

# Appendix to “Heterogeneous Disability Shocks and the Dynamics of Income, Employment, and Partial Insurance.”

By Robert Millard

## 1 A Model of Disability Based on Limitations to Daily Activities

I model disability based on self-reported measures of limitations to daily activities. This has the advantage of honing in on an intermediate step in the mapping from a health condition to an individual’s labour market outcomes. It is often unclear if, or how, a given health condition will influence behaviour. However, focusing on the activity limitations caused by a given health condition reveals if it impairs performance in productive tasks at work. To illustrate, when left untreated, diabetes can result in a substantial physical impairment, which may restrict the set of physically demanding tasks a worker can perform. However, with proper treatment, diabetes may not limit one’s activities or significantly impact work or productivity. Measuring the extent of physical impairment helps to overcome this ambiguity.

I represent disability status using a latent index framework. The “extent” of individual  $i$ ’s disability is modeled as a continuous latent univariate index,  $\hat{d}_i$ , that summarizes the extent of limitation in a set whose elements represent a specific activity of daily living (ADL) chosen by the analyst. Disability status of individual  $i$ ,  $d_i$ , is a binary variable that equals one for an individual when the extent of their disability breaches some threshold,  $\bar{d}_i$ . This threshold is indexed by  $i$ , as the threshold of disability depends on an individual’s unique economic characteristics and environment.<sup>1</sup> That is, disability status is represented as

$$d_i = \begin{cases} 1, & \text{if } \hat{d}_i > \bar{d}_i \\ 0, & \text{otherwise.} \end{cases}$$

I assume that if  $\hat{d}_i = 0$ , an individual is completely uninhibited in performing tasks comprising the specified set of ADLs. The larger the value of this index, the more limited an individual is in performing the set of ADLs. For instance, a mildly sprained ankle would give a lower value to  $\hat{d}_i$  than a broken ankle if the activities include walking or running. If  $\hat{d}_i > \bar{d}_i$ , the individual is considered disabled.<sup>2</sup>

Even this simple representation of disability illustrates the difficulties associated with its measurement and representation.  $\bar{d}_i$  and  $\hat{d}_i$  are private information and are endogenous to the environment, lifestyle, and occupation of the individual. A mild ankle sprain may be more disruptive to the livelihood of a professional athlete than a software engineer.

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<sup>1</sup>For instance, people differ in the sets of tasks making up work, daily life, and their tolerance for dealing with barriers to performing these tasks.

<sup>2</sup>That is, someone with a mild ankle sprain may not be limiting enough for them to consider themselves disabled, whereas a broken ankle requiring crutches may breach this threshold.

Defining  $\hat{d}_i$  based on a chosen set of ADLs helps to address the empirical difficulties associated with the subjectivity of  $\hat{d}_i$  and  $\bar{d}_i$ . I assume the activities are summarized by a vector,  $v_i$ , whose elements are continuous indexes representing the extent of limitation for a specific activity. For instance, an element may represent the extent of limitation in walking on a flat surface for 20 minutes. This vector maps into  $\hat{d}_i$  by a chosen function or metric,  $F : D^v \rightarrow D^d$ , where  $D^j$  is the domain of “j” for  $j \in \{v, d\}$ . The threshold,  $\bar{d}_i$ , can be chosen in terms of  $v$  and the mapping from  $v$  to  $\hat{d}_i$ . For example, one may normalize  $d_i$  and elements of  $v_i$  between 0 and 1. Then  $F$  can be: “if the average of the elements of  $v_i$  is greater than 0.5, then the individual is flagged for disability.” This strategy takes a stance on what constitutes a disability. The definition of disability is relative to the chosen activities, the reported limitation of these activities (observed), the mapping  $F$ , and the choice of  $\bar{d}_i$ .

This framework offers a flexible way to summarize the large variety of disabling conditions and the presence of multiple disabling conditions. For instance, it could be the case that someone may be flagged as disabled if they are severely limited in a given daily activity but uninhibited in all others. Alternatively, someone may be moderately limited in multiple activities, where the combination causes them to be considered disabled (i.e., breach the threshold in the latent index of the extent of disability). In contrast, they may not be flagged if they were only limited in one of these dimensions.<sup>3</sup>

In this paper, I take these components directly from the model used in LISA. LISA derives disability status using self-reported questions on the frequency and magnitude of difficulty associated with performing specific ADLs.<sup>4</sup> These responses to these questions are categorical and are taken as a noisy measure of the elements of  $v$ . I flag disability based on frequency responses exclusively, as there are inconsistencies in questions about magnitude of difficulty across survey waves. The grouping is useful to average out any small measurement error in reporting a continuous number and summarizes the elements of  $v$  while maintaining ordinality.

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<sup>3</sup>This may be accommodated by adding penalties to multiple conditions in the mapping from  $v$  to  $\hat{d}_i$ .

<sup>4</sup>The set of ADL includes mobility, flexibility, memory, dexterity, learning, pain, and mental health.

## 1.1 Sample Survey Questions on Limitations to Daily Activities

Table 1: Survey Questions on Limitations to Daily Activities

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Physical Disability
<i>Kinetic ability</i>
-How much difficulty do you have walking on a flat surface for 15 minutes without resting?
-How much difficulty do you have walking up or down a flight of stairs, about 12 steps without resting?
-How much difficulty do you have reaching in any direction, for example, above your head?
-How much difficulty do you have using your fingers to grasp small objects like a pencil or scissors?
<i>Exclusively Pain</i>
-Do you have pain that is always present?
Mental-Cognitive Disability
<i>Cognitive Functioning</i>
-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..
-Has a teacher, doctor or other health care professional ever said that you had a learning disability?
-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..
-Do you have any ongoing memory problems or periods of confusion? Please exclude occasional forgetfulness such as not remembering where you put your keys.
<i>Exclusively Mental Health</i>
-Do you have any emotional, psychological or mental health conditions? These may include anxiety, depression, bipolar disorder, substance abuse, anorexia, etc..

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Source: Table comes from Grondin, C. (2016). A new survey measure of disability: The Disability Screening Questions (DSQ). Statistics Canada.

Table 2: Correlation Matrix over Types of Activity Limitations.

	Cognitive	Mental	Mobility	Flexibility	Dexterity	Pain
Entire Sample						
Cognitive	1					
Mental	0.3745	1				
Mobility	0.2988	0.2726	1			
Flexibility	0.1766	0.1523	0.2958	1		
Dexterity	0.1593	0.1211	0.2372	0.3212	1	
Pain	0.2271	0.259	0.2155	0.3694	0.2495	1
Age of Onset < 45						
Cognitive	1					
Mental	0.2838	1				
Mobility	0.2108	0.2241	1			
Flexibility	0.1518	0.1106	0.2807	1		
Dexterity	0.088	0.0512	0.1223	0.2222	1	
Pain	0.2242	0.268	0.2148	0.3255	0.1856	1
Age of Onset $\geq$ 45						
Cognitive	1					
Mental	0.4303	1				
Mobility	0.3258	0.304	1			
Flexibility	0.1815	0.1743	0.2919	1		
Dexterity	0.1811	0.1542	0.2574	0.3474	1	
Pain	0.2218	0.2528	0.2054	0.3818	0.2694	1

Table 2 reports the correlation structure over the disaggregated types of activity limitations identified in the data. In relation to the main text, we group mobility, flexibility, and dexterity into kinetic ability. The top panel corresponds to the entire empirical sample of individuals reporting a disability. We see the strongest correlations exist for mobility, flexibility and dexterity. Similarly, mental health and cognitive functioning are closely related. The middle panel conditions on disabilities that onset before the age of 45 and the lower panel corresponds to disabilities that onset older than age 45. We see that the correlations are much stronger when onset occurs later, which is consistent with an accumulation of health shocks as people age.

## 2 T1FF Components of Income and Variable Construction

This section offers more detail about the measures of income and breakdown of personal income in the T1FF. An individual's annual income can be partitioned into market income and income from government transfer payments. This distinction is important for separating resources that are earned through market participation, such as the labour market (wages) or investment market (dividends, savings, investments, ..). Transfer income is associated with publicly provided resources made available to individuals with low or zero earnings. For instance, Employment Insurance (EI) may be available for people who lose their job, or specific barriers or costs that may limit one's ability to provide for themselves or dependents. Disability insurance is available to aid with the costs and barriers to work caused by a disability.

An individual's market income is comprised of income earned from employment but includes other sources. Employment income can be differentiated into wages, salaries and commissions (WSC), self-employment income (SEI), which includes net business income, farming income, fishing, etc., and other forms of employment income (OEI), which may include tips, gratuities, or wage loss replacement plans, such as private disability insurance. Market income also includes interest and investment income, corporate dividends, alimony, limited partnership income, retirement savings plans, and income from private pensions (OTHER).

Government transfer payments combine federal and provincial programs aimed at assisting those with little or no market income. Two of the largest transfer programs are federal EI and Canadian Pension Plan, the latter of which offers supplementary benefits to working-age adults affected by disability (CPP-D). Canada offers a set of transfers and tax credits targeting families at both the federal and provincial levels. Notably, The Canadian Child Benefit (CTIB), which replaced the family allowance (FA) program in 1992, and the child tax credit (CTC) lowers taxes for low-income families. Provincial tax credits (PTXI) and goods and service and harmonized sales tax credits are included in government transfers (GHST). Additionally, each province offers family benefits (FABEN). Government transfers also consist of non-taxable income received through provincially administered social assistance (SA), workers' compensation programs (WC), and net federal supplements, which consist of transfers targeting the elderly (NFSL).<sup>5</sup>

I do not include old age security (OAS) or other programs targeting retirees because the population of interest are not old enough to be eligible. Also, I do not include the working income tax benefit (WITB), which was introduced in 2007 to reduce taxes for individuals earning low levels of income from work. For more details on the types of incomes included in this study and these data, refer to [https://www12.statcan.gc.ca/census-recensement/2016/ref/dict/app-ann/a4\\_1-eng.cfm](https://www12.statcan.gc.ca/census-recensement/2016/ref/dict/app-ann/a4_1-eng.cfm).

## 3 Additional Descriptive Statistics

### 3.1 Reason for Disability Onset

Table 3 displays the reported cause of disability for all disabilities, and separately by the aggregate types. The categories for the reason of onset are not mutually exclusive; as such, the entries in the columns do not sum to one. Aggregate physical disabilities are 10pp more likely to be related to work. Similarly, Table 4 reports the reason for onset by the disaggregated disability types. Like the aggregate types, the activity

<sup>5</sup>Net federal supplements are grouped in a measure of non-taxable income. But the sample of study is not eligible for these transfers.

Table 3: Reason of Disability Onset: Total Disability and Aggregate Types

	Total Disability	Aggregate Physical	Mental-Cognitive	Concurrent
No response	0.062	0.046	0.205	0.043
Existed at Birth	0.049	0.032	0.073	0.072
Disease	0.330	0.321	0.202	0.389
Non Work Related	0.205	0.208	0.109	0.232
Work Related	0.276	0.292	0.193	0.275
Aging	0.212	0.252	0.126	0.165
Undetermined	0.283	0.255	0.342	0.319
Another	0.157	0.115	0.300	0.188

*Note: The sample reflects working age (25-55) Canadians from provinces who reported to have a disability. Survey weights have been applied so the sample reflects the demographic composition of Canada in 2012.*

Table 4: Reason of Disability Onset: Non-Mutually Exclusive Activity Limitations (Non-Mutually Exclusive)

	Mobility	Flexibility	Dexterity	Pain	Cognitive Functioning	Mental Health
No response	0.020	0.017	-	0.052	0.171	0.229
Existed at Birth	0.037	0.033	0.033	0.031	-	0.082
Disease	0.435	0.324	0.475	0.322	0.166	0.205
Non Work Related	0.203	0.232	0.134	0.217	0.177	0.085
Work Related	0.297	0.386	0.303	0.296	0.186	0.205
Aging	0.295	0.260	0.342	0.246	0.233	0.086
Undetermined	0.246	0.245	0.265	0.267	0.269	0.351
Another	0.114	0.121	0.094	0.121	0.288	0.320

*Note: The sample reflects working age (25-55) Canadians from provinces who reported to have a disability. Survey weights have been applied so the sample reflects the demographic composition of Canada in 2012.*

limitations within aggregate physical are 10-20pp more likely to occur at work than cognitive functioning or

mental health types.

### 3.2 Persistence and Severity of Disabilities Measured Retrospectively in LISA

As discussed in Section IV.1, disability onset is based on a retrospective question: “At what age did you first start having difficulty or an activity limitation?” Since disability status is not observed prior to the 2014 survey wave, questions remain regarding the permanence of disability and whether individuals’ disability status fluctuates over time. To shed light on this, Panel A in Table 5 conditions the sample on individuals who report a disability in the 2018 survey wave whose onset preceded the 2014 wave, and reports the share flagged for disability in all three waves (2014, 2016, and 2018), in exactly two waves, or in 2018 only.

Table 5: Persistence of Disability

	All Disability	Physical	Cognitive	Concurrent
<i>Panel A. Conditional on Disability in 2018</i>				
2018 Wave Only	0.193	0.271	0.379	0.081
Two Waves	0.316	0.386	0.262	0.260
Three Waves	0.491	0.342	0.360	0.659
<i>Panel B. Conditional on Disability in 2014</i>				
2014 Wave Only	0.336	0.497	0.466	0.111
Two waves	0.358	0.315	0.300	0.422
Three Waves	0.306	0.188	0.234	0.466

*Notes: Estimation sample are individuals that are flagged for a disability in the 2018 LISA survey wave and whose reported onset was prior to the 2014 survey wave.*

We can see that, overall, our approach to measuring disability reflects conditions that differ in their permanence. Nearly half of all disabilities are reported in all three waves, and one fifth are reported in 2018 only. The more permanent conditions are those reported by individuals with limitations to both their physical and cognitive functioning. Moreover, limitations to cognitive functioning tend to fluctuate more than limitations to physical functioning.

Panel B of Table 5 conditions the sample on individuals reporting a disability in 2014 and reports the share flagged for disability in all three waves, in exactly two waves, or in 2018 only. We can see that the disabilities in Panel A, which are more in line with the measurement approach used in the main text, tend to capture more permanent conditions.

Another potential source of bias is that individuals whose disabilities improve before the survey may not report a prior limitation, leading them to be misclassified as never disabled. If such individuals tended to experience milder disabilities with smaller income effects, this misclassification would bias the estimates upward, overstating the average negative effects of disability onset. To explore this, I consider the conditioning criterion in Panel B of Table 5, individuals who report a disability in the 2014 survey wave and compare those who continue to report the same disability in subsequent waves to those who do not. I define *Persistent* as an indicator equal to one if the respondent reports the same disability in both 2016 and 2018,

Table 6: Global Severity Score: More vs. Less Persistent Disabilities

	(1)	(2)
PD	-0.001 (0.022)	-0.005 (0.022)
Years Limited	No	Yes

Notes: Estimation sample are individuals that report a disability in the 2014 LISA survey wave. Each specification controls for age, age-squared and sex. The specification in column 2 also controls for the number of years limited by 2014.

and zero otherwise.

Table 6 presents OLS regression estimates with a dependent variable measuring disability severity. The 2014 wave of LISA includes a richer set of activity limitation questions that allow for the construction of a global severity score, which is not available in later waves.<sup>6</sup> I therefore restrict the sample to individuals reporting a disability in 2014 to assess whether shorter-term disabilities differ systematically in baseline severity. For example, if non-persistent disabilities are initially less severe, their income effects may be smaller and the main estimates could overstate the average impact of disability onset. Reassuringly, I find little evidence of statistically significant differences in baseline severity between persistent and non-persistent disabilities.

Table 7: Demographics by Disability Persistence

	Age	Sex	Dropout	High School	Some College	College
Persistent	-1.912*** (0.68)	-0.017 (0.04)	0.006 (0.027)	0.020 (0.039)	-0.015 (0.037)	0.044 (0.032)
Persistent Phys	-1.234 (3.069)	-0.016 (0.157)	-0.062*** (0.023)	0.016 (0.172)	-0.186* (0.094)	0.410** (0.159)
Persistent Ment-Cog	0.590 (0.871)	-0.031 (0.06)	0.042 (0.048)	-0.089** (0.042)	0.081 (0.059)	-0.004 (0.040)
Persistent Conc	-2.741*** (1.015)	-0.025 (0.059)	-0.040 (0.039)	0.064 (0.060)	-0.008 (0.054)	0.035 (0.042)

Notes: Estimation sample are individuals that report a disability in the 2014 LISA survey wave. Each specification controls for sex and a polynomial of the number of years limited by 2014.

Next, Table 7 compares demographic characteristics between individuals with and without a persistent disability. In rows two through four, I further condition the analysis on aggregate disability type. *Persistent Phys*, *Persistent Ment-Cog*, and *Persistent Conc* are indicator variables for persistent physical, mental-cognitive, and concurrent disabilities, respectively.

Table 7 shows that, across all disability types, individuals with persistent disabilities are on average

<sup>6</sup>For details on the construction of the global severity score, see Grondin (2016).

Table 8: Outcomes by Disability Persistence

	Married	Wages, Salaries, and Commissions	Labor Force Participation	Government Transfers	Total Family Income
Persistent	0.187 (0.281)	-15923** (6670)	-0.059 (0.039)	1126** (963)	-22000** (9813)
Persistent Phys	0.591 (0.677)	-12313 (9870)	0.160 (0.147)	4599** (1897)	-32862** (15874)
Persistent Ment-Cog	0.479 (0.322)	-17636* (9368)	-0.117** (0.059)	512 (978)	-16314 (12569)
Persistent Conc	-0.512 (0.633)	-2787 (3454)	0.055 (0.060)	-1079 (1615)	-13956 (15854)

*Notes: Estimation sample are individuals that report a disability in the 2014 LISA survey wave. Each specification controls for sex and a polynomial of the number of years limited by 2014 and a polynomial of age by 2014.*

two years younger and are less likely to hold graduate-level credentials. Within disability types, persistent physical disabilities exhibit some differences in educational attainment: lower dropout rates and lower rates of graduate education, but higher rates of college education. This pattern is consistent with a higher risk of physical disability onset among individuals with college degrees, which may correspond to more technically oriented and physically intensive occupations.

Table 8 examines differences in marital status and income among individuals with persistent disabilities. All specifications control for age, sex, education, and years limited. When aggregating across disability types, individuals with persistent disabilities exhibit significantly lower earnings. When conditioning on disability type, this difference is only marginally significant for mental-cognitive disabilities. Individuals with persistent physical disabilities receive higher total government transfers and have lower total family income.

With respect to the paper’s main results, the PSM model helps address these differences in observable characteristics. The matching procedure re-weights observations so that all matching variables, including the outcomes reported in Tables 7 and 8, are balanced between the treatment group (individuals with observed disability onset) and the control group (individuals without a disability or whose onset is not observed). As a result, systematic differences in these pre-onset characteristics are accounted for in the matched analysis.

Finally, Tables 9 and 10 report summary statistics based on the frequency with which individuals report their disability as limiting their activities. I define an indicator, *Frequent*, that equals one if the respondent reports “often” or “always” to the frequency-of-limitation question. The tables condition on having a disability in 2014 and report how outcomes differ for conditions that are more frequent.

First, in Table 9, we can see that frequent disabilities are associated with differences in age, sex, and educational attainment, with more frequent disabilities more commonly associated with lower levels of education. However, much of this is driven by concurrent types, which tend to correlate with the more severe and more persistent types of disabling conditions. In Table 10, we see a larger gradient in WSC and participation between frequent and non-frequent disabilities than we observe for persistent and non-persistent

Table 9: Demographics by Disability Frequency

	Age	Sex	Dropout	High School	Some College	College
Frequent	1.300* (0.662)	-0.092** (0.037)	0.124*** (0.025)	-0.086** (0.03)	0.011 (0.035)	-0.012 (0.029)
Frequent Phys	0.904 (0.868)	-0.049 (0.051)	0.081 (0.037)	-0.070 (0.039)	0.064 (0.05)	-0.047 (0.036)
Frequent Ment-Cog	-2.250 (2.637)	-0.112 (0.137)	0.022** (0.034)	-0.101* (0.077)	0.093 (0.107)	0.096 (0.145)
Frequent Conc	2.871** (1.158)	-0.149** (0.062)	0.172*** (0.038)	-0.149*** (0.055)	-0.035 (0.058)	0.041 (0.046)

Notes: Estimation sample are individuals that report a disability in the 2014 LISA survey wave. Each specification controls for sex and a polynomial of the number of years limited by 2014.

disabilities. Much of the difference is driven by mental-cognitive and concurrent disability types.

Table 10: Outcomes by Disability Frequency

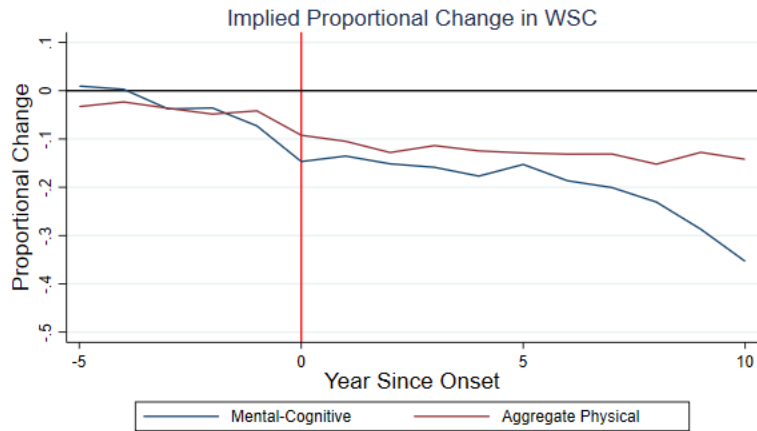
	Married	Wages, Salaries, and Commissions	Labor Force Participation	Government Transfers	Total Family Income
Frequent	0.459* (0.265)	-23182** (9228)	-0.175*** (0.038)	4190*** (843)	-17409 (13719)
Frequent Phys	0.251 (0.29)	-29952 (13164)	-0.161 (0.052)	3212 (817)	-31941 (15892)
Frequent Ment-Cog	-0.555 (0.642)	4920** (13686)	-0.152*** (0.131)	1567*** (2271)	3433** (19585)
Frequent Conc	0.336 (0.332)	-8374* (4300)	-0.119** (0.059)	3891*** (1413)	6064 (16776)

## 4 Additional results

### 4.1 Supplementary main results

I calculate percentage effects where average pre-onset WSC is taken from Table 3 in the main text. Figure 1 plots the implied percentage change in WSC for the aggregate physical and mental-cognitive disability types.

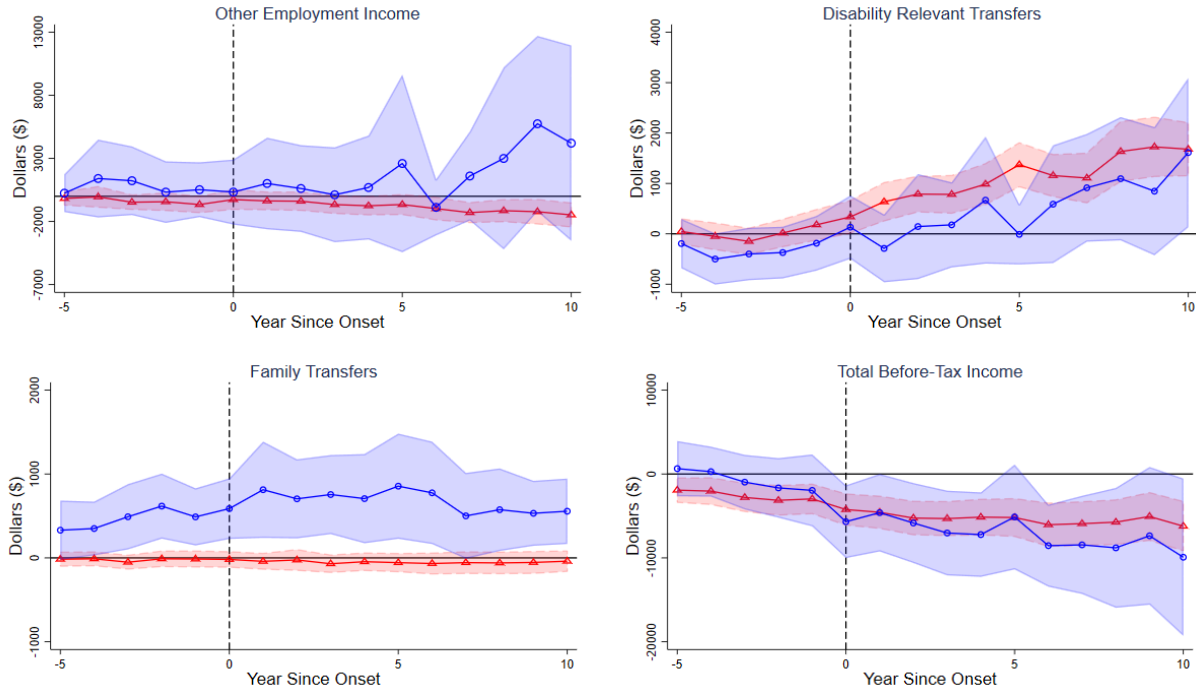
Figure 1: Percentage Effect of Aggregate Disability Types on Wages, Salaries and Commissions



*Note: Implied percentage effects are derived by dividing the point estimates for WSC in Table 19 and Table 20 with the average pre-onset WSC from Table 3 in the main text.*

Figures 2 and 3 report estimates for additional dependent variables. For market income, I present results for an aggregate measure combining self-employment income and other employment income (i.e., all paid employment income excluding wages, salaries, and commissions). These estimates capture the extent to which disability onset is associated with substitution toward alternative forms of employment income. For government transfers, I estimate separate models for transfers targeting individuals with disabilities and transfers targeting families. Finally, I report estimates for total before-tax income and total non-taxable income.

