

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

By Robert Millard

1 Theoretical Framework for the Heterogeneous Effects of Disability Types

In a standard human capital model, an individual’s stock of human capital determines their marginal productivity and subsequent returns to working. The heterogeneous effects of different types of disabilities are readily illustrated with a task-specific human capital framework. In this setting, an individual’s human capital vector is defined relative to the skill requirements of occupations. The skill requirements of occupations are typically derived from a larger set of task requirements associated with each occupation.¹ A main advantage of this approach is the ability to formalize an ordinal concept of skills-jobs mismatch. This mismatch is quantified as the distance between a worker’s human capital vector and the skill requirement vector of their occupation through some metric function. A greater distance between these vectors indicates a larger mismatch between the worker’s skills and the tasks required by an occupation, resulting in larger wage penalties. In the following, I further develop this framework and show how it is extended to incorporate the effects of disabilities.

Formally, an occupation is represented by a k -dimensional skill requirement vector, $x_t \in \mathbb{R}^k$, where each element, $x_t^j \in \mathbb{R}$, represents the complexity of the corresponding tasks involved in producing output in period t . Complexity measures the importance of these tasks in the production process. For example, critical thinking tasks are essential to the productivity of an economics researcher, indicating a high value for the complexity in that dimension of the skill requirement vector. Occupations are thus differentiated by their skill requirements and by the output they produce. A worker’s skills are represented by a k -dimensional vector, $s_t \in \mathbb{R}^k$, where each element, $s_t^j \in \mathbb{R}$, represents the proficiency of skill dimension j when engaging in productive work. For instance, an economics researcher with a Ph.D. will have developed their skills in critical thinking, corresponding to a high value in this dimension of their skill vector. Without loss of generality, workers’ skills are ordered in terms of their complementarity with the respective element in the skill requirement vector. For instance, if x_t^1 represents manual tasks, s_t^1 will summarize physical human capital, such as strength, dexterity, or mobility.

Following Yamaguchi (2012), a worker’s hourly wage, w_t , equals their marginal value product, which is

¹A primary source of information on an occupation’s task requirements is the O*NET. The dimensionality of task requirements is often higher than that of the skill requirement vector, and dimension reduction methods, such as unrestricted Principal Component Analysis, are often used. For example, Poletaev and Robinson (2008); Yamaguchi (2012); Lindenlaub (2017); Robinson (2018); Guvenen et al. (2020); Lise and Postel-Vinay (2020). Sanders, Taber et al. (2012) summarizes the earlier literature on task-based human capital.

defined as

$$w_t = \pi(x_t)q(x_t, s_t)\exp(\eta_t).$$

The labour productivity of a worker with skill s_t at occupation with skill requirement x_t can be further parameterized as $\ln q(x_t, s_t) = \theta'(x_t)s_t$. $\theta(x_t)$ is a k -dimensional vector representing the implicit skill prices, which captures the contribution of skill s_t to production in occupation x_t . The market price of a product characterized by skill requirements x_t is $\pi(x_t)$. Lastly, $\eta_t \sim F(\eta)$ represent i.i.d productivity shocks.

In a competitive setting, workers that are heterogeneous in skills will self-sort into occupations based on their comparative advantage.² Observed wages maximize the product of the match function (q) and market pricing of the skill requirement of an occupation (π). Further assuming that $\frac{\partial \pi(x_t)}{\partial x_t} > 0$ implies that the market valuation of skills is increasing in task complexity. Moreover, assuming $\frac{\partial^2 q(x, s)}{\partial s_k \partial x_k} > 0$ implies that skills are more intensely used and contribute to productivity more, where corresponding tasks are complex.

