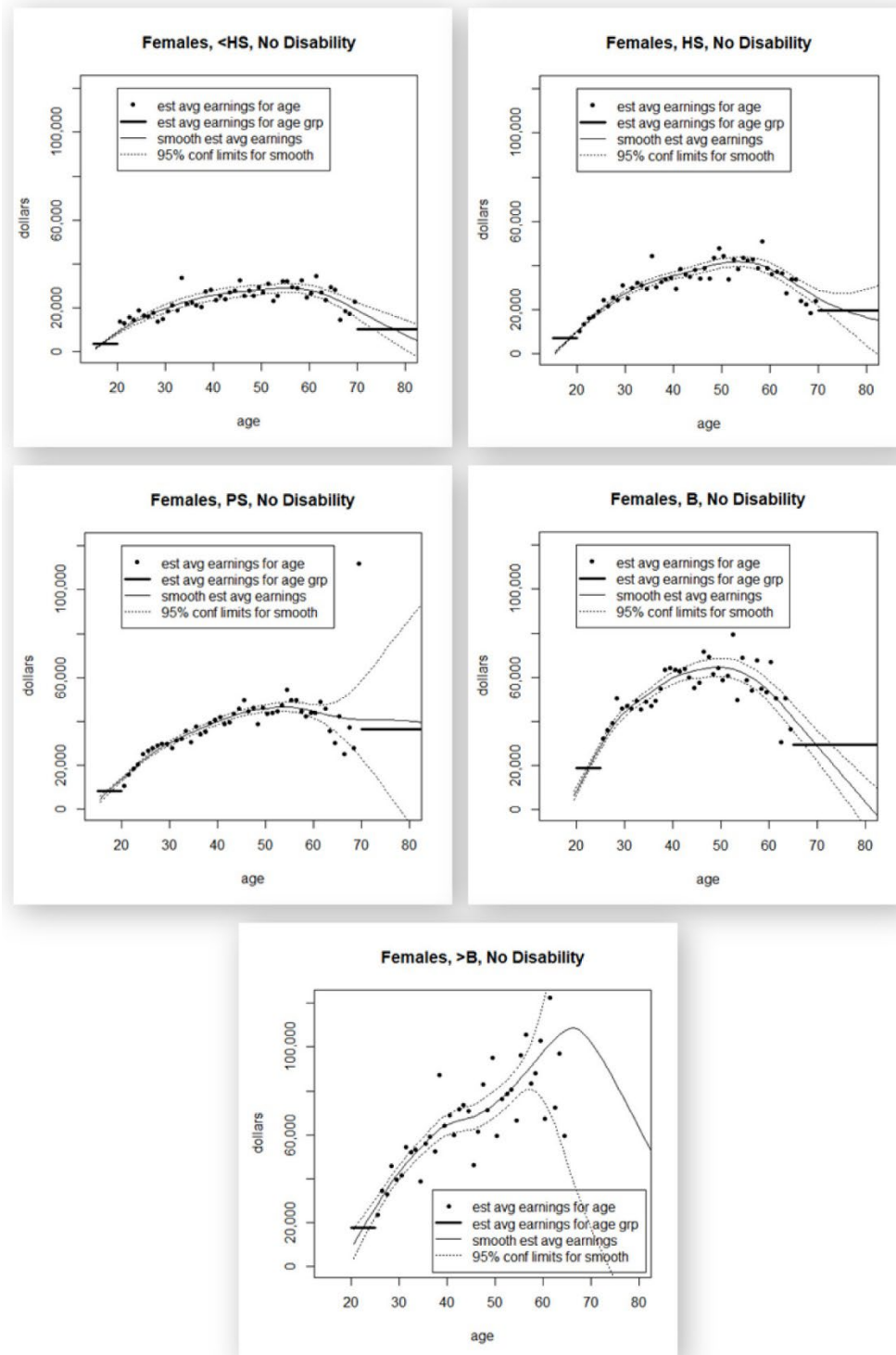
Figure 2-M: Estimated Average Earnings for Males
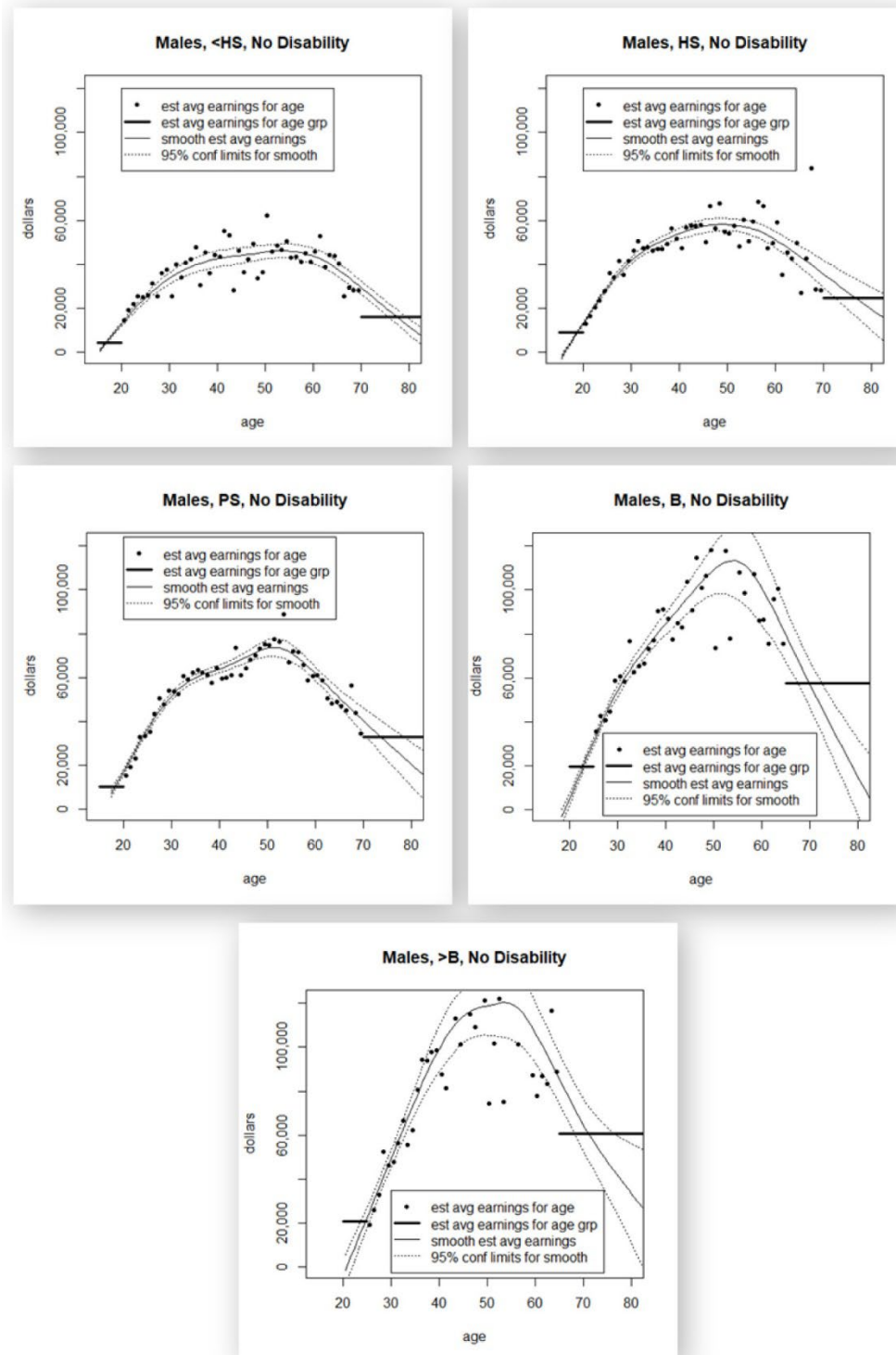
Practical Tips

We view this paper as a helpful source of information and insight for actuaries and other economic loss experts. It is not, and should not be viewed as, a "how-to" manual. There is no cookie-cutter recipe for the approach that an economic loss expert (actuary or other professional) should take in formulating their expert opinion regarding the lump-sum value of pecuniary losses. What is most appropriate will always depend on the specific circumstances of the file. For example:

1. With respect to the residual earning capacity assumption, what approach is most suited to the fact situation at hand?

   ○ Adjust the pre-incident earning capacity scenario(s) to reflect the injured party's reduced ability to work and/or reduced attachment to the workforce?

   ○ Apply the ratio(s) of this paper's disabled earnings to non-disabled earnings, for the relevant age/sex cell(s), to the pre-incident earning capacity scenario(s)?

   ○ Present a grid or matrix to illustrate the value of diminished earning capacity by percentage?

   ○ Something else?

2. It is important that the methodology selected be explained clearly enough for lawyers and the court to understand the rationale for the approach that was taken.

3. When retained by counsel for the defendant, one will want to consider whether or not the expert retained by plaintiff's counsel selected an appropriate approach to estimating residual earning capacity. If the plaintiff's economic loss expert relied on ratios or amounts from this paper or from other analyses of the 2017 CSD, did that expert understand the limitations of the data used? Was the methodology appropriate?

4. When the economic loss expert determines that it is appropriate to rely on the average earnings amounts in this paper, it is important to recall that those earnings pertain to the entire labour force (including those looking for work with no earnings). In contrast, the "worked in 2015" categories in the 2016 Census data tabulations represent the average (or median, etc.) earnings of those who actually worked in 2015.

The role of the economic loss expert is to present their opinion regarding the value of pecuniary losses for the various heads of damage, to assist the lawyers in their settlement negotiations or the court in determining the size of an award. That opinion should stand up to the scrutiny of the court, as well as the scrutiny of an economic loss expert retained by counsel on the "opposing side." Although some situations are more straightforward than others, there is no shortcut to doing the research and thinking required to develop (and then to clearly explain) an appropriate expert opinion for any given file.

As noted earlier in this paper, actuaries using the attached tables and the other information in this paper when doing Actuarial Evidence Work (as defined in Paragraph 1120.04 of the CIA Standards of Practice) are reminded that they should consider and comply with the relevant paragraphs regarding the selection of assumptions in Part 4000 of the Standards of Practice (the AE-SOP). Whether or not it is possible and/or advisable to incorporate the LFPRs and average earnings amounts with respect to a specific injured individual is a matter of professional judgment. Actuaries are encouraged to review **every** aspect of this paper carefully before using the information contained herein.

Concluding Remarks

Before relying on the tables in Appendices A and B (or any of the other tables in this paper), actuaries and other economic loss experts should read all of the paper to ensure an appropriate understanding of both the estimates and the underlying data. The sections on DSQs (including Appendix C) and coefficients of variation are of particular relevance.

As discussed earlier, it should be noted that:

• Sampling variability may cause the estimate for a group to differ substantially from the population value.

• Characteristics of the injured party may differ in important ways from the average for the population group.

• A medical expert's opinion regarding disability severity may be unrelated to the CSD definitions of severity class (mild, moderate, severe, very severe).

• In many cases, a range of values should be considered.

References

Arim, R. 2015. A profile of persons with disabilities among Canadians aged 15 years or older, 2012. Statistics Canada Catalogue no. 89-654-X. Ottawa, Ontario.

Berrigan, P., Scott, C.W.M. and J.D. Zwicker 2020. Employment, Education, and Income for Canadians with Developmental Disability: Analysis from the 2017 Canadian Survey on Disability. *Journal of Autism and Developmental Disorders*, published online July 13, 2020.

Brown, C. L. and J. C. H. Emery 2010. The Impact of Disability on Earnings and Labour Force Participation in Canada: Evidence from the 2001 PALS and from Canadian Case Law. *Journal of Legal Economics* 16 (2), 19–59.

Brown, C.L. 2017. *Damages: Estimating Pecuniary Loss. Aurora, Ontario: Canada Law Book*.

Bruce, C.J., Rathje, K.A. and L.J. Weir 2019. *Assessment of Personal Injury Damages* Sixth Edition, LexisNexis, Markham, Ontario.

Cloutier, E., Grondin, C. and A. Lévesque 2018. Canadian Survey on Disability, 2017: Concepts and Methods Guide. Statistics Canada Catalogue no. 89-654-X2018001. Ottawa, Ontario.

Furrie, A. 2018. The evolution of disability data in Canada: Keeping in step with a more inclusive Canada. Statistics Canada Catalogue no. 89-654-X2018003. Ottawa, Ontario.

Grondin, C. 2016. A New Survey Measure of Disability: The Disability Screening Questions (DSQ). Statistics Canada Catalogue no. 89-654-X2016003. Ottawa, Ontario.

Gupta, S., Sukhai, M. and W. Wittich (2021). Employment outcomes and experiences of people with seeing disability in Canada: An analysis of the Canadian Survey on Disability 2017, PLOS ONE, November 29, 2021. DOI: 10.1371/journal.pone.0260160.

Heckman, J. 1976. The Common Structure of Statistical Models of Truncation, Sample Selection and Limited Dependent Variables and a Simple Estimator for Such Models, *Annals of Economic and Social Measurement*, 5(4), 475-492.

Henningsen, A. and O. Toomet (2008). Sample Selection Models in R: Package sample Selection. *Journal of Statistical Software*, 27(7). DOI: 10.18637.

Morris, S., Fawcett, G., Brisebois, L., and J. Hughes 2018. A demographic, employment and income profile of Canadians with disabilities aged 15 years and over, 2017. Statistics Canada Catalogue no. 89-654-X2018002. Ottawa, Ontario.

Morris, S. 2019. Workplace accommodations for employees with disabilities in Canada, 2017. Statistics Canada Catalogue no. 89-654-X2019001. Ottawa, Ontario.