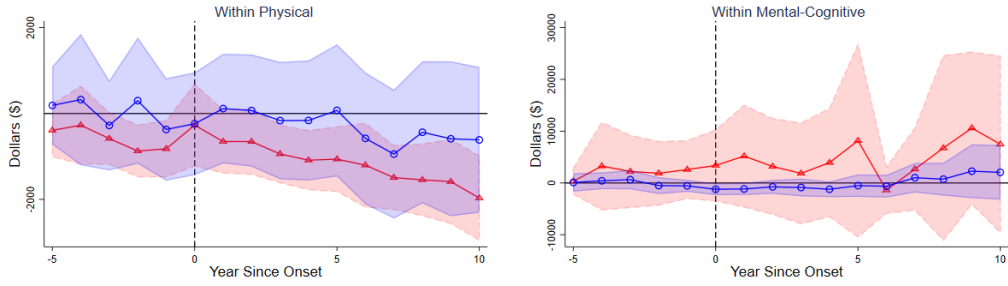
Figure 2: Effect of Aggregate Disability Types on Market Income



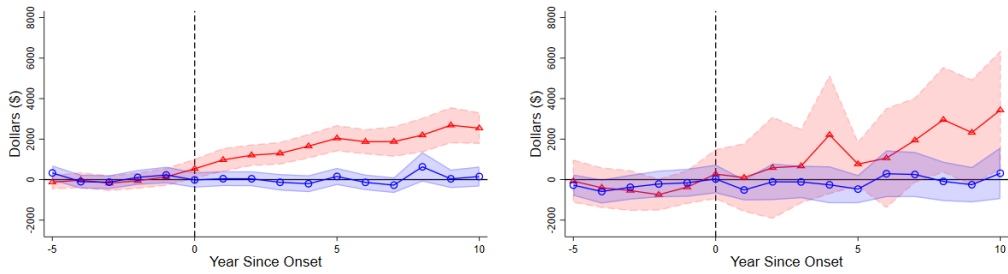
Notes: Figures present point estimates of the effects of disability onset in the  $k \in \{-5, \dots, 10\}$  periods relative to its reported onset. The triangles correspond to estimates of aggregate physical types, and the circles correspond to estimates of mental-cognitive types. The 95% confidence intervals for the point estimates is represented by the dashed and solid edged shaded region for aggregate physical and mental-cognitive, respectively. Total Before-tax Income is top-coded at the 99th percentile. Estimates and standard errors used to generate these figures are reported in Section 7 of this Appendix.

Figure 3: Effect of Aggregate Disability Types on Market Income

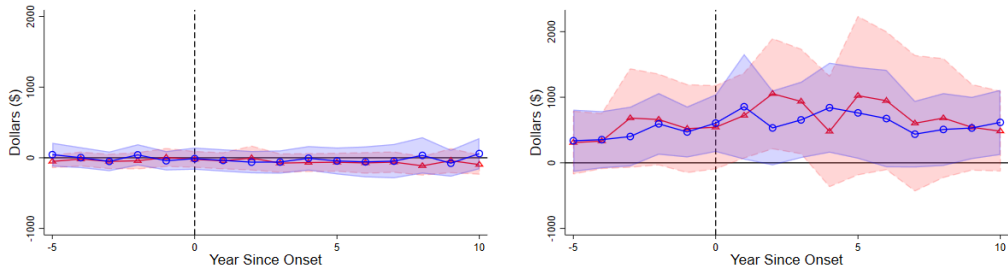
Self and Other Employment Income



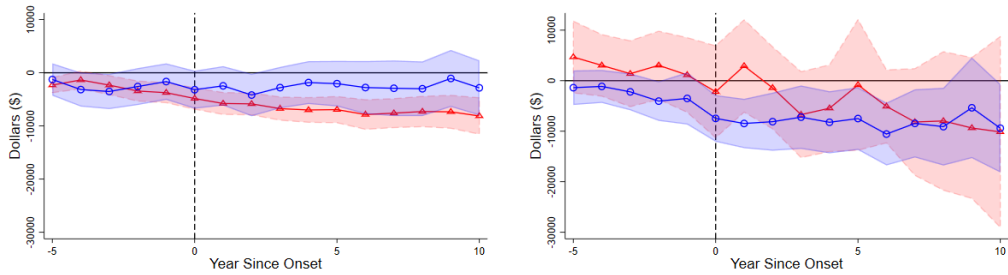
Disability Relevant Transfers



Family Relevant Transfers



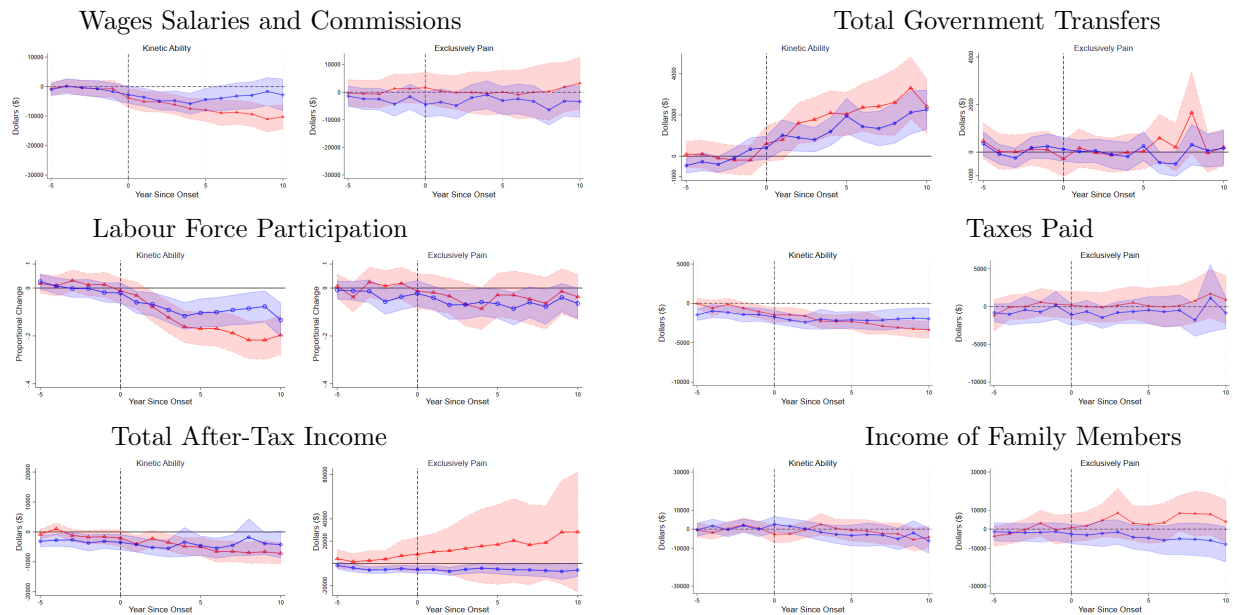
Total Before-Tax Income



Notes: Figures present point estimates of the effects of disability onset in the  $k \in \{-5, \dots, 10\}$  relative to the reported onset year. In the left panel, triangles denote estimates for kinetic ability types, while circles denote estimates for exclusively pain-related types. In the right panel, triangles denote estimates for cognitive functioning types, and circles denote estimates for mental health types. The 95% intervals are shown by shaded regions, with dashed and solid edges corresponding to triangle and circle point estimates, respectively. Data on total before-tax income is top-coded at the 99th percentile. Estimates and standard errors used to generate these figures are reported in Section 7 of this Appendix.

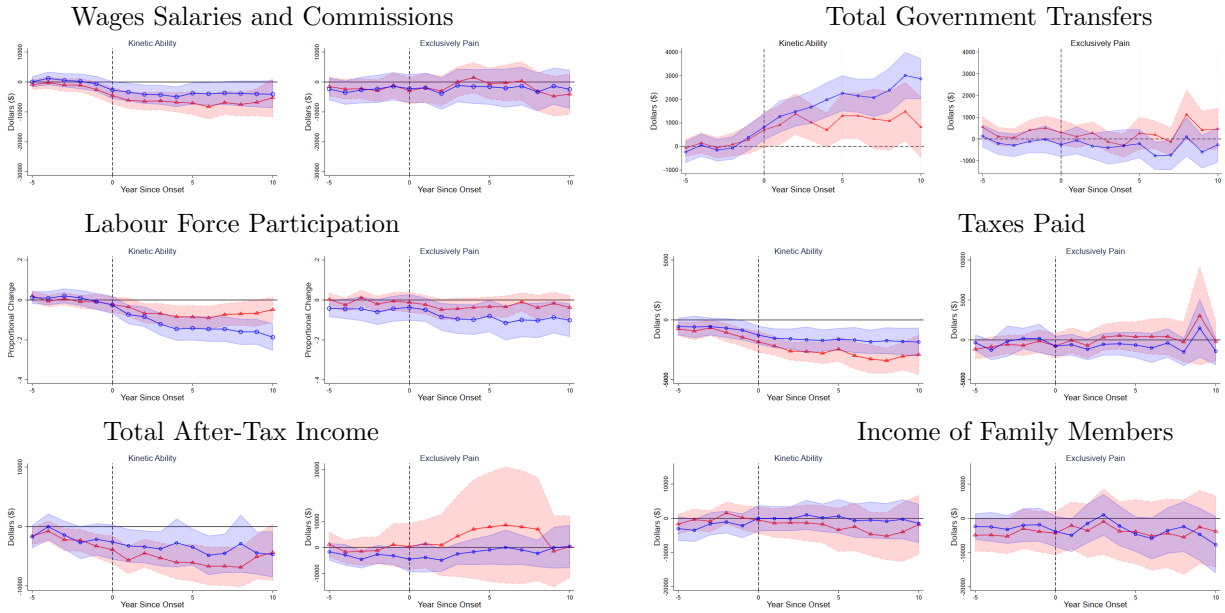
Figures 4–7 present results from an analysis of heterogeneity by education and age of onset for the more granular disability types. Individuals are classified as low education if they have at most a high school diploma and as high education if they report any post-secondary credential. For age of onset, the sample is split according to whether disability onset occurred before age 45 or at age 45 or older. Figures 4 and 5 plot point estimates for kinetic ability and exclusively pain-related disability types, respectively, while Figures 6 and 7 present results for mental health and cognitive functioning disability types.

Figure 4: The Effect of Within Physical Disability Types by Education



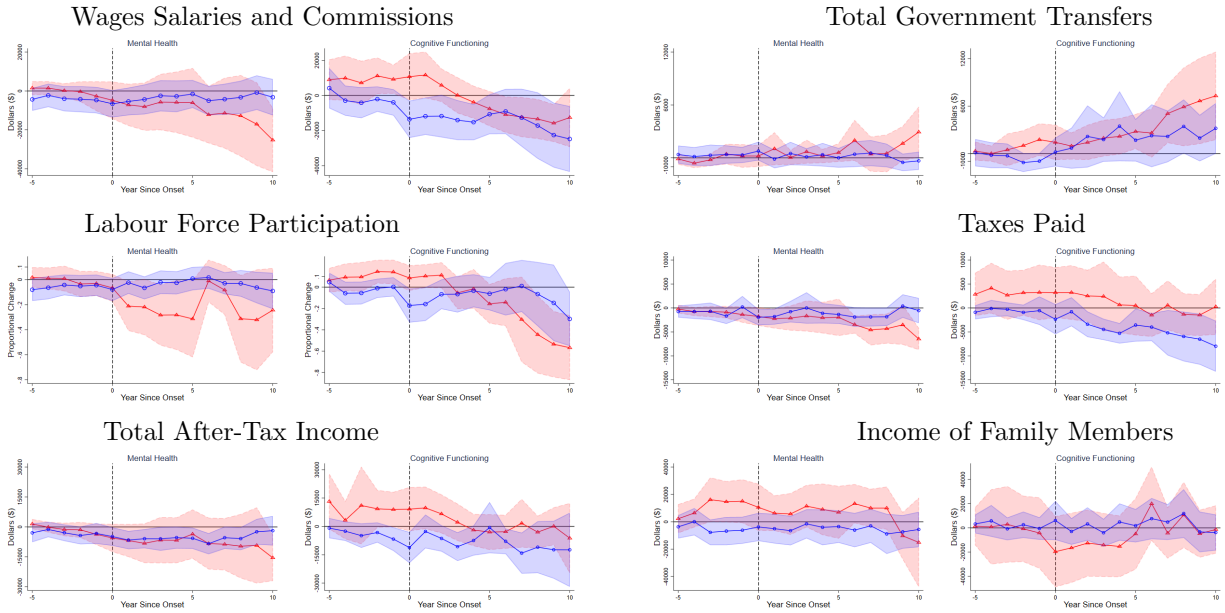
Notes: Figures present point estimates of the effects of disability onset in the  $k \in \{-5, \dots, 10\}$  periods relative to its reported onset. The triangles correspond to the sample with at most a high school degree, and the circles correspond to the sample with post-secondary education. The 95% confidence intervals for the point estimates is represented by the dashed and solid edged shaded region for aggregate physical and mental-cognitive, respectively. Data on WSC, Family Income, and after-tax income are top-coded at the 99th percentile. Estimates and standard errors used to generate these figures are reported in Section 7 of the Appendix.

Figure 5: The Effect of Within Physical Disability Types by Age of Onset



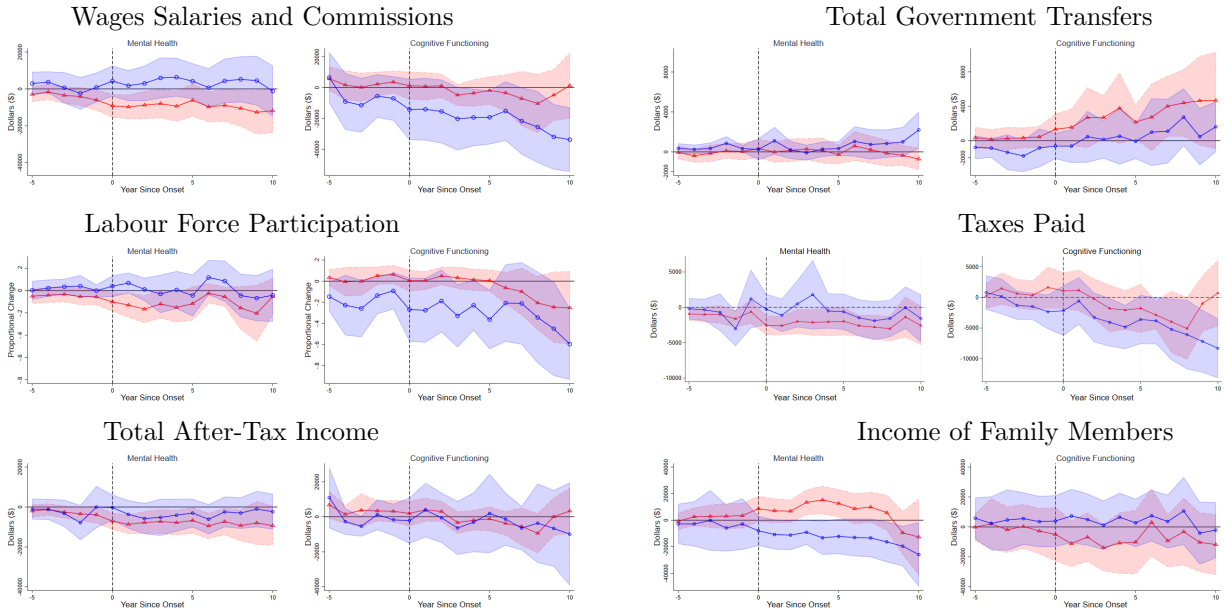
Notes: Figures present point estimates of the effects of disability onset in the  $k \in \{-5, \dots, 10\}$  periods relative to its reported onset. The triangles correspond to the sample whose disability onset before age 45, and the circles correspond to the sample whose disability onset by age 45 or older. The 95% confidence intervals for the point estimates is represented by the dashed and solid edged shaded region for aggregate physical and mental-cognitive, respectively. Data on WSC, Family Income, and after-tax income are top-coded at the 99th percentile. Estimates and standard errors used to generate these figures are reported in Section 7 of the Appendix.

Figure 6: The Effect of Within Mental-Cognitive Disability Types by Education



Notes: Figures present point estimates of the effects of disability onset in the  $k \in \{-5, \dots, 10\}$  periods relative to its reported onset. The triangles correspond to the sample with at most a high school degree, and the circles correspond to the sample with post-secondary education. The 95% confidence intervals for the point estimates is represented by the dashed and solid edged shaded region for aggregate physical and mental-cognitive, respectively. Data on WSC, Family Income, and after-tax income are top-coded at the 99th percentile. Estimates and standard errors used to generate these figures are reported in Section 7 of the Appendix.

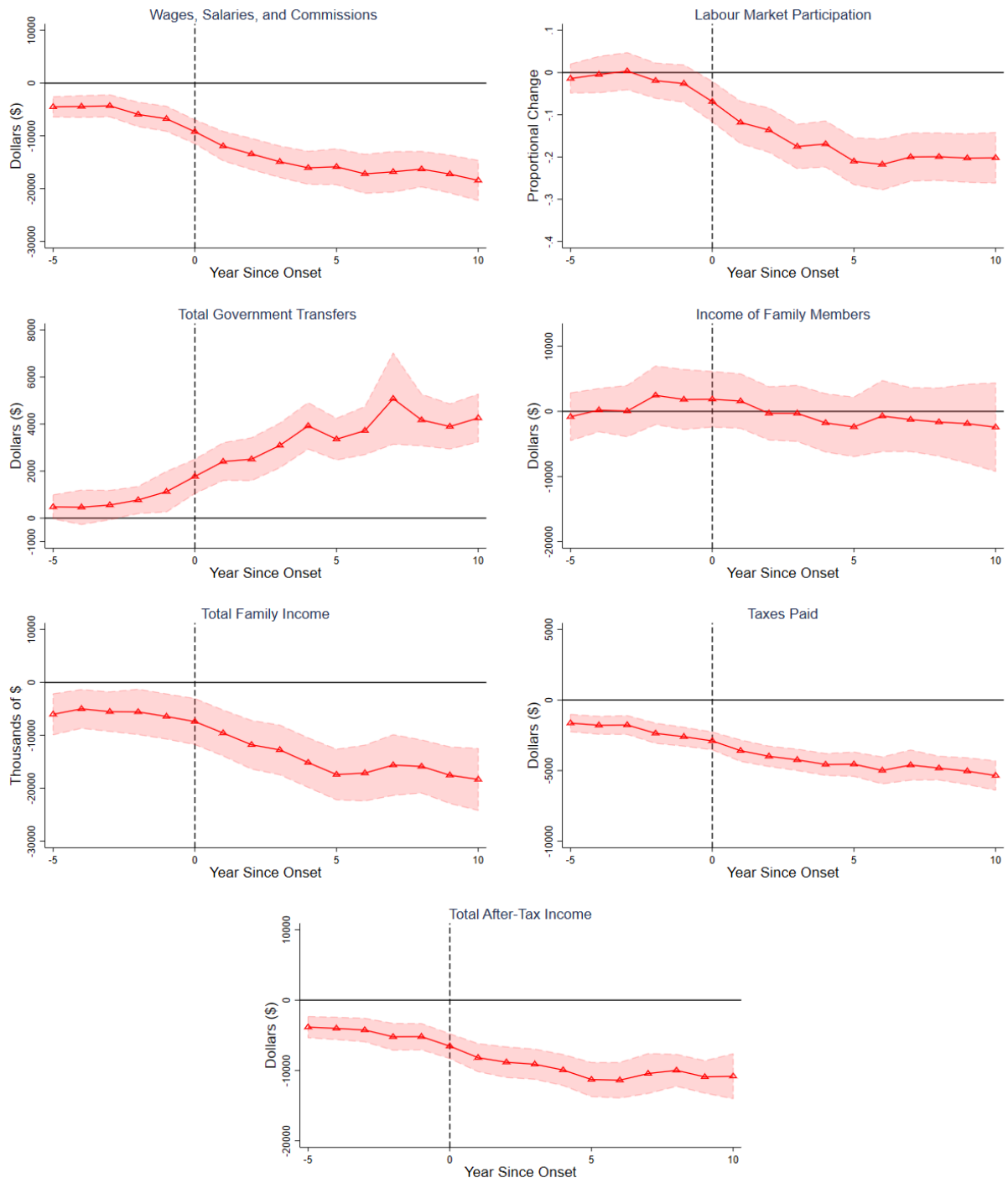
Figure 7: The Effect of Within Mental-Cognitive Disability Types by Age of Onset



Notes: Figures present point estimates of the effects of disability onset in the  $k \in \{-5, \dots, 10\}$  periods relative to its reported onset. The triangles correspond to the sample whose disability onset before age 45, and the circles correspond to the sample whose disability onset by age 45 or older. The 95% confidence intervals for the point estimates is represented by the dashed and solid edged shaded region for aggregate physical and mental-cognitive, respectively. Data on WSC, Family Income, and after-tax income are top-coded at the 99th percentile. Estimates and standard errors used to generate these figures are reported in Section 7 of the Appendix.

Figure 8 reports estimates for a subset of income measures for individuals with concurrent disabilities, defined as the presence of limitations in both physical and mental-cognitive activities. While the data do not allow me to identify which domain of limitation occurred first, the results indicate that the magnitude of the effects is substantially larger for individuals experiencing limitations in multiple domains.

Figure 8: Effect of Concurrent Disability Onset on Personal Incomes



Notes: Figures present point estimates of the effects of disability onset in the  $k \in \{-5, \dots, 10\}$  periods relative to its reported onset. The 95% confidence intervals for the point estimates is represented by the shaded region. WSC, Total Family Income, and Total After-Tax income is top-coded at the 99th percentile.

## 5 Robustness Checks

This section discusses the sensitivity of the results to alternative selection criteria and model specifications. First, I describe the interaction-weighted (IW) and propensity score matching (PSM) estimators. Both models share a similar two-way fixed effects (TWFE) structure but are reweighted to address different identification concerns. I apply the interaction-weighted estimator of Sun and Abraham (2021) to address bias in TWFE models when treatment effects are heterogeneous and treatment timing is staggered. I also use a propensity score matching (PSM) approach, following Collischon, Hiesinger and Pohlan (2023), to address bias related to the non-random nature of disability onset.

Lastly, I describe results from several robustness exercises that condition the sample on alternative selection criteria. These exercises use a standard two-way fixed effects specification and involve estimating the model on smaller subsamples. As a result, some subgroup cell sizes may fall below the minimum disclosure thresholds required for extraction from the Statistics Canada Research Data Center. For this reason, results from these exercises are not reported here but may be made available upon request, subject to disclosure vetting requirements.

### 5.1 Interaction-Weighted

I estimate the effect of disability types in each of the  $k \in \{-5, \dots, 10\}$  years relative to onset using the (IW) estimator proposed by Sun and Abraham (2021).<sup>7</sup> The IW estimator is one among a surging literature of alternatives to dynamic difference-in-difference and event study estimators that are robust to bias occurring in settings with variation in the timing of treatment and with cohort-specific heterogeneity in treatment effects (Borusyak and Jaravel, 2017; De Chaisemartin and d’Haultfoeuille, 2020; Callaway and Sant’Anna, 2021; Goodman-Bacon, 2021; Imai and Kim, 2021; Sun and Abraham, 2021; Baker, Larcker and Wang, 2022; Rambachan and Roth, 2023). My empirical specification explicitly distinguishes heterogeneity in the effect of disability by disaggregated type and by time relative to onset, and the IW estimator is robust to bias that can arise in the presence of treatment effect heterogeneity related to the timing of onset. The IW estimator is a convenient regression-based estimator that has been shown to be as efficient as the alternate proposed estimators for this setting (Baker, Larcker and Wang, 2022).

To build intuition, I describe the estimand of interest and the identifying assumptions.<sup>8</sup> Following Sun and Abraham’s notation, consider a sample of  $i \in \{1, \dots, N\}$  individuals observed over  $t \in \{0, \dots, T\}$  time periods. I observe outcome  $Y_{it}$  and treatment status  $D_{it}^g \in \{0, 1\}$ . In my application,  $D_{it}^g = 1$  if  $i$  has a type  $g$  disability in period  $t$ , and  $D_{it}^g = 0$  otherwise. I assume disabilities are permanent, so treatment is absorbing. The time period of disability onset is given by  $E_i^g = \min\{t : D_{it}^g = 1\}$ , which characterizes the treatment cohort. I represent the observed outcome of individual  $i$ ,  $l$  periods to the onset of disability type  $g$ , if onset occurred in period  $e$  as  $Y_{i,e+l}^g$ , and  $Y_{it}^\infty$  as individual  $i$ ’s counterfactual outcome  $l$  periods relative to the onset of disability type  $g$  if onset never occurred. Now, define the cohort-specific average treatment on the treated  $l$  periods relative to disability onset as,

$$CATT_{e,l}^g = E(Y_{i,e+l}^g - Y_{i,e+l}^\infty | E_i^g = e),$$

<sup>7</sup>I obtain my estimates using the Stata command `eventstudyinteract` (Sun, 2021).

<sup>8</sup>Refer to Sun and Abraham (2021) or Rambachan and Roth (2023) for a more in depth descriptions of this estimator.

where  $CATT_{e,l}^g$  is the building block of the IW estimator. The treatment effect of interest  $l$  periods relative to onset is

$$v_l^g = \sum_e CATT_{e,l}^g \cdot Pr\{E_i = e | E_i \in [-l, T - l]\}.$$

That is, the effect of interest is simply a weighted average of  $CATT_{e,l}^g$  for that relative period. The weights of interest are the shares of the treatment cohorts in the relative period.

For each disability type,  $g$ , and outcome,  $Y_{it}$ , the in estimator is implemented in three steps. The first step is to estimate the cohort-specific treatment on the treated,  $\delta_{le}^g$ , with the following two-way fixed effect regression,

$$Y_{it} = \alpha_i + \gamma_t^g + X_{it}'\beta + \sum_e \sum_l \delta_{le}^g A_{lit}^g A_{ei}^g + \epsilon_{it},$$

where indicator variables for the  $l$  periods relative to treatment interacted with cohort indicators estimate  $CATT_{e,l}$  for all  $e$  and  $l$ .  $A_{lit}^g$  is an indicator variables equaling one in year  $t \in \{1982, \dots, 2017\}$  with  $l \in \{-5, \dots, 10\}$  years relative to onset, and zero otherwise.  $A_{ei}^g$  are indicator variables equaling one in year  $t$  if  $i$  is in treatment cohort  $e$ , and zero otherwise. The specification controls for individual specific fixed effects,  $\alpha_i$ , and time period fixed effects,  $\gamma_t$ . Moreover, the vector  $X_{it}$  controls for observable differences between the treatment and control populations. Lastly,  $\epsilon_{it}$  is a potentially serially correlated error term.

In the second step, weights are calculated for each  $CATT_{e,l}$ ,  $Pr(E_i = e | E_i \in \{-l, T - l\})$ . Last, the IW estimator for the effect of treatment in relative period  $l$  is simply the average of  $CATT_{e,l}$  over  $e$  weighted by  $Pr(E_i = e | E_i \in \{-l, T - l\})$ . The standard errors are clustered at the individual level.

## 5.2 Propensity Score Matching

The onset of a disability is a nonrandom event and may depend on ones characteristics and past choices. To address the bias from the non randomness of disability onset, the second empirical model employs a PSM strategy. PSM mitigates this bias by ensuring that the treatment and comparison groups are similar regarding the observed characteristics that influence the likelihood of disability onset. By matching on the propensity score, PSM mimics a randomized experiment within the observational data, reducing the confounding effect of those characteristics. However, PSM can only control for observed and measured confounders, and bias from unobserved factors may still remain.