To incorporate the effects of disabilities, define a disability vector, d_t , as a k -dimensional vector representing the extent of limitation to the respective skills in the human capital vector in period t . The elements of d_t are constrained such that $d_t^j \in [0, 1], \forall j \in \{1, \dots, k\}$. The disability vector captures the degree of impairment in percentage terms, where 1 corresponds to no limitation, and 0 corresponds to total incapacitation in that dimension. Then, redefine wages as

$$\begin{aligned} w_t &= \pi(x_t)q(x_t, h_t)\exp(\eta_t). \\ &= \pi(x_t)\exp(\theta'(x_t)h_t + \eta_t), \end{aligned}$$

where $h_t = s_t \cdot d_t$.³ Importantly, wages depend on the dot product of the current stock of skills and the disability vector. This captures the immediate effect of disability onset on productivity, keeping occupation fixed. In the absence of any disability $d_t^j = 1, \forall j \in \{1, \dots, k\}$ and $q(x_t, h_t) = q(x_t, s_t)$. For any $d_t \neq 1$, optimal pre-onset sorting implies that $q(h_t, x_t) < q(s_t, x_t)$, and the associated wage loss is the size mismatch between “effective skills” and skill requirements scaled by the market valuation of output from this occupation, $\Delta w = (q(s_t, x_t) - q(h_t, x_t))\pi(x_t)$. Or alternatively, the disability-induced mismatch is the weighted sum of the difference between the elements of s_t and $d_t s_t$, where weights are the implicit skill prices, θ , multiplied by the market valuation of these tasks, $\pi(x_t)$.

Certain dimensions of human capital will be more affected by specific types of disabilities. To illustrate, researchers often specify the human capital vector to consist of physical and cognitive skills and occupations to consist of physical and cognitive tasks (Sanders, Taber et al., 2012; Yamaguchi, 2012; Mori, 2019). Additionally, assume that a physical disability only affects the stock of physical skills, and a cognitive disability only affects the stock of cognitive skills. The resulting impact on earnings of a given type of disability will depend on two factors. First, some tasks are more important in certain occupations than others. For instance, the productivity of a labourer will have a higher dependence on physical tasks relative to cognitive

²This aligns with Roy’s workhorse framework and the life-cycle model of Yamaguchi (2012) (Roy, 1951).

³This takes a specific stance on the relationship between health and human capital. Health is generally viewed as complementary to human capital, and researchers have taken various approaches to formalizing the relationship between the two. For instance, Hanushek and Woessmann (2008) discusses a model of human capital inputs that depend on health among other inputs to skill production, Grossman (2017) models health capital as affecting the amount of productive time, and Mori (2019) considers multidimensional health capital and human capital as being complimentary in human capital productivity.

tasks, which is captured by θ . Second, the market values the output of certain tasks more than others.⁴ For example, if output produced by highly intensive cognitive skills, such as the services of a lawyer, are priced higher by the market, a cognitive disability may result in greater wage scarring for a lawyer compared to an equally severe physical disability.⁵ Alternately, the onset of a physical disability may be disastrous for the productivity of a manual labourer and may not meaningfully affect a lawyer’s productivity. Hence, the market pricing of physical skills relative to cognitive skills will contribute to the differential impact of disability types on employment income.

A disability shock today can have lasting dynamic effects on earnings through the process of skill accumulation. To illustrate, I follow Yamaguchi (2012) and assume that skills grow from period t to $t+1$ according to

$$s_{t+1} = Ds_t + a_0 + A_1x_t + A_2d_t + \epsilon_{t+1}.$$

The matrix D captures the depreciation rate of skills between periods, b_t allows individual characteristics to affect skill accumulation, and ϵ_{t+1} represents idiosyncratic shocks to skills. The matrix A_1 represents a “learning-by-doing” technology of human capital production, where higher task complexity in a particular dimension results in more rapid skill production in that dimension. The off-diagonal elements of the matrix capture complementarities in skill production across tasks. Similarly, the onset of a disability in t results in a permanent shock to skills in $t+1$, the scale of which is captured by the matrix A_2 . The diagonal elements of A_2 represent the direct effects of limitation in a dimension, and off-diagonal elements capture complementary effects. For instance, the onset of a physical disability in t may result in positive complementarities for cognitive skill development, indicating potential compensatory efforts to overcome the physical limitations. Assuming no occupational change, substituting in for previous period skills,

$$s_{t+1} = D^{t-n}s_{t-n} + \sum_{j=0}^n D^j A_1 x_{t-j} + \sum_{j=0}^n D^j A_2 d_j + \sum_{j=0}^n D^j \epsilon_{t-n+1},$$

which shows that in period t , the dynamic effect of a disability which onset in period $t-n$ is $\sum_{j=0}^n D^j A_2 d_j$.