R Core Team (2020). R: A language and environment for statistical computing. R Foundation for Statistical

Computing, Vienna, Austria. URL http://www.R-project.org/

Statistics Canada 2020. A profile of Canadians with mental health-related disabilities. *The Daily*, Wednesday, January 29, 2020. Statistics Canada Catalogue no. 11-001-X. Ottawa, Ontario.

Till, M., Leonard, T., Yeung, S. and G. Nicholls 2015. A Profile of the Labour Market Experiences of Adults with Disabilities among Canadians aged 15 years and older, 2012. Statistics Canada Catalogue no. 89-654-X2015005. Ottawa, Ontario.

Turcotte, M. 2014. Persons with disabilities and employment. Statistics Canada Catalogue no. 75-006-X. Ottawa, Ontario.

Appendix A – Labour Force Participation Rates Tables

Table A.1-F: Estimated Labour Force Participation Rates for Females with No Disability

Age	Educational Attainment									
	<HS		HS		PS		B		>B	
	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV
18	43.3	0.032	65.0	0.020	-	-	-	-	-	-
19	48.2	0.033	68.3	0.016	78.7	0.024	-	-	-	-
20	52.0	0.035	70.9	0.013	80.2	0.019	-	-	-	-
21	54.9	0.036	72.8	0.013	81.5	0.015	-	-	-	-
22	57.0	0.038	74.1	0.013	82.7	0.013	80.7	0.023	-	-
23	58.4	0.040	74.9	0.014	83.7	0.011	82.8	0.017	83.8	0.040
24	59.2	0.041	75.3	0.015	84.4	0.011	84.6	0.013	84.7	0.032
25	59.7	0.042	75.5	0.016	85.0	0.011	86.0	0.011	85.5	0.027
26	60.0	0.043	75.5	0.017	85.4	0.011	87.0	0.010	86.1	0.023
27	60.2	0.043	75.5	0.018	85.7	0.011	87.6	0.010	86.6	0.021
28	60.3	0.043	75.4	0.019	85.8	0.011	87.7	0.011	87.0	0.019
29	60.5	0.043	75.3	0.019	85.9	0.011	87.6	0.011	87.3	0.018
30	60.6	0.044	75.3	0.019	85.8	0.011	87.4	0.012	87.5	0.018
31	60.7	0.044	75.2	0.020	85.7	0.011	87.2	0.012	87.6	0.017
32	60.9	0.045	75.3	0.020	85.7	0.011	87.1	0.012	87.7	0.018
33	61.2	0.045	75.4	0.020	85.6	0.011	87.0	0.011	87.7	0.018
34	61.5	0.045	75.7	0.020	85.7	0.010	86.9	0.011	87.7	0.018
35	62.0	0.045	76.0	0.021	85.9	0.010	87.0	0.011	87.7	0.018
36	62.6	0.044	76.5	0.021	86.2	0.010	87.2	0.012	87.9	0.018
37	63.2	0.044	77.2	0.021	86.6	0.009	87.6	0.011	88.3	0.017
38	64.0	0.042	77.9	0.020	87.0	0.009	88.1	0.011	88.7	0.017
39	64.7	0.041	78.8	0.019	87.4	0.009	88.7	0.011	89.3	0.016
40	65.5	0.040	79.7	0.018	87.7	0.009	89.3	0.010	89.9	0.016
41	66.4	0.039	80.6	0.017	87.9	0.009	89.8	0.010	90.5	0.015
42	67.2	0.037	81.4	0.016	88.2	0.010	90.1	0.010	91.0	0.014
43	68.1	0.036	82.2	0.015	88.5	0.010	90.3	0.011	91.5	0.013
44	68.9	0.035	82.9	0.014	88.8	0.010	90.3	0.012	91.7	0.013
45	69.7	0.034	83.5	0.014	89.2	0.009	90.1	0.013	91.6	0.014
46	70.4	0.033	83.9	0.014	89.6	0.009	89.8	0.015	91.3	0.015
47	71.0	0.032	84.2	0.014	90.0	0.009	89.7	0.016	90.9	0.016
48	71.5	0.031	84.4	0.014	90.3	0.009	89.7	0.016	90.4	0.018
49	71.8	0.030	84.4	0.014	90.4	0.009	89.7	0.015	89.8	0.020
50	71.9	0.029	84.2	0.014	90.4	0.009	89.8	0.014	89.1	0.022
51	71.8	0.029	83.8	0.014	90.1	0.009	89.7	0.014	88.3	0.025
52	71.4	0.028	83.0	0.014	89.5	0.010	89.4	0.013	87.5	0.027
53	70.7	0.029	81.9	0.014	88.5	0.010	88.7	0.013	86.6	0.028

Age	Educational Attainment									
	<HS		**HS**		**PS**		**B**		**>B**	
	LFPR	**CV**	**LFPR**	**CV**	**LFPR**	**CV**	**LFPR**	**CV**	**LFPR**	**CV**
54	69.6	0.029	80.4	0.015	87.1	0.011	87.6	0.014	85.6	0.028
55	68.0	0.030	78.4	0.016	85.3	0.012	85.9	0.016	84.5	0.028
56	66.0	0.031	75.8	0.017	82.9	0.013	83.6	0.018	83.1	0.028
57	63.4	0.033	72.6	0.018	80.0	0.015	80.6	0.021	81.2	0.029
58	60.2	0.035	68.7	0.020	76.6	0.016	76.7	0.025	78.8	0.030
59	56.4	0.038	64.2	0.023	72.5	0.019	72.1	0.030	75.8	0.034
60	52.1	0.041	59.2	0.026	67.8	0.021	66.6	0.036	72.0	0.038
61	47.3	0.046	53.8	0.029	62.6	0.024	60.5	0.041	67.7	0.044
62	42.2	0.050	48.3	0.033	56.9	0.027	54.0	0.048	62.8	0.050
63	37.0	0.055	42.7	0.037	50.9	0.031	47.5	0.054	57.7	0.056
64	32.0	0.059	37.3	0.041	44.8	0.034	41.2	0.060	52.2	0.062
65	27.4	0.064	32.2	0.044	38.9	0.038	35.4	0.065	46.6	0.066
66	23.2	0.070	27.6	0.048	33.3	0.042	30.4	0.070	41.1	0.071
67	19.5	0.080	23.7	0.052	28.4	0.048	26.0	0.075	35.9	0.076
68	16.4	0.094	20.2	0.058	24.1	0.055	22.4	0.082	31.1	0.083
69	13.7	0.114	17.4	0.065	20.4	0.064	19.3	0.090	26.7	0.092
70	11.4	0.139	14.9	0.074	17.4	0.073	16.8	0.101	22.9	0.102
71	9.6	0.165	12.9	0.083	14.9	0.084	14.6	0.115	19.7	0.114
72	8.0	0.189	11.1	0.094	12.7	0.097	12.7	0.130	16.9	0.128
73	6.7	0.210	9.7	0.105	11.0	0.111	11.1	0.146	14.5	0.142
74	5.6	0.225	8.4	0.116	9.4	0.125	9.6	0.164	12.5	0.158
75	4.7	0.234	7.3	0.127	8.1	0.139	8.2	0.182	10.9	0.177
76	3.9	0.237	6.4	0.140	6.9	0.152	6.9	0.200	9.5	0.200
77	3.2	0.237	5.7	0.157	5.9	0.164	5.8	0.220	8.4	0.227
78	2.7	0.235	5.1	0.180	5.0	0.175	4.8	0.242	7.5	0.260
79	2.2	0.233	4.6	0.209	4.2	0.186	4.0	0.266	6.6	0.297

Notes:

- LFPR estimates are adjusted for marital status so that comparisons across disability severity categories reflect the impact of severity differences and not differences in marital status distribution.

- Age is the age of the respondent for the 2016 Census (May 10, 2016).

- It is important to consider the CV estimate as well as the LFPR estimate.

- Coefficient of variation (CV) = standard deviation / LFPR.

- According to Statistics Canada, a CV between 0.165 and 0.333 indicates high sampling variability and should be accompanied by a warning. A CV of 0.334 or greater indicates very high sampling variability and should be used with great caution.

Table A.1-M: Estimated Labour Force Participation Rates for Males with No Disability

Age	Educational Attainment									
	<HS		HS		PS		B		>B	
	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV
18	47.4	0.026	62.2	0.021	-	-	-	-	-	-
19	55.3	0.025	68.0	0.015	79.0	0.024	-	-	-	-
20	62.3	0.023	72.9	0.012	82.1	0.018	-	-	-	-
21	68.3	0.022	76.9	0.011	84.8	0.013	-	-	-	-
22	73.1	0.021	80.2	0.010	87.1	0.010	74.9	0.030	-	-
23	76.9	0.020	82.9	0.010	89.0	0.009	79.1	0.022	76.9	0.061
24	79.9	0.019	85.2	0.010	90.6	0.008	82.7	0.017	79.1	0.049
25	82.1	0.018	87.0	0.009	91.9	0.007	85.8	0.014	81.3	0.040
26	83.8	0.017	88.5	0.009	92.9	0.007	88.3	0.012	83.3	0.033
27	85.0	0.017	89.6	0.009	93.7	0.006	90.4	0.011	85.3	0.027
28	85.9	0.017	90.5	0.009	94.3	0.006	92.0	0.01	87.2	0.022
29	86.5	0.017	91.2	0.008	94.8	0.005	93.2	0.009	88.9	0.019
30	87.0	0.017	91.7	0.008	95.2	0.005	94.1	0.009	90.3	0.017
31	87.3	0.016	92.1	0.008	95.5	0.005	94.7	0.008	91.4	0.015
32	87.5	0.016	92.4	0.008	95.7	0.005	95.1	0.008	92.3	0.014
33	87.7	0.016	92.6	0.008	95.9	0.005	95.5	0.008	93.0	0.014
34	87.7	0.015	92.8	0.008	96.0	0.005	95.7	0.007	93.5	0.013
35	87.6	0.015	92.9	0.008	96.2	0.004	96.0	0.007	93.9	0.012
36	87.4	0.015	93.0	0.008	96.3	0.004	96.2	0.007	94.2	0.011
37	87.2	0.015	93.1	0.008	96.4	0.004	96.4	0.006	94.3	0.011
38	86.8	0.016	93.2	0.008	96.5	0.004	96.5	0.006	94.3	0.011
39	86.5	0.016	93.2	0.008	96.5	0.004	96.7	0.006	94.3	0.011
40	86.1	0.016	93.2	0.008	96.6	0.004	96.8	0.006	94.1	0.012
41	85.8	0.017	93.2	0.008	96.6	0.004	96.9	0.005	93.9	0.014
42	85.5	0.017	93.1	0.008	96.6	0.004	96.9	0.005	93.8	0.015
43	85.2	0.018	93.0	0.009	96.6	0.005	96.9	0.005	93.7	0.017
44	85.0	0.018	92.9	0.009	96.6	0.005	96.8	0.005	93.8	0.018
45	84.9	0.019	92.7	0.010	96.5	0.005	96.6	0.006	94.0	0.018
46	84.9	0.018	92.5	0.010	96.4	0.006	96.3	0.006	94.3	0.017
47	85.1	0.018	92.3	0.010	96.2	0.006	96.0	0.007	94.7	0.015
48	85.2	0.017	92.1	0.010	96.0	0.007	95.5	0.008	95.0	0.013
49	85.3	0.017	91.9	0.011	95.8	0.007	94.9	0.009	95.2	0.012
50	85.3	0.016	91.6	0.011	95.5	0.006	94.2	0.011	95.3	0.011
51	85.0	0.016	91.2	0.011	95.1	0.006	93.4	0.012	95.4	0.010
52	84.6	0.016	90.8	0.011	94.5	0.006	92.3	0.014	95.3	0.010
53	84.0	0.017	90.1	0.011	93.8	0.006	91.1	0.016	95.0	0.010
54	83.1	0.017	89.3	0.011	92.8	0.006	89.6	0.018	94.6	0.011
55	82.0	0.018	88.1	0.012	91.4	0.007	87.7	0.020	93.9	0.012

Age	Educational Attainment									
	<HS		HS		PS		B		>B	
	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV
56	80.6	0.019	86.5	0.012	89.6	0.008	85.4	0.022	92.8	0.014
57	78.8	0.021	84.5	0.013	87.2	0.010	82.7	0.025	91.3	0.016
58	76.7	0.023	81.9	0.015	84.1	0.011	79.6	0.029	89.2	0.019
59	74.0	0.025	78.8	0.017	80.2	0.014	76.3	0.032	86.6	0.022
60	70.8	0.027	75.0	0.019	75.6	0.016	72.7	0.034	83.1	0.026
61	66.9	0.030	70.7	0.021	70.3	0.019	68.7	0.036	78.9	0.030
62	62.3	0.032	65.9	0.024	64.6	0.023	64.5	0.038	73.7	0.035
63	57.0	0.035	60.7	0.027	58.5	0.027	60.1	0.040	67.8	0.041
64	51.1	0.039	55.2	0.030	52.5	0.030	55.5	0.042	61.4	0.047
65	45.0	0.043	49.7	0.034	46.7	0.034	50.8	0.045	55.0	0.052
66	39.0	0.047	44.3	0.039	41.4	0.038	46.1	0.048	48.9	0.057
67	33.4	0.052	39.3	0.046	36.5	0.042	41.5	0.053	43.7	0.062
68	28.4	0.057	34.6	0.053	32.2	0.046	37.2	0.059	39.2	0.067
69	24.1	0.063	30.5	0.060	28.5	0.051	33.4	0.068	35.4	0.072
70	20.4	0.068	26.8	0.068	25.4	0.057	29.9	0.077	32.4	0.077
71	17.4	0.073	23.6	0.076	22.7	0.063	26.9	0.086	29.9	0.083
72	15.0	0.079	20.9	0.085	20.3	0.070	24.1	0.095	27.8	0.089
73	13.1	0.085	18.5	0.092	18.3	0.079	21.5	0.104	25.7	0.098
74	11.5	0.094	16.4	0.100	16.4	0.09	19.1	0.113	23.8	0.110
75	10.3	0.106	14.5	0.106	14.8	0.101	16.9	0.123	22.1	0.125
76	9.4	0.123	12.9	0.112	13.3	0.115	14.8	0.134	20.5	0.145
77	8.7	0.144	11.4	0.117	11.9	0.128	13.0	0.148	19.2	0.170
78	8.1	0.169	10.1	0.123	10.6	0.14	11.3	0.163	18.1	0.197
79	7.7	0.199	8.9	0.130	9.3	0.151	9.8	0.180	17.0	0.227

Notes:

- LFPR estimates are adjusted for marital status so that comparisons across disability severity categories reflect the impact of severity differences and not differences in marital status distribution.