Specifically, I use a 5-nearest-neighbor PSM algorithm similar to Collischon, Hiesinger and Pohlen (2023). First, I calculate propensity scores, which give the probability of experiencing treatment (disability onset) conditional on a set of observed characteristics. Second, each individual in the ever-disabled group is matched to a set of individuals who do not experience a disability but have a similar propensity score. This ensures that the treatment and control groups are balanced on the observed characteristics that predict the onset of a disability. With the matched sample, I estimate

$$Y_{it} = \alpha_i + \gamma_t^g + X_{it}'\beta + \sum_l \delta_l^g A_{lit}^g + \epsilon_{it},$$

where  $i$  is individual,  $t$  is year,  $l$  is year relative to onset, and  $g$  is the disability type under consideration. This

specification is similar to that specified above, and  $X_{it}$  contains the same set control variables as described above.

I conduct the matching procedure separately for each disability type, using the same pool of never-disabled individuals as the control group. The procedure proceeds as follows. First, I define the treatment group using individuals' characteristics measured two years prior to their reported disability onset. From the never-disabled sample, I then construct a comparison group based on the propensity score for experiencing disability onset two years in the future conditional on the set of matching variables. Propensity scores are estimated using a logistic regression in which the outcome is disability onset occurring two years in the future. For each treated observation, I select the five closest matches (nearest neighbors) from the control sample based on the estimated propensity score. Outcomes for these five matched controls are used to form the comparison group. This matching process is implemented separately for each disability type, yielding disability-specific propensity scores and matching weights while relying on a common pre-matched control sample and set of covariates.

For matching variables, I use a set of pre-disability average income measures and individual characteristics. To control for labour market factors that affect one's disability risk, I match the previous five-year average participation rate and employment income.<sup>9</sup> I match individuals' education level interacted with age and time since 1982 to control for skill differences. Given the well-known socioeconomic status-health gradient, I control for socioeconomic and family factors using the average government transfer income and family total income in the previous five years. Additionally, I control for family composition, marital status, and sex, each interacted with age and number of years since 1982. Finally, I match based on the province of residence. The results of the matching procedure for each disability type, including the balancing of covariates and the t-scores for the matched and unmatched samples, are shown in Section 6 of the Appendix.

### 5.3 PSM and IW Results

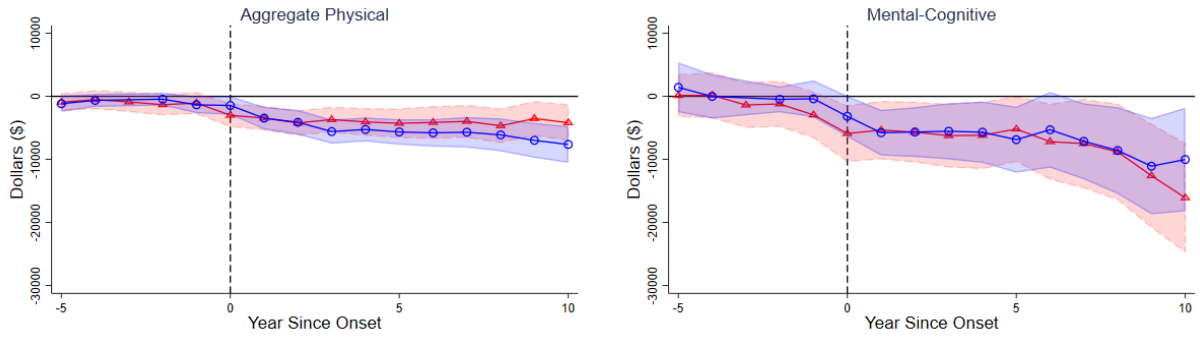
This subsection presents additional figures corresponding to estimates from the IW and PSM models for the disability types examined in the main text, focusing on several supplementary dependent variables. The results are organized as in the main text.

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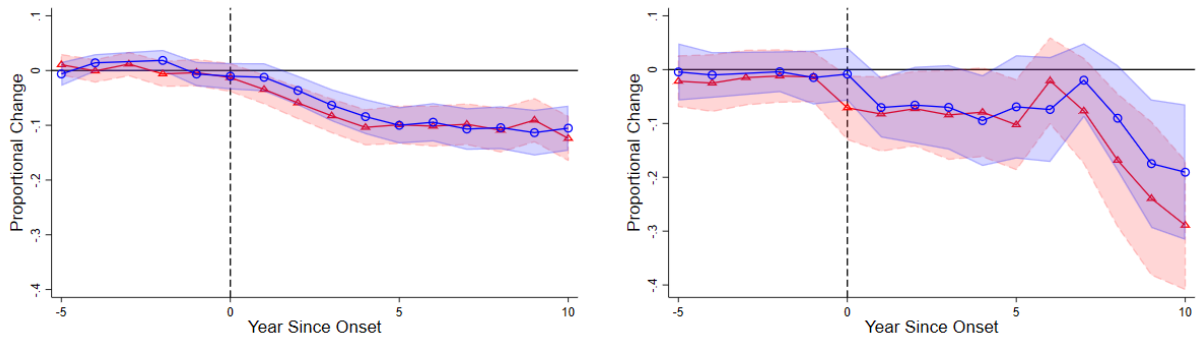
<sup>9</sup>This is the five years prior to the matching year, which would be seven years prior to disability onset.

Figure 9: Effect of Aggregate Disability Types on Market Income

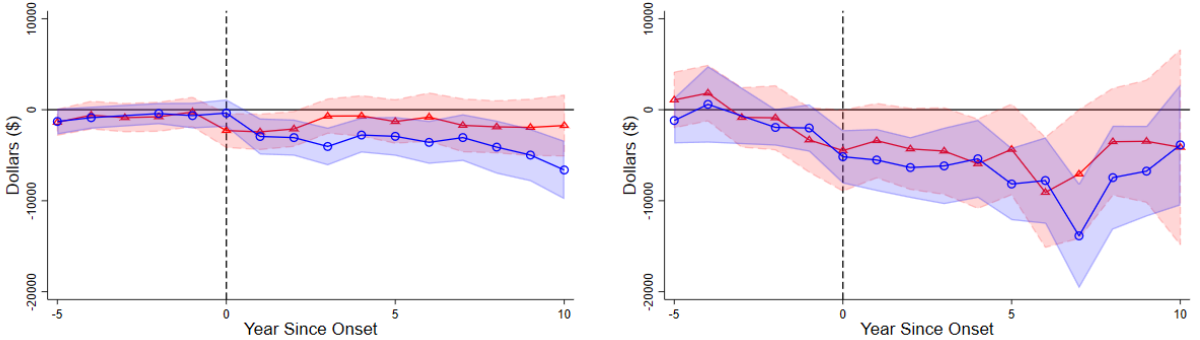
Wages, Salaries, and Commissions (Level)



Labour Market Participation



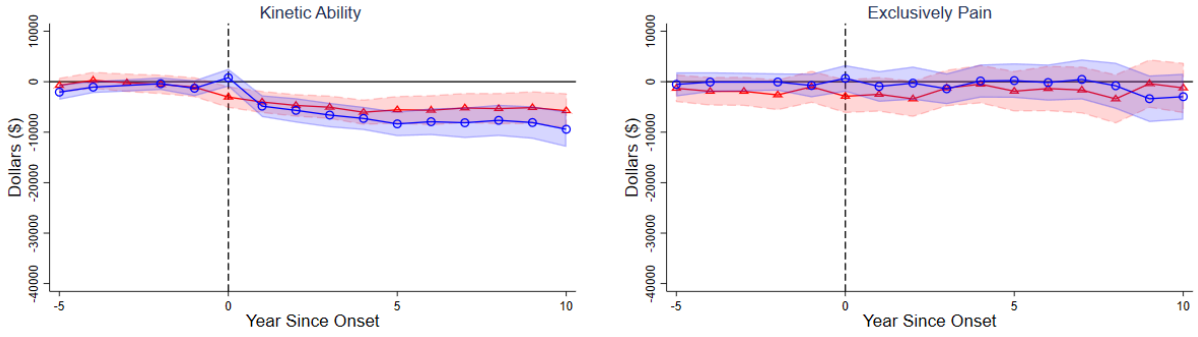
Wages, Salaries, and Commissions for Participants



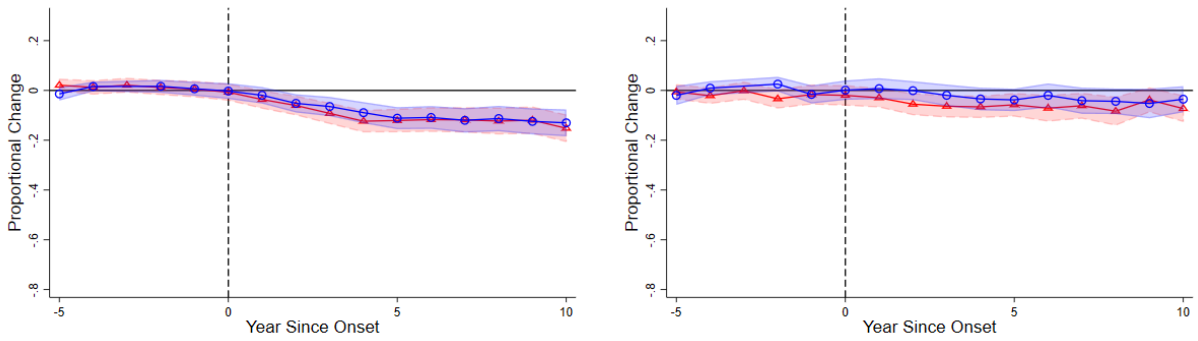
Notes: Figures present point estimates of the effects of disability onset in the  $k \in \{-5, \dots, 10\}$  periods relative to its reported onset. The triangles correspond to estimates from the IW model and the circles correspond to estimates from the PSM model. The 95% confidence intervals for the point estimates is represented by the dashed and solid edged shaded region for the IW and PSM model, respectively. Data on WSC is top-coded at the 99th percentile. Estimates and standard errors used to generate these figures can be made available upon request.

Figure 10: Effect of Disability Types Within Mental-Cognitive on Market Income

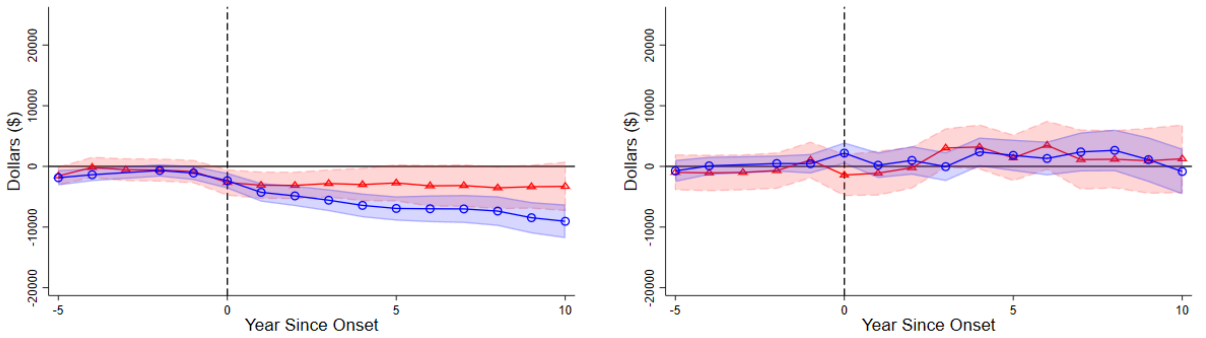
Wages, Salaries, and Commissions (Level)



Labour Market Participation



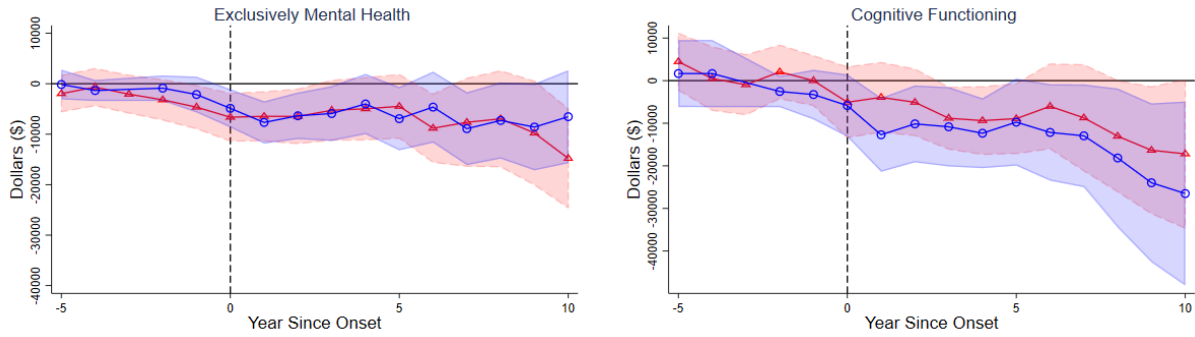
Wages, Salaries, and Commissions for Participants



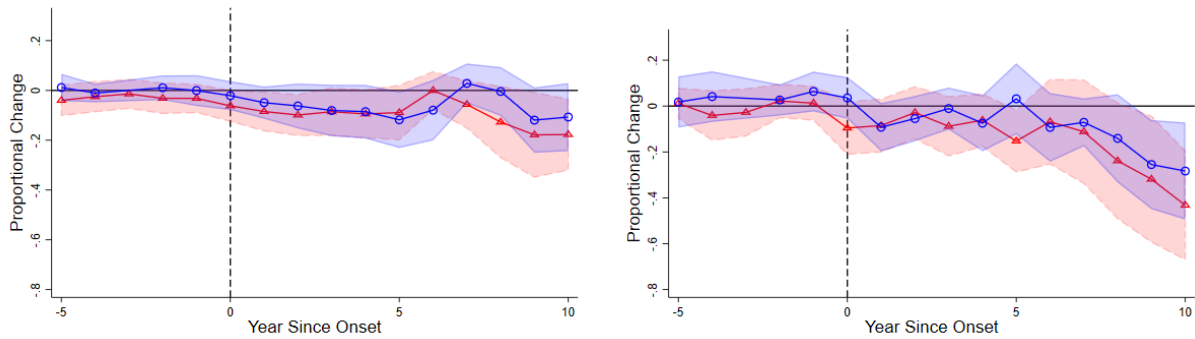
Notes: Figures present point estimates of the effects of disability onset in the  $k \in \{-5, \dots, 10\}$  periods relative to its reported onset. The triangles correspond to estimates from the IW model and the circles correspond to estimates from the PSM model. The 95% confidence intervals for the point estimates is represented by the dashed and solid edged shaded region for the IW and PSM model, respectively. Data on WSC is top-coded at the 99th percentile. Estimates and standard errors used to generate these figures can be made available upon request.

Figure 11: Effect of Disability Types Within Mental-Cognitive on Market Income

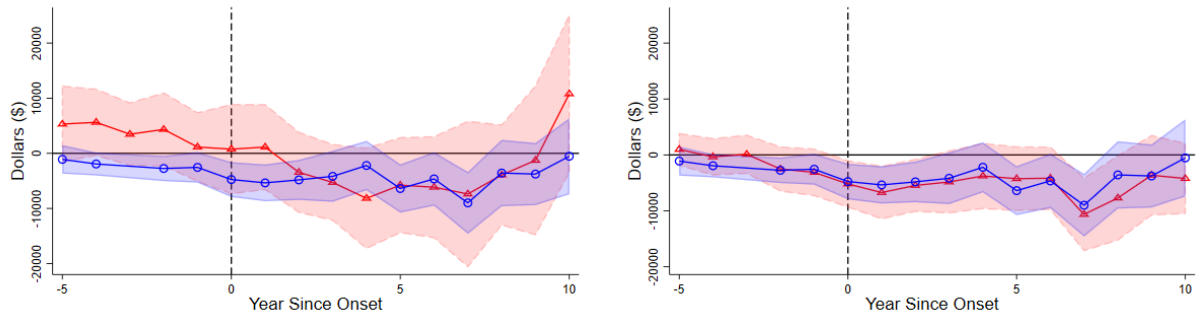
Wages, Salaries, and Commissions (Level)



Labour Market Participation

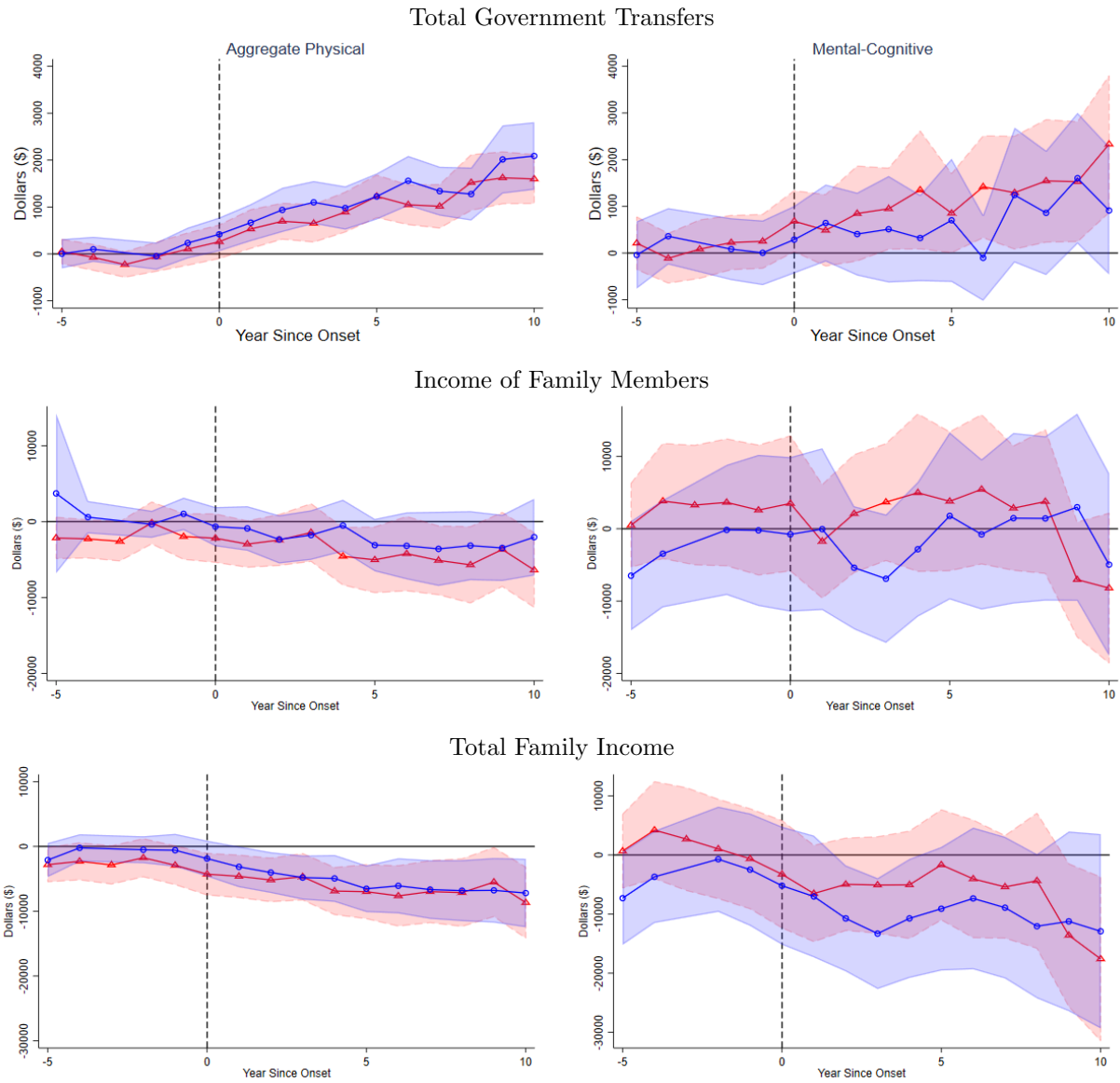


Wages, Salaries, and Commissions for Participants



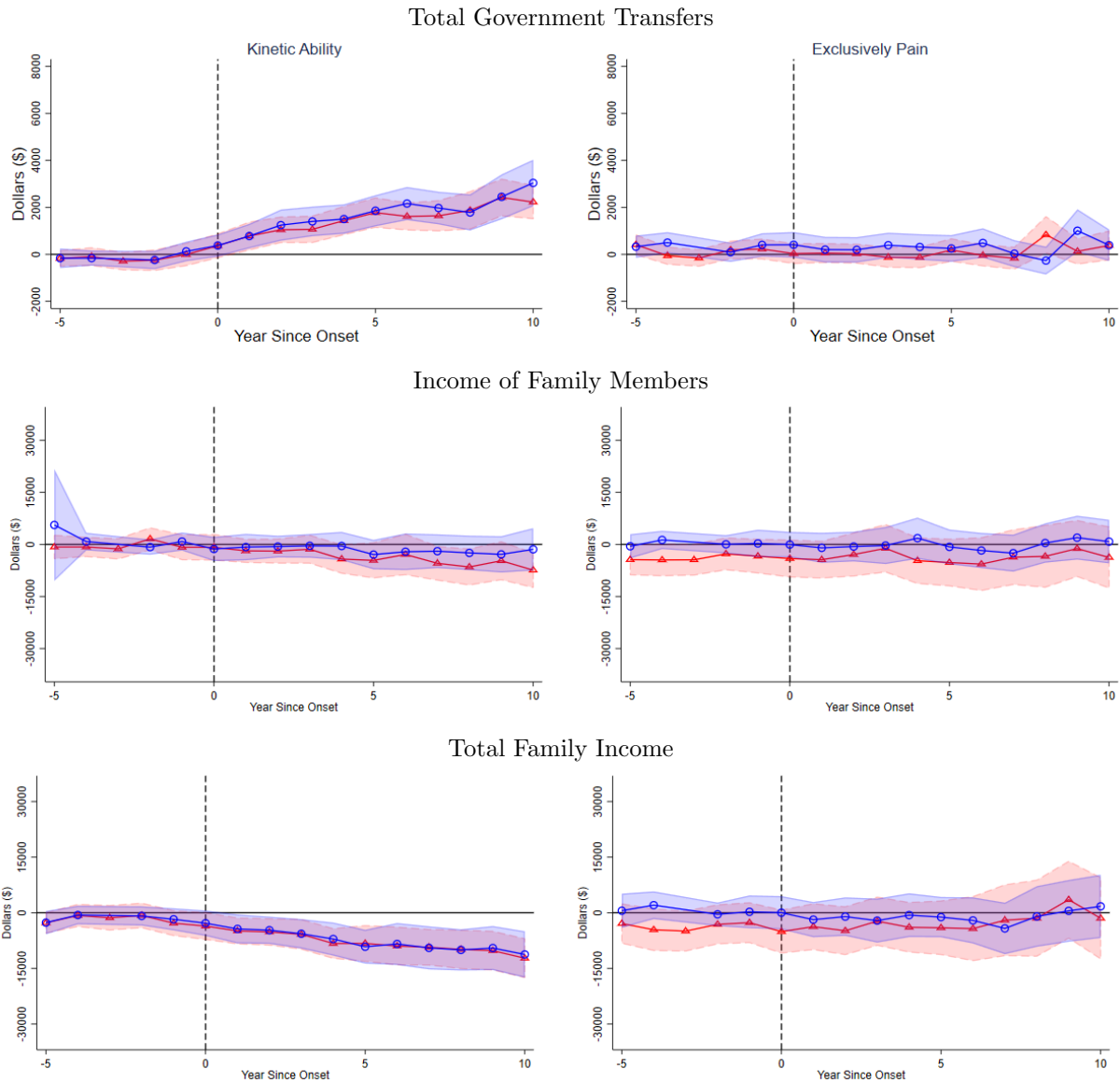
Notes: Figures present point estimates of the effects of disability onset in the  $k \in \{-5, \dots, 10\}$  periods relative to its reported onset. The triangles correspond to estimates from the IW model and the circles correspond to estimates from the PSM model. The 95% confidence intervals for the point estimates is represented by the dashed and solid edged shaded region for the IW and PSM model, respectively. Data on WSC is top-coded at the 99th percentile. Estimates and standard errors used to generate these figures can be made available upon request.

Figure 12: Effect of Aggregate Disability Types on Government Transfers and Family Income



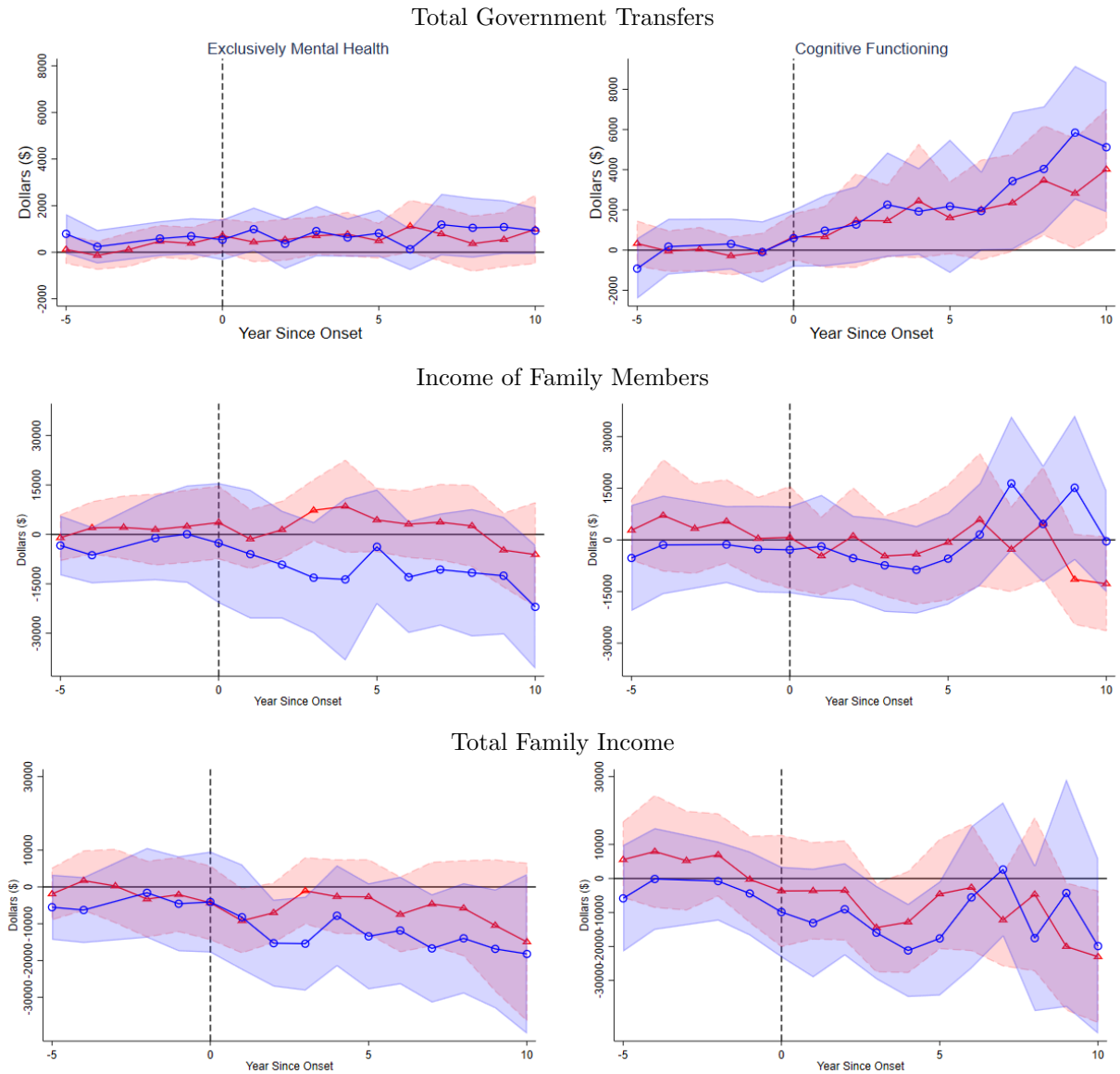
Notes: Figures present point estimates of the effects of disability onset in the  $k \in \{-5, \dots, 10\}$  periods relative to its reported onset. The triangles correspond to estimates from the IW model and the circles correspond to estimates from the PSM model. The 95% confidence intervals for the point estimates is represented by the dashed and solid edged shaded region for the IW and PSM model, respectively. Data on Total Family Income is top-coded at the 99th percentile. Estimates and standard errors used to generate these figures can be made available upon request.