- Age is the age of the respondent for the 2016 Census (May 10, 2016).

- It is important to consider the CV estimate as well as the LFPR estimate.

- Coefficient of variation (CV) = standard deviation / LFPR.

- According to Statistics Canada, a CV between 0.165 and 0.333 indicates high sampling variability and should be accompanied by a warning. A CV of 0.334 or greater indicates very high sampling variability and should be used with great caution.

Table A.2-F: Estimated Labour Force Participation Rates for Females with Mild Disability

Age	Educational Attainment									
	<HS		HS		PS		B		>B	
	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV
18	35.8	0.099	62.1	0.045	-	-	-	-	-	-
19	40.5	0.090	65.5	0.041	76.9	0.027	-	-	-	-
20	44.2	0.083	68.2	0.038	78.4	0.026	-	-	-	-
21	47.1	0.078	70.2	0.036	79.8	0.024	-	-	-	-
22	49.3	0.075	71.5	0.034	81.1	0.023	82.3	0.032	-	-
23	50.7	0.073	72.4	0.033	82.1	0.022	84.3	0.029	85.6	0.027
24	51.5	0.071	72.8	0.033	82.9	0.021	86.0	0.026	86.5	0.026
25	52.0	0.071	73.0	0.032	83.5	0.021	87.3	0.023	87.2	0.024
26	52.3	0.070	73.0	0.032	83.9	0.020	88.2	0.022	87.7	0.023
27	52.5	0.070	73.0	0.032	84.3	0.020	88.8	0.021	88.2	0.022
28	52.6	0.070	72.9	0.033	84.4	0.020	88.9	0.021	88.6	0.022
29	52.8	0.069	72.8	0.033	84.5	0.020	88.8	0.021	88.8	0.021
30	52.9	0.069	72.8	0.033	84.4	0.020	88.6	0.021	89.0	0.021
31	53.0	0.069	72.7	0.033	84.3	0.020	88.4	0.022	89.1	0.021
32	53.3	0.069	72.8	0.033	84.3	0.020	88.3	0.022	89.2	0.021
33	53.6	0.068	72.9	0.033	84.2	0.020	88.2	0.022	89.2	0.021
34	53.9	0.068	73.2	0.032	84.3	0.020	88.1	0.022	89.2	0.021
35	54.4	0.067	73.5	0.032	84.5	0.020	88.2	0.022	89.2	0.021
36	55.0	0.066	74.1	0.031	84.8	0.019	88.4	0.022	89.4	0.020
37	55.6	0.065	74.8	0.030	85.2	0.019	88.8	0.021	89.8	0.019
38	56.5	0.064	75.5	0.030	85.7	0.018	89.2	0.020	90.1	0.019
39	57.2	0.063	76.5	0.029	86.1	0.018	89.8	0.019	90.7	0.018
40	58.1	0.061	77.5	0.028	86.4	0.018	90.4	0.018	91.2	0.017
41	59.0	0.060	78.4	0.026	86.6	0.017	90.8	0.017	91.7	0.016
42	59.9	0.059	79.3	0.026	86.9	0.017	91.1	0.017	92.2	0.015
43	60.8	0.057	80.1	0.025	87.3	0.017	91.3	0.017	92.6	0.014
44	61.7	0.056	80.9	0.024	87.6	0.016	91.3	0.017	92.8	0.014
45	62.6	0.055	81.5	0.023	88.0	0.016	91.1	0.017	92.7	0.014
46	63.3	0.054	81.9	0.023	88.4	0.015	90.8	0.017	92.5	0.014
47	64.0	0.053	82.3	0.022	88.9	0.015	90.7	0.018	92.1	0.015
48	64.5	0.052	82.5	0.022	89.2	0.014	90.7	0.018	91.7	0.016
49	64.9	0.052	82.5	0.022	89.3	0.014	90.7	0.018	91.1	0.017
50	65.0	0.052	82.3	0.022	89.3	0.014	90.8	0.017	90.5	0.018
51	64.9	0.052	81.8	0.023	89.0	0.015	90.7	0.018	89.8	0.019
52	64.4	0.052	81.0	0.024	88.3	0.015	90.5	0.018	89.0	0.021
53	63.7	0.053	79.8	0.025	87.3	0.017	89.8	0.019	88.2	0.022
54	62.5	0.055	78.2	0.027	85.8	0.018	88.8	0.021	87.3	0.024
55	60.7	0.058	76.1	0.029	83.8	0.020	87.2	0.024	86.3	0.026

Age	Educational Attainment									
	<HS		HS		PS		B		>B	
	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV
56	58.6	0.061	73.3	0.032	81.3	0.023	85.0	0.027	85.0	0.029
57	55.9	0.065	70.0	0.036	78.2	0.026	82.2	0.032	83.2	0.032
58	52.5	0.070	65.9	0.040	74.7	0.030	78.5	0.038	81.0	0.036
59	48.6	0.076	61.3	0.046	70.4	0.034	74.1	0.046	78.2	0.042
60	44.3	0.083	56.2	0.052	65.6	0.039	68.7	0.055	74.6	0.049
61	39.6	0.091	50.7	0.058	60.3	0.044	62.8	0.065	70.4	0.058
62	34.8	0.101	45.2	0.066	54.5	0.050	56.4	0.077	65.7	0.068
63	29.9	0.111	39.7	0.073	48.4	0.057	49.9	0.090	60.7	0.080
64	25.4	0.122	34.4	0.082	42.4	0.064	43.5	0.104	55.3	0.094
65	21.3	0.133	29.5	0.090	36.6	0.071	37.6	0.118	49.7	0.109
66	17.7	0.144	25.1	0.098	31.1	0.078	32.5	0.131	44.1	0.126
67	14.6	0.155	21.4	0.106	26.4	0.085	28.0	0.145	38.8	0.144
68	12.0	0.166	18.1	0.115	22.2	0.092	24.2	0.158	33.9	0.163
69	9.9	0.176	15.5	0.122	18.7	0.099	21.0	0.170	29.3	0.183
70	8.1	0.187	13.2	0.129	15.9	0.105	18.3	0.181	25.3	0.203
71	6.7	0.197	11.3	0.136	13.5	0.111	16.0	0.193	21.9	0.223
72	5.5	0.207	9.7	0.143	11.5	0.116	14.0	0.203	18.9	0.243
73	4.5	0.216	8.4	0.149	9.9	0.121	12.3	0.214	16.3	0.263
74	3.7	0.226	7.3	0.155	8.4	0.126	10.7	0.225	14.2	0.283
75	3.1	0.235	6.3	0.161	7.2	0.131	9.1	0.237	12.4	0.301
76	2.5	0.244	5.5	0.166	6.1	0.136	7.7	0.250	10.9	0.320
77	2.0	0.254	4.9	0.171	5.2	0.141	6.5	0.263	9.7	0.336
78	1.7	0.262	4.3	0.176	4.4	0.145	5.4	0.276	8.7	0.351
79	1.4	0.272	3.9	0.180	3.7	0.150	4.5	0.289	7.7	0.368

Notes:

- LFPR estimates are adjusted for marital status so that comparisons across disability severity categories reflect the impact of severity differences and not differences in marital status distribution.

- Age is the age of the respondent for the 2016 Census (May 10, 2016).

- It is important to consider the CV estimate as well as the LFPR estimate.

- Coefficient of variation (CV) = standard deviation / LFPR.

- According to Statistics Canada, a CV between 0.165 and 0.333 indicates high sampling variability and should be accompanied by a warning. A CV of 0.334 or greater indicates very high sampling variability and should be used with great caution.

Table A.2-M: Estimated Labour Force Participation Rates for Males with Mild Disability

Age	\<HS		HS		PS		B		>B	
	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV
18	41.6	0.092	52.1	0.066	-	-	-	-	-	-
19	49.4	0.081	58.3	0.057	80.0	0.036	-	-	-	-
20	56.6	0.071	63.7	0.049	83.0	0.032	-	-	-	-
21	62.9	0.063	68.3	0.043	85.6	0.028	-	-	-	-
22	68.0	0.056	72.2	0.038	87.8	0.025	71.7	0.048	-	-
23	72.2	0.050	75.5	0.034	89.6	0.022	76.2	0.040	79.4	0.074
24	75.5	0.046	78.4	0.030	91.2	0.020	80.1	0.033	81.4	0.068
25	78.0	0.042	80.7	0.027	92.4	0.018	83.5	0.028	83.5	0.061
26	79.9	0.039	82.7	0.025	93.4	0.016	86.3	0.023	85.3	0.055
27	81.3	0.037	84.1	0.023	94.1	0.015	88.6	0.019	87.1	0.049
28	82.3	0.036	85.4	0.021	94.7	0.013	90.5	0.016	88.9	0.043
29	83.0	0.034	86.3	0.020	95.2	0.013	91.8	0.014	90.4	0.038
30	83.6	0.034	87.0	0.019	95.5	0.012	92.9	0.012	91.7	0.033
31	84.0	0.033	87.6	0.018	95.8	0.011	93.6	0.011	92.6	0.030
32	84.2	0.033	88.0	0.018	96.0	0.011	94.0	0.010	93.4	0.027
33	84.4	0.032	88.3	0.017	96.2	0.010	94.5	0.010	94.1	0.025
34	84.4	0.032	88.5	0.017	96.3	0.010	94.7	0.009	94.5	0.023
35	84.3	0.032	88.7	0.017	96.5	0.010	95.1	0.009	94.8	0.022
36	84.1	0.033	88.8	0.017	96.6	0.010	95.3	0.008	95.1	0.021
37	83.8	0.033	89.0	0.017	96.7	0.009	95.6	0.008	95.2	0.021
38	83.4	0.034	89.1	0.016	96.8	0.009	95.7	0.008	95.2	0.021
39	83.0	0.034	89.1	0.016	96.8	0.009	95.9	0.007	95.2	0.021
40	82.6	0.035	89.1	0.016	96.9	0.009	96.0	0.007	95.0	0.021
41	82.2	0.036	89.1	0.016	96.9	0.009	96.2	0.007	94.8	0.022
42	81.9	0.036	89.0	0.017	96.9	0.009	96.2	0.007	94.8	0.022
43	81.5	0.037	88.8	0.017	96.9	0.009	96.2	0.007	94.7	0.023
44	81.3	0.037	88.7	0.017	96.9	0.009	96.0	0.007	94.8	0.022
45	81.2	0.037	88.4	0.017	96.8	0.009	95.8	0.007	94.9	0.022
46	81.2	0.037	88.1	0.018	96.7	0.009	95.4	0.008	95.2	0.021
47	81.4	0.037	87.8	0.018	96.5	0.010	95.1	0.009	95.5	0.019
48	81.5	0.037	87.6	0.018	96.3	0.010	94.5	0.010	95.8	0.018
49	81.6	0.037	87.3	0.019	96.1	0.011	93.8	0.011	96.0	0.018
50	81.6	0.037	86.9	0.019	95.8	0.011	93.0	0.012	96.1	0.017
51	81.3	0.037	86.3	0.020	95.4	0.012	92.1	0.014	96.2	0.017
52	80.8	0.038	85.8	0.021	94.9	0.013	90.8	0.016	96.1	0.017
53	80.1	0.039	84.8	0.022	94.2	0.014	89.4	0.018	95.8	0.018
54	79.1	0.040	83.7	0.023	93.3	0.016	87.7	0.021	95.5	0.020
55	77.9	0.042	82.2	0.025	91.9	0.018	85.6	0.024	94.8	0.022

Age	Educational Attainment									
	<HS		HS		PS		B		>B	
	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV
56	76.3	0.045	80.1	0.028	90.2	0.021	83.1	0.028	93.9	0.025
57	74.3	0.047	77.5	0.031	87.9	0.025	80.1	0.033	92.5	0.030
58	71.9	0.051	74.3	0.035	84.9	0.029	76.7	0.039	90.7	0.037
59	69.0	0.055	70.6	0.040	81.1	0.034	73.2	0.045	88.3	0.045
60	65.5	0.059	66.1	0.046	76.7	0.040	69.4	0.052	85.1	0.056
61	61.4	0.065	61.3	0.053	71.5	0.046	65.2	0.060	81.2	0.068
62	56.6	0.071	56.0	0.060	65.9	0.052	60.8	0.068	76.4	0.084
63	51.1	0.079	50.5	0.068	59.8	0.059	56.3	0.078	70.7	0.103
64	45.2	0.087	44.9	0.077	53.9	0.065	51.6	0.088	64.6	0.123
65	39.2	0.095	39.5	0.086	48.1	0.072	46.9	0.099	58.3	0.145
66	33.5	0.104	34.4	0.095	42.7	0.077	42.3	0.111	52.2	0.166
67	28.2	0.112	29.8	0.105	37.8	0.083	37.8	0.124	47.0	0.186
68	23.6	0.120	25.6	0.114	33.4	0.087	33.6	0.137	42.4	0.205
69	19.7	0.127	22.1	0.123	29.7	0.092	29.9	0.149	38.6	0.222
70	16.5	0.134	19.0	0.132	26.5	0.096	26.6	0.162	35.5	0.236
71	13.9	0.140	16.4	0.141	23.7	0.099	23.8	0.174	32.9	0.249
72	11.8	0.145	14.3	0.149	21.3	0.102	21.2	0.187	30.7	0.260
73	10.2	0.150	12.4	0.156	19.2	0.105	18.8	0.200	28.5	0.272
74	8.9	0.154	10.8	0.164	17.3	0.108	16.6	0.213	26.5	0.284
75	7.9	0.158	9.4	0.171	15.6	0.111	14.6	0.227	24.7	0.295
76	7.2	0.160	8.2	0.178	14.0	0.113	12.7	0.241	23.0	0.306
77	6.6	0.162	7.2	0.185	12.6	0.115	11.1	0.256	21.6	0.315
78	6.1	0.164	6.2	0.192	11.2	0.118	9.5	0.271	20.4	0.324
79	5.8	0.166	5.4	0.199	9.9	0.12	8.2	0.287	19.2	0.332

Notes:

- LFPR estimates are adjusted for marital status so that comparisons across disability severity categories reflect the impact of severity differences and not differences in marital status distribution.

- Age is the age of the respondent for the 2016 Census (May 10, 2016).

- It is important to consider the CV estimate as well as the LFPR estimate.

- Coefficient of variation (CV) = standard deviation / LFPR.

- According to Statistics Canada, a CV between 0.165 and 0.333 indicates high sampling variability and should be accompanied by a warning. A CV of 0.334 or greater indicates very high sampling variability and should be used with great caution.

Table A.3-F: Estimated Labour Force Participation Rates for Females with Moderate Disability

Age	Educational Attainment									
	<HS		HS		PS		B		>B	
	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV
18	29.9	0.125	56.9	0.069	-	-	-	-	-	-
19	34.3	0.114	60.5	0.064	75.1	0.041	-	-	-	-
20	37.9	0.107	63.3	0.061	76.8	0.039	-	-	-	-
21	40.7	0.101	65.4	0.058	78.2	0.037	-	-	-	-
22	42.8	0.097	66.9	0.056	79.5	0.035	71.2	0.064	-	-
23	44.2	0.094	67.8	0.055	80.6	0.034	73.9	0.057	78.1	0.070
24	45.0	0.092	68.2	0.054	81.4	0.032	76.2	0.051	79.1	0.066
25	45.5	0.091	68.4	0.054	82.1	0.032	78.0	0.047	80.1	0.063
26	45.8	0.091	68.4	0.054	82.5	0.031	79.4	0.044	80.9	0.061
27	46.0	0.090	68.4	0.054	82.9	0.030	80.2	0.042	81.5	0.059
28	46.1	0.090	68.3	0.054	83.0	0.030	80.3	0.041	82.0	0.058
29	46.3	0.090	68.2	0.054	83.1	0.030	80.2	0.042	82.3	0.057
30	46.4	0.090	68.2	0.054	83.0	0.030	79.9	0.042	82.6	0.056
31	46.5	0.090	68.1	0.054	82.9	0.030	79.6	0.043	82.7	0.056
32	46.7	0.089	68.2	0.054	82.9	0.030	79.5	0.043	82.8	0.055
33	47.0	0.089	68.3	0.054	82.8	0.031	79.4	0.044	82.8	0.055
34	47.4	0.088	68.7	0.053	82.9	0.030	79.2	0.044	82.8	0.055
35	47.9	0.087	69.0	0.053	83.1	0.030	79.4	0.044	82.8	0.055
36	48.5	0.086	69.6	0.052	83.4	0.030	79.6	0.043	83.1	0.054
37	49.1	0.085	70.4	0.051	83.9	0.029	80.2	0.042	83.6	0.053
38	50.0	0.083	71.2	0.050	84.3	0.028	80.9	0.040	84.1	0.051
39	50.7	0.082	72.2	0.048	84.8	0.028	81.7	0.038	84.9	0.049
40	51.6	0.08	73.3	0.047	85.1	0.027	82.5	0.036	85.6	0.047
41	52.6	0.079	74.3	0.046	85.4	0.027	83.2	0.035	86.4	0.045
42	53.5	0.077	75.2	0.044	85.7	0.026	83.6	0.034	87.0	0.043
43	54.4	0.075	76.2	0.043	86.0	0.026	83.9	0.033	87.7	0.041
44	55.3	0.074	77.0	0.042	86.4	0.025	83.9	0.033	88.0	0.040
45	56.2	0.072	77.7	0.041	86.9	0.025	83.6	0.034	87.8	0.040
46	57.0	0.071	78.2	0.040	87.3	0.024	83.2	0.035	87.4	0.041
47	57.7	0.070	78.6	0.039	87.8	0.023	83.1	0.035	86.9	0.043
48	58.3	0.069	78.8	0.039	88.1	0.023	83.1	0.035	86.3	0.045
49	58.6	0.068	78.8	0.039	88.2	0.023	83.1	0.035	85.5	0.047
50	58.7	0.068	78.6	0.039	88.2	0.023	83.2	0.035	84.6	0.050
51	58.6	0.068	78.1	0.040	87.9	0.023	83.1	0.035	83.6	0.053
52	58.2	0.069	77.2	0.042	87.2	0.024	82.7	0.036	82.6	0.056
53	57.4	0.070	75.8	0.043	86.0	0.026	81.7	0.038	81.5	0.059
54	56.1	0.073	74.1	0.046	84.5	0.028	80.2	0.042	80.2	0.063
55	54.3	0.076	71.7	0.049	82.4	0.031	77.9	0.047	78.9	0.067

Age	Educational Attainment									
	<HS		HS		PS		B		>B	
	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV
56	52.1	0.079	68.8	0.053	79.7	0.035	74.9	0.054	77.2	0.072
57	49.4	0.084	65.2	0.058	76.5	0.039	71.1	0.064	75.0	0.079
58	46.0	0.090	60.9	0.064	72.8	0.044	66.3	0.077	72.2	0.088
59	42.2	0.098	56.1	0.070	68.4	0.050	61.0	0.092	68.7	0.098
60	38.0	0.106	50.9	0.077	63.5	0.056	54.8	0.112	64.5	0.112
61	33.5	0.116	45.4	0.085	58.1	0.063	48.4	0.135	59.8	0.127
62	28.9	0.127	40.0	0.093	52.2	0.070	41.8	0.163	54.6	0.146
63	24.5	0.140	34.7	0.101	46.2	0.078	35.6	0.193	49.3	0.165
64	20.4	0.152	29.7	0.109	40.2	0.087	29.8	0.227	43.8	0.187
65	16.9	0.165	25.1	0.117	34.5	0.095	24.8	0.263	38.3	0.211
66	13.8	0.178	21.0	0.125	29.1	0.104	20.6	0.300	33.1	0.236
67	11.2	0.191	17.7	0.132	24.5	0.112	17.1	0.337	28.3	0.263
68	9.1	0.204	14.8	0.139	20.6	0.119	14.3	0.373	24.0	0.290
69	7.3	0.216	12.5	0.145	17.2	0.127	12.0	0.410	20.2	0.317
70	5.9	0.229	10.5	0.151	14.5	0.133	10.2	0.444	17.0	0.345
71	4.8	0.24	9.0	0.156	12.3	0.139	8.7	0.479	14.4	0.371
72	3.9	0.252	7.6	0.162	10.4	0.145	7.4	0.514	12.1	0.397
73	3.2	0.263	6.6	0.166	8.9	0.150	6.3	0.548	10.2	0.422
74	2.6	0.273	5.6	0.171	7.6	0.155	5.3	0.586	8.7	0.446
75	2.1	0.284	4.8	0.175	6.5	0.160	4.5	0.626	7.4	0.468
76	1.7	0.295	4.2	0.179	5.5	0.164	3.7	0.672	6.4	0.49
77	1.4	0.306	3.7	0.182	4.6	0.169	3.0	0.718	5.6	0.51
78	1.1	0.315	3.2	0.185	3.9	0.174	2.4	0.769	4.9	0.527
79	0.9	0.327	2.9	0.188	3.2	0.178	2.0	0.819	4.3	0.547

Notes:

- LFPR estimates are adjusted for marital status so that comparisons across disability severity categories reflect the impact of severity differences and not differences in marital status distribution.

- Age is the age of the respondent for the 2016 Census (May 10, 2016).

- It is important to consider the CV estimate as well as the LFPR estimate.

- Coefficient of variation (CV) = standard deviation / LFPR.

- According to Statistics Canada, a CV between 0.165 and 0.333 indicates high sampling variability and should be accompanied by a warning. A CV of 0.334 or greater indicates very high sampling variability and should be used with great caution.

Table A.3-M: Estimated Labour Force Participation Rates for Males with Moderate Disability

Age	Educational Attainment									
	<HS		HS		PS		B		>B	
	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV
18	31.7	0.130	44.2	0.096	-	-	-	-	-	-
19	39.1	0.115	50.5	0.085	73.9	0.058	-	-	-	-
20	46.1	0.102	56.1	0.075	77.4	0.051	-	-	-	-
21	52.6	0.091	61.0	0.067	80.6	0.045	-	-	-	-
22	58.1	0.082	65.3	0.061	83.3	0.040	59.0	0.119	-	-
23	62.7	0.074	69.0	0.055	85.5	0.036	64.3	0.104	82.1	0.154
24	66.5	0.068	72.2	0.050	87.5	0.032	69.1	0.091	84.0	0.145
25	69.4	0.063	74.9	0.046	89.1	0.028	73.5	0.079	85.9	0.136
26	71.7	0.059	77.2	0.042	90.4	0.026	77.3	0.069	87.5	0.127
27	73.4	0.056	78.9	0.039	91.4	0.023	80.6	0.060	89.2	0.117
28	74.7	0.054	80.4	0.037	92.1	0.022	83.2	0.053	90.7	0.108
29	75.6	0.053	81.5	0.035	92.8	0.020	85.3	0.047	92.0	0.098
30	76.3	0.051	82.4	0.034	93.3	0.019	86.9	0.042	93.1	0.090
31	76.7	0.051	83.1	0.033	93.7	0.018	88.0	0.039	94.0	0.083
32	77.0	0.050	83.6	0.032	93.9	0.017	88.7	0.037	94.6	0.077
33	77.3	0.049	83.9	0.031	94.2	0.017	89.5	0.035	95.2	0.073
34	77.3	0.049	84.3	0.031	94.3	0.017	89.9	0.034	95.5	0.069
35	77.2	0.050	84.4	0.030	94.6	0.016	90.5	0.032	95.8	0.066
36	76.9	0.050	84.6	0.030	94.7	0.016	90.8	0.031	96.1	0.064
37	76.6	0.051	84.8	0.030	94.9	0.015	91.2	0.030	96.1	0.063
38	76.0	0.052	85.0	0.029	95.0	0.015	91.4	0.029	96.1	0.063
39	75.6	0.053	85.0	0.029	95.0	0.015	91.9	0.028	96.1	0.063
40	75.0	0.054	85.0	0.029	95.1	0.015	92.1	0.027	96.0	0.065
41	74.5	0.054	85.0	0.029	95.1	0.015	92.3	0.027	95.8	0.066
42	74.1	0.055	84.8	0.030	95.1	0.015	92.3	0.027	95.8	0.067
43	73.7	0.056	84.6	0.030	95.1	0.015	92.3	0.027	95.7	0.068
44	73.4	0.056	84.4	0.030	95.1	0.015	92.1	0.027	95.8	0.067
45	73.3	0.056	84.1	0.031	95.0	0.015	91.7	0.029	95.9	0.065
46	73.3	0.056	83.7	0.031	94.9	0.015	91.0	0.030	96.1	0.063
47	73.6	0.056	83.4	0.032	94.6	0.016	90.5	0.032	96.4	0.060
48	73.7	0.056	83.1	0.033	94.3	0.017	89.5	0.035	96.6	0.058
49	73.8	0.055	82.7	0.033	94.1	0.017	88.3	0.038	96.8	0.056
50	73.8	0.055	82.2	0.034	93.7	0.018	87.1	0.042	96.9	0.055
51	73.4	0.056	81.5	0.035	93.2	0.019	85.6	0.046	96.9	0.054
52	72.9	0.057	80.9	0.036	92.4	0.021	83.7	0.051	96.9	0.055
53	72.0	0.059	79.7	0.038	91.5	0.023	81.7	0.057	96.6	0.058
54	70.8	0.061	78.4	0.040	90.2	0.026	79.3	0.063	96.3	0.061
55	69.3	0.063	76.6	0.043	88.5	0.030	76.3	0.071	95.8	0.066

Age	Educational Attainment									
	<HS		HS		PS		B		>B	
	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV
56	67.4	0.066	74.1	0.047	86.3	0.034	72.9	0.080	95.0	0.074
57	65.1	0.070	71.2	0.051	83.4	0.040	69.1	0.091	93.9	0.084
58	62.5	0.075	67.6	0.057	79.7	0.047	65.0	0.102	92.3	0.097
59	59.2	0.080	63.5	0.064	75.3	0.055	60.8	0.114	90.2	0.111
60	55.4	0.086	58.7	0.071	70.1	0.065	56.4	0.126	87.4	0.128
61	51.0	0.094	53.5	0.080	64.3	0.075	51.8	0.140	83.9	0.146
62	46.1	0.102	48.2	0.089	58.2	0.086	47.2	0.154	79.4	0.166
63	40.7	0.112	42.7	0.099	51.9	0.098	42.6	0.169	74.1	0.186
64	35.1	0.123	37.3	0.109	45.9	0.110	38.0	0.185	68.3	0.206
65	29.6	0.134	32.2	0.120	40.2	0.121	33.6	0.202	62.2	0.223
66	24.5	0.146	27.5	0.131	35.1	0.132	29.4	0.219	56.3	0.238
67	20.0	0.157	23.4	0.141	30.5	0.143	25.5	0.237	51.1	0.250
68	16.3	0.168	19.7	0.152	26.5	0.153	22.1	0.254	46.5	0.26
69	13.3	0.178	16.7	0.162	23.1	0.162	19.2	0.27	42.5	0.268
70	10.8	0.188	14.1	0.171	20.4	0.171	16.6	0.287	39.3	0.273
71	8.9	0.196	12.0	0.180	18.0	0.178	14.5	0.302	36.6	0.278
72	7.4	0.204	10.3	0.188	15.9	0.186	12.6	0.317	34.3	0.282
73	6.3	0.210	8.8	0.196	14.2	0.192	10.9	0.332	32.0	0.286
74	5.4	0.216	7.6	0.203	12.6	0.199	9.4	0.347	29.9	0.289
75	4.7	0.221	6.5	0.211	11.3	0.205	8.1	0.362	28.0	0.292
76	4.2	0.225	5.6	0.218	10.1	0.211	6.8	0.378	26.2	0.294
77	3.8	0.228	4.8	0.225	8.9	0.217	5.8	0.394	24.7	0.296
78	3.5	0.231	4.2	0.231	7.9	0.224	4.9	0.410	23.4	0.298
79	3.3	0.233	3.6	0.238	6.8	0.230	4.1	0.426	22.1	0.300

Notes:

- LFPR estimates are adjusted for marital status so that comparisons across disability severity categories reflect the impact of severity differences and not differences in marital status distribution.