Figure 13: Effect of Disability Types Within Mental-Cognitive on Government Transfers and Family Income



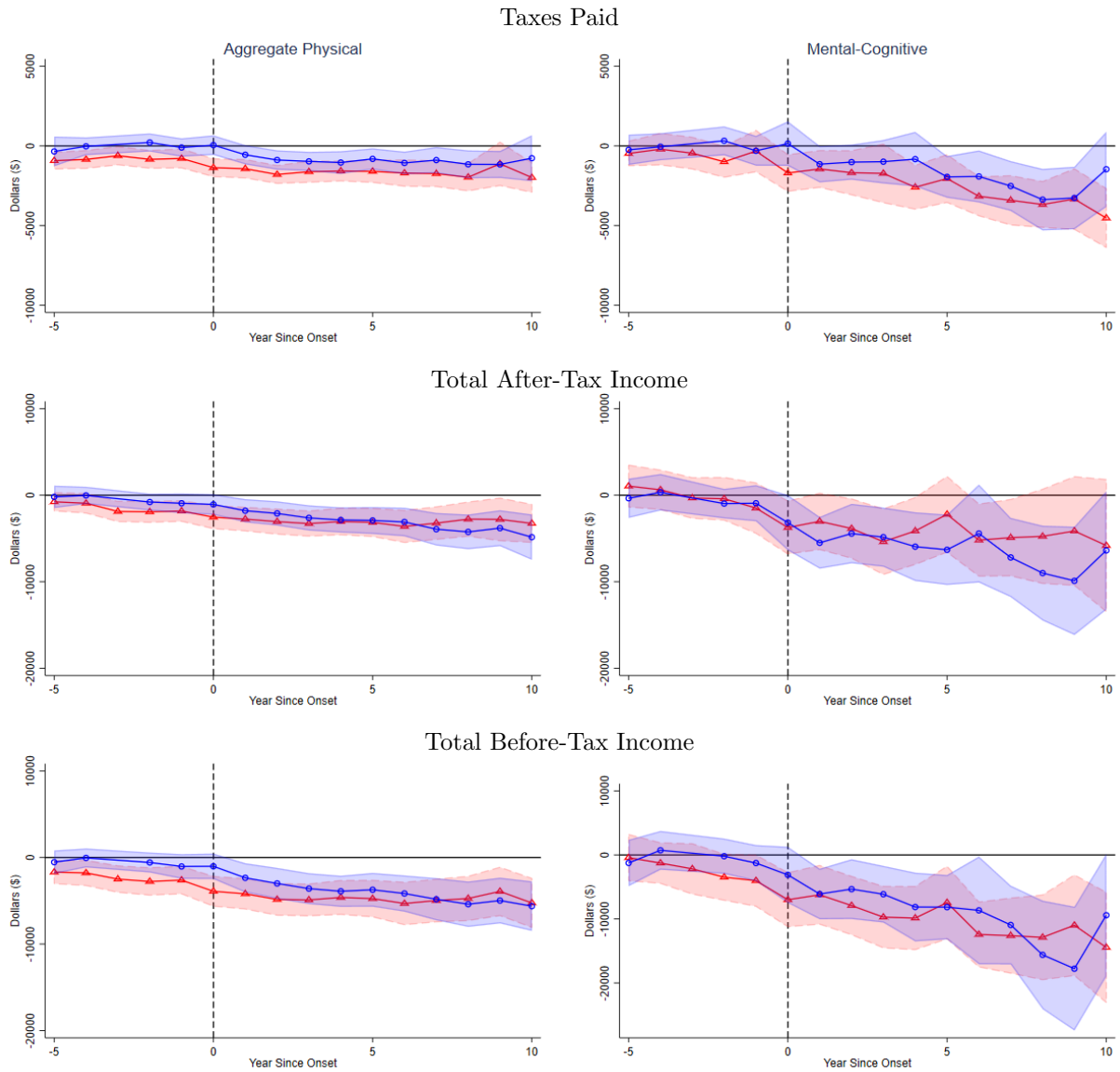
Notes: Figures present point estimates of the effects of disability onset in the  $k \in \{-5, \dots, 10\}$  periods relative to its reported onset. The triangles correspond to estimates from the IW model and the circles correspond to estimates from the PSM model. The 95% confidence intervals for the point estimates is represented by the dashed and solid edged shaded region for the IW and PSM model, respectively. Data on Total Family Income is top-coded at the 99th percentile. Estimates and standard errors used to generate these figures can be made available upon request.

Figure 14: Effect of Disability Types Within Mental-Cognitive on Government Transfers and Family Income



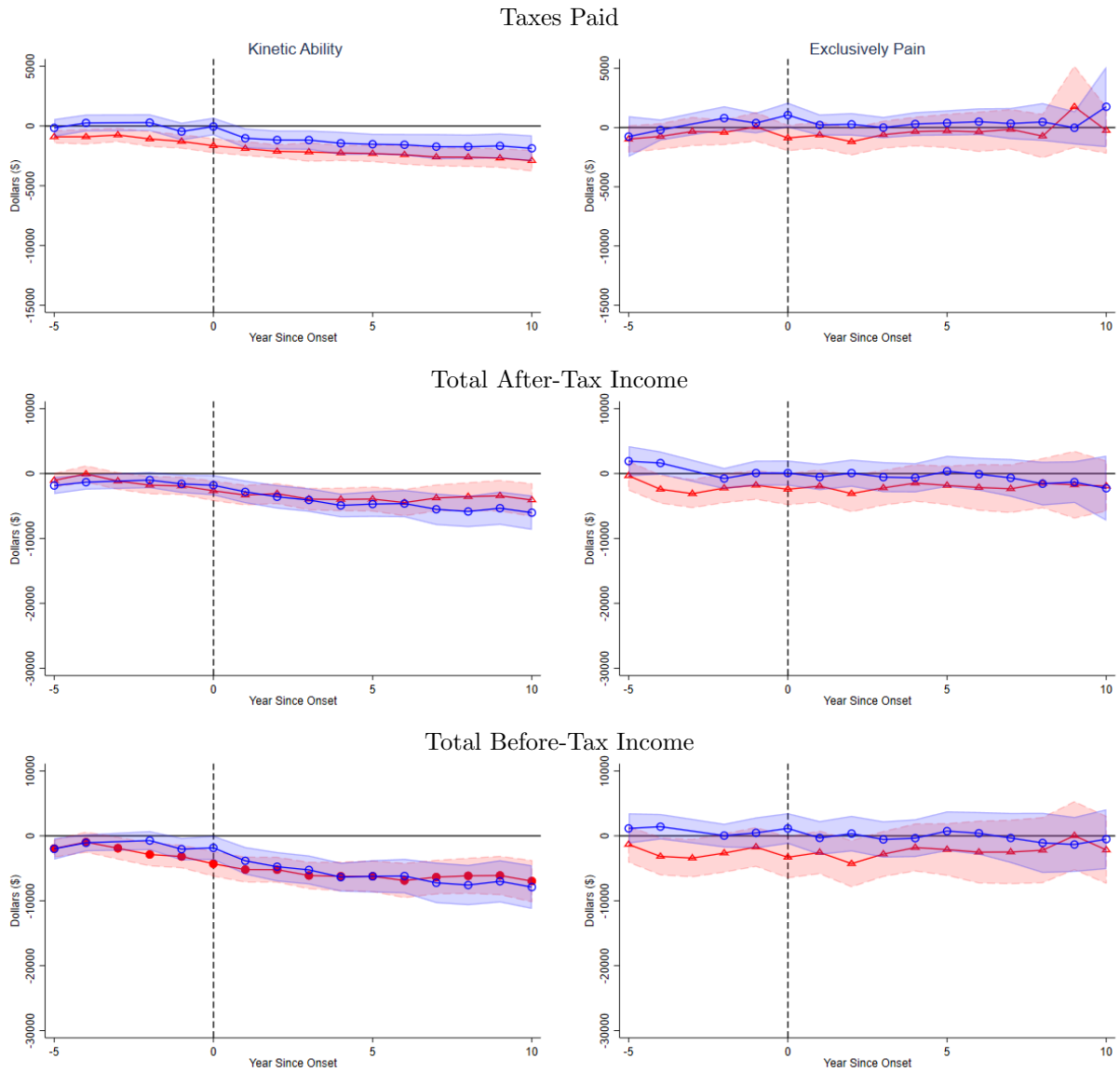
Notes: Figures present point estimates of the effects of disability onset in the  $k \in \{-5, \dots, 10\}$  periods relative to its reported onset. The triangles correspond to estimates from the IW model and the circles correspond to estimates from the PSM model. The 95% confidence intervals for the point estimates is represented by the dashed and solid edged shaded region for the IW and PSM model, respectively. Data on Total Family Income is top-coded at the 99th percentile. Estimates and standard errors used to generate these figures can be made available upon request.

Figure 15: Effect of Disability Types on Taxes Paid and Total After-Tax Income



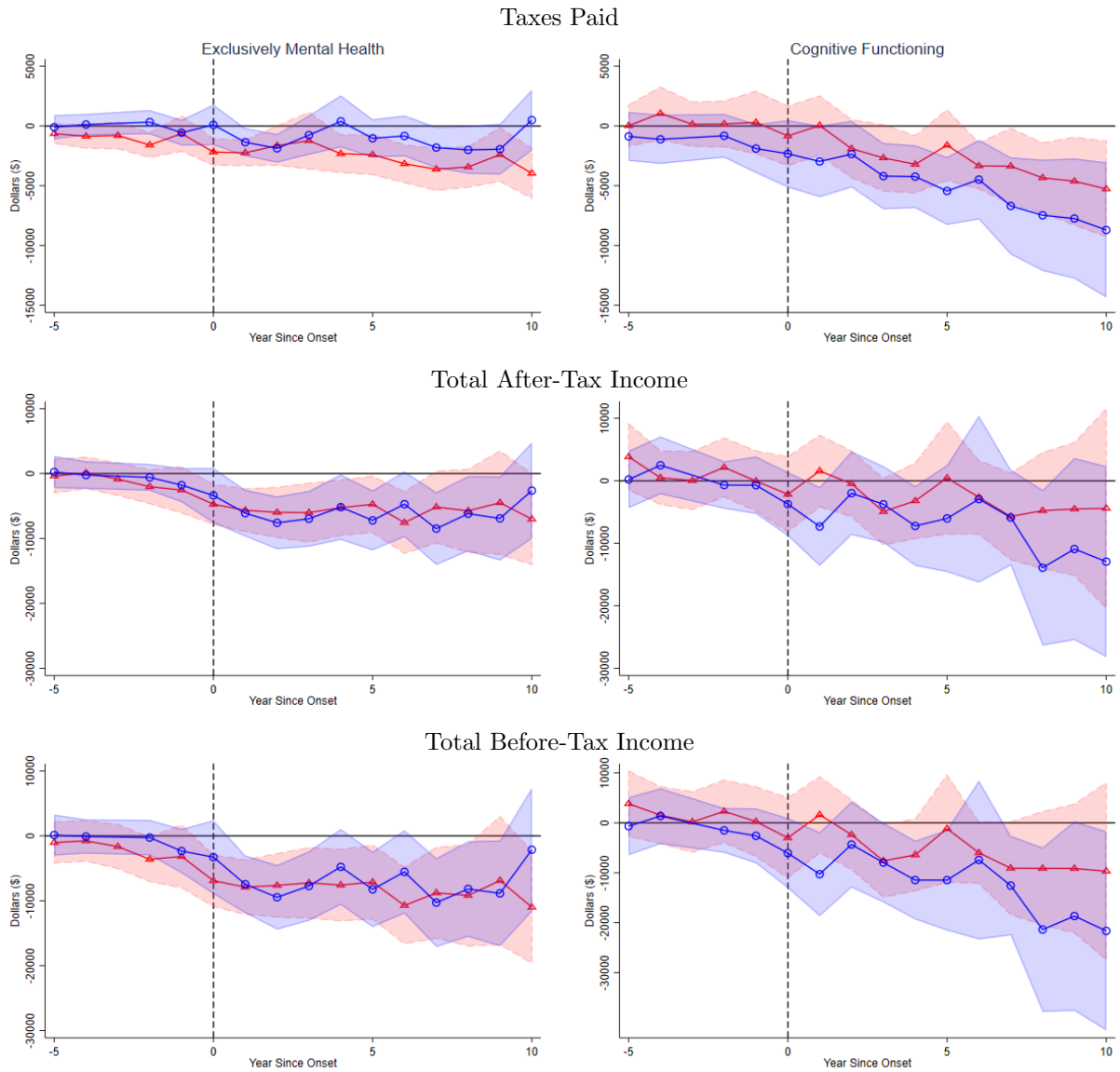
Notes: Figures present point estimates of the effects of disability onset in the  $k \in \{-5, \dots, 10\}$  periods relative to its reported onset. The triangles correspond to estimates from the IW model and the circles correspond to estimates from the PSM model. The 95% confidence intervals for the point estimates is represented by the dashed and solid edged shaded region for the IW and PSM model, respectively. Data on Total before-tax and after-tax income is top-coded at the 99th percentile. Estimates and standard errors used to generate these figures can be made available upon request.

Figure 16: Effect of Disability Types on Taxes Paid and Total After-Tax Income



Notes: Figures present point estimates of the effects of disability onset in the  $k \in \{-5, \dots, 10\}$  periods relative to its reported onset. The triangles correspond to estimates from the IW model and the circles correspond to estimates from the PSM model. The 95% confidence intervals for the point estimates is represented by the dashed and solid edged shaded region for the IW and PSM model, respectively. Data on total before-tax and after-tax income is top-coded at the 99th percentile. Estimates and standard errors used to generate these figures can be made available upon request.

Figure 17: Effect of Disability Types on Taxes Paid and Total After-Tax Income



Notes: Figures present point estimates of the effects of disability onset in the  $k \in \{-5, \dots, 10\}$  periods relative to its reported onset. The triangles correspond to estimates from the IW model and the circles correspond to estimates from the PSM model. The 95% confidence intervals for the point estimates is represented by the dashed and solid edged shaded region for the IW and PSM model, respectively. Data on total before-tax and after-tax income is top-coded at the 99th percentile. Estimates and standard errors used to generate these figures can be made available upon request.

Table 11: Effect of Disability on Before and After-Tax Incomes

	Physical	Mental Cognitive	Kinetic Ability	Cognitive Functioning	Mental Health
<u>Short Run</u>					
Total Before-Tax (\$)	-3318	-6595	-5290	-9100	-7538
Total After-Tax (\$)	-2463	-5408	-4022	-5261	-6612
% Reduced	0.26	0.18	0.24	0.42	0.12
<u>Long Run</u>					
Total Before-Tax (\$)	-4997	-9891	-7183	-16337	-7003
Total After-Tax (\$)	-3987	-7382	-5472	-9316	-5787
% Reduced	0.20	0.25	0.24	0.43	0.17

*Notes: Figures present the average of point estimates of the effects of disability onset in the short run ( $k \in \{1, \dots, 5\}$  periods relative to its reported onset) and long run ( $k \in \{6, \dots, 10\}$  periods relative to its reported onset). Point estimates are obtained from the PSM model. Data on total before-tax and after-tax income is top-coded at the 99th percentile. Estimates and standard errors used to generate these figures are reported in Section 8 of the Appendix.*

## 5.4 Descriptions of Additional Robustness Checks

I conduct an additional set of robustness exercises based on alternate sample selection criteria. These results are not extracted from the data center, but I describe the results in this subsection.

### Years of Post-Onset Observations

In the results of the main text, I exclude individuals that have fewer than four post-onset observations. However, the empirical specification is specified over the ten years post-onset, which creates the concern that censoring in the data may bias estimates of the shorter run effects. That is, estimated effects in the first few post-onset years may reflect effects from disabling conditions that could recover in the long run, and that may be different from long-term disabling conditions. To assess this sensitivity of estimates to this, I drop any individuals with fewer than 10 post-onset observation, re-estimate the empirical models, and compare the treatment paths. I find no meaningful changes in the magnitudes of point estimates. However, due to the reduced sample sizes, standard errors of point estimates are much larger.

### Onset of Disability Reported to be Work-Related

This robustness check relates to concerns about reverse causality. It is possible that poor labour market conditions lead to the onset of work-limiting disabilities, a concern that is particularly relevant for mental health conditions. To evaluate the impact of this potential issue on the results, I exclude all individuals who report that their disability onset is work-related and then re-estimate the models. The results remain largely unchanged, indicating no meaningful difference in the estimates once these individuals are excluded.

### Analysis by Severity

I examined how the results change when distinguishing between more and less severe disability types. My analysis focuses on the 2014 wave of LISA, which offers the most comprehensive set of questions to assess

the extent of activity limitations. This wave classifies severity based on the frequency of limitations and the magnitude of difficulty experienced. The approach assumes that the severity level reported in this survey serves as a proxy for severity at the time of onset. The findings on key labour market income measures align with expectations: the negative impact of a severe physical or mental-cognitive disability is greater than that of a less severe disability. Notably, the adverse effects of a severe mental-cognitive disability are significantly more pronounced than other severity types, often leading to near-total labour market exit in the long run. However, these estimates are highly imprecise due to the reduced sample size resulting from further subgrouping of the disabled population.

## By Sex

With a finite sample, there exists a trade-off between statistical power and the extent of heterogeneity I can explain. This analysis distinguishes heterogeneity in effects across granular disability types in each of the ten years relative to onset for a rich disaggregated set of income measures. However, reasonable arguments can be made that effects differ within other demographic groups. Notably, the sample in this paper combines males and females to enhance statistical power of estimates.

To assess the robustness of the empirical results with respect to sex, I estimate the TWFE model conditional on sex, and compare the estimated path in treatment effects. The general results hold when conditioning on male or female. There are some differences in the magnitude of effects but the sign and dynamic path in effects are similar for each sex. That said, the estimates are considerably less precise due to the smaller sample size. I make note of some of the larger differences in estimated effects between males and females.

First, for the aggregate disability types, physical and mental-cognitive, I find no notable differences in WSC or WSC of participants between males and females. The onset of a physical disability has a greater impact on labour market participation for males than females, but overall trend remains nearly parallel. Within the physical, the onset of a disability related exclusively to pain-related leads to significant labour market exit for males but not for females. This difference is likely due to occupational composition, as males are more likely to be employed in physically demanding jobs.

Next, following the onset of an aggregate physical disability, government transfers increase more for males than for females, though the overall trend remains nearly parallel. This difference is also observed in disability-related transfer programs. I find no significant changes in family transfers following the onset of an aggregate physical disability. Within the aggregate physical category, males receive more government transfers in the short run following the onset of a kinetic ability disability, but female transfer levels converge with those of males over the long run. The mental-cognitive disability category has the smallest sample sizes, leading to the least precise estimates. In contrast, after the onset of a mental-cognitive disability, both treatment paths exhibit a concave shape, with a larger magnitude for females—consistent with the tendency of mothers to claim these benefits more frequently. I find no significant effects of government transfers within the mental-cognitive category.

For other smoothing mechanisms, total family income and family members' income decline more sharply for females than for males following the onset of an aggregate physical disability. The effects on total nontaxable income align with trends in total government transfers. Females experience a steeper short-term decline in both before- and after-tax income following the onset of a mental-cognitive disability, though

their income trajectories eventually converge with those of males. Within the aggregate physical category, family members' income significantly declines for females following the onset of a kinetic ability disability, but not for males. Additionally, the onset of a kinetic ability disability leads to greater declines in before- and after-tax income for males, though the overall trend remains parallel for females. Again, estimates for the mutually exclusive disability types within the mental-cognitive category are largely insignificant.

## **5.5 Balancing of Covariates in Propensity Score Matching Procedure**

This section reports means of the set of matching variables used in the propensity score matching procedure. Tables report the means of the matching variables for the respective treatment group two years prior to its reported onset. Tables also report the means for the unmatched control sample and the matched control groups. To assess the performance of the matching procedure, tables report the p-scores from the mean difference between the treatment group's matching variables and the unmatched control sample. This is contrasted with the p-scores of the mean difference between the treatment group's matching variables and the matched control sample.

Table 12: Balancing of Covariates for Onset of Physical Disability.

	Treated	Control Unmatched	Control Matched	Pre-Match $p >  t $	Post-Match $p >  t $
<i>Average Over Previous 5 Years</i>					
Wages, Salaries and Commissions	32626	37296	32888	0.000	0.809
Labour Market Participation	0.811	0.834	0.815	0.005	0.769
Total Government Transfers	2798	2265	2838	0.000	0.777
Total Family Income	43259	48423	43136	0.002	0.947
<i>Demographics</i>					
Married	0.754	0.734	0.737	0.064	0.250
Number of Children	0.815	0.841	0.750	0.340	0.077
Age	41.812	38.987	41.786	0.000	0.932
Age <sup>2</sup>	1820.4	1629.8	1820.2	0.000	0.992
High school	0.192	0.193	0.208	0.926	0.259
Bachelors	0.137	0.183	0.145	0.000	0.488
Degree Below Bachelors	0.372	0.310	0.353	0.000	0.271
Degree Above Bachelors	0.064	0.098	0.062	0.000	0.829
<i>Interacted with age</i>					
High school	8.074	7.618	8.743	0.259	0.268
Bachelors	5.891	7.235	6.014	0.001	0.815
Degree Below Bachelors	15.743	12.464	15.082	0.000	0.370
Degree Above Bachelors	2.838	4.158	2.773	0.000	0.866
<i>Interacted with age<sup>2</sup></i>					
High school	351.600	321.860	381.980	0.115	0.274
Bachelors	261.770	303.830	259.560	0.021	0.927
Degree Below Bachelors	693.080	533.070	667.180	0.000	0.456
Degree Above Bachelors	129.520	184.490	127.970	0.000	0.933
<i>Interacted with time trend</i>					
Sex	11.852	9.567	11.642	0.000	0.614
Number of Children	13.879	13.172	13.069	0.163	0.263
Married	15.136	14.194	14.961	0.001	0.660
High school	3.861	3.622	4.218	0.255	0.252
Bachelors	2.969	3.834	3.083	0.000	0.688
Degree Below Bachelors	7.654	6.097	7.356	0.000	0.438
Degree Above Bachelors	1.447	2.072	1.471	0.000	0.908
<i>Interacted with squared time trend</i>					
Sex	280.950	225.700	276.300	0.000	0.689
Number of Children	287.790	264.000	274.060	0.055	0.436
Married	355.210	335.870	355.420	0.027	0.986
High school	90.673	84.937	99.777	0.314	0.267
Bachelors	72.463	94.799	75.137	0.000	0.722
Degree Below Bachelors	179.460	145.810	173.740	0.000	0.574
Degree Above Bachelors	36.809	51.310	38.672	0.002	0.748

Note: Table presents the balancing of matching variables in the 5 nearest neighbor matching procedure. The first columns report the means of the matching variables for treatment group (physical disability) two years prior to disability onset. The second and third column report the and means of the matched variables for the entire unmatched control sample and the matched sample. The fourth and fifth column report the p-score for difference in means of treatment groups's matching variables and the unmatched control sample and matched control sample, respectively. In addition, matching was conducted on province of residence, which are omitted from the table due to low sample counts restricting vetting from the RDC.

Table 13: Balancing of Covariates for Onset of Mental-Cognitive Disability.

	Treated	Control Unmatched	Control Matched	Pre-Match $p >  t $	Post-Match $p >  t $
<i>Average Over Previous 5 Years</i>					
Wages, Salaries and Commissions	33398	37393	33375	0.134	0.993
Labour Market Participation	0.858	0.834	0.848	0.246	0.733
Total Government Transfers	2476	2267	2430	0.354	0.886
Total Family Income	49800	48617	49524	0.773	0.952
<i>Demographics</i>					
Married	0.668	0.735	0.681	0.014	0.750
Number of Children	0.865	0.837	0.857	0.685	0.937
Age	36.313	39.114	37.081	0.000	0.349
Age <sup>2</sup>	1403.0	1639.6	1464.3	0.000	0.327
High school	0.158	0.193	0.193	0.157	0.300
Bachelors	0.181	0.184	0.215	0.903	0.333
Degree Below Bachelors	0.344	0.311	0.297	0.262	0.251
Degree Above Bachelors	0.062	0.099	0.059	0.044	0.912
<i>Interacted with age</i>					
High school	5.931	7.639	7.560	0.091	0.221
Bachelors	7.023	7.289	8.727	0.788	0.237
Degree Below Bachelors	12.815	12.534	11.256	0.817	0.331
Degree Above Bachelors	2.348	4.193	2.234	0.022	0.888
<i>Interacted with age<sup>2</sup></i>					
High school	234.940	323.650	313.220	0.061	0.182
Bachelors	503.080	537.270	448.580	0.553	0.433
Degree Below Bachelors	287.050	306.660	371.900	0.668	0.193
Degree Above Bachelors	92.286	186.340	86.978	0.014	0.873
<i>Interacted with time trend</i>					
Sex	13.185	9.715	13.882	0.000	0.532
Number of Children	17.598	13.370	17.211	0.001	0.859
Married	15.216	14.415	14.909	0.265	0.774
High school	3.564	3.678	3.975	0.830	0.593
Bachelors	4.266	3.894	4.846	0.507	0.502
Degree Below Bachelors	7.784	6.192	7.016	0.015	0.455
Degree Above Bachelors	1.517	2.105	1.432	0.171	0.871
<i>Interacted with squared time trend</i>					
Sex	335.590	229.390	350.240	0.000	0.649
Number of Children	411.090	268.310	397.370	0.000	0.813
Married	383.290	341.350	366.840	0.055	0.601
High school	87.479	86.324	92.892	0.936	0.788
Bachelors	112.020	96.349	121.560	0.312	0.690
Degree Below Bachelors	198.680	148.200	182.910	0.005	0.587
Degree Above Bachelors	39.409	52.149	36.514	0.279	0.840

Note: Table presents the balancing of matching variables from a 5 nearest neighbor matching procedure. The first columns report the means of the matching variables for treatment group (mental-cognitive disability) two years prior to disability onset. The second and third column report the and means of the matched variables for the entire unmatched control sample and the matched sample. The fourth and fifth column report the p-score for difference in means of treatment groups's matching variables and the unmatched control sample and matched control sample, respectively. In addition, matching was conducted on province of residence, which are omitted from the table due to low sample counts restricting vetting from the RDC.