- Age is the age of the respondent for the 2016 Census (May 10, 2016).

- It is important to consider the CV estimate as well as the LFPR estimate.

- Coefficient of variation (CV) = standard deviation / LFPR.

- According to Statistics Canada, a CV between 0.165 and 0.333 indicates high sampling variability and should be accompanied by a warning. A CV of 0.334 or greater indicates very high sampling variability and should be used with great caution.

Table A.4-F: Estimated Labour Force Participation Rates for Females with Severe Disability

Age	Educational Attainment									
	<HS		HS		PS		B		>B	
	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV
18	23.9	0.123	44.5	0.086	-	-	-	-	-	-
19	27.9	0.116	48.1	0.079	53.0	0.057	-	-	-	-
20	31.1	0.110	51.1	0.073	55.1	0.054	-	-	-	-
21	33.8	0.105	53.3	0.069	57.0	0.051	-	-	-	-
22	35.7	0.102	54.9	0.067	58.8	0.048	66.0	0.098	-	-
23	37.1	0.100	55.9	0.065	60.3	0.046	68.9	0.090	76.3	0.131
24	37.9	0.099	56.4	0.064	61.4	0.044	71.4	0.082	77.4	0.128
25	38.3	0.098	56.6	0.064	62.4	0.043	73.4	0.077	78.4	0.125
26	38.6	0.098	56.6	0.064	63.0	0.042	74.9	0.073	79.2	0.123
27	38.8	0.097	56.6	0.064	63.5	0.041	75.8	0.070	79.9	0.121
28	38.9	0.097	56.5	0.064	63.7	0.041	76.0	0.070	80.4	0.119
29	39.1	0.097	56.4	0.064	63.9	0.041	75.8	0.070	80.8	0.118
30	39.2	0.097	56.4	0.064	63.7	0.041	75.5	0.071	81.0	0.117
31	39.3	0.096	56.3	0.065	63.5	0.041	75.2	0.072	81.2	0.117
32	39.5	0.096	56.4	0.064	63.5	0.041	75.1	0.072	81.3	0.117
33	39.8	0.096	56.5	0.064	63.4	0.041	74.9	0.073	81.3	0.117
34	40.1	0.095	56.9	0.063	63.5	0.041	74.8	0.073	81.3	0.117
35	40.7	0.094	57.3	0.063	63.9	0.041	74.9	0.073	81.3	0.117
36	41.3	0.094	57.9	0.062	64.4	0.040	75.2	0.072	81.6	0.116
37	41.9	0.093	58.8	0.060	65.0	0.039	75.8	0.070	82.1	0.114
38	42.7	0.091	59.7	0.059	65.7	0.038	76.6	0.068	82.6	0.112
39	43.5	0.090	60.9	0.057	66.4	0.037	77.5	0.065	83.4	0.110
40	44.3	0.089	62.1	0.055	67.0	0.036	78.5	0.063	84.2	0.107
41	45.3	0.088	63.3	0.053	67.3	0.036	79.3	0.061	85.1	0.104
42	46.2	0.086	64.4	0.052	67.9	0.035	79.8	0.059	85.8	0.102
43	47.2	0.085	65.5	0.050	68.4	0.034	80.1	0.058	86.5	0.099
44	48.0	0.084	66.5	0.048	69.0	0.034	80.1	0.058	86.7	0.098
45	49.0	0.082	67.4	0.047	69.7	0.033	79.8	0.059	86.6	0.098
46	49.8	0.081	68.0	0.046	70.5	0.032	79.3	0.061	86.2	0.100
47	50.5	0.080	68.4	0.046	71.2	0.031	79.1	0.061	85.6	0.102
48	51.0	0.079	68.7	0.045	71.8	0.030	79.1	0.061	84.9	0.105
49	51.4	0.079	68.7	0.045	72.0	0.030	79.1	0.061	84.1	0.107
50	51.5	0.079	68.4	0.046	72.0	0.030	79.3	0.061	83.2	0.111
51	51.4	0.079	67.8	0.046	71.4	0.031	79.1	0.061	82.1	0.114
52	50.9	0.079	66.7	0.048	70.3	0.032	78.6	0.062	81.0	0.117
53	50.1	0.081	65.1	0.050	68.4	0.034	77.5	0.065	79.9	0.121
54	48.8	0.082	63.0	0.054	65.9	0.038	75.8	0.070	78.6	0.125
55	47.0	0.085	60.4	0.058	62.9	0.042	73.3	0.077	77.2	0.129

Age	Educational Attainment									
	<HS		HS		PS		B		>B	
	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV
56	44.8	0.088	57.0	0.063	59.1	0.048	70.0	0.087	75.4	0.133
57	42.1	0.092	53.1	0.070	54.8	0.054	65.9	0.098	73.0	0.139
58	38.8	0.097	48.6	0.078	50.2	0.062	60.8	0.114	70.1	0.145
59	35.2	0.103	43.7	0.087	45.1	0.072	55.2	0.131	66.6	0.153
60	31.2	0.110	38.6	0.098	39.8	0.083	49.0	0.152	62.2	0.161
61	27.1	0.117	33.4	0.110	34.5	0.097	42.5	0.176	57.5	0.169
62	23.0	0.125	28.6	0.123	29.2	0.112	36.2	0.202	52.2	0.177
63	19.1	0.133	24.0	0.137	24.2	0.130	30.3	0.230	46.9	0.184
64	15.6	0.141	19.8	0.151	19.7	0.149	24.9	0.259	41.4	0.190
65	12.7	0.150	16.2	0.167	15.8	0.171	20.4	0.288	36.1	0.196
66	10.1	0.158	13.2	0.182	12.4	0.195	16.7	0.316	31.0	0.200
67	8.1	0.165	10.8	0.197	9.8	0.219	13.6	0.344	26.4	0.203
68	6.4	0.172	8.7	0.212	7.7	0.244	11.3	0.370	22.2	0.206
69	5.1	0.179	7.2	0.226	6.1	0.269	9.3	0.395	18.6	0.208
70	4.0	0.186	5.9	0.240	4.8	0.293	7.8	0.418	15.5	0.209
71	3.2	0.192	4.9	0.253	3.9	0.317	6.6	0.441	13.1	0.209
72	2.6	0.197	4.1	0.267	3.1	0.342	5.5	0.463	10.9	0.209
73	2.1	0.203	3.4	0.278	2.6	0.364	4.7	0.484	9.2	0.208
74	1.7	0.208	2.9	0.291	2.1	0.389	3.9	0.507	7.8	0.208
75	1.3	0.212	2.4	0.303	1.7	0.412	3.2	0.531	6.6	0.207
76	1.1	0.217	2.0	0.314	1.4	0.438	2.6	0.557	5.7	0.206
77	0.8	0.222	1.8	0.324	1.1	0.463	2.1	0.582	4.9	0.205
78	0.7	0.226	1.5	0.333	0.9	0.490	1.7	0.610	4.4	0.204
79	0.5	0.231	1.4	0.342	0.7	0.519	1.4	0.636	3.8	0.203

Notes:

- LFPR estimates are adjusted for marital status so that comparisons across disability severity categories reflect the impact of severity differences and not differences in marital status distribution.

- Age is the age of the respondent for the 2016 Census (May 10, 2016).

- It is important to consider the CV estimate as well as the LFPR estimate.

- Coefficient of variation (CV) = standard deviation / LFPR.

- According to Statistics Canada, a CV between 0.165 and 0.333 indicates high sampling variability and should be accompanied by a warning. A CV of 0.334 or greater indicates very high sampling variability and should be used with great caution.

Table A.4-M: Estimated Labour Force Participation Rates for Males with Severe Disability

Age	Educational Attainment									
	<HS		HS		PS		B		>B	
	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV
18	19.8	0.167	33.8	0.133	-	-	-	-	-	-
19	25.8	0.148	39.7	0.117	59.3	0.081	-	-	-	-
20	31.9	0.131	45.3	0.103	63.6	0.073	-	-	-	-
21	37.9	0.117	50.3	0.092	67.6	0.067	-	-	-	-
22	43.3	0.105	54.8	0.082	71.2	0.061	51.3	0.153	-	-
23	48.1	0.095	58.8	0.074	74.4	0.055	56.8	0.133	47.4	0.175
24	52.2	0.088	62.4	0.067	77.2	0.050	62.0	0.116	50.3	0.166
25	55.4	0.082	65.5	0.062	79.6	0.046	66.8	0.101	53.5	0.157
26	58.0	0.077	68.2	0.057	81.5	0.042	71.0	0.088	56.5	0.149
27	60.0	0.073	70.2	0.053	83.1	0.040	74.7	0.077	59.8	0.140
28	61.5	0.071	72.0	0.050	84.4	0.037	77.8	0.067	63.1	0.13
29	62.5	0.069	73.4	0.048	85.4	0.035	80.3	0.060	66.3	0.121
30	63.4	0.067	74.4	0.046	86.3	0.033	82.3	0.055	69.1	0.113
31	63.9	0.066	75.3	0.044	87.0	0.032	83.6	0.051	71.4	0.106
32	64.3	0.066	75.9	0.043	87.4	0.031	84.5	0.048	73.4	0.101
33	64.7	0.065	76.4	0.042	87.9	0.030	85.5	0.045	75.0	0.096
34	64.7	0.065	76.8	0.042	88.1	0.030	86.0	0.044	76.2	0.092
35	64.5	0.065	77.0	0.041	88.6	0.029	86.7	0.042	77.2	0.089
36	64.1	0.066	77.3	0.041	88.8	0.029	87.2	0.040	77.9	0.087
37	63.8	0.067	77.5	0.040	89.0	0.028	87.7	0.039	78.2	0.086
38	63.0	0.068	77.7	0.040	89.3	0.028	88.0	0.038	78.2	0.086
39	62.5	0.069	77.7	0.040	89.3	0.028	88.5	0.036	78.2	0.086
40	61.8	0.070	77.7	0.040	89.5	0.027	88.8	0.036	77.7	0.088
41	61.3	0.071	77.7	0.040	89.5	0.027	89.0	0.035	77.2	0.089
42	60.8	0.072	77.5	0.040	89.5	0.027	89.0	0.035	76.9	0.090
43	60.3	0.073	77.3	0.041	89.5	0.027	89.0	0.035	76.7	0.091
44	60.0	0.073	77.0	0.041	89.5	0.027	88.8	0.036	76.9	0.090
45	59.8	0.074	76.6	0.042	89.3	0.028	88.2	0.037	77.4	0.088
46	59.8	0.074	76.2	0.043	89.0	0.028	87.5	0.039	78.2	0.086
47	60.1	0.073	75.7	0.044	88.6	0.029	86.7	0.042	79.2	0.083
48	60.3	0.073	75.3	0.044	88.1	0.030	85.5	0.045	80.1	0.080
49	60.5	0.072	74.9	0.045	87.6	0.031	84.1	0.049	80.6	0.079
50	60.5	0.072	74.2	0.046	87.0	0.032	82.5	0.054	80.9	0.078
51	60.0	0.073	73.4	0.048	86.1	0.034	80.7	0.059	81.2	0.077
52	59.3	0.074	72.6	0.049	84.8	0.036	78.4	0.066	80.9	0.078
53	58.3	0.076	71.2	0.051	83.3	0.039	76.1	0.073	80.1	0.080
54	56.9	0.079	69.7	0.054	81.3	0.043	73.3	0.081	79.0	0.084
55	55.2	0.082	67.4	0.058	78.7	0.048	69.9	0.091	77.2	0.089

Age	Educational Attainment									
	<HS		HS		PS		B		>B	
	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV
56	53.2	0.086	64.6	0.063	75.4	0.053	66.1	0.103	74.5	0.097
57	50.6	0.090	61.3	0.070	71.4	0.060	62.0	0.116	71.2	0.107
58	47.8	0.096	57.3	0.077	66.5	0.068	57.5	0.131	66.9	0.119
59	44.4	0.103	52.8	0.086	60.9	0.078	53.1	0.146	62.0	0.133
60	40.7	0.111	47.9	0.097	54.9	0.088	48.6	0.163	56.2	0.150
61	36.4	0.120	42.7	0.109	48.5	0.099	44.0	0.181	50.1	0.167
62	31.9	0.131	37.5	0.122	42.2	0.111	39.5	0.201	43.4	0.187
63	27.2	0.144	32.4	0.137	36.1	0.122	35.1	0.221	36.7	0.208
64	22.5	0.158	27.5	0.153	30.6	0.134	30.9	0.243	30.4	0.228
65	18.2	0.173	23.1	0.169	25.7	0.145	26.8	0.267	25.0	0.248
66	14.4	0.189	19.2	0.186	21.5	0.155	23.1	0.291	20.4	0.267
67	11.3	0.204	15.9	0.203	18.0	0.165	19.7	0.317	16.9	0.283
68	8.8	0.220	13.0	0.220	15.1	0.174	16.7	0.343	14.1	0.297
69	6.9	0.235	10.8	0.236	12.7	0.182	14.3	0.367	12.0	0.309
70	5.4	0.249	8.9	0.253	10.9	0.190	12.2	0.392	10.4	0.319
71	4.3	0.262	7.4	0.268	9.3	0.196	10.5	0.414	9.2	0.327
72	3.4	0.273	6.2	0.283	8.0	0.203	9.0	0.438	8.2	0.335
73	2.8	0.284	5.2	0.297	7.0	0.208	7.7	0.461	7.3	0.342
74	2.4	0.293	4.4	0.311	6.1	0.214	6.5	0.485	6.5	0.349
75	2.0	0.301	3.7	0.324	5.3	0.219	5.5	0.510	5.8	0.356
76	1.8	0.307	3.1	0.337	4.6	0.224	4.6	0.536	5.2	0.362
77	1.6	0.313	2.7	0.351	4.0	0.229	3.9	0.561	4.7	0.367
78	1.5	0.318	2.3	0.364	3.4	0.234	3.2	0.588	4.3	0.372
79	1.4	0.321	1.9	0.377	2.9	0.240	2.7	0.615	4.0	0.377

Notes:

- LFPR estimates are adjusted for marital status so that comparisons across disability severity categories reflect the impact of severity differences and not differences in marital status distribution.