Table 14: Balancing of Covariates for Onset of Kinetic Ability Disability.

	Treated	Control Unmatched	Control Matched	Pre-Match $p >  t $	Post-Match $p >  t $
<i>Average Over Previous 5 Years</i>					
Wages, Salaries and Commissions	31573	37296	31034	0.000	0.674
Labour Market Participation	0.812	0.834	0.821	0.034	0.583
Total Government Transfers	2942	2265	3018	0.000	0.678
Total Family Income	42836	48423	42863	0.006	0.992
<i>Demographics</i>					
Married	0.752	0.734	0.735	0.181	0.353
Number of Children	0.845	0.841	0.802	0.919	0.378
Age	42.604	38.987	42.325	0.000	0.000
Age <sup>2</sup>	1880.8	1629.8	1861.5	0.000	0.518
High school	0.206	0.193	0.216	0.305	0.589
Bachelors	0.127	0.183	0.133	0.000	0.714
Degree Below Bachelors	0.369	0.310	0.337	0.000	0.124
Degree Above Bachelors	0.052	0.098	0.047	0.000	0.556
<i>Interacted with age</i>					
High school	8.686	7.618	9.049	0.035	0.640
Bachelors	5.646	7.235	5.816	0.001	0.798
Degree Below Bachelors	16.041	12.464	14.594	0.000	0.123
Degree Above Bachelors	2.316	4.158	2.097	0.000	0.613
<i>Interacted with age<sup>2</sup></i>					
High school	379.090	321.860	394.440	0.016	0.666
Bachelors	257.390	303.830	263.230	0.042	0.852
Degree Below Bachelors	719.240	533.070	653.410	0.000	0.138
Degree Above Bachelors	105.300	184.490	96.724	0.000	0.677
<i>Interacted with time trend</i>					
Sex	11.562	9.567	11.373	0.000	0.714
Number of Children	13.742	13.172	13.044	0.371	0.443
Married	14.477	14.194	14.181	0.434	0.548
High school	4.010	3.622	4.289	0.142	0.476
Bachelors	2.716	3.834	2.844	0.000	0.705
Degree Below Bachelors	7.528	6.097	6.825	0.000	0.138
Degree Above Bachelors	1.081	2.072	1.021	0.000	0.786
<i>Interacted with squared time trend</i>					
Sex	270.870	225.700	266.500	0.000	0.759
Number of Children	279.050	264.000	264.480	0.333	0.503
Married	331.950	335.870	328.580	0.721	0.814
High school	92.507	84.937	100.380	0.290	0.440
Bachelors	65.261	94.799	69.230	0.000	0.659
Degree Below Bachelors	175.320	145.810	158.970	0.001	0.189
Degree Above Bachelors	25.987	51.310	25.499	0.000	0.934

Note: Table presents the balancing of matching variables in the 5 nearest neighbor matching procedure. The first columns report the means of the matching variables for treatment group (kinetic ability disability) two years prior to disability onset. The second and third column report the and means of the matched variables for the entire unmatched control sample and the matched sample. The fourth and fifth column report the p-score for difference in means of treatment groups's matching variables and the unmatched control sample and matched control sample, respectively. In addition, matching was conducted on province of residence, which are omitted from the table due to low sample counts restricting vetting from the RDC.

Table 15: Balancing of Covariates for Onset of Mental Health Disability.

	Treated	Control Unmatched	Control Matched	Pre-Match $p >  t $	Post-Match $p >  t $
<i>Average Over Previous 5 Years</i>					
Wages, Salaries and Commissions	31996	37393	32269	0.092	0.931
Labour Market Participation	0.860	0.834	0.841	0.290	0.574
Total Government Transfers	2471	2267	2572	0.451	0.803
Total Family Income	48857	48617	50122	0.961	0.826
<i>Demographics</i>					
Married	0.670	0.735	0.661	0.050	0.858
Number of Children	0.832	0.837	0.821	0.953	0.925
Age	35.698	39.114	36.674	0.000	0.320
Age <sup>2</sup>	1358.1	1639.6	1432.3	0.000	0.319
High school	0.134	0.193	0.207	0.046	0.068
Bachelors	0.184	0.184	0.188	0.998	0.935
Degree Below Bachelors	0.363	0.311	0.287	0.135	0.126
Degree Above Bachelors	0.061	0.099	0.061	0.092	1.000
<i>Interacted with age</i>					
High school	5.017	7.639	8.024	0.031	0.056
Bachelors	6.805	7.289	7.111	0.684	0.849
Degree Below Bachelors	13.419	12.534	10.797	0.544	0.172
Degree Above Bachelors	2.268	4.193	2.419	0.047	0.879
<i>Interacted with age<sup>2</sup></i>					
High school	197.350	323.650	330.110	0.026	0.054
Bachelors	268.570	537.270	427.830	0.830	0.254
Degree Below Bachelors	522.360	306.660	288.950	0.488	0.776
Degree Above Bachelors	87.296	186.340	98.803	0.032	0.783
<i>Interacted with time trend</i>					
Sex	14.352	9.715	14.400	0.000	0.971
Number of Children	17.592	13.370	16.872	0.006	0.788
Married	15.626	14.415	14.642	0.161	0.451
High school	3.123	3.678	4.248	0.385	0.222
Bachelors	4.480	3.894	4.455	0.384	0.981
Degree Below Bachelors	8.257	6.192	6.678	0.008	0.203
Degree Above Bachelors	1.548	2.105	1.478	0.281	0.915
<i>Interacted with squared time trend</i>					
Sex	365.360	229.390	361.700	0.000	0.925
Number of Children	418.460	268.310	394.150	0.000	0.736
Married	399.130	341.350	361.220	0.028	0.322
High school	79.291	86.324	99.037	0.683	0.420
Bachelors	119.930	96.349	117.430	0.206	0.933
Degree Below Bachelors	211.960	148.200	173.390	0.003	0.272
Degree Above Bachelors	40.821	52.149	38.061	0.424	0.877

Note: Table presents the balancing of matching variables in the 5 nearest neighbor matching procedure. The first columns report the means of the matching variables for treatment group (mental health disability) two years prior to disability onset. The second and third column report the and means of the matched variables for the entire unmatched control sample and the matched sample. The fourth and fifth column report the p-score for difference in means of treatment groups's matching variables and the unmatched control sample and matched control sample, respectively. In addition, matching was conducted on province of residence, which are omitted from the table due to low sample counts restricting vetting from the RDC.

Table 16: Balancing of Covariates for Onset of Cognitive Functioning Disability.

	Treated	Control Unmatched	Control Matched	Pre-Match $p >  t $	Post-Match $p >  t $
<i>Average Over Previous 5 Years</i>					
Wages, Salaries and Commissions	36536	38744	34709	0.660	0.699
Labour Market Participation	0.853	0.834	0.850	0.605	0.958
Total Government Transfers	2487	2167	2550	0.423	0.922
Total Family Income	51911	50816	48292	0.888	0.673
<i>Demographics</i>					
Married	0.663	0.744	0.655	0.094	0.921
Number of Children	0.938	0.777	0.895	0.181	0.814
Age	37.688	40.007	38.405	0.050	0.628
Age <sup>2</sup>	1503.4	1712.3	1564.3	0.031	0.591
High school	0.213	0.191	0.150	0.630	0.308
Bachelors	0.175	0.194	0.255	0.668	0.221
Degree Below Bachelors	0.300	0.316	0.308	0.755	0.918
Degree Above Bachelors					
<i>Interacted with age</i>					
High school	7.975	7.763	6.163	0.909	0.466
Bachelors	7.513	7.790	10.933	0.881	0.228
Degree Below Bachelors	11.463	13.007	11.658	0.489	0.946
Degree Above Bachelors					
<i>Interacted with age<sup>2</sup></i>					
High school	319.050	336.420	267.840	0.844	0.651
Bachelors	459.940	568.460	467.080	0.314	0.955
Degree Below Bachelors	328.410	332.710	479.320	0.960	0.241
Degree Above Bachelors					
<i>Interacted with time trend</i>					
Sex	10.575	10.799	10.925	0.870	0.859
Number of Children	17.613	14.056	17.705	0.142	0.981
Married	14.300	16.089	13.963	0.173	0.859
High school	4.550	4.059	3.293	0.630	0.371
Bachelors	3.788	4.435	5.598	0.549	0.233
Degree Below Bachelors	6.725	6.919	6.443	0.876	0.872
Degree Above Bachelors				0.248	0.815
<i>Interacted with squared time trend</i>					
Sex	269.000	266.180	267.820	0.942	0.983
Number of Children	394.590	301.000	401.140	0.119	0.947
Married	347.850	396.810	335.500	0.222	0.819
High school	105.800	99.670	81.058	0.826	0.491
Bachelors	94.313	113.170	131.830	0.531	0.347
Degree Below Bachelors	168.970	172.220	157.980	0.926	0.820
Degree Above Bachelors				0.270	0.755

Note: Table presents the balancing of matching variables in the 5 nearest neighbor matching procedure. The first columns report the means of the matching variables for treatment group (cognitive functioning disability) two years prior to disability onset. The second and third column report the and means of the matched variables for the entire unmatched control sample and the matched sample. The fourth and fifth column report the p-score for difference in means of treatment groups's matching variables and the unmatched control sample and matched control sample, respectively. Matching on variables related to "Degree Above Bachelors" are unreported due to low sample counts. In addition, matching was conducted on province of residence, which are omitted from the table due to low sample counts restricting vetting from the RDC.

Table 17: Balancing of Covariates for Onset of Exclusively Pain Disability.

	Treated	Control Unmatched	Control Matched	Pre-Match $p >  t $	Post-Match $p >  t $
<i>Average Over Previous 5 Years</i>					
Wages, Salaries and Commissions	34439	37296	37440	0.102	0.163
Labour Market Participation	0.809	0.834	0.808	0.063	0.955
Total Government Transfers	2549	2265	2443	0.055	0.639
Total Family Income	43988	48423	41889	0.098	0.360
<i>Demographics</i>					
Married	0.758	0.734	0.743	0.193	0.566
Number of Children	0.764	0.841	0.790	0.087	0.670
Age	40.448	38.987	40.333	0.001	0.825
Age <sup>2</sup>	1716.3	1629.8	1707.2	0.013	0.824
High school	0.169	0.193	0.193	0.133	0.293
Bachelors	0.154	0.183	0.166	0.062	0.581
Degree Below Bachelors	0.376	0.310	0.368	0.001	0.001
Degree Above Bachelors	0.084	0.098	0.079	0.223	0.784
<i>Interacted with age</i>					
High school	7.020	7.618	7.900	0.368	0.351
Bachelors	6.313	7.235	6.442	0.155	0.882
Degree Below Bachelors	15.229	12.464	15.192	0.001	0.975
Degree Above Bachelors	3.738	4.158	3.588	0.427	0.836
<i>Interacted with age<sup>2</sup></i>					
High school	304.250	321.860	339.040	0.570	0.420
Bachelors	269.310	303.830	263.870	0.249	0.889
Degree Below Bachelors	648.020	533.070	656.060	0.002	0.884
Degree Above Bachelors	171.250	184.490	166.430	0.598	0.888
<i>Interacted with time trend</i>					
Sex	12.351	9.567	11.423	0.000	0.184
Number of Children	14.115	13.172	14.324	0.258	0.868
Married	16.273	14.194	15.704	0.000	0.391
High school	3.605	3.622	3.900	0.963	0.557
Bachelors	3.406	3.834	3.461	0.244	0.911
Degree Below Bachelors	7.871	6.097	7.776	0.000	0.884
Degree Above Bachelors	2.077	2.072	1.900	0.986	0.662
<i>Interacted with squared time trend</i>					
Sex	298.290	225.700	275.310	0.000	0.245
Number of Children	302.840	264.000	304.600	0.057	0.955
Married	395.270	335.870	377.940	0.000	0.386
High school	87.515	84.937	90.711	0.783	0.811
Bachelors	84.868	94.799	83.541	0.327	0.920
Degree Below Bachelors	186.590	145.810	187.550	0.001	0.956
Degree Above Bachelors	55.448	51.310	50.220	0.591	0.646

Note: Table presents the balancing of matching variables in the 5 nearest neighbor matching procedure. The first columns report the means of the matching variables for treatment group (exclusively pain disability) two years prior to disability onset. The second and third column report the and means of the matched variables for the entire unmatched control sample and the matched sample. The fourth and fifth column report the p-score for difference in means of treatment groups's matching variables and the unmatched control sample and matched control sample, respectively. In addition, matching was conducted on province of residence, which are omitted from the table due to low sample counts restricting vetting from the RDC.

## 6 Welfare Implications and Optimal Benefits

This section considers an example welfare analysis using the empirical results from the PSM model. To do so, I apply the optimal insurance framework of Baily (1978), generalized to accommodate disability benefits by Chetty (2006). The key idea of this framework is that the optimal level of benefits balances the moral hazard relating to the work disincentives from disability benefits with the value of consumption smoothing following an income shock. I give an intuitive description of the framework, and defer to Chetty (2006) for a more detailed description of this model and its extensions.

The setting is that of a worker who faces risk over two states of the world, good and bad, where the bad state is disability in my application. The time spent in the bad state is endogenously chosen given the level of benefits,  $b$ , paid while in the bad state. Moral hazard results from the disincentive to leave the bad state when  $b$  is high. In contrast, increasing  $b$  improves the worker’s welfare by partially smoothing consumption across states. In the framework, it’s assumed that benefits are financed via a proportional tax on the earnings in the good state. A welfare-maximizing social planner chooses benefit level, and thus the share of time in the bad state, subject to a break-even budget constraint. The optimality condition is derived from the first-order condition of the planner’s problem with respect to  $b$ , and an envelope condition that is derived from the optimality of the agent’s utility-maximizing decision. Assuming that preferences are independent of the state, then the Bailey-Chetty optimal benefit condition can be expressed as,

$$\gamma \frac{\Delta c}{c}(b) = \epsilon_{D,b} . \tag{1}$$

Here,  $\gamma$  is the coefficient of risk aversion ( $-\frac{u''c}{u'}$ ),  $\frac{\Delta c}{c}(b)$  is the mean drop in consumption when in the bad state, with disability benefits evaluated at its optimal level, and  $\epsilon_{D,b}$  is the elasticity of time receiving benefits (i.e., not working) with respect to the benefit level. The interpretation of this condition is that if the left-hand side of this equation is greater than the right-hand side, then benefits are below their optimal level.

I make several simplifying assumptions to interpret my findings using this framework. First, I assume the change in consumption is proportional to after-tax income. This assumption is reasonable if savings are not a large source of consumption smoothing in the face of a disability shock. This is reasonable given longitudinal path in estimated effects resembled a permanent income shock. Moreover, this assumption ignores any consumption smoothing from family members. I found little evidence of family members’ income increasing following onset, except for cognitive functioning in the long run. For mental health types, I found the income of family members to decline, suggesting my approach serves as an lower bound to the decline in consumption. Second, I assume the marginal utility of consumption is the same before and after the disability onset occurs, an assumption similar to Deshpande and Lockwood (2022) and Meyer and Mok (2019). Under these assumptions, the average decline in after-tax income divided by the total after-tax income in the five years before onset gives a measure of  $\frac{\Delta c}{c}$ .

In the table below, I calculate the implied  $\gamma$  that is consistent with optimal benefits for different choices of  $\epsilon_{D,b}$ . I can then compare this to values of  $\gamma$  from the related literature and determine whether disability benefits are optimal or not. First, I consider the elasticity from Meyer and Mok (2019), who set  $\epsilon_{D,b} =$

Table 18: Consumption Change After Onset and Coefficient of Relative Risk Aversion Consistent with Optimal Benefits for Select Disability Types

	Physical	Mental-Cognitive	Kinetic Ability*	Mental Health	Cognitive Ability
Pre-Onset Consumption ( $c$ )	36860	40318	35855	41314	39809
Mean Change in Consumption ( $\Delta c$ )	-3225	-6395	-4747	-6199	-7288
$\Delta c/c$	-0.09	-0.16	-0.13	-0.15	-0.18
<i><math>\gamma</math> Consistent with Optimal Benefits</i>					
$\epsilon_{D,b} = 0.174$	1.99	1.10	1.31	1.16	0.95
$\epsilon_{D,b} = 0.28$	3.20	1.77	2.12	1.87	1.53
$\epsilon_{D,b} = 0.36$	4.11	2.27	2.72	2.40	1.97

Note: Consumption is assumed be proportional to after-tax income. Hence, percentage fall in consumption is calculated as the percentage fall in after-tax income. For each elasticity,  $\epsilon_{D,b}$ , the  $\gamma$  that is consistent with optimal benefits is calculated using equation (1) and the calculated change in consumption for each disability type.

0.174.<sup>10</sup> This paper conducts a similar application of the Bailey-Chetty Framework for disability shocks. However, their empirical work uses the PSID, and there are important differences in the policy environment between Canada and the USA, notably the health insurance system, that may impact this elasticity. I consider the lower and upper bound of the elasticity of labour market nonparticipation with respect to disability insurance benefit level from Gruber (2000). This study exploits quasi-experimental variation in the disability insurance benefit level from a 1987 reform in Canada. The reform took place in all provinces except for Quebec, and the elasticity is recovered using a difference-in-difference framework. His estimates imply the  $\epsilon_{D,b} \in (0.28, 0.36)$

The coefficient of relative risk aversion ( $\gamma$ ) consistent with optimal benefits under the Bailey-Chetty conditions, as shown in Table 18, ranges from 1.1 to 4.11 across disability types and values of  $\epsilon_{D,b}$ . Most of these  $\gamma$  values are on the lower end of those typically found in the literature. Notably, the implied optimal  $\gamma$  for the mental health group suggests that these individuals would need to be relatively less risk-averse for benefits to be optimal.

In the related literature,  $\gamma$  values generally range from 1.5 to 4.5 (Chandra and Samwick, 2009; Lockwood, 2018; Deshpande and Lockwood, 2022). In a meta-study of empirical estimates of the intertemporal elasticity of substitution (IES), Havránek (2015) finds the mean estimate of the IES is in the range of 0.3-0.4, which implies a  $\gamma$  of 2.5-3.3. Within this range, benefits are less than optimal for all types based on the elasticity from Meyer and Mok (2019). For the aggregated physical group, benefits are within the range of optimality under the elasticities from Gruber (2000). However, a more granular analysis shows that individuals with kinetic ability disabilities are under-insured at the lower bound  $\epsilon_{D,b}$ , though they fall within the optimal range of  $\gamma$  at the upper bound. In contrast, mental health disabilities remain sub-optimal across all elasticities considered. Cognitive functioning disabilities have the greatest deviation from optimal  $\gamma$ . However, this group sees increases in family members' income for this group, which can partially offset the sub-optimality. Overall, the findings suggest that current benefits are less than optimal across disability types.

<sup>10</sup>Refer to Meyer and Mok (2019) for a description of how this elasticity was calculated.



## 7 Estimates to Generate Plots of Main Results

Table 19: Estimates of the Dynamic Effect of Aggregate Physical Disability on Components of Market Income.

Year Relative to Onset	Wages, Salaries, and Commissions	Labour Market Participation Rate	WSC for Participants	Non-Market Income	Total Government Transfers	Disability Relevant Transfers	Family Transfers	After-Tax Income	Before-Tax Income	Family Total Income	Family Members Income	Net Taxes Paid
-4	-1249 (734)	0.015 (0.01)	-1817 (1555)	-175 (270)	25 (138)	47 (127)	-16 (43)	-949 (584)	-1925 (743)	-3273 (1466)	-1256 (1116)	-976 (262)
-3	-885 (804)	0.001 (0.011)	-1480 (1402)	-50 (417)	-48 (144)	-51 (135)	-11 (42)	-1116 (626)	-2040 (813)	-3061 (1595)	-903 (1136)	-924 (287)
-2	-1382 (846)	0.011 (0.011)	-1391 (1084)	-470 (291)	-204 (141)	-150 (133)	-51 (42)	-2000 (639)	-2793 (856)	-3776 (1639)	-852 (1165)	-703 (309)
-1	-1840 (902)	-0.009 (0.012)	-1884 (1445)	-433 (355)	5 (150)	16 (139)	-11 (47)	-2154 (681)	-3137 (900)	-2776 (1636)	963 (1226)	-983 (294)
0	-1584 (928)	-0.007 (0.012)	-444 (2296)	-655 (328)	169 (165)	179 (155)	-14 (49)	-2045 (666)	-2967 (899)	-3928 (1673)	-545 (324)	-921 (299)
1	-3505 (982)	-0.016 (0.013)	-2170 (2375)	-281 (396)	325 (176)	336 (165)	-19 (47)	-2753 (726)	-4238 (949)	-5262 (1786)	-737 (1279)	-1485 (292)
2	-3383 (1014)	-0.038 (0.013)	-2201 (2738)	-369 (338)	605 (204)	637 (194)	-41 (48)	-3007 (750)	-4562 (978)	-5695 (1821)	-1052 (1287)	-1555 (299)
3	-4865 (1044)	-0.063 (0.015)	-1623 (3371)	-391 (369)	764 (196)	788 (180)	-25 (63)	-3333 (802)	-5252 (1018)	-6383 (1879)	-647 (1413)	-1919 (293)
4	-4320 (1139)	-0.087 (0.016)	874 (4423)	-658 (370)	712 (202)	783 (191)	-70 (53)	-3561 (801)	-5314 (1032)	-5913 (1988)	228 (1602)	-1753 (348)
5	-4737 (1139)	-0.107 (0.017)	2266 (5943)	-752 (404)	938 (233)	986 (225)	-46 (55)	-3415 (869)	-5142 (1149)	-8002 (2235)	-2212 (1511)	-1727 (327)
6	-4899 (1203)	-0.1 (0.017)	1418 (5423)	-655 (370)	1304 (216)	1371 (208)	-57 (53)	-3450 (834)	-5186 (1084)	-8092 (1997)	-2615 (1511)	-1736 (327)
7	-4990 (1327)	-0.103 (0.019)	1752 (6445)	-978 (457)	1093 (223)	1156 (212)	-67 (63)	-4134 (982)	-6045 (1313)	-9228 (2454)	-2547 (1854)	-1910 (412)
8	-4982 (1361)	-0.099 (0.019)	234 (6013)	-1296 (404)	1049 (261)	1107 (251)	-57 (66)	-3933 (1002)	-5917 (1332)	-8670 (2558)	-2156 (1885)	-1985 (406)
9	-5780 (1406)	-0.111 (0.02)	-314 (5850)	-1141 (445)	1567 (314)	1634 (303)	-60 (65)	-3535 (1030)	-5742 (1354)	-8923 (2704)	-2887 (2018)	-2206 (426)
10	-4849 (1424)	-0.093 (0.019)	1383 (7761)	-1224 (495)	1680 (300)	1725 (300)	-54 (64)	-3659 (1251)	-5065 (1453)	-7895 (2780)	-2532 (2063)	-1406 (671)
11	-5396 (1519)	-0.122 (0.02)	2355 (8800)	-1478 (485)	1651 (279)	1679 (268)	-39 (62)	-4017 (1142)	-6219 (1501)	-10895 (2854)	-4272 (2100)	-2202 (449)

Note: Table reports estimates of the effects in the  $k \in \{-4, \dots, 10\}$  years relative to its onset on measures of market income. Estimates are obtained from the TWFE specification described in the main text. Standard errors, reported in parentheses, are clustered at the individual level. Wages, salaries, and commissions; before-tax income; after-tax income; total family income; and income from family members are top-coded at the 99th percentile. Survey weights have been applied so the sample reflects the demographic composition of Canada in 2012.

Table 20: Estimates of the Dynamic Effect of Mental-Cognitive Disability on Components of Market Income.