- Age is the age of the respondent for the 2016 Census (May 10, 2016).

- It is important to consider the CV estimate as well as the LFPR estimate.

- Coefficient of variation (CV) = standard deviation / LFPR.

- According to Statistics Canada, a CV between 0.165 and 0.333 indicates high sampling variability and should be accompanied by a warning. A CV of 0.334 or greater indicates very high sampling variability and should be used with great caution.

Table A.5-F: Estimated Labour Force Participation Rates for Females with Very Severe Disability

Age	Educational Attainment									
	<HS		HS		PS		B		>B	
	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV
18	7.1	0.220	24.6	0.126	-	-	-	-	-	-
19	9.0	0.205	27.6	0.120	40.3	0.091	-	-	-	-
20	10.6	0.194	30.1	0.115	42.3	0.087	-	-	-	-
21	12.0	0.186	32.1	0.112	44.2	0.083	-	-	-	-
22	13.1	0.180	33.6	0.109	46.0	0.080	54.6	0.139	-	-
23	13.9	0.176	34.5	0.108	47.6	0.077	57.7	0.133	64.6	0.167
24	14.4	0.174	34.9	0.107	48.8	0.075	60.6	0.128	65.9	0.162
25	14.6	0.172	35.2	0.106	49.8	0.073	62.9	0.124	67.2	0.158
26	14.8	0.171	35.2	0.106	50.5	0.072	64.6	0.120	68.2	0.154
27	14.9	0.171	35.2	0.106	51.0	0.071	65.7	0.118	69.0	0.151
28	15.0	0.171	35.1	0.107	51.2	0.071	65.9	0.118	69.6	0.149
29	15.1	0.170	34.9	0.107	51.4	0.071	65.7	0.118	70.1	0.147
30	15.2	0.170	34.9	0.107	51.2	0.071	65.3	0.119	70.5	0.146
31	15.2	0.169	34.8	0.107	51.0	0.071	65.0	0.120	70.6	0.145
32	15.4	0.169	34.9	0.107	51.0	0.071	64.8	0.120	70.8	0.145
33	15.6	0.168	35.1	0.107	50.8	0.072	64.6	0.120	70.8	0.145
34	15.7	0.167	35.4	0.106	51.0	0.071	64.5	0.121	70.8	0.145
35	16.1	0.166	35.8	0.105	51.4	0.071	64.6	0.120	70.8	0.145
36	16.5	0.164	36.4	0.104	51.9	0.070	65.0	0.120	71.1	0.143
37	16.8	0.162	37.2	0.103	52.6	0.068	65.7	0.118	71.8	0.141
38	17.4	0.160	38.1	0.101	53.4	0.067	66.6	0.116	72.5	0.138
39	17.9	0.158	39.3	0.099	54.1	0.066	67.7	0.114	73.6	0.134
40	18.4	0.156	40.5	0.097	54.7	0.065	68.8	0.112	74.6	0.130
41	19.1	0.153	41.8	0.095	55.1	0.064	69.8	0.110	75.7	0.126
42	19.7	0.151	42.9	0.093	55.7	0.063	70.4	0.109	76.7	0.123
43	20.4	0.149	44.1	0.092	56.3	0.063	70.8	0.108	77.6	0.119
44	21.1	0.146	45.2	0.090	56.9	0.062	70.8	0.108	78.0	0.117
45	21.7	0.144	46.1	0.088	57.7	0.060	70.4	0.109	77.8	0.118
46	22.3	0.142	46.8	0.087	58.6	0.059	69.8	0.110	77.2	0.120
47	22.8	0.140	47.3	0.087	59.5	0.058	69.6	0.110	76.5	0.123
48	23.3	0.139	47.6	0.086	60.1	0.057	69.6	0.110	75.6	0.127
49	23.6	0.138	47.6	0.086	60.4	0.056	69.6	0.110	74.5	0.131
50	23.7	0.138	47.3	0.087	60.4	0.056	69.8	0.110	73.2	0.136
51	23.6	0.138	46.6	0.088	59.7	0.057	69.6	0.11	71.8	0.141
52	23.2	0.139	45.4	0.09	58.4	0.059	69.0	0.112	70.5	0.146
53	22.6	0.141	43.7	0.092	56.3	0.063	67.7	0.114	69.0	0.151
54	21.6	0.144	41.5	0.096	53.6	0.067	65.7	0.118	67.4	0.157
55	20.3	0.149	38.8	0.100	50.3	0.072	62.7	0.124	65.6	0.163

Age	Educational Attainment									
	<HS		HS		PS		B		>B	
	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV
56	18.8	0.155	35.5	0.106	46.3	0.079	59.0	0.131	63.5	0.171
57	17.0	0.162	31.9	0.112	42.1	0.087	54.5	0.139	60.7	0.181
58	14.9	0.171	28.0	0.120	37.6	0.097	49.1	0.148	57.4	0.192
59	12.8	0.182	24.0	0.128	32.8	0.107	43.4	0.157	53.5	0.206
60	10.7	0.194	20.1	0.137	28.1	0.119	37.4	0.166	48.8	0.222
61	8.6	0.208	16.5	0.146	23.6	0.133	31.4	0.175	43.9	0.239
62	6.8	0.224	13.3	0.155	19.3	0.147	25.8	0.183	38.7	0.258
63	5.2	0.241	10.5	0.165	15.4	0.163	20.8	0.190	33.8	0.277
64	3.9	0.259	8.2	0.174	12.0	0.180	16.5	0.196	28.9	0.296
65	2.9	0.277	6.3	0.183	9.3	0.198	13.0	0.201	24.3	0.316
66	2.1	0.296	4.8	0.192	7.0	0.217	10.3	0.205	20.1	0.335
67	1.6	0.314	3.7	0.200	5.3	0.235	8.2	0.208	16.5	0.353
68	1.1	0.332	2.8	0.208	4.0	0.253	6.6	0.211	13.4	0.371
69	0.8	0.350	2.2	0.215	3.1	0.271	5.3	0.213	10.9	0.388
70	0.6	0.368	1.7	0.222	2.4	0.287	4.3	0.214	8.8	0.403
71	0.5	0.384	1.4	0.228	1.9	0.303	3.6	0.215	7.1	0.417
72	0.3	0.401	1.1	0.234	1.5	0.319	2.9	0.216	5.8	0.430
73	0.3	0.417	0.9	0.239	1.2	0.332	2.4	0.217	4.7	0.442
74	0.2	0.433	0.7	0.244	0.9	0.347	2.0	0.217	3.9	0.453
75	0.1	0.449	0.6	0.249	0.7	0.361	1.6	0.217	3.3	0.462
76	0.1	0.465	0.5	0.253	0.6	0.376	1.3	0.218	2.7	0.471
77	0.1	0.481	0.4	0.257	0.5	0.390	1.0	0.218	2.3	0.479
78	0.1	0.495	0.3	0.260	0.4	0.405	0.8	0.217	2.0	0.485
79	0.0	0.512	0.3	0.263	0.3	0.420	0.6	0.217	1.7	0.493

Notes:

- LFPR estimates are adjusted for marital status so that comparisons across disability severity categories reflect the impact of severity differences and not differences in marital status distribution.

- Age is the age of the respondent for the 2016 Census (May 10, 2016).

- It is important to consider the CV estimate as well as the LFPR estimate.

- Coefficient of variation (CV) = standard deviation / LFPR.

- According to Statistics Canada, a CV between 0.165 and 0.333 indicates high sampling variability and should be accompanied by a warning. A CV of 0.334 or greater indicates very high sampling variability and should be used with great caution.

Table A.5-M: Estimated Labour Force Participation Rates for Males with Very Severe Disability

Age	Educational Attainment									
	<HS		HS		PS		B		>B	
	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV
18	5.4	0.427	13.4	0.192	-	-	-	-	-	-
19	7.9	0.375	17.1	0.171	34.5	0.132	-	-	-	-
20	10.9	0.332	21.0	0.155	38.8	0.122	-	-	-	-
21	14.3	0.296	24.8	0.140	43.0	0.113	-	-	-	-
22	17.7	0.267	28.5	0.128	47.1	0.104	36.9	0.312	-	-
23	21.0	0.244	32.0	0.118	50.9	0.096	42.2	0.284	39.6	0.396
24	24.0	0.225	35.5	0.109	54.5	0.089	47.5	0.258	42.5	0.370
25	26.6	0.210	38.6	0.102	57.7	0.083	52.6	0.233	45.7	0.344
26	28.9	0.199	41.4	0.095	60.4	0.078	57.3	0.211	48.7	0.319
27	30.6	0.191	43.7	0.090	62.8	0.074	61.8	0.191	52.0	0.294
28	32.0	0.185	45.8	0.086	64.7	0.070	65.5	0.175	55.5	0.269
29	33.0	0.180	47.5	0.082	66.3	0.067	68.6	0.161	58.8	0.246
30	33.8	0.177	48.7	0.080	67.7	0.065	71.1	0.150	61.8	0.226
31	34.4	0.174	49.8	0.078	68.8	0.063	72.9	0.142	64.3	0.210
32	34.7	0.173	50.6	0.076	69.6	0.061	74.2	0.136	66.5	0.196
33	35.1	0.171	51.2	0.075	70.4	0.060	75.5	0.130	68.4	0.185
34	35.1	0.171	51.8	0.074	70.8	0.059	76.2	0.127	69.7	0.176
35	34.9	0.172	52.1	0.074	71.6	0.058	77.2	0.123	70.8	0.170
36	34.5	0.174	52.3	0.073	72.0	0.057	77.9	0.119	71.7	0.164
37	34.2	0.175	52.6	0.073	72.4	0.056	78.6	0.116	72.0	0.163
38	33.5	0.178	52.9	0.072	72.8	0.055	79.0	0.115	72.0	0.163
39	33.0	0.180	52.9	0.072	72.8	0.055	79.8	0.111	72.0	0.163
40	32.3	0.183	52.9	0.072	73.3	0.055	80.1	0.109	71.4	0.166
41	31.8	0.185	52.9	0.072	73.3	0.055	80.5	0.108	70.8	0.170
42	31.4	0.187	52.6	0.073	73.3	0.055	80.5	0.108	70.5	0.171
43	30.9	0.189	52.3	0.073	73.3	0.055	80.5	0.108	70.3	0.173
44	30.6	0.191	52.1	0.074	73.3	0.055	80.1	0.109	70.5	0.171
45	30.5	0.192	51.5	0.075	72.8	0.055	79.4	0.113	71.1	0.168
46	30.5	0.192	50.9	0.076	72.4	0.056	78.3	0.118	72.0	0.163
47	30.8	0.190	50.3	0.077	71.6	0.058	77.2	0.123	73.2	0.155
48	30.9	0.189	49.8	0.078	70.8	0.059	75.5	0.130	74.1	0.150
49	31.1	0.189	49.3	0.079	70.0	0.060	73.6	0.139	74.7	0.146
50	31.1	0.189	48.5	0.080	68.8	0.063	71.4	0.148	75.1	0.144
51	30.6	0.191	47.5	0.082	67.4	0.065	69.2	0.158	75.4	0.143
52	30.0	0.194	46.5	0.084	65.3	0.069	66.3	0.171	75.1	0.144
53	29.1	0.198	44.8	0.088	63.1	0.073	63.4	0.184	74.1	0.150
54	27.9	0.204	43.1	0.091	60.1	0.079	60.0	0.199	72.9	0.157
55	26.5	0.211	40.6	0.097	56.4	0.086	56.1	0.217	70.8	0.170

Age	Educational Attainment									
	<HS		HS		PS		B		>B	
	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV	LFPR	CV
56	24.8	0.220	37.7	0.104	52.2	0.094	51.9	0.236	67.8	0.188
57	22.8	0.232	34.4	0.112	47.3	0.104	47.5	0.258	64.1	0.211
58	20.8	0.245	30.7	0.122	41.9	0.115	42.9	0.280	59.4	0.242
59	18.4	0.262	26.8	0.133	36.1	0.129	38.6	0.303	54.4	0.277
60	16.0	0.281	22.9	0.147	30.5	0.143	34.4	0.327	48.4	0.322
61	13.4	0.304	19.2	0.162	25.1	0.158	30.2	0.352	42.3	0.373
62	10.9	0.332	15.7	0.179	20.3	0.174	26.3	0.377	35.8	0.434
63	8.6	0.365	12.6	0.197	16.1	0.191	22.7	0.403	29.6	0.502
64	6.5	0.402	9.9	0.216	12.7	0.207	19.3	0.430	23.9	0.577
65	4.8	0.444	7.7	0.236	9.9	0.223	16.2	0.458	19.1	0.655
66	3.4	0.488	5.9	0.257	7.8	0.238	13.5	0.486	15.2	0.734
67	2.4	0.533	4.6	0.278	6.1	0.252	11.1	0.514	12.4	0.805
68	1.7	0.579	3.5	0.299	4.8	0.266	9.1	0.542	10.2	0.872
69	1.2	0.625	2.7	0.319	3.8	0.278	7.6	0.567	8.5	0.934
70	0.9	0.669	2.1	0.339	3.1	0.290	6.3	0.592	7.3	0.986
71	0.7	0.711	1.6	0.359	2.5	0.300	5.2	0.614	6.4	1.032
72	0.5	0.749	1.3	0.376	2.1	0.310	4.4	0.636	5.6	1.074
73	0.4	0.783	1.0	0.394	1.8	0.319	3.6	0.658	4.9	1.118
74	0.3	0.816	0.8	0.411	1.5	0.328	3.0	0.680	4.4	1.161
75	0.2	0.844	0.7	0.428	1.2	0.336	2.5	0.702	3.9	1.202
76	0.2	0.866	0.5	0.445	1.0	0.345	2.0	0.725	3.4	1.244
77	0.2	0.885	0.4	0.461	0.9	0.353	1.7	0.747	3.1	1.280
78	0.2	0.903	0.4	0.478	0.7	0.362	1.3	0.769	2.8	1.312
79	0.1	0.915	0.3	0.495	0.6	0.372	1.1	0.791	2.5	1.345

Notes:

- LFPR estimates are adjusted for marital status so that comparisons across disability severity categories reflect the impact of severity differences and not differences in marital status distribution.

- Age is the age of the respondent for the 2016 Census (May 10, 2016).

- It is important to consider the CV estimate as well as the LFPR estimate.

- Coefficient of variation (CV) = standard deviation / LFPR.

- According to Statistics Canada, a CV between 0.165 and 0.333 indicates high sampling variability and should be accompanied by a warning. A CV of 0.334 or greater indicates very high sampling variability and should be used with great caution.

Appendix B – Average Earnings Tables

Table B.1-F: Estimated Average Earnings for Females with No Disability

Age	Educational Attainment									
	<HS		HS		PS		B		>B	
	Avg.	CV	Avg.	CV	Avg.	CV	Avg.	CV	Avg.	CV
18	$6,340	0.036	$6,890	0.031	-	-	-	-	-	-
19	$7,840	0.039	$8,970	0.022	$12,610	0.036	-	-	-	-
20	$9,300	0.041	$11,040	0.019	$14,630	0.029	-	-	-	-
21	$10,700	0.043	$13,080	0.019	$16,640	0.025	-	-	-	-
22	$12,020	0.045	$15,080	0.020	$18,610	0.022	$18,610	0.040	-	-
23	$13,270	0.047	$17,030	0.021	$20,520	0.020	$22,690	0.032	$21,080	0.119
24	$14,430	0.048	$18,890	0.022	$22,340	0.019	$26,700	0.028	$24,670	0.092
25	$15,510	0.049	$20,660	0.023	$24,050	0.019	$30,560	0.027	$28,230	0.073
26	$16,520	0.049	$22,340	0.024	$25,620	0.019	$34,180	0.026	$31,720	0.059
27	$17,470	0.049	$23,900	0.024	$27,070	0.019	$37,480	0.026	$35,100	0.050
28	$18,370	0.049	$25,360	0.024	$28,380	0.019	$40,390	0.025	$38,330	0.043
29	$19,230	0.048	$26,710	0.025	$29,590	0.019	$42,890	0.024	$41,360	0.040
30	$20,050	0.048	$27,960	0.025	$30,720	0.019	$45,020	0.023	$44,210	0.037
31	$20,840	0.047	$29,090	0.025	$31,790	0.019	$46,860	0.022	$46,870	0.036
32	$21,590	0.047	$30,130	0.025	$32,810	0.019	$48,490	0.021	$49,360	0.035
33	$22,290	0.046	$31,070	0.025	$33,790	0.018	$50,020	0.021	$51,710	0.035
34	$22,930	0.046	$31,910	0.025	$34,760	0.018	$51,530	0.021	$54,000	0.034
35	$23,520	0.046	$32,670	0.025	$35,720	0.018	$53,060	0.021	$56,290	0.034
36	$24,070	0.045	$33,340	0.024	$36,670	0.018	$54,640	0.022	$58,520	0.035
37	$24,580	0.045	$33,960	0.024	$37,630	0.018	$56,210	0.023	$60,600	0.035
38	$25,060	0.046	$34,540	0.024	$38,570	0.018	$57,710	0.024	$62,430	0.036
39	$25,490	0.046	$35,100	0.024	$39,500	0.018	$59,050	0.024	$63,900	0.036
40	$25,890	0.046	$35,660	0.024	$40,390	0.018	$60,160	0.024	$65,030	0.036
41	$26,250	0.045	$36,220	0.024	$41,240	0.017	$61,060	0.024	$65,880	0.037
42	$26,570	0.045	$36,790	0.025	$42,050	0.017	$61,780	0.025	$66,540	0.038
43	$26,870	0.045	$37,370	0.025	$42,800	0.017	$62,360	0.026	$67,060	0.039
44	$27,140	0.045	$37,970	0.026	$43,480	0.017	$62,890	0.028	$67,570	0.040
45	$27,380	0.044	$38,570	0.027	$44,070	0.017	$63,400	0.030	$68,210	0.041
46	$27,590	0.043	$39,170	0.027	$44,560	0.018	$63,860	0.032	$69,160	0.042
47	$27,790	0.042	$39,760	0.028	$44,970	0.018	$64,210	0.032	$70,380	0.042
48	$27,980	0.040	$40,310	0.027	$45,330	0.018	$64,420	0.032	$71,790	0.042
49	$28,170	0.039	$40,780	0.027	$45,660	0.018	$64,500	0.032	$73,320	0.042
50	$28,350	0.038	$41,150	0.026	$45,980	0.019	$64,440	0.033	$74,980	0.042
51	$28,530	0.037	$41,430	0.026	$46,270	0.020	$64,220	0.033	$76,800	0.041
52	$28,700	0.036	$41,620	0.025	$46,520	0.021	$63,820	0.034	$78,820	0.040
53	$28,860	0.035	$41,720	0.025	$46,690	0.022	$63,180	0.035	$81,020	0.039

Age	Educational Attainment									
	<HS		HS		PS		B		>B	
	Avg.	CV	Avg.	CV	Avg.	CV	Avg.	CV	Avg.	CV
54	$28,990	0.035	$41,690	0.026	$46,740	0.023	$62,300	0.035	$83,400	0.039
55	$29,050	0.035	$41,530	0.028	$46,630	0.024	$61,210	0.036	$85,910	0.041
56	$29,020	0.035	$41,210	0.029	$46,370	0.025	$59,910	0.037	$88,500	0.046
57	$28,900	0.035	$40,710	0.032	$45,980	0.027	$58,390	0.039	$91,090	0.058
58	$28,670	0.037	$40,020	0.034	$45,490	0.029	$56,670	0.042	$93,680	0.075
59	$28,330	0.039	$39,130	0.036	$44,950	0.033	$54,750	0.045	$96,260	0.099
60	$27,890	0.041	$38,080	0.037	$44,380	0.038	$52,650	0.049	$98,810	0.126
61	$27,340	0.044	$36,890	0.039	$43,780	0.044	$50,380	0.054	$101,280	0.158
62	$26,670	0.046	$35,600	0.041	$43,190	0.053	$48,000	0.059	$103,570	0.192
63	$25,900	0.049	$34,240	0.042	$42,630	0.064	$45,550	0.065	$105,590	0.229
64	$25,020	0.053	$32,830	0.044	$42,130	0.079	$43,050	0.071	$107,230	0.265
65	$24,050	0.057	$31,410	0.046	$41,720	0.098	$40,520	0.078	$108,310	0.300
66	$23,010	0.062	$29,990	0.049	$41,410	0.120	$37,980	0.085	$108,550	0.332
67	$21,910	0.069	$28,600	0.054	$41,180	0.145	$35,440	0.094	$107,760	0.360
68	$20,760	0.078	$27,260	0.061	$41,020	0.172	$32,890	0.104	$106,070	0.385
69	$19,590	0.090	$25,970	0.070	$40,900	0.202	$30,350	0.117	$103,690	0.409
70	$18,400	0.104	$24,750	0.082	$40,820	0.234	$27,800	0.132	$100,800	0.432
71	$17,210	0.121	$23,610	0.098	$40,750	0.268	$25,250	0.152	$97,520	0.455
72	$16,030	0.141	$22,540	0.117	$40,710	0.303	$22,700	0.176	$93,970	0.479
73	$14,870	0.164	$21,540	0.140	$40,690	0.340	$20,150	0.207	$90,230	0.505
74	$13,730	0.190	$20,610	0.167	$40,680	0.378	$17,600	0.249	$86,340	0.531

Notes:

- Age is the age of the respondent for the 2016 Census of Population (May 10, 2016).

- Average earnings is based on employment income for calendar year 2015.

- It is important to consider the CV estimate as well as the average earnings estimate.

- Coefficient of variation (CV) = standard deviation / average earnings.

- According to Statistics Canada, a CV between 0.165 and 0.333 indicates high sampling variability and should be accompanied by a warning. A CV of 0.334 or greater indicates very high sampling variability and should be used with great caution.

Table B.1-M: Estimated Average Earnings for Males with No Disability

Age	Educational Attainment									
	<HS		HS		PS		B		>B	
	Avg.	CV	Avg.	CV	Avg.	CV	Avg.	CV	Avg.	CV
18	$8,850	0.034	$7,910	0.035	-	-	-	-	-	-
19	$11,480	0.033	$11,260	0.023	$14,980	0.044	-	-	-	-
20	$14,080	0.033	$14,620	0.018	$18,910	0.032	-	-	-	-
21	$16,610	0.033	$17,960	0.017	$22,820	0.026	-	-	-	-
22	$19,060	0.034	$21,270	0.017	$26,710	0.022	$17,790	0.058	-	-
23	$21,400	0.035	$24,530	0.017	$30,540	0.020	$23,000	0.041	$14,480	0.184
24	$23,630	0.035	$27,680	0.018	$34,280	0.019	$28,190	0.033	$19,810	0.123
25	$25,730	0.036	$30,690	0.018	$37,880	0.019	$33,310	0.028	$25,150	0.089
26	$27,700	0.036	$33,510	0.018	$41,310	0.018	$38,270	0.026	$30,510	0.068
27	$29,540	0.037	$36,130	0.019	$44,520	0.018	$43,060	0.025	$35,880	0.055
28	$31,250	0.038	$38,530	0.019	$47,460	0.018	$47,630	0.025	$41,240	0.047
29	$32,830	0.039	$40,710	0.019	$50,130	0.017	$51,960	0.025	$46,580	0.042
30	$34,290	0.040	$42,670	0.019	$52,510	0.017	$55,980	0.025	$51,890	0.039
31	$35,620	0.041	$44,410	0.019	$54,600	0.016	$59,720	0.025	$57,200	0.038
32	$36,840	0.042	$45,950	0.019	$56,420	0.016	$63,170	0.025	$62,520	0.037
33	$37,940	0.043	$47,300	0.019	$57,970	0.015	$66,380	0.025	$67,830	0.038
34	$38,910	0.044	$48,510	0.020	$59,270	0.015	$69,420	0.025	$73,160	0.039
35	$39,760	0.044	$49,620	0.020	$60,350	0.014	$72,360	0.025	$78,420	0.042
36	$40,510	0.044	$50,660	0.021	$61,250	0.014	$75,230	0.026	$83,540	0.045
37	$41,170	0.044	$51,650	0.021	$62,030	0.014	$78,030	0.027	$88,390	0.047
38	$41,760	0.044	$52,590	0.022	$62,760	0.014	$80,720	0.028	$92,930	0.050
39	$42,270	0.044	$53,480	0.023	$63,470	0.014	$83,310	0.029	$97,140	0.053
40	$42,710	0.044	$54,320	0.025	$64,230	0.014	$85,800	0.030	$101,070	0.055
41	$43,080	0.043	$55,110	0.026	$65,050	0.015	$88,270	0.032	$104,720	0.056
42	$43,390	0.043	$55,840	0.026	$65,960	0.015	$90,790	0.033	$108,030	0.057
43	$43,660	0.042	$56,490	0.027	$66,950	0.016	$93,380	0.035	$110,820	0.056
44	$43,920	0.041	$57,040	0.027	$67,990	0.017	$96,030	0.036	$113,110	0.054
45	$44,190	0.040	$57,490	0.027	$69,080	0.018	$98,670	0.038	$114,920	0.054
46	$44,480	0.039	$57,830	0.026	$70,190	0.019	$101,240	0.040	$116,280	0.053
47	$44,780	0.038	$58,050	0.025	$71,250	0.021	$103,700	0.042	$117,250	0.054
48	$45,090	0.037	$58,140	0.025	$72,200	0.023	$105,980	0.046	$117,940	0.055
49	$45,410	0.036	$58,120	0.024	$72,970	0.025	$108,040	0.050	$118,430	0.056
50	$45,700	0.035	$58,000	0.024	$73,480	0.027	$109,880	0.055	$118,870	0.058
51	$45,920	0.035	$57,800	0.024	$73,660	0.028	$111,410	0.060	$119,400	0.061
52	$46,070	0.034	$57,530	0.025	$73,480	0.029	$112,560	0.066	$119,940	0.064
53	$46,110	0.034	$57,180	0.026	$72,900	0.029	$113,210	0.071	$120,310	0.067
54	$46,060	0.035	$56,720	0.027	$71,900	0.029	$113,280	0.076	$120,220	0.069
55	$45,890	0.036	$56,150	0.029	$70,560	0.028	$112,660	0.080	$119,390	0.070