Year Relative to Onset	Wages, Salaries, and Commissions	Labour Market Participation Rate	WSC for Participants	Non-Market Income	Total Government Transfers	Disability Relevant Transfers	Family Transfers	After-Tax Income	Before-Tax Income	Family Total Income	Family Members Income	Net Taxes Paid
-4	404 (1787)	-0.014 (0.025)	315 (2042)	244 (761)	130 (205)	-193 (249)	330 (180)	1137 (1396)	642 (1081)	-361 (3525)	-262 (2823)	-495 (420)
-3	122 (2028)	-0.022 (0.031)	-91 (1604)	1408 (1574)	-171 (280)	-500 (259)	350 (164)	620 (1158)	282 (1520)	2899 (4235)	2703 (3622)	-338 (509)
-2	-1585 (2071)	-0.014 (0.031)	-2873 (1898)	1232 (1388)	85 (336)	-400 (265)	490 (198)	-364 (1234)	-967 (1600)	1445 (4580)	1907 (4049)	-603 (524)
-1	-1501 (2069)	-0.01 (0.027)	-3571 (2099)	329 (1244)	235 (308)	-371 (261)	617 (108)	-457 (1400)	-1657 (1809)	47 (4275)	2054 (3939)	-1200 (527)
0	-3061 (2133)	-0.011 (0.026)	-5755 (2089)	523 (1107)	271 (298)	-187 (277)	489 (174)	-1434 (1609)	-1951 (2186)	-1404 (4367)	785 (3881)	-516 (699)
1	-6165 (2560)	-0.07 (0.035)	-6553 (2444)	333 (1313)	713 (349)	133 (320)	587 (181)	-3794 (1711)	-5684 (2213)	-4439 (4654)	906 (635)	-1800 (827)
2	-5687 (2630)	-0.08 (0.04)	-6502 (2395)	1015 (1851)	508 (407)	-289 (343)	813 (293)	-2984 (1868)	-4610 (2355)	-7520 (4204)	-2099 (3670)	-1026 (627)
3	-6363 (2760)	-0.076 (0.042)	-7749 (2504)	616 (1753)	875 (530)	144 (532)	704 (240)	-3952 (1955)	-5841 (2429)	-7465 (4141)	-715 (3656)	-1888 (739)
4	-6665 (2816)	-0.089 (0.046)	-7494 (2510)	118 (1917)	959 (444)	178 (430)	755 (240)	-5205 (2116)	-7033 (2576)	-6779 (4361)	1180 (3705)	-1828 (940)
5	-7432 (2856)	-0.082 (0.044)	-10393 (2715)	694 (2100)	1400 (640)	668 (642)	707 (271)	-4439 (2150)	-7222 (2568)	-6629 (4784)	1196 (4313)	-2783 (713)
6	-6416 (2927)	-0.104 (0.05)	-9017 (2619)	2600 (3588)	901 (394)	-10 (304)	855 (320)	-2741 (2665)	-5116 (3186)	-4317 (4865)	1370 (4194)	-2376 (761)
7	-7838 (3142)	-0.021 (0.046)	-13225 (3097)	-878 (1132)	1417 (618)	588 (596)	776 (311)	-5337 (2195)	-8544 (2491)	-6258 (5010)	3136 (4619)	-3207 (637)
8	-8428 (3666)	-0.063 (0.055)	-12311 (3730)	1606 (1800)	1469 (597)	914 (546)	501 (261)	-5005 (2291)	-8446 (2985)	-8641 (4428)	890 (4014)	-3440 (866)
9	-9691 (4024)	-0.148 (0.069)	-9359 (2798)	2999 (3676)	1736 (664)	1094 (624)	575 (251)	-5002 (3036)	-8800 (3644)	-7922 (6364)	2043 (4919)	-3799 (819)
10	-12052 (4367)	-0.202 (0.078)	-8781 (3488)	5747 (3552)	1513 (671)	846 (649)	532 (197)	-4174 (3423)	-7366 (4187)	-15251 (6623)	-7111 (3961)	-3192 (1103)
11	-14854 (4572)	-0.247 (0.066)	-9172 (5326)	4209 (3951)	2277 (759)	1613 (755)	556 (199)	-5585 (4238)	-9923 (4786)	-18873 (7743)	-7910 (5363)	-4337 (1076)

Note: Table reports estimates of the effects in the  $k \in \{-4, \dots, 10\}$  years relative to its onset on measures of market income. Estimates are obtained from the TWFE specification described in the main text. Standard errors, reported in parentheses, are clustered at the individual level. Wages, salaries, and commissions; before-tax income; after-tax income; total family income; and income from family members are top-coded at the 99th percentile. Survey weights have been applied so the sample reflects the demographic composition of Canada in 2012.

Table 21: Estimates of the Dynamic Effect of Kinetic Ability Disability on Components of Market Income.

Year Relative to Onset	Wages, Salaries, and Commissions	Labour Market Participation Rate	WSC for Participants	Non-Market Income	Total Government Transfers	Disability Relevant Transfers	Family Transfers	After-Tax Income	Before-Tax Income	Family Total Income	Family Members Income	Net Taxes Paid
-4	-1163 (774)	0.02 (0.01)	-2100 (801)	-393 (177)	-183 (177)	-127 (167)	-52 (45)	-1399 (578)	-2312 (734)	-2939 (1473)	-349 (1326)	-913 (263)
-3	-198 (887)	0.01 (0.01)	-676 (922)	-273 (402)	-61 (200)	-27 (188)	-18 (90)	-406 (674)	-1357 (847)	-1450 (1585)	355 (1332)	-951 (322)
-2	-886 (950)	0.02 (0.01)	-1245 (964)	-583 (308)	-234 (197)	-176 (185)	-52 (52)	-1497 (688)	-2324 (910)	-2286 (1764)	263 (1372)	-827 (200)
-1	-1274 (1007)	0 (0.01)	-1319 (991)	-873 (308)	-109 (206)	-55 (191)	-42 (59)	-2183 (728)	-3437 (960)	-1852 (1749)	2173 (1360)	-1254 (327)
0	-1848 (1022)	0 (0.02)	-1591 (994)	-823 (334)	135 (227)	136 (212)	4 (65)	-2293 (733)	-3742 (962)	-3960 (1789)	264 (1412)	-1449 (305)
1	-3828 (1104)	-0.02 (0.02)	-3445 (1098)	-271 (487)	510 (247)	536 (236)	-23 (57)	-3037 (807)	-4842 (1029)	-4710 (1917)	478 (1476)	-1804 (312)
2	-4789 (1130)	-0.05 (0.02)	-3870 (1152)	-652 (374)	934 (297)	974 (285)	-43 (58)	-3730 (828)	-5778 (1050)	-6147 (1861)	-139 (1439)	-2048 (305)
3	-5537 (1157)	-0.07 (0.02)	-4057 (1155)	-655 (390)	1194 (279)	1204 (257)	-4 (86)	-3367 (839)	-5849 (1051)	-6431 (1887)	-165 (1507)	-2282 (298)
4	-5897 (1196)	-0.1 (0.02)	-3666 (1187)	-941 (342)	1216 (285)	1299 (271)	-75 (66)	-4397 (883)	-6741 (1113)	-7094 (2124)	134 (1735)	-2343 (412)
5	-6953 (1281)	-0.13 (0.02)	-3979 (1393)	-1087 (351)	1583 (305)	1653 (296)	-68 (65)	-4562 (921)	-6997 (1184)	-9383 (2092)	-1683 (344)	-2435 (344)
6	-6470 (1389)	-0.13 (0.02)	-3724 (1542)	-1063 (381)	1968 (329)	2044 (318)	-63 (65)	-4471 (972)	-6932 (1257)	-9186 (2519)	-2133 (2013)	-2460 (367)
7	-6735 (1527)	-0.13 (0.02)	-4536 (1745)	-1204 (498)	1801 (314)	1870 (303)	-73 (75)	-5232 (1086)	-7855 (1420)	-10311 (2621)	-1709 (2118)	-2623 (430)
8	-6531 (1527)	-0.13 (0.02)	-4578 (1739)	-1494 (380)	1811 (377)	1877 (369)	-62 (73)	-4755 (1067)	-7595 (1389)	-10708 (2504)	-2337 (2087)	-2840 (407)
9	-6627 (1596)	-0.13 (0.03)	-4685 (1806)	-1544 (425)	2075 (433)	2199 (422)	-114 (67)	-4483 (1127)	-7291 (1451)	-11019 (2679)	-3493 (2169)	-2808 (422)
10	-6584 (1678)	-0.13 (0.03)	-4541 (1924)	-1586 (498)	2652 (435)	2685 (441)	-41 (87)	-4458 (1248)	-7343 (1581)	-11509 (2830)	-3193 (2383)	-2885 (427)
11	-7161 (1831)	-0.16 (0.03)	-4376 (2112)	-1968 (502)	2457 (391)	2541 (385)	-96 (70)	-5081 (1367)	-8126 (1743)	-13207 (2880)	-4263 (2271)	-3045 (472)

Note: Table reports estimates of the effects in the  $k \in \{-4, \dots, 10\}$  years relative to its onset on measures of market income. Estimates are obtained from the TWFE specification described in the main text. Standard errors, reported in parentheses, are clustered at the individual level. Wages, salaries, and commissions; before-tax income; after-tax income; total family income; and income from family members are top-coded at the 99th percentile. Survey weights have been applied so the sample reflects the demographic composition of Canada in 2012.

Table 22: Estimates of the Dynamic Effect of Exclusively Pain Disability on Components of Market Income.

Year Relative to Onset	Wages, Salaries, and Commissions	Labour Market Participation Rate	WSC for Participants	Non-Market Income	Total Government Transfers	Disability Relevant Transfers	Family Transfers	After-Tax Income	Before-Tax Income	Family Total Income	Family Members Income	Net Taxes Paid
-4	-1371 (1461)	0 (0.02)	-1333 (1619)	188 (463)	365 (217)	330 (189)	44 (86)	-183 (1219)	-1261 (1550)	-3787 (3050)	-2743 (1984)	-1077 (539)
-3	-2007 (1539)	-0.02 (0.02)	-1613 (1655)	324 (780)	-90 (191)	-101 (176)	2 (75)	-2288 (1222)	-3160 (1632)	-5699 (3331)	-2972 (2041)	-871 (541)
-2	-2156 (1590)	0 (0.02)	-1523 (1610)	-278 (533)	-173 (183)	-124 (172)	-51 (71)	-3040 (1244)	-3520 (1690)	-6164 (3219)	-2671 (2067)	-481 (657)
-1	-2717 (1690)	-0.03 (0.02)	-1169 (1682)	299 (749)	170 (198)	110 (186)	41 (77)	-2076 (1385)	-2590 (1766)	-4225 (3200)	-1017 (2305)	-514 (551)
0	-1109 (1752)	-0.01 (0.02)	652 (1678)	-372 (608)	204 (219)	229 (208)	-42 (70)	-1615 (1262)	-1655 (1747)	-3819 (3257)	-1859 (2201)	-40 (675)
1	-2918 (1811)	-0.02 (0.02)	-1651 (1942)	-239 (609)	-3 (219)	-15 (194)	-12 (80)	-2252 (1364)	-3188 (1822)	-6096 (3455)	-2720 (2287)	-936 (560)
2	-2566 (1882)	-0.03 (0.02)	-1420 (2033)	114 (651)	27 (212)	45 (186)	-38 (81)	-1755 (1415)	-2456 (1888)	-4852 (3668)	-2568 (2376)	-701 (590)
3	-3645 (1952)	-0.05 (0.02)	-712 (1896)	69 (666)	-7 (209)	42 (188)	-62 (80)	-2307 (1594)	-4185 (2038)	-6232 (3852)	-1441 (2756)	-1278 (582)
4	-1525 (1999)	-0.06 (0.02)	2391 (1754)	-165 (696)	-182 (227)	-132 (207)	-60 (84)	-2081 (1512)	-2796 (1982)	-3788 (3861)	433 (3079)	-714 (591)
5	-793 (2084)	-0.06 (0.02)	2468 (1991)	-162 (713)	-212 (235)	-203 (212)	-7 (88)	-1375 (1573)	-1845 (2055)	-5510 (3931)	-3114 (2799)	-470 (625)
6	-2058 (2140)	-0.05 (0.02)	524 (2020)	73 (784)	105 (242)	157 (215)	-45 (97)	-1608 (1618)	-2044 (2183)	-6069 (4105)	-3430 (2903)	-436 (702)
7	-1830 (2380)	-0.06 (0.03)	2168 (2076)	-579 (782)	-188 (227)	-136 (195)	-58 (112)	-2148 (1867)	-2777 (2543)	-7217 (4804)	-4001 (3337)	-629 (809)
8	-2200 (2531)	-0.05 (0.03)	-157 (2706)	-945 (765)	-315 (235)	-272 (197)	-47 (124)	-2455 (1971)	-2915 (2668)	-4984 (5362)	-1791 (3519)	-460 (823)
9	-4257 (2558)	-0.07 (0.03)	-876 (2463)	-437 (842)	665 (399)	631 (370)	34 (131)	-1862 (1958)	-3005 (2618)	-5219 (5519)	-1819 (3877)	-1143 (859)
10	-1786 (2442)	-0.03 (0.02)	-1438 (2775)	-589 (920)	-25 (265)	40 (232)	-77 (97)	-2238 (2566)	-1066 (2732)	-1583 (5606)	-1384 (3670)	1172 (1025)
11	-2263 (2536)	-0.05 (0.03)	-995 (2902)	-614 (865)	222 (307)	152 (252)	59 (113)	-2129 (1937)	-2834 (2639)	-6805 (5809)	-4283 (4000)	-705 (853)

Note: Table reports estimates of the effects in the  $k \in \{-4, \dots, 10\}$  years relative to its onset on measures of market income. Estimates are obtained from the TWFE specification described in the main text. Standard errors, reported in parentheses, are clustered at the individual level. Wages, salaries, and commissions; before-tax income; after-tax income; total family income; and income from family members are top-coded at the 99th percentile. Survey weights have been applied so the sample reflects the demographic composition of Canada in 2012.

Table 23: Estimates of the Dynamic Effect of Mental Health Disability on Components of Market Income.

Year Relative to Onset	Wages, Salaries, and Commissions	Labour Market Participation Rate	WSC for Participants	Non-Market Income	Total Government Transfers	Disability Relevant Transfers	Family Transfers	After-Tax Income	Before-Tax Income	Family Total Income	Family Members Income	Net Taxes Paid
-4	-1737 (2047)	-0.04 (0.03)	-696 (1730)	95 (904)	64 (327)	-273 (268)	337 (242)	-655 (1428)	-1385 (1742)	-2949 (4071)	-955 (3454)	-730 (437)
-3	-536 (2104)	-0.03 (0.03)	-69 (1807)	420 (823)	-250 (326)	-588 (301)	353 (222)	-209 (1306)	-1136 (1662)	968 (4400)	2375 (3737)	-928 (506)
-2	-2022 (2192)	-0.02 (0.03)	-2481 (2100)	637 (944)	29 (395)	-376 (311)	401 (232)	-1307 (1388)	-2213 (1858)	-295 (5284)	2056 (4736)	-905 (585)
-1	-2876 (2431)	-0.04 (0.03)	-2829 (2290)	-507 (830)	370 (370)	-216 (336)	594 (239)	-2368 (1542)	-4042 (1997)	-3372 (5156)	1039 (4709)	-1674 (568)
0	-4316 (2642)	-0.04 (0.03)	-4917 (2527)	-558 (585)	278 (357)	-157 (352)	470 (198)	-2798 (1959)	-3515 (2634)	-1958 (5133)	1782 (4632)	-718 (780)
1	-6507 (2841)	-0.07 (0.04)	-6761 (2859)	-1216 (576)	617 (385)	33 (360)	605 (224)	-5188 (1845)	-7468 (2355)	-4529 (4992)	2713 (4591)	-2281 (616)
2	-6458 (2943)	-0.09 (0.05)	-5870 (2654)	-1101 (596)	304 (442)	-512 (263)	856 (411)	-6137 (1992)	-8472 (2490)	-9428 (4383)	322 (4312)	-2335 (586)
3	-6810 (3331)	-0.11 (0.05)	-5185 (3135)	-759 (676)	437 (465)	-108 (460)	532 (291)	-6367 (2337)	-8118 (2928)	-8844 (4348)	650 (4216)	-1751 (860)
4	-5127 (3565)	-0.1 (0.06)	-3522 (3237)	-876 (874)	549 (424)	-113 (408)	655 (297)	-6039 (2681)	-7221 (3200)	-2008 (4803)	6330 (4346)	-1182 (1185)
5	-5862 (3593)	-0.11 (0.06)	-5180 (3072)	-1219 (770)	595 (485)	-256 (466)	841 (350)	-5988 (2478)	-8236 (3131)	-3704 (5185)	5133 (5163)	-2249 (819)
6	-4711 (3648)	-0.1 (0.06)	-4465 (3028)	-514 (1106)	315 (381)	-468 (354)	762 (356)	-5177 (2473)	-7498 (3161)	-4199 (5220)	3989 (4837)	-2321 (840)
7	-8259 (3588)	-0.01 (0.04)	-10518 (3837)	-630 (1111)	1003 (580)	290 (589)	675 (379)	-7598 (2660)	-10566 (3164)	-9243 (5083)	2245 (4973)	-2967 (711)
8	-7350 (4033)	-0.05 (0.04)	-7668 (4201)	1015 (1650)	729 (580)	255 (569)	437 (259)	-5247 (2793)	-8454 (3440)	-6454 (5144)	3099 (5018)	-3207 (805)
9	-7006 (4552)	-0.12 (0.08)	-4676 (3282)	734 (1616)	467 (544)	-88 (496)	509 (283)	-5947 (3301)	-9098 (3922)	-10779 (6010)	-483 (5715)	-3151 (784)
10	-7222 (5149)	-0.15 (0.09)	-3338 (3476)	2271 (2647)	400 (493)	-250 (445)	531 (242)	-3840 (4140)	-5366 (5081)	-13461 (8716)	-6698 (4987)	-1526 (1123)
11	-12007 (5018)	-0.15 (0.08)	-9107 (6150)	2047 (2692)	1014 (711)	314 (650)	617 (253)	-6161 (3653)	-9408 (4468)	-18521 (11249)	-8220 (8205)	-3247 (1036)

Note: Table reports estimates of the effects in the  $k \in \{-4, \dots, 10\}$  years relative to its onset on measures of market income. Estimates are obtained from the TWFE specification described in the main text. Standard errors, reported in parentheses, are clustered at the individual level. Wages, salaries, and commissions; before-tax income; after-tax income; total family income; and income from family members are top-coded at the 99th percentile. Survey weights have been applied so the sample reflects the demographic composition of Canada in 2012.

Table 24: Estimates of the Dynamic Effect of Cognitive Functioning Disability on Components of Market Income.

Year Relative to Onset	Wages, Salaries, and Commissions	Labour Market Participation Rate	WSC for Participants	Non-Market Income	Total Government Transfers	Disability Relevant Transfers	Family Transfers	After-Tax Income	Before-Tax Income	Family Total Income	Family Members	Net Taxes Paid
-4	4993 (3509)	0.04 (0.04)	5017 (4050)	326 (1258)	208 (602)	-76 (529)	308 (244)	4677 (3016)	4681 (3620)	5068 (6556)	1448 (4780)	4 (900)
-3	1666 (4445)	-0.01 (0.07)	5821 (2943)	3257 (4311)	-107 (543)	-401 (498)	332 (214)	1986 (2275)	3027 (3110)	7195 (9227)	3882 (7942)	1041 (1131)
-2	-588 (4453)	-0.01 (0.07)	2738 (3080)	2216 (3559)	115 (627)	-539 (499)	683 (383)	1302 (2466)	1379 (3325)	5177 (8679)	2177 (7423)	77 (1034)
-1	1337 (3743)	0.04 (0.04)	2387 (3353)	1871 (3129)	-99 (537)	-743 (388)	661 (353)	3263 (2652)	3040 (3443)	7102 (1057)	4409 (6979)	-223 (1057)
0	-111 (3517)	0.05 (0.04)	-357 (3385)	2585 (2851)	127 (511)	-370 (410)	522 (342)	1180 (2651)	1129 (3766)	-337 (7865)	-1135 (6700)	-50 (1394)
1	-5418 (5157)	-0.08 (0.08)	-652 (4222)	3377 (3406)	836 (691)	273 (615)	542 (324)	-1148 (3502)	-2196 (4639)	-4382 (9760)	-2731 (7672)	-1048 (1450)
2	-4107 (5145)	-0.06 (0.08)	477 (3972)	5184 (5020)	855 (817)	102 (851)	722 (331)	3109 (3594)	2915 (4663)	-3739 (8864)	-6756 (6553)	-194 (1432)
3	-5359 (4857)	0 (0.07)	-4414 (3832)	3186 (4729)	1693 (1248)	587 (1273)	1054 (428)	736 (3236)	-1417 (4138)	-4656 (8727)	-3262 (6751)	-2153 (1371)
4	-9367 (4523)	-0.07 (0.08)	-6951 (3454)	1851 (4064)	1658 (940)	664 (925)	936 (406)	-3759 (3377)	-6722 (4338)	-15351 (8308)	-8046 (6228)	-2964 (1511)
5	-10000 (4645)	-0.03 (0.06)	-10105 (4512)	3931 (5337)	2742 (1458)	2212 (1482)	479 (430)	-1798 (3852)	-5453 (4375)	-11409 (9402)	-5353 (7455)	-3655 (1300)
6	-9422 (4776)	-0.12 (0.08)	-7613 (4258)	8170 (9494)	1907 (814)	765 (546)	1024 (616)	1585 (5679)	-842 (6596)	-4413 (9751)	-3207 (7585)	-2427 (1487)
7	-7023 (5831)	-0.04 (0.11)	-6525 (4837)	-1384 (2288)	2088 (1921)	1063 (1243)	947 (536)	-1500 (3424)	-5085 (3686)	-999 (10254)	4821 (9094)	-3585 (1205)
8	-10010 (6946)	-0.08 (0.12)	-8739 (6842)	2673 (4048)	2628 (1192)	1944 (1057)	603 (527)	-4420 (3865)	-8180 (5386)	-11787 (7931)	-2565 (6471)	-3760 (1812)
9	-13785 (7483)	-0.19 (0.13)	-5046 (4559)	6755 (9091)	3741 (1862)	2958 (1317)	683 (462)	-3209 (5705)	-7969 (6995)	-3217 (13274)	5836 (8867)	-4759 (1699)
10	-18168 (7612)	-0.26 (0.14)	-6443 (6750)	10595 (7493)	3025 (1965)	2324 (1321)	542 (333)	-4074 (5797)	-9362 (7109)	-17224 (10550)	-7935 (6524)	-5288 (2008)
11	-18649 (8547)	-0.38 (0.11)	3156 (7726)	7469 (8695)	4059 (1470)	3434 (1476)	483 (311)	-4363 (8712)	-10144 (9635)	-19090 (10287)	-7751 (6132)	-5780 (2112)

Note: Table reports estimates of the effects in the  $k \in \{-4, \dots, 10\}$  years relative to its onset on measures of market income. Estimates are obtained from the TWFE specification described in the main text. Standard errors, reported in parentheses, are clustered at the individual level. Wages, salaries, and commissions; before-tax income; after-tax income; total family income; and income from family members are top-coded at the 99th percentile. Survey weights have been applied so the sample reflects the demographic composition of Canada in 2012.

Table 25: Estimates of the Dynamic Effect of Aggregate Physical Disability on Components of Personal Income By Education Level.

Year Relative to Onset	Wages, Salaries, and Commissions		Labour Market Participation Rate		Total Government Transfers		After-Tax Income		Family Members Income		Net Taxes Paid	
	Educ = 0	Educ = 1	Educ = 0	Educ = 1	Educ = 0	Educ = 1	Educ = 0	Educ = 1	Educ = 0	Educ = 1	Educ = 0	Educ = 1
-4	-553 (1097)	-1156 (1008)	0.015 (0.016)	0.012 (0.012)	214 (249)	-119 (155)	936 (1519)	-2587 (896)	-1512 (1588)	-711 (1466)	-392 (425)	-1190 (337)
-3	0	-920	-0.006	0	73	-178	1270	-3220	-2017	367	-412	-1001
-2	-513 (1111)	-1247 (1134)	0.029 (0.018)	-0.007 (0.013)	-64 (265)	-309 (160)	86 (1391)	-4014 (1036)	154 (1486)	-886 (1500)	-75 (431)	-864 (392)
-1	-162 (1303)	-2234 (1156)	0.012 (0.019)	-0.025 (0.015)	-89 (278)	50 (147)	109 (1663)	-4481 (1016)	2531 (1523)	438 (1508)	-231 (388)	-1154 (457)
0	-90 (1329)	-1664 (1322)	0.016 (0.021)	-0.027 (0.017)	-109 (286)	326 (205)	1167 (2468)	-3725 (1041)	309 (1804)	-518 (1572)	-601 (419)	-773 (478)
1	-2173 (1496)	-3493 (1356)	-0.012 (0.022)	-0.022 (0.017)	336 (327)	318 (207)	1175 (2742)	-4350 (1123)	-1607 (2011)	460 (1678)	-951 (443)	-1491 (407)
2	-3412 (1571)	-3598 (1381)	-0.027 (0.023)	-0.052 (0.018)	601 (370)	639 (251)	474 (2946)	-4695 (1141)	-1218 (1955)	-286 (1656)	-1000 (465)	-1535 (408)
3	-3704 (1593)	-4878 (1419)	-0.065 (0.025)	-0.07 (0.02)	1127 (374)	579 (231)	1913 (3576)	-5982 (1166)	1154 (2087)	-683 (1972)	-1139 (434)	-2034 (413)
4	-4341 (1701)	-3662 (1455)	-0.107 (0.027)	-0.083 (0.021)	1224 (413)	458 (222)	1562 (4653)	-5388 (1260)	4321 (2899)	-1475 (1950)	-1546 (487)	-1534 (506)
5	-5460 (1785)	-3840 (1546)	-0.14 (0.027)	-0.094 (0.021)	1483 (415)	656 (248)	1234 (5402)	-3713 (1784)	1255 (2258)	-3269 (2015)	-1475 (475)	-1580 (475)
6	-5598 (1891)	-3887 (1622)	-0.129 (0.029)	-0.089 (0.022)	1447 (401)	1300 (300)	1561 (5883)	-4718 (1397)	373 (2612)	-3737 (2252)	-1586 (535)	-1462 (504)
7	-6505 (2107)	-3371 (1762)	-0.128 (0.031)	-0.096 (0.024)	1828 (446)	714 (246)	1730 (6354)	-5475 (1547)	461 (2683)	-3966 (2510)	-1758 (670)	-1609 (554)
8	-6032 (2134)	-3290 (1845)	-0.144 (0.032)	-0.08 (0.024)	1726 (518)	637 (291)	830 (6339)	-5001 (1641)	1086 (2591)	-3792 (2463)	-1944 (588)	-1500 (588)
9	-6406 (2267)	-4390 (1863)	-0.17 (0.032)	-0.083 (0.026)	2305 (630)	1100 (352)	1063 (5872)	-3681 (2270)	842 (2883)	-5105 (2562)	-1870 (623)	-1930 (608)
10	-7248 (2224)	-2361 (1875)	-0.158 (0.033)	-0.062 (0.024)	2321 (569)	1301 (359)	3691 (7815)	-5206 (1986)	-1533 (2875)	-3491 (2734)	-1779 (683)	-662 (1042)
11	-6308 (2232)	-3107 (2071)	-0.15 (0.033)	-0.106 (0.026)	1753 (492)	1431 (343)	3375 (8856)	-4907 (1915)	-1727 (2787)	-6766 (2844)	-2091 (677)	-1562 (618)

Note: Table reports estimates of the effects in the  $k \in \{-4, \dots, 10\}$  years relative to its onset on measures of market income. Estimates are obtained from the TWFE specification described in the main text. Standard errors, reported in parentheses, are clustered at the individual level. Wages, salaries, and commissions; before-tax income; after-tax income; total family income; and income from family members are top-coded at the 99th percentile. Survey weights have been applied so the sample reflects the demographic composition of Canada in 2012.

Table 26: Estimates of the Dynamic Effect of Mental-Cognitive Disability on Components of Personal Income By Education Level.