Age	Educational Attainment									
	<HS		HS		PS		B		>B	
	Avg.	CV	Avg.	CV	Avg.	CV	Avg.	CV	Avg.	CV
56	$45,630	0.037	$55,400	0.030	$68,930	0.026	$111,310	0.083	$117,780	0.070
57	$45,260	0.039	$54,460	0.032	$67,060	0.026	$109,220	0.085	$115,450	0.069
58	$44,790	0.040	$53,330	0.033	$65,030	0.025	$106,410	0.086	$112,440	0.068
59	$44,200	0.041	$52,060	0.035	$62,900	0.025	$103,020	0.086	$108,880	0.067
60	$43,470	0.042	$50,680	0.037	$60,710	0.026	$99,240	0.085	$104,960	0.066
61	$42,570	0.042	$49,220	0.040	$58,490	0.027	$95,220	0.083	$100,880	0.065
62	$41,500	0.042	$47,730	0.043	$56,260	0.029	$91,020	0.081	$96,720	0.065
63	$40,260	0.042	$46,210	0.047	$54,060	0.032	$86,670	0.080	$92,480	0.066
64	$38,870	0.043	$44,660	0.052	$51,900	0.036	$82,220	0.078	$88,180	0.067
65	$37,340	0.043	$43,100	0.057	$49,770	0.041	$77,680	0.078	$83,820	0.070
66	$35,720	0.044	$41,510	0.063	$47,670	0.047	$73,120	0.078	$79,430	0.073
67	$34,020	0.046	$39,890	0.070	$45,600	0.053	$68,560	0.080	$75,100	0.078
68	$32,270	0.048	$38,230	0.077	$43,530	0.060	$64,040	0.083	$70,890	0.083
69	$30,490	0.050	$36,560	0.085	$41,480	0.069	$59,580	0.089	$66,880	0.090
70	$28,690	0.053	$34,880	0.094	$39,430	0.078	$55,180	0.097	$63,110	0.098
71	$26,880	0.057	$33,220	0.103	$37,390	0.088	$50,820	0.109	$59,550	0.108
72	$25,070	0.062	$31,570	0.114	$35,370	0.100	$46,510	0.124	$56,160	0.120
73	$23,260	0.067	$29,950	0.125	$33,350	0.112	$42,250	0.144	$52,900	0.134
74	$21,470	0.074	$28,340	0.139	$31,350	0.126	$38,020	0.169	$49,750	0.151

Notes:

- Age is the age of the respondent for the 2016 Census of Population (May 10, 2016).

- Average earnings is based on employment income for calendar year 2015.

- It is important to consider the CV estimate as well as the average earnings estimate.

- Coefficient of variation (CV) = standard deviation / average earnings.

- According to Statistics Canada, a CV between 0.165 and 0.333 indicates high sampling variability and should be accompanied by a warning. A CV of 0.334 or greater indicates very high sampling variability and should be used with great caution.

Appendix C – Disability Screening Questions

The following questions are about difficulties a person may have doing certain activities. Only difficulties or long-term conditions that have lasted or are expected to last for six months or more should be considered.

Q005 – Do you have any difficulty seeing (even when wearing glasses or contact lenses)?

1. No
2. Sometimes
3. Often
4. Always

Q010 – Do you have any difficulty hearing (even when using a hearing aid)?

1. No
2. Sometimes
3. Often
4. Always

Q015 – Do you have any difficulty walking, using stairs, using your hands or fingers or doing other physical activities?

1. No
2. Sometimes
3. Often
4. Always

Q020 – Do you have any difficulty learning, remembering or concentrating?

1. No
2. Sometimes
3. Often
4. Always

Q025 – Do you have any emotional, psychological or mental health conditions?

In the 2017 CSD, the following on-screen help text was provided with examples of emotional, psychological or mental health conditions: "e.g., anxiety, depression, bipolar disorder, substance abuse, anorexia, etc."

1. No
2. Sometimes
3. Often
4. Always

Q030 – Do you have any other health problem or long-term condition that has lasted or is expected to last for six months or more?

1. No
2. Sometimes
3. Often
4. Always

Q035 – Do you wear glasses or contact lenses to improve your vision?

1. Yes
2. No
3. DK

Q040 – [With your glasses or contact lenses, which/Which] of the following best describes your ability to see?

1. No difficulty seeing
2. Some difficulty seeing
3. A lot of difficulty seeing
4. [You] are legally blind
5. [You] are blind
6. DK

Q045 – At what age did you begin having [difficulty seeing/a seeing condition]?

Min = 0; Max = 121

Q050 – How often does this [difficulty seeing/seeing condition] limit your daily activities?

1. Never
2. Rarely
3. Sometimes
4. Often
5. Always
6. DK

Q055 – At what age did this [difficulty seeing/seeing condition] begin to limit your daily activities?

Min = 0; Max = 121

Q060 – Do you use a hearing aid or cochlear implant?

1. Yes
2. No
3. DK

Q065 – [With your hearing aid or cochlear implant, which/Which] of the following best describes your ability to hear?

1. No difficulty hearing
2. Some difficulty hearing
3. A lot of difficulty hearing
4. [You] cannot hear at all
5. [You] are Deaf
6. DK

Q070 – At what age did you begin having [difficulty hearing/a hearing condition]?

Min = 0; Max = 121

Q075 – How often does this [difficulty hearing/hearing condition] limit your daily activities?

1. Never
2. Rarely
3. Sometimes
4. Often
5. Always
6. DK

Q080 – At what age did this [difficulty hearing/hearing condition] begin to limit your daily activities?

Min = 0; Max = 121

R085 – The following questions are about your ability to move around, even when using an aid such as a cane. Only difficulties or long-term conditions that have lasted or are expected to last for six months or more should be considered. Only consider aids that provide minimal support such as a cane, walking stick or crutches.

Q085 – How much difficulty do you have walking on a flat surface for 15 minutes without resting?

1. No difficulty
2. Some difficulty
3. A lot of difficulty
4. [You] cannot do at all
5. DK

Q090 – How much difficulty do you have walking up or down a flight of stairs, about 12 steps without resting?

1. No difficulty
2. Some difficulty
3. A lot of difficulty
4. [You] cannot do at all
5. DK

Q095 – At what age did you begin having [difficulty walking on flat surfaces/difficulty using the stairs/difficulty walking on flat surfaces and using stairs]?

Min = 0; Max = 121

Q100 – How often [does this difficulty walking/does this difficulty using stairs/do these difficulties] limit your daily activities?

1. Never
2. Rarely
3. Sometimes

4. Often
5. Always
6. DK

Q105 – At what age did [this difficulty walking/this difficulty using stairs/these difficulties walking and using stairs] begin to limit your daily activities?

Min = 0; Max = 121

R110 – The next questions deal with flexibility and dexterity. Only difficulties or long-term conditions that have lasted or are expected to last for six months or more should be considered.

Q110 – How much difficulty do you have bending down and picking up an object from the floor?

1. No difficulty
2. Some difficulty
3. A lot of difficulty
4. [You] cannot do at all
5. DK

Q115 – How much difficulty do you have reaching in any direction, for example, above your head?

1. No difficulty
2. Some difficulty
3. A lot of difficulty
4. [You] cannot do at all
5. DK

Q120 – At what age did you begin having [difficulty bending and picking up an object/difficulty reaching/difficulty bending and picking up an object and difficulty reaching]?

Min = 0; Max = 121

Q125 – How often [does this difficulty bending and picking up an object/does this difficulty reaching/do these difficulties] limit your daily activities?

1. Never
2. Rarely
3. Sometimes
4. Often
5. Always
6. DK

Q130 – At what age did [this difficulty bending and picking up an object/this difficulty reaching/these difficulties bending and picking up an object and reaching] begin to limit your daily activities?

Min = 0; Max = 121

Q135 – How much difficulty do you have using your fingers to grasp small objects like a pencil or scissors?

1. No difficulty
2. Some difficulty
3. A lot of difficulty
4. [You] cannot do at all
5. DK

Q140 – At what age did you begin having difficulty using your fingers to grasp small objects?

Min = 0; Max = 121

Q145 – How often does this difficulty using your fingers limit your daily activities?

1. Never
2. Rarely
3. Sometimes
4. Often
5. Always
6. DK

Q150 – At what age did this difficulty using your fingers to grasp small objects begin to limit your daily activities?

Min = 0; Max = 121

R155 – The following questions are about pain due to a long-term condition that has lasted or is expected to last for six months or more.

Q155 – Do you have pain that is always present?

1. Yes
2. No
3. DK

Q160 – Do you [also/blank] have periods of pain that reoccur from time to time?

1. Yes
2. No
3. DK

Q165 – At what age did you begin having this pain?

Min = 0; Max = 121

Q170 – How often does this pain limit your daily activities?

1. Never
2. Rarely
3. Sometimes
4. Often
5. Always
6. DK

Q175 – At what age did this pain begin to limit your daily activities?

Min = 0; Max = 121

Q180 – When you are experiencing this pain, how much difficulty do you have with your daily activities?

1. No difficulty
2. Some difficulty
3. A lot of difficulty
4. [You] cannot do most activities
5. DK

Q185 – Do you think you have a condition that makes it difficult in general for you to learn? This may include learning disabilities such as dyslexia, hyperactivity, attention problems, etc.

1. Yes
2. No
3. DK

Q190 – Has a teacher, doctor or other health care professional ever said that you had a learning disability?

1. Yes
2. No
3. DK

Q195 – At what age did you begin having a condition that makes it difficult in general for you to learn?

Min = 0; Max = 121

Q200 – How often are your daily activities limited by this condition?

1. Never
2. Rarely
3. Sometimes
4. Often
5. Always
6. DK

Q205 – At what age did this learning condition begin to limit your daily activities?

Min = 0; Max = 121

Q210 – How much difficulty do you have with your daily activities because of this condition?
1. No difficulty
2. Some difficulty
3. A lot of difficulty
4. [You] cannot do most activities
5. DK

Q215 – Has a doctor, psychologist or other health care professional ever said that you had a developmental disability or disorder? This may include Down syndrome, autism, Asperger syndrome, mental impairment due to lack of oxygen at birth, etc.
1. Yes
2. No
3. DK

Q220 – At what age were you diagnosed with a developmental disability or disorder?

Min = 0; Max = 121

Q225 – How often are your daily activities limited by this condition?
1. Never
2. Rarely
3. Sometimes
4. Often
5. Always
6. DK

Q230 – At what age did this developmental disability or disorder begin to limit your daily activities?

Min = 0; Max = 121

Q235 – How much difficulty do you have with your daily activities because of this condition?
1. No difficulty
2. Some difficulty
3. A lot of difficulty
4. [You] cannot do most activities
5. DK

R240 – Again, please answer for any conditions that have lasted or are expected to last for six months or more. Please remember that your answers will be kept strictly confidential.

Q240 – Do you have any emotional, psychological or mental health conditions?

1. Yes
2. No
3. DK

Q245 – [You mentioned earlier that you have an emotional, psychological or mental health condition./blank] At what age did your [condition/emotional, psychological or mental health condition] begin?

Min = 0; Max = 121

Q250 – How often are your daily activities limited by this condition?

1. Never
2. Rarely
3. Sometimes
4. Often
5. Always
6. DK

Q255 – At what age did this mental health condition begin to limit your daily activities?

Min = 0; Max = 121

Q260 – When you are experiencing this condition, how much difficulty do you have with your daily activities?

1. No difficulty
2. Some difficulty
3. A lot of difficulty
4. [You] cannot do most activities
5. DK

Q265 – Do you have any ongoing memory problems or periods of confusion?

1. Yes
2. No
3. DK

Q270 – At what age did you begin having memory problems?

Min = 0; Max = 121

Q275 – How often are your daily activities limited by this problem?

1. Never
2. Rarely
3. Sometimes

4. Often
5. Always
6. DK

Q280 – At what age did these memory problems begin to limit your daily activities?

Min = 0; Max = 121

Q285 – How much difficulty do you have with your daily activities because of this problem?

1. No difficulty
2. Some difficulty
3. A lot of difficulty
4. [You] cannot do most activities
5. DK

Q290 – Do you have any other health problem or long-term condition that has lasted or is expected to last for six months or more?

1. Yes - specify:
2. No

Q295 – At what age did you begin having this health problem or condition?

Min = 0; Max = 121

Q300 – How often does this health problem or condition limit your daily activities?

1. Never
2. Rarely
3. Sometimes
4. Often
5. Always
6. DK

Q305 – At what age did this health problem or condition begin to limit your daily activities?

Min = 0; Max = 121

The Canadian Institute of Actuaries (CIA) is the qualifying and governing body of the actuarial profession in Canada. We develop and uphold rigorous standards, share our risk management expertise, and advance actuarial science to improve lives in Canada and around the world. Our more than 6,000 members apply their knowledge of math, statistics, data analytics, and business in providing services and advice of the highest quality to help Canadian people and organizations face the future with confidence.