Year Relative to Onset	Wages, Salaries, and Commissions		Labour Market Participation Rate		Total Government Transfers		After-Tax Income		Family Members Income		Net Taxes Paid	
	Educ = 0	Educ = 1	Educ = 0	Educ = 1	Educ = 0	Educ = 1	Educ = 0	Educ = 1	Educ = 0	Educ = 1	Educ = 0	Educ = 1
-4	4154 (2259)	-1448 (2931)	0.036 (0.032)	-0.039 (0.035)	14 (297)	315 (457)	5104 (2507)	-2164 (1831)	1880 (4499)	-1453 (3209)	757 (765)	-790 (503)
-3	4385 (2395)	-2511 (2473)	0.039 (0.035)	-0.063 (0.036)	-422 (251)	76 (454)	1252 (1787)	-1606 (1551)	4553 (6178)	1906 (4091)	679 (896)	-562 (608)
-2	2682 (2495)	-4191 (2617)	0.037 (0.041)	-0.048 (0.033)	-27 (414)	172 (489)	2624 (3512)	-3471 (1757)	12220 (7818)	-5505 (3626)	276 (912)	-593 (659)
-1	4019 (2889)	-3788 (2562)	0.028 (0.041)	-0.042 (0.034)	600 (514)	-9 (418)	2251 (2449)	-3938 (1739)	9350 (7278)	-3873 (4050)	533 (985)	-1513 (615)
0	1523 (3286)	-4766 (2629)	0.024 (0.041)	-0.033 (0.033)	681 (570)	38 (365)	454 (2691)	-4248 (2100)	8916 (7703)	-4350 (3751)	105 (1162)	-107 (929)
1	1029 (4503)	-8952 (3019)	-0.015 (0.044)	-0.11 (0.041)	614 (564)	710 (482)	-257 (3548)	-6627 (2109)	-65 (8056)	-744 (4323)	-35 (1230)	-2160 (747)
2	251 (4930)	-7650 (3061)	-0.093 (0.074)	-0.067 (0.041)	950 (656)	228 (567)	-484 (3891)	-5339 (2108)	-2043 (6997)	-4253 (4156)	-252 (1341)	-1619 (732)
3	-2614 (4778)	-6843 (3403)	-0.094 (0.084)	-0.07 (0.039)	511 (512)	1079 (796)	-2559 (4103)	-5999 (2016)	-731 (7169)	-3494 (4302)	-478 (1356)	-1621 (913)
4	-3537 (5153)	-6596 (3493)	-0.198 (0.089)	-0.04 (0.044)	1115 (627)	760 (629)	-3405 (4290)	-7463 (2445)	1931 (7178)	-2312 (4079)	-261 (1727)	-1550 (1193)
5	-5295 (5279)	-7230 (3493)	-0.176 (0.103)	-0.032 (0.041)	927 (535)	1533 (965)	-5146 (4041)	-5873 (2344)	-272 (7796)	-1020 (5133)	-1186 (1531)	-2575 (838)
6	-7166 (5734)	-4787 (3219)	-0.254 (0.104)	-0.018 (0.042)	1441 (581)	682 (625)	-3947 (4219)	-4013 (2943)	2820 (8262)	-1683 (4630)	-1214 (1706)	-2139 (866)
7	-11708 (5427)	-6486 (3453)	-0.061 (0.072)	0 (0.054)	2107 (946)	1161 (911)	-6836 (4866)	-8008 (2149)	15994 (7577)	-1227 (5168)	-2950 (977)	-2628 (841)
8	-11841 (6455)	-7424 (4261)	-0.173 (0.115)	-0.016 (0.056)	2016 (1076)	1241 (826)	-5529 (5281)	-8588 (2896)	5496 (6001)	-188 (4849)	-2907 (1474)	-3110 (1159)
9	-13135 (7287)	-8536 (4756)	-0.367 (0.136)	-0.047 (0.068)	2385 (1396)	1552 (846)	-7876 (5723)	-7606 (3264)	11196 (7322)	-1050 (6185)	-3468 (1296)	-3364 (1208)
10	-16777 (7291)	-10307 (5301)	-0.414 (0.146)	-0.103 (0.089)	3433 (1457)	602 (756)	-6258 (6663)	-6587 (4054)	-6704 (6642)	-6241 (5118)	-3059 (1536)	-2588 (1526)
11	-20584 (6645)	-12607 (5463)	-0.364 (0.136)	-0.187 (0.074)	4378 (1496)	1250 (848)	-12493 (5438)	-6317 (4988)	-9494 (12043)	-5542 (4986)	-4248 (1410)	-3766 (1533)

Note: Table reports estimates of the effects in the  $k \in \{-4, \dots, 10\}$  years relative to its onset on measures of market income. Estimates are obtained from the TWFE specification described in the main text. Standard errors, reported in parentheses, are clustered at the individual level. Wages, salaries, and commissions; before-tax income; after-tax income; total family income; and income from family members are top-coded at the 99th percentile. Survey weights have been applied so the sample reflects the demographic composition of Canada in 2012.

Table 27: Estimates of the Dynamic Effect of Kinetic Ability Disability on Components of Personal Income By Education Level.

Year Relative to Onset	Wages, Salaries, and Commissions		Labour Market Participation Rate		Total Government Transfers		After-Tax Income		Family Members Income		Net Taxes Paid	
	Educ = 0	Educ = 1	Educ = 0	Educ = 1	Educ = 0	Educ = 1	Educ = 0	Educ = 1	Educ = 0	Educ = 1	Educ = 0	Educ = 1
-4	-684 (1107)	-1016 (1098)	0.019 (0.02)	0.027 (0.016)	91 (319)	-452 (190)	-784 (846)	-3111 (963)	-414 (1947)	-301 (1802)	-15 (343)	-1454 (381)
-3	239 (1116)	99 (1325)	0.009 (0.022)	0.009 (0.017)	105 (344)	-270 (226)	1005 (895)	-2732 (1082)	-1827 (1750)	1721 (1838)	-586 (495)	-972 (432)
-2	-452 (1321)	-388 (1336)	0.031 (0.023)	-0.002 (0.019)	-92 (370)	-395 (201)	-1180 (1026)	-2638 (1280)	316 (1771)	-339 (1941)	-121 (393)	-1147 (411)
-1	-838 (1403)	-721 (1452)	0.013 (0.023)	-0.002 (0.019)	-184 (350)	-93 (252)	-1714 (1120)	-3669 (1414)	2260 (1881)	1879 (1855)	-616 (393)	-1430 (497)
0	-730 (1462)	-1715 (1478)	0.014 (0.026)	-0.019 (0.021)	-190 (370)	338 (290)	-1622 (1201)	-3105 (1251)	537 (1874)	-73 (2034)	-1041 (436)	-1421 (436)
1	-3841 (1691)	-2784 (1542)	-0.011 (0.027)	-0.02 (0.022)	613 (435)	407 (293)	-2040 (1405)	-3450 (1348)	-2677 (2315)	2569 (2120)	-1468 (469)	-1730 (443)
2	-5088 (1760)	-3597 (1547)	-0.031 (0.028)	-0.06 (0.024)	800 (498)	1018 (382)	-4016 (1419)	-4186 (1318)	-2516 (2151)	1577 (2008)	-1447 (475)	-2106 (419)
3	-5198 (1746)	-4874 (1610)	-0.078 (0.032)	-0.068 (0.025)	1606 (502)	896 (338)	-2190 (1401)	-5253 (1301)	-306 (2214)	258 (2159)	-1588 (410)	-2395 (449)
4	-6109 (1696)	-4776 (1724)	-0.123 (0.033)	-0.091 (0.028)	1781 (552)	798 (307)	-3510 (1416)	-5462 (1498)	2576 (2953)	-1570 (2254)	-2269 (458)	-2005 (660)
5	-7485 (1804)	-5797 (1819)	-0.162 (0.034)	-0.117 (0.029)	2095 (552)	1190 (351)	-4776 (1445)	-3380 (2505)	391 (2441)	-2773 (2450)	-2304 (429)	-2163 (552)
6	-7949 (1958)	-4412 (1997)	-0.17 (0.035)	-0.104 (0.03)	2038 (536)	1951 (438)	-5004 (1564)	-4558 (1663)	-585 (2944)	-3272 (2838)	-2302 (517)	-2086 (549)
7	-8932 (2194)	-3972 (2195)	-0.17 (0.038)	-0.101 (0.032)	2366 (586)	1436 (358)	-6503 (1819)	-5423 (1741)	-913 (2959)	-2887 (3161)	-2525 (712)	-2175 (582)
8	-8742 (2073)	-3211 (2304)	-0.188 (0.04)	-0.092 (0.032)	2417 (702)	1341 (432)	-6506 (1724)	-4492 (1809)	-2310 (2866)	-3094 (2862)	-2888 (501)	-2120 (665)
9	-9353 (2117)	-2944 (2360)	-0.217 (0.039)	-0.085 (0.034)	2608 (815)	1592 (498)	-6925 (1788)	-1753 (3166)	-2469 (2935)	-5139 (2957)	-3057 (515)	-1965 (668)
10	-11021 (2224)	-1671 (2426)	-0.217 (0.041)	-0.077 (0.034)	3303 (766)	2118 (536)	-6625 (1928)	-3888 (1891)	-5476 (3124)	-1961 (3347)	-3237 (538)	-1869 (646)
11	-10257 (2113)	-2827 (2780)	-0.197 (0.042)	-0.134 (0.036)	2412 (670)	2255 (492)	-7136 (1790)	-4203 (2323)	-4173 (2943)	-6118 (3408)	-3365 (553)	-1967 (719)

Note: Table reports estimates of the effects in the  $k \in \{-4, \dots, 10\}$  years relative to its onset on measures of market income. Estimates are obtained from the TWFE specification described in the main text. Standard errors, reported in parentheses, are clustered at the individual level. Wages, salaries, and commissions; before-tax income; after-tax income; total family income; and income from family members are top-coded at the 99th percentile. Survey weights have been applied so the sample reflects the demographic composition of Canada in 2012.

Table 28: Estimates of the Dynamic Effect of Exclusively Pain Disability on Components of Personal Income By Education Level.

Year Relative to Onset	Wages, Salaries, and Commissions		Labour Market Participation Rate		Total Government Transfers		After-Tax Income		Family Members Income		Net Taxes Paid	
	Educ = 0	Educ = 1	Educ = 0	Educ = 1	Educ = 0	Educ = 1	Educ = 0	Educ = 1	Educ = 0	Educ = 1	Educ = 0	Educ = 1
-4	-309 (2437)	-1414 (1879)	0.007 (0.025)	-0.009 (0.019)	469 (382)	353 (259)	4214 (4186)	-1864 (1665)	-3689 (2716)	-1355 (2448)	-1174 (1067)	-801 (605)
-3	-563 (2502)	-2422 (1987)	-0.038 (0.031)	-0.012 (0.02)	19 (379)	-89 (215)	1524 (3623)	-3993 (1953)	-2457 (2716)	-1638 (2529)	-74 (819)	-1012 (725)
-2	-671 (2576)	-2478 (2046)	0.024 (0.032)	-0.013 (0.025)	10 (360)	-249 (214)	2537 (4560)	-5989 (1599)	-214 (2841)	-1762 (2372)	7 (855)	-425 (929)
-1	1321 (2703)	-4352 (2235)	0.009 (0.033)	-0.057 (0.027)	129 (343)	185 (234)	3862 (3912)	-5692 (1765)	3093 (3479)	-1691 (2645)	588 (927)	-717 (728)
0	1271 (2661)	-1617 (2372)	0.02 (0.034)	-0.036 (0.028)	100 (399)	241 (268)	6913 (6948)	-4661 (1084)	-250 (3925)	-1304 (2412)	336 (883)	166 (951)
1	1650 (2838)	-4449 (2391)	-0.013 (0.037)	-0.023 (0.028)	-276 (391)	118 (262)	8186 (7770)	-5659 (1813)	831 (3713)	-2578 (2642)	215 (912)	-1094 (743)
2	396 (2983)	-3585 (2490)	-0.019 (0.038)	-0.041 (0.025)	171 (412)	26 (246)	10386 (8294)	-5501 (1930)	1745 (3891)	-3102 (2720)	3 (993)	-653 (776)
3	-117 (3125)	-4848 (2518)	-0.034 (0.038)	-0.071 (0.031)	-23 (357)	55 (256)	11439 (10723)	-7096 (2025)	4651 (4416)	-2206 (3565)	-98 (998)	-1452 (749)
4	-84 (3842)	-1994 (2472)	-0.069 (0.046)	-0.069 (0.031)	-129 (366)	-102 (298)	13527 (14399)	-5318 (2052)	8473 (6594)	-1513 (3339)	175 (1117)	-784 (760)
5	-520 (3965)	-965 (2633)	-0.086 (0.044)	-0.058 (0.03)	-12 (394)	-186 (310)	15639 (16927)	-4256 (2271)	3117 (4651)	-4195 (3268)	520 (1101)	-661 (815)
6	33 (4039)	-3052 (2627)	-0.029 (0.046)	-0.065 (0.031)	27 (377)	257 (317)	17029 (18249)	-5016 (2290)	2365 (4960)	-4629 (3483)	78 (1196)	-460 (922)
7	-870 (4459)	-2412 (2800)	-0.029 (0.051)	-0.086 (0.035)	593 (505)	-446 (237)	20632 (19164)	-5602 (2721)	3400 (5249)	-5794 (3914)	-21 (1366)	-689 (1042)
8	-21 (4753)	-3313 (2931)	-0.046 (0.053)	-0.06 (0.033)	205 (509)	-501 (271)	16774 (18445)	-5805 (2918)	8420 (4730)	-5059 (4243)	107 (1382)	-489 (1053)
9	242 (5272)	-6393 (2862)	-0.064 (0.055)	-0.078 (0.038)	1665 (874)	312 (441)	18733 (16823)	-6534 (2875)	8147 (6057)	-5303 (4426)	780 (1476)	-1793 (1101)
10	1846 (4584)	-3210 (2794)	-0.014 (0.048)	-0.04 (0.03)	-36 (419)	60 (357)	28118 (23728)	-7121 (3797)	7876 (5556)	-5926 (4431)	1700 (1641)	1134 (2298)
11	3242 (4830)	-3369 (2941)	-0.037 (0.048)	-0.064 (0.033)	205 (385)	163 (382)	28294 (27475)	-5984 (3047)	3955 (5733)	-8013 (4749)	927 (1615)	-856 (1059)

Note: Table reports estimates of the effects in the  $k \in \{-4, \dots, 10\}$  years relative to its onset on measures of market income. Estimates are obtained from the TWFE specification described in the main text. Standard errors, reported in parentheses, are clustered at the individual level. Wages, salaries, and commissions; before-tax income; after-tax income; total family income; and income from family members are top-coded at the 99th percentile. Survey weights have been applied so the sample reflects the demographic composition of Canada in 2012.

Table 29: Estimates of the Dynamic Effect of Mental Health Disability on Components of Personal Income By Education Level.

Year Relative to Onset	Wages, Salaries, and Commissions		Labour Market Participation Rate		Total Government Transfers		After-Tax Income		Family Members Income		Net Taxes Paid	
	Educ = 0	Educ = 1	Educ = 0	Educ = 1	Educ = 0	Educ = 1	Educ = 0	Educ = 1	Educ = 0	Educ = 1	Educ = 0	Educ = 1
-4	1490 (1721)	-4339 (2967)	0.017 (0.04)	-0.081 (0.046)	-122 (311)	374 (518)	1469 (1185)	-2957 (2371)	2244 (5290)	-3681 (4306)	-233 (404)	-746 (633)
-3	1457 (1724)	-2272 (3032)	0.011 (0.042)	-0.065 (0.046)	-601 (260)	150 (538)	-121 (1278)	-1272 (1939)	6399 (5228)	59 (5050)	-748 (432)	-754 (770)
-2	199 (1816)	-4014 (3263)	0.008 (0.051)	-0.043 (0.042)	-223 (345)	295 (611)	-1271 (1620)	-2919 (2098)	16157 (8171)	-7735 (4753)	-745 (549)	-688 (910)
-1	-322 (2596)	-4229 (3387)	-0.035 (0.051)	-0.052 (0.044)	432 (576)	379 (524)	-1451 (1921)	-4274 (2242)	14661 (7527)	-6789 (5247)	-868 (621)	-1674 (834)
0	-2677 (3814)	-4712 (3437)	-0.031 (0.05)	-0.045 (0.043)	211 (658)	327 (456)	-3695 (2646)	-3245 (2640)	15051 (8023)	-6181 (4992)	-1375 (828)	201 (1168)
1	-4794 (4826)	-6598 (3559)	-0.066 (0.055)	-0.079 (0.046)	208 (605)	771 (537)	-5517 (3497)	-4809 (2342)	10576 (8643)	-3786 (5223)	-1774 (961)	-1933 (841)
2	-7150 (5430)	-5397 (3607)	-0.212 (0.099)	-0.024 (0.045)	1042 (929)	-131 (530)	-6809 (4128)	-6579 (2306)	6300 (6490)	-5053 (5501)	-2224 (1013)	-1809 (831)
3	-8075 (6212)	-4362 (3892)	-0.219 (0.113)	-0.066 (0.046)	48 (404)	496 (668)	-8199 (4969)	-5891 (2415)	5697 (7643)	-6488 (5454)	-2109 (1295)	-771 (1129)
4	-5726 (7296)	-2478 (4055)	-0.283 (0.122)	-0.021 (0.048)	703 (669)	105 (494)	-6612 (5824)	-5986 (3030)	11447 (7778)	-1499 (5409)	-1668 (1611)	4 (1659)
5	-5825 (7964)	-2749 (4130)	-0.282 (0.141)	-0.026 (0.047)	202 (387)	358 (674)	-6693 (5763)	-5332 (2785)	9076 (9477)	-4030 (6669)	-2028 (1635)	-1110 (1066)
6	-6070 (9025)	-1556 (3627)	-0.313 (0.155)	0.008 (0.047)	599 (518)	4 (562)	-3565 (6204)	-5655 (2689)	6926 (9704)	-3520 (6030)	-1953 (1943)	-1344 (993)
7	-12213 (7424)	-4987 (3846)	-0.011 (0.085)	0.017 (0.045)	1980 (1161)	413 (736)	-8322 (6537)	-8398 (2678)	13276 (7158)	-6095 (6353)	-3467 (914)	-1892 (1027)
8	-11390 (9184)	-4244 (4032)	-0.083 (0.1)	-0.03 (0.044)	429 (994)	543 (747)	-8658 (6593)	-5378 (2829)	10017 (7061)	-2989 (6308)	-4570 (1613)	-1877 (994)
9	-12778 (10591)	-3293 (4340)	-0.312 (0.176)	-0.03 (0.054)	508 (1068)	268 (675)	-9632 (8133)	-5862 (2907)	10021 (7892)	-8860 (7455)	-4315 (1557)	-1838 (969)
10	-17076 (10873)	-840 (4511)	-0.321 (0.204)	-0.064 (0.063)	1636 (984)	-513 (498)	-9240 (9636)	-2417 (3270)	-10254 (8681)	-7398 (6211)	-3519 (2085)	402 (1240)
11	-25247 (8336)	-3224 (4757)	-0.244 (0.17)	-0.091 (0.074)	2927 (1446)	-337 (520)	-15455 (5862)	-1867 (3760)	-15091 (16564)	-5624 (6566)	-6474 (1142)	-546 (1335)

Note: Table reports estimates of the effects in the  $k \in \{-4, \dots, 10\}$  years relative to its onset on measures of market income. Estimates are obtained from the TWFE specification described in the main text. Standard errors, reported in parentheses, are clustered at the individual level. Wages, salaries, and commissions; before-tax income; after-tax income; total family income; and income from family members are top-coded at the 99th percentile. Survey weights have been applied so the sample reflects the demographic composition of Canada in 2012.

Table 30: Estimates of the Dynamic Effect of Cognitive Functioning Disability on Components of Personal Income By Education Level.

Year Relative to Onset	Wages, Salaries, and Commissions		Labour Market Participation Rate		Total Government Transfers		After-Tax Income		Family Members Income		Net Taxes Paid	
	Educ = 0	Educ = 1	Educ = 0	Educ = 1	Educ = 0	Educ = 1	Educ = 0	Educ = 1	Educ = 0	Educ = 1	Educ = 0	Educ = 1
-4	8962 (5801)	4178 (5848)	0.065 (0.057)	0.047 (0.045)	305 (586)	109 (876)	13217 (7400)	-906 (2700)	1386 (7898)	3271 (3931)	2848 (2256)	-899 (743)
-3	9885 (6429)	-2956 (4352)	0.093 (0.064)	-0.057 (0.055)	-10 (493)	-216 (827)	3258 (5030)	-2535 (2592)	848 (15688)	5810 (6650)	4139 (2657)	-119 (901)
-2	7180 (6313)	-4153 (4476)	0.095 (0.069)	-0.055 (0.054)	472 (1027)	-293 (784)	11075 (10365)	-4870 (3285)	2962 (15960)	-789 (4770)	2673 (2574)	-280 (724)
-1	11179 (5223)	-2082 (3659)	0.145 (0.055)	-0.011 (0.045)	1013 (964)	-1141 (602)	9300 (4992)	-3222 (2693)	-806 (13817)	2605 (5523)	3190 (2395)	-919 (805)
0	9218 (4112)	-3948 (3821)	0.142 (0.057)	0.002 (0.045)	1761 (1024)	-959 (513)	8929 (4670)	-6707 (3175)	-4179 (14851)	-515 (4702)	3254 (2920)	-556 (1509)
1	10705 (6725)	-13594 (5391)	0.086 (0.059)	-0.173 (0.081)	1415 (1117)	192 (922)	9129 (5858)	-11185 (4178)	-19637 (14826)	6140 (8185)	3223 (2661)	-2353 (1596)
2	11688 (6652)	-11850 (5382)	0.104 (0.055)	-0.159 (0.08)	948 (847)	681 (1316)	9814 (5635)	-2658 (4536)	-16454 (14605)	-2944 (5558)	3233 (2862)	-790 (1533)
3	5805 (4741)	-11766 (6160)	0.112 (0.06)	-0.067 (0.071)	1407 (1113)	2164 (2001)	6617 (5152)	-6357 (3520)	-12546 (13965)	3280 (6987)	2511 (2734)	-3396 (1360)
4	94 (5142)	-14057 (5774)	-0.054 (0.076)	-0.066 (0.087)	1948 (1157)	1766 (1425)	2186 (4940)	-10706 (3856)	-14147 (13313)	-3997 (5824)	2427 (3654)	-4471 (1126)
5	-3832 (4669)	-15217 (5235)	-0.016 (0.093)	-0.034 (0.078)	2174 (1149)	3465 (2257)	-1923 (4248)	-7456 (4037)	-15275 (12832)	4898 (7806)	653 (2964)	-5287 (1079)
6	-7562 (5003)	-10712 (5757)	-0.157 (0.093)	-0.062 (0.079)	2789 (1107)	1686 (1366)	-2997 (4733)	-608 (6894)	-4940 (14860)	1822 (6990)	502 (3138)	-3539 (1748)
7	-10918 (5160)	-9110 (6551)	-0.142 (0.113)	-0.02 (0.125)	2593 (1562)	2257 (2025)	-2828 (4460)	-7882 (3430)	19973 (15456)	7679 (8640)	-1493 (2273)	-3992 (1483)
8	-12318 (5712)	-12674 (8393)	-0.303 (0.203)	0.011 (0.124)	5064 (1883)	2168 (1660)	1669 (6464)	-14132 (5518)	-4289 (10608)	4838 (7503)	563 (2603)	-5178 (2402)
9	-13416 (5694)	-17172 (9631)	-0.445 (0.184)	-0.065 (0.153)	5906 (2519)	3433 (1740)	-3034 (4316)	-10975 (6986)	10710 (13750)	11863 (10240)	-1326 (2194)	-5951 (2639)
10	-15764 (5359)	-22583 (9405)	-0.535 (0.157)	-0.148 (0.182)	6659 (2762)	1957 (1497)	76 (5009)	-12339 (7781)	-4793 (9938)	-3325 (8532)	-1463 (2186)	-6517 (2705)
11	-12572 (8491)	-24824 (9541)	-0.568 (0.154)	-0.298 (0.129)	7308 (2829)	3193 (1632)	-6223 (9393)	-12370 (9996)	-1280 (10006)	-3779 (7539)	269 (2950)	-7985 (2706)

Note: Table reports estimates of the effects in the  $k \in \{-4, \dots, 10\}$  years relative to its onset on measures of market income. Estimates are obtained from the TWFE specification described in the main text. Standard errors, reported in parentheses, are clustered at the individual level. Wages, salaries, and commissions; before-tax income; after-tax income; total family income; and income from family members are top-coded at the 99th percentile. Survey weights have been applied so the sample reflects the demographic composition of Canada in 2012.

Table 31: Estimates of the Dynamic Effect of Aggregate Physical Disability on Components of Personal Income By Age of Onset.

Year Relative to Onset	Wages, Salaries, and Commissions		Labour Market Participation Rate		Total Government Transfers		After-Tax Income		Family Members Income		Net Taxes Paid	
	young	old	young	old	young	old	young	old	young	old	young	old
-4	-1143 (796)	-721 (880)	0.013 (0.01)	-0.006 (0.013)	171 (146)	-112 (182)	-537 (1006)	-1700 (872)	-2904 (1284)	-2755 (1379)	-904 (299)	-477 (298)
-3	-1098 (895)	-352 (1018)	-0.013 (0.012)	-0.008 (0.014)	135 (158)	-27 (189)	-1167 (1004)	-974 (1020)	-2077 (1361)	-3137 (1358)	-898 (339)	-804 (385)
-2	-1518 (937)	-528 (1087)	0.009 (0.012)	-0.001 (0.016)	-5 (157)	-187 (184)	-1978 (1204)	-2505 (1008)	-2576 (1414)	-2119 (1336)	-628 (311)	-419 (416)
-1	-1848 (1028)	-605 (1182)	-0.014 (0.013)	-0.012 (0.017)	219 (178)	-77 (192)	-1906 (1159)	-2686 (1110)	-220 (1545)	-1337 (1411)	-913 (353)	-387 (360)
0	-1990 (1163)	-893 (1190)	-0.008 (0.015)	-0.02 (0.018)	381 (216)	258 (219)	-1542 (1785)	-2515 (1099)	-1408 (1644)	-1987 (1492)	-918 (376)	-500 (426)
1	-3884 (1261)	-2561 (1281)	-0.019 (0.016)	-0.03 (0.019)	539 (253)	488 (214)	-2192 (1968)	-3289 (1344)	-2015 (1785)	-1236 (1541)	-1393 (415)	-1106 (340)
2	-4386 (1308)	-2928 (1362)	-0.03 (0.016)	-0.065 (0.019)	579 (272)	855 (261)	-2819 (2051)	-3479 (1402)	-1601 (1906)	-1632 (1513)	-1305 (418)	-1223 (364)
3	-5066 (1369)	-4099 (1419)	-0.059 (0.018)	-0.085 (0.021)	936 (286)	908 (245)	-2344 (2556)	-3924 (1222)	-2138 (2156)	-497 (1602)	-1835 (413)	-1451 (375)
4	-3726 (1385)	-3300 (1478)	-0.059 (0.019)	-0.113 (0.023)	554 (258)	1015 (279)	-1427 (3321)	-3366 (1240)	-1060 (2562)	1080 (1844)	-1421 (439)	-1297 (449)
5	-3257 (1490)	-3923 (1536)	-0.064 (0.019)	-0.131 (0.024)	277 (247)	1264 (292)	-521 (4219)	-2429 (1675)	-2432 (2462)	-562 (1767)	-1375 (471)	-1320 (401)
6	-4284 (1613)	-3147 (1612)	-0.063 (0.02)	-0.123 (0.025)	856 (325)	1502 (295)	-168 (4676)	-2699 (1427)	-3402 (2761)	-968 (1991)	-1238 (524)	-1313 (430)
7	-4910 (1818)	-3426 (1746)	-0.067 (0.021)	-0.137 (0.026)	835 (320)	1254 (284)	-313 (4908)	-3379 (1614)	-3425 (2987)	-2240 (2047)	-1556 (602)	-1467 (489)
8	-3708 (1860)	-3046 (1751)	-0.045 (0.019)	-0.132 (0.026)	592 (388)	1215 (318)	-322 (4986)	-3454 (1495)	-4278 (2909)	-1383 (2223)	-1653 (639)	-1377 (465)
9	-5630 (1858)	-3750 (1858)	-0.056 (0.022)	-0.143 (0.027)	1108 (436)	1696 (372)	-832 (4543)	-2774 (1924)	-5087 (3152)	-1252 (2254)	-2029 (662)	-1669 (493)
10	-5970 (2005)	-3247 (1878)	-0.044 (0.022)	-0.138 (0.026)	997 (399)	1917 (387)	-3782 (3217)	-3179 (1822)	-3039 (3434)	-1571 (2447)	-286 (1513)	-768 (715)
11	-4890 (2362)	-3665 (1994)	-0.045 (0.022)	-0.162 (0.028)	675 (418)	1931 (344)	-2604 (2848)	-3210 (1919)	-2485 (3406)	-3351 (2492)	-1704 (738)	-1718 (523)

Note: Table reports estimates of the effects in the  $k \in \{-4, \dots, 10\}$  years relative to its onset on measures of market income. Estimates are obtained from the TWFE specification described in the main text. Standard errors, reported in parentheses, are clustered at the individual level. Wages, salaries, and commissions; before-tax income; after-tax income; total family income; and income from family members are top-coded at the 99th percentile. Survey weights have been applied so the sample reflects the demographic composition of Canada in 2012.

Table 32: Estimates of the Dynamic Effect of Mental-Cognitive Disability on Components of Personal Income By Age of Onset.

Year Relative to Onset	Wages, Salaries, and Commissions		Labour Market Participation Rate		Total Government Transfers		After-Tax Income		Family Members Income		Net Taxes Paid	
	young	old	young	old	young	old	young	old	young	old	young	old
-4	56 (1895)	4402 (3653)	-0.022 (0.026)	-0.053 (0.037)	109 (302)	-66 (334)	928 (1677)	3352 (3783)	-823 (2608)	212 (5334)	-493 (464)	189 (694)
-3	-283 (2046)	-905 (4152)	-0.027 (0.032)	-0.07 (0.064)	-169 (293)	-153 (293)	-49 (1269)	-1851 (2161)	2165 (3601)	-1037 (6210)	-232 (559)	-174 (715)
-2	-2008 (2128)	-3551 (4606)	-0.021 (0.032)	-0.075 (0.064)	29 (362)	-317 (479)	-323 (1888)	-4169 (2394)	1233 (3937)	1147 (7969)	-451 (586)	-845 (942)
-1	-1762 (2206)	-2750 (3985)	-0.018 (0.029)	-0.022 (0.046)	191 (325)	-204 (499)	-1007 (1574)	-4236 (3135)	2012 (4133)	-2014 (6272)	-917 (586)	-2235 (868)
0	-2899 (2368)	-1501 (3955)	-0.02 (0.03)	-0.028 (0.039)	227 (361)	-128 (490)	-1511 (1862)	-799 (3643)	1290 (4173)	-952 (6695)	97 (807)	-110 (1406)
1	-5645 (2686)	-2362 (5226)	-0.068 (0.033)	-0.076 (0.076)	692 (441)	-82 (458)	-3992 (1954)	-1208 (3173)	4192 (4554)	-3992 (4898)	-1369 (697)	-898 (1116)
2	-6010 (2814)	-3746 (5235)	-0.085 (0.042)	-0.062 (0.077)	536 (522)	432 (594)	-4255 (2138)	-590 (3684)	1013 (4198)	-4178 (5048)	-1313 (744)	-757 (1066)
3	-5467 (2986)	-3846 (5478)	-0.1 (0.046)	-0.063 (0.074)	971 (719)	350 (701)	-4191 (2313)	-3626 (3649)	2573 (4130)	-5189 (4910)	-1396 (808)	-949 (1324)
4	-6719 (2895)	-4414 (5886)	-0.069 (0.047)	-0.145 (0.086)	1148 (606)	100 (555)	-5737 (2335)	-5795 (4105)	4190 (4539)	-5580 (4382)	-1967 (918)	-653 (1673)
5	-7116 (3197)	-3937 (5513)	-0.093 (0.049)	-0.079 (0.072)	1451 (908)	487 (809)	-5562 (2389)	-3713 (4185)	5881 (5288)	-5418 (5276)	-2007 (875)	-2299 (1074)
6	-4395 (3427)	-5211 (5101)	-0.075 (0.055)	-0.172 (0.09)	592 (487)	263 (488)	-4639 (2591)	-1147 (5156)	4827 (5388)	-6284 (5255)	-1840 (965)	-1858 (1035)
7	-7309 (3526)	-5507 (5561)	-0.037 (0.039)	-0.011 (0.099)	1351 (853)	1138 (967)	-7303 (2615)	-4160 (3843)	6633 (5600)	-4783 (5927)	-2586 (660)	-2433 (1102)
8	-8059 (4330)	-6240 (6321)	-0.073 (0.051)	-0.033 (0.107)	1572 (811)	1013 (940)	-6557 (3030)	-4266 (3487)	3124 (5118)	-6525 (6093)	-3140 (1083)	-3305 (1349)
9	-10418 (4778)	-6989 (6625)	-0.179 (0.078)	-0.165 (0.117)	1533 (912)	1626 (821)	-9313 (3365)	-3369 (5122)	2858 (6086)	-5808 (7035)	-3746 (1130)	-3434 (1324)
10	-9839 (5151)	-10901 (6644)	-0.22 (0.104)	-0.226 (0.124)	1270 (1036)	896 (885)	-5251 (4411)	-3647 (5425)	-9433 (6468)	-13394 (6377)	-1181 (1265)	-3142 (1456)
11	-7224 (5670)	-14795 (6257)	-0.122 (0.09)	-0.273 (0.109)	1070 (1132)	2086 (837)	-4976 (4359)	-5646 (6781)	-12205 (10403)	-16074 (8004)	-1403 (1354)	-4469 (1430)

Note: Table reports estimates of the effects in the  $k \in \{-4, \dots, 10\}$  years relative to its onset on measures of market income. Estimates are obtained from the TWFE specification described in the main text. Standard errors, reported in parentheses, are clustered at the individual level. Wages, salaries, and commissions; before-tax income; after-tax income; total family income; and income from family members are top-coded at the 99th percentile. Survey weights have been applied so the sample reflects the demographic composition of Canada in 2012.

Table 33: Estimates of the Dynamic Effect of Kinetic Ability Disability on Components of Personal Income By Age of Onset.

Year Relative to Onset	Wages, Salaries, and Commissions		Labour Market Participation Rate		Total Government Transfers		After-Tax Income		Family Members Income		Net Taxes Paid	
	young	old	young	old	young	old	young	old	young	old	young	old
-4	-901 (825)	68 (905)	0.02 (0.013)	0.012 (0.016)	-62 (82)	-234 (233)	-1619 (688)	-1716 (993)	-1666 (1462)	-2980 (1819)	-742 (290)	-551 (364)
-3	-222 (986)	1218 (1114)	-0.006 (0.015)	0.009 (0.017)	151 (219)	59 (244)	-781 (869)	-42 (1116)	-330 (1548)	-3479 (1700)	-921 (374)	-581 (473)
-2	-1001 (1055)	563 (1167)	0.007 (0.016)	0.02 (0.019)	-54 (223)	-154 (238)	-2229 (955)	-1435 (1217)	-841 (1591)	-1594 (1673)	-653 (332)	-550 (369)
-1	-1061 (1146)	226 (1302)	-0.009 (0.016)	0.011 (0.02)	86 (248)	-62 (250)	-2305 (939)	-2719 (1391)	1592 (1619)	-1044 (1675)	-1051 (384)	-680 (413)
0	-2514 (1286)	-608 (1306)	-0.008 (0.019)	-0.008 (0.021)	287 (308)	380 (281)	-3283 (1006)	-2163 (1367)	220 (1791)	-2136 (1806)	-1449 (370)	-854 (427)
1	-4525 (1398)	-2693 (1476)	-0.023 (0.02)	-0.025 (0.022)	706 (375)	819 (283)	-3906 (1190)	-2602 (1488)	-489 (1978)	37 (1943)	-1828 (437)	-1268 (388)
2	-6101 (1381)	-3360 (1567)	-0.035 (0.023)	-0.073 (0.024)	909 (424)	1270 (345)	-5669 (1161)	-3254 (1427)	-1380 (2103)	-35 (1819)	-2169 (402)	-1529 (413)
3	-6443 (1473)	-4124 (1601)	-0.067 (0.025)	-0.084 (0.026)	1381 (442)	1476 (318)	-4490 (1202)	-3426 (1395)	-1248 (2338)	-102 (1840)	-2603 (377)	-1582 (428)
4	-6315 (1493)	-4256 (1661)	-0.068 (0.026)	-0.121 (0.029)	1022 (396)	1669 (354)	-5309 (1304)	-3767 (1493)	-1307 (2677)	1027 (2213)	-2623 (422)	-1655 (556)
5	-6768 (1644)	-4963 (1728)	-0.083 (0.027)	-0.145 (0.03)	702 (369)	1979 (374)	-6020 (1441)	-2767 (2088)	-1693 (2785)	149 (2088)	-2777 (446)	-1711 (460)
6	-7059 (1934)	-3753 (1835)	-0.085 (0.029)	-0.141 (0.031)	1300 (489)	2255 (385)	-6081 (1561)	-3454 (1570)	-3345 (3218)	646 (2538)	-2429 (520)	-1618 (478)
7	-8223 (2090)	-3938 (1973)	-0.09 (0.029)	-0.146 (0.032)	1300 (492)	2144 (361)	-6678 (1619)	-4853 (1693)	-2432 (3554)	-656 (2506)	-2977 (560)	-1675 (543)
8	-6841 (2001)	-3682 (1987)	-0.073 (0.028)	-0.146 (0.032)	1164 (644)	2068 (414)	-6666 (1649)	-4519 (1669)	-4589 (3223)	-473 (2711)	-3267 (604)	-1829 (507)
9	-7482 (1951)	-3817 (2159)	-0.069 (0.03)	-0.16 (0.033)	1082 (631)	2385 (482)	-6859 (1681)	-2898 (2481)	-5176 (3521)	-821 (2667)	-3396 (539)	-1731 (564)
10	-6746 (2291)	-3988 (2234)	-0.066 (0.033)	-0.16 (0.033)	1476 (632)	3008 (506)	-5106 (1895)	-4452 (1827)	-3965 (4373)	-253 (2946)	-3029 (591)	-1791 (570)
11	-5258 (3261)	-4083 (2365)	-0.048 (0.032)	-0.186 (0.035)	823 (655)	2870 (436)	-4374 (2395)	-4705 (1969)	-1825 (4418)	-1472 (2892)	-2892 (836)	-1841 (609)

Note: Table reports estimates of the effects in the  $k \in \{-4, \dots, 10\}$  years relative to its onset on measures of market income. Estimates are obtained from the TWFE specification described in the main text. Standard errors, reported in parentheses, are clustered at the individual level. Wages, salaries, and commissions; before-tax income; after-tax income; total family income; and income from family members are top-coded at the 99th percentile. Survey weights have been applied so the sample reflects the demographic composition of Canada in 2012.

Table 34: Estimates of the Dynamic Effect of Exclusively Pain Disability on Components of Personal Income By Age of Onset.

Year Relative to Onset	Wages, Salaries, and Commissions		Labour Market Participation Rate		Total Government Transfers		After-Tax Income		Family Members Income		Net Taxes Paid	
	young	old	young	old	young	old	young	old	young	old	young	old
-4	-1499 (1565)	-2342 (1892)	0.003 (0.016)	-0.042 (0.022)	541 (243)	132 (263)	1168 (2397)	-1697 (1690)	-4893 (2357)	-2338 (1930)	-1171 (611)	-345 (504)
-3	-2408 (1672)	-3549 (2037)	-0.024 (0.018)	-0.045 (0.025)	111 (216)	-203 (268)	-1721 (2240)	-2877 (2088)	-4845 (2474)	-2496 (2193)	-861 (631)	-1269 (644)
-2	-2206 (1702)	-2680 (2240)	0.012 (0.018)	-0.045 (0.031)	64 (202)	-291 (271)	-1498 (2749)	-4608 (1736)	-5242 (2560)	-3236 (2119)	-564 (586)	-168 (988)
-1	-2910 (1867)	-2294 (2365)	-0.02 (0.02)	-0.06 (0.033)	408 (236)	-115 (264)	-1171 (2613)	-2671 (1830)	-3008 (2955)	-1994 (2478)	-683 (655)	181 (672)
0	-1186 (2106)	-1436 (2370)	-0.006 (0.023)	-0.044 (0.033)	503 (279)	-20 (323)	1046 (4176)	-3221 (1722)	-3845 (3020)	-1843 (2513)	-144 (725)	185 (920)
1	-2910 (2268)	-2199 (2402)	-0.012 (0.026)	-0.037 (0.033)	300 (296)	-261 (283)	366 (4516)	-4518 (2522)	-4283 (3225)	-3831 (2309)	-752 (770)	-764 (633)
2	-1890 (2417)	-1944 (2547)	-0.023 (0.023)	-0.049 (0.03)	109 (261)	-66 (323)	1359 (4741)	-3866 (2923)	-2074 (3460)	-4946 (2469)	-49 (799)	-597 (684)
3	-2987 (2513)	-3889 (2705)	-0.048 (0.026)	-0.085 (0.035)	280 (261)	-327 (304)	907 (6041)	-4915 (2241)	-3593 (3975)	-1451 (2917)	-695 (811)	-1175 (688)
4	88 (2502)	-1152 (2834)	-0.044 (0.027)	-0.095 (0.038)	-132 (239)	-404 (389)	4340 (7927)	-2503 (2075)	-940 (4881)	1032 (3076)	343 (824)	-545 (713)
5	1487 (2573)	-1513 (2931)	-0.037 (0.024)	-0.099 (0.038)	-299 (281)	-315 (382)	7025 (9706)	-1679 (2571)	-3748 (4358)	-2204 (2970)	537 (858)	-482 (736)
6	-515 (2621)	-1605 (3021)	-0.033 (0.025)	-0.081 (0.041)	262 (375)	-217 (335)	7903 (10713)	-917 (2858)	-3846 (4764)	-4609 (2606)	394 (954)	-639 (831)
7	-274 (3054)	-2063 (3300)	-0.034 (0.027)	-0.115 (0.044)	191 (327)	-776 (326)	8624 (11398)	-2 (3479)	-5154 (5067)	-5850 (3090)	431 (1123)	-1009 (947)
8	343 (3292)	-1386 (3259)	-0.01 (0.023)	-0.1 (0.043)	-133 (328)	-742 (353)	7885 (11122)	-964 (2912)	-4362 (5128)	-3554 (3416)	422 (1173)	-382 (923)
9	-3146 (3316)	-3323 (3285)	-0.038 (0.031)	-0.103 (0.045)	1120 (575)	96 (459)	7026 (10147)	-2287 (2642)	-5469 (5536)	-2405 (3747)	-252 (1266)	-1513 (891)
10	-4724 (3389)	-1361 (3109)	-0.017 (0.028)	-0.087 (0.041)	408 (442)	-595 (388)	-1459 (7001)	-114 (4063)	-2534 (5434)	-4682 (3919)	3028 (3137)	1476 (1857)
11	-4052 (3424)	-2457 (3311)	-0.038 (0.03)	-0.101 (0.043)	458 (487)	-269 (410)	291 (6019)	400 (4215)	-3791 (5304)	-7724 (4263)	-175 (1251)	-1419 (895)

Note: Table reports estimates of the effects in the  $k \in \{-4, \dots, 10\}$  years relative to its onset on measures of market income. Estimates are obtained from the TWFE specification described in the main text. Standard errors, reported in parentheses, are clustered at the individual level. Wages, salaries, and commissions; before-tax income; after-tax income; total family income; and income from family members are top-coded at the 99th percentile. Survey weights have been applied so the sample reflects the demographic composition of Canada in 2012.

Table 35: Estimates of the Dynamic Effect of Mental Health Disability on Components of Personal Income By Age of Onset.

Year Relative to Onset	Wages, Salaries, and Commissions		Labour Market Participation Rate		Total Government Transfers		After-Tax Income		Family Members Income		Net Taxes Paid	
	young	old	young	old	young	old	young	old	young	old	young	old
-4	-2946 (2048)	2917 (3211)	-0.051 (0.033)	0.002 (0.043)	-59 (335)	351 (255)	-2041 (1578)	-1070 (2622)	-795 (3153)	-2814 (7697)	-934 (462)	-207 (761)
-3	-1670 (2122)	3698 (2928)	-0.041 (0.034)	0.022 (0.038)	-389 (334)	255 (234)	-1213 (1429)	-1182 (2650)	2608 (3404)	-2841 (8636)	-1021 (538)	-362 (790)
-2	-3475 (2216)	614 (4269)	-0.034 (0.035)	0.034 (0.036)	-147 (424)	346 (289)	-2548 (1561)	-3198 (3443)	2940 (4317)	-206 (11597)	-1023 (635)	-696 (1344)
-1	-4121 (2519)	-2401 (4477)	-0.055 (0.037)	0.039 (0.05)	92 (385)	859 (356)	-3438 (1698)	-7849 (4446)	3049 (4775)	-5883 (8935)	-1632 (598)	-3031 (1255)
0	-6011 (2881)	819 (4054)	-0.057 (0.037)	-0.001 (0.027)	34 (425)	331 (176)	-3898 (2144)	-49 (5361)	3400 (4756)	-2884 (9885)	-631 (851)	1189 (2112)
1	-9165 (3137)	4224 (4272)	-0.102 (0.042)	0.039 (0.049)	328 (461)	250 (554)	-7116 (2066)	-254 (3245)	8581 (4908)	-8024 (5695)	-2562 (680)	-281 (1101)
2	-9754 (3307)	1773 (4229)	-0.131 (0.056)	0.067 (0.047)	-14 (528)	1112 (703)	-8659 (2388)	-3712 (3606)	7083 (4565)	-10775 (5701)	-2586 (665)	-1126 (1191)
3	-8767 (3813)	3014 (4875)	-0.167 (0.061)	0.01 (0.053)	161 (584)	194 (453)	-7783 (2811)	-5781 (3954)	6789 (4311)	-11249 (5698)	-2009 (871)	490 (1686)
4	-7981 (3936)	5985 (5614)	-0.121 (0.065)	-0.031 (0.087)	290 (537)	-86 (399)	-7275 (3039)	-5192 (4708)	13457 (4798)	-9083 (4781)	-2133 (933)	1781 (2496)
5	-9382 (4187)	6351 (5317)	-0.152 (0.067)	0.005 (0.086)	128 (636)	275 (381)	-7815 (3153)	-4100 (4137)	15187 (5327)	-13291 (6513)	-2064 (996)	-516 (1256)
6	-6152 (4500)	4194 (4937)	-0.117 (0.076)	-0.045 (0.095)	-261 (483)	331 (364)	-6736 (3282)	-3027 (3637)	12657 (5277)	-12208 (6746)	-1987 (995)	-632 (1294)
7	-9712 (4167)	679 (5367)	-0.025 (0.045)	0.117 (0.08)	593 (745)	1050 (764)	-9483 (3275)	-6142 (3803)	8640 (5850)	-13052 (7192)	-2598 (747)	-1483 (1324)
8	-8885 (4443)	4310 (6167)	-0.056 (0.044)	0.085 (0.093)	225 (692)	750 (768)	-7296 (3405)	-2466 (3895)	9851 (5737)	-13380 (7382)	-2794 (858)	-1898 (1396)
9	-10538 (4969)	5213 (6344)	-0.157 (0.097)	-0.045 (0.099)	-132 (666)	832 (713)	-9280 (3931)	-3034 (3994)	5724 (6743)	-16328 (7757)	-3019 (886)	-1581 (1331)
10	-12609 (6073)	4497 (6840)	-0.204 (0.128)	-0.069 (0.105)	-347 (513)	1001 (755)	-7986 (5510)	-1046 (4613)	-9513 (8326)	-19590 (7678)	-1366 (1456)	-54 (1520)
11	-11861 (6054)	-1201 (7019)	-0.054 (0.083)	-0.043 (0.121)	-723 (557)	2202 (926)	-9338 (4983)	-2330 (4556)	-12691 (14561)	-25937 (12382)	-2576 (1377)	-1575 (1714)

Note: Table reports estimates of the effects in the  $k \in \{-4, \dots, 10\}$  years relative to its onset on measures of market income. Estimates are obtained from the TWFE specification described in the main text. Standard errors, reported in parentheses, are clustered at the individual level. Wages, salaries, and commissions; before-tax income; after-tax income; total family income; and income from family members are top-coded at the 99th percentile. Survey weights have been applied so the sample reflects the demographic composition of Canada in 2012.

Table 36: Estimates of the Dynamic Effect of Cognitive Functioning Disability on Components of Personal Income By Age of Onset.

Year Relative to Onset	Wages, Salaries, and Commissions		Labour Market Participation Rate		Total Government Transfers		After-Tax Income		Family Members Income		Net Taxes Paid	
	young	old	young	old	young	old	young	old	young	old	young	old
-4	5755 (3898)	6516 (8430)	0.034 (0.038)	-0.147 (0.072)	347 (606)	-779 (690)	6755 (3974)	10937 (8907)	-174 (4588)	5866 (7042)	247 (1041)	788 (1419)
-3	1720 (4722)	-9027 (9353)	-0.006 (0.069)	-0.228 (0.146)	146 (580)	-855 (575)	1469 (2503)	-2750 (3819)	2168 (8583)	2337 (9181)	1439 (1321)	148 (1476)
-2	237 (4698)	-11420 (8977)	-0.001 (0.068)	-0.259 (0.138)	259 (662)	-1352 (1050)	3746 (4846)	-5396 (2962)	-1854 (7769)	4658 (10374)	605 (1183)	-1306 (1197)
-1	2280 (3966)	-5468 (7157)	0.052 (0.042)	-0.137 (0.09)	331 (588)	-1778 (944)	3396 (2945)	1241 (4477)	347 (7476)	5592 (8904)	322 (1211)	-1493 (1113)
0	3620 (3669)	-7014 (7296)	0.063 (0.044)	-0.092 (0.089)	433 (628)	-845 (1144)	3153 (3170)	-1734 (4633)	-2719 (7709)	3558 (8702)	1608 (1710)	-2360 (1435)
1	1231 (4465)	-14168 (10064)	0.005 (0.05)	-0.269 (0.154)	1331 (903)	-619 (765)	1949 (3642)	-2224 (6674)	-4975 (9106)	3974 (8750)	1080 (1492)	-2184 (2080)
2	879 (4551)	-14029 (10303)	0.006 (0.044)	-0.276 (0.156)	1551 (1088)	-638 (988)	4001 (3363)	3831 (7907)	-11111 (7839)	7308 (9201)	1137 (1691)	-594 (1962)
3	1141 (3845)	-15442 (10504)	0.049 (0.043)	-0.188 (0.151)	2694 (1776)	459 (1530)	3047 (2941)	-541 (7292)	-6779 (8237)	4967 (8827)	-275 (1659)	-3302 (2049)
4	-4797 (3440)	-20208 (10450)	0.032 (0.052)	-0.329 (0.152)	2707 (1285)	135 (1121)	-3298 (3139)	-6387 (7809)	-13889 (7900)	1171 (8357)	-1812 (1946)	-4074 (2006)
5	-3529 (4382)	-19324 (9428)	0.013 (0.051)	-0.228 (0.122)	3785 (2097)	521 (1679)	-1955 (2858)	-3115 (8655)	-10789 (10311)	6548 (8288)	-2081 (1614)	-4853 (1827)
6	-1825 (4534)	-19232 (8936)	0.005 (0.052)	-0.364 (0.143)	2170 (1002)	-73 (1043)	-1184 (3506)	1872 (11513)	-10136 (10832)	2746 (8194)	-1786 (2007)	-3617 (2030)
7	-3393 (5973)	-15139 (9816)	-0.063 (0.075)	-0.207 (0.187)	2732 (1984)	994 (2003)	-3725 (3419)	-1322 (7684)	3058 (11532)	7511 (8728)	-2882 (1170)	-3840 (1934)
8	-7055 (8956)	-21651 (11047)	-0.098 (0.113)	-0.211 (0.199)	4009 (1786)	1100 (1908)	-5530 (5403)	-6454 (6432)	-9287 (8879)	3647 (9093)	-3994 (2563)	-5242 (2553)
9	-10289 (9639)	-25504 (11803)	-0.206 (0.128)	-0.345 (0.221)	4397 (1979)	2741 (1704)	-9400 (5717)	-3644 (11544)	-3205 (11398)	10684 (11544)	-5088 (2581)	-6079 (2880)
10	-4783 (8415)	-31913 (10781)	-0.246 (0.17)	-0.451 (0.227)	4650 (2642)	463 (1695)	30 (5434)	-6637 (11150)	-10265 (10069)	-4103 (10680)	-1018 (2304)	-7182 (2596)
11	1354 (10776)	-33684 (10649)	-0.252 (0.176)	-0.597 (0.173)	4687 (2870)	1613 (1491)	3302 (6581)	-9940 (15026)	-11768 (10269)	-2094 (9542)	703 (2744)	-8319 (2478)

Note: Table reports estimates of the effects in the  $k \in \{-4, \dots, 10\}$  years relative to its onset on measures of market income. Estimates are obtained from the TWFE specification described in the main text. Standard errors, reported in parentheses, are clustered at the individual level. Wages, salaries, and commissions; before-tax income; after-tax income; total family income; and income from family members are top-coded at the 99th percentile. Survey weights have been applied so the sample reflects the demographic composition of Canada in 2012.

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