Predicting the full extent of the effects of disability onset on incomes and labour market behaviour requires embedding the aforementioned wage and skill transition process within a life cycle labour-leisure framework. Formalizing such a model provides the theoretical basis for predicting labour supply responses to disability-induced wage shocks. For instance, in the neoclassical labour supply model, where leisure is a normal good, substitution effects following wage loss predict decreases in labour supply. In contrast, income effects predict increases in labour supply. However, a disability shock may influence these effects and consequently affect the reoptimized labour supply. A disability may alter the marginal utility of consumption and the marginal cost of work (Cutler et al., 2006; Low and Pistaferri, 2015). Additionally, the relative value of non-participation may increase when disability status gives eligibility to social insurance programs, such

⁴The human capital literature on task-specific human capital typically finds a higher market valuation to output produced by cognitive tasks, relative to physical (Poletaev and Robinson, 2008; Sanders, Taber et al., 2012; Yamaguchi, 2012; Lise and Postel-Vinay, 2020)

⁵Research on the effects of different types of health conditions or disabilities typically finds heterogeneity in their impact on productivity, earnings, among other outcomes. These studies often find that disabilities with a degree of cognitive impairment are more detrimental to economic welfare than physical or sensory disabilities. For example, see Case, Fertig and Paxson (2005); Lundborg, Nilsson and Rooth (2014) and, Mori (2019).

as disability insurance. Hence, the income effect may be offset by an increase in the outside option to work. The labour response depends on the extent of wage loss from disability-induced mismatch and the ability to substitute to occupations that better match the post-disability skill vector. Lastly, the aforementioned analysis assumes the absence of market frictions, which may lead to situations where the pre-disability job does not maximize the match function, q , and create challenges in transitioning to new occupations following disability onset.⁶ For instance, observed behavioural changes might result from additional costs associated with disability, labour market risks, and discrimination.⁷ Formalizing such a model is outside the scope of this paper and is left for future work.

2 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.⁸ 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.⁹

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

⁶The implications of disability onset are most likely to be similar in a setting with market frictions. However, the worker-job match at the time of onset may not be efficient in the sense of optimizing wages for a worker. Guvenen et al. (2020) consider an environment where information frictions about one’s ability results in a mismatch. Lise and Postel-Vinay (2020)

⁷Kitao (2014) studies disability-specific labour market risks. Baldwin and Johnson (2006) survey research on disability-related discrimination in the labour market.

⁸For instance, people differ in the sets of tasks making up work, daily life, and their tolerance for dealing with barriers to performing these tasks.

⁹That 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.

occupation of the individual. A mild ankle sprain may be more disruptive to the livelihood of a professional athlete than a software engineer.

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.¹⁰

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.¹¹ 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.

¹⁰This may be accommodated by adding penalties to multiple conditions in the mapping from v to \hat{d}_i .

¹¹The set of ADL includes mobility, flexibility, memory, dexterity, learning, pain, and mental health.

2.1 Sample Survey Questions on Limitations to Daily Activities

Table 1: Survey Questions on Limitations to Daily Activities

Physical Disability

- 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?
- Do you have pain that is always present?

Mental-Cognitive Disability

- 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.
 - 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.

3 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).¹²

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.

4 Descriptive Statistics

Table 2 presents descriptive statistics by disability status and across the aggregate disability types. The first two columns compare individuals with disabilities and the never-disabled control sample. Individuals who ever experience a disability shock have lower average education levels, are more likely female, and have a lower likelihood of marriage. The lower section of Table 2 reports the predicted average labour market outcomes before onset from models controlling for age and age squared and evaluated at age 40. Individuals who ever experience a disability shock exhibit lower employment levels, less employment income from WSC, and receive more government transfers. Once again, these findings are consistent with a disability-related SES-health gradient.

The rightmost three columns in Table 2 compare mutually exclusive aggregate disability types. The average age of individuals with a physical disability is higher, and the onset of physical disabilities occurs at older ages relative to mental-cognitive disabilities.¹³ Mental-cognitive and concurrent disabilities drive lower marriage rates or common law status rates among the population with disabilities. However, this difference may be related to other characteristics, such as the age of those with cognitive disabilities. Individuals experiencing mental-cognitive disability tend to have higher education levels than those with aggregate physical disabilities and the never-disabled sample.

¹²Net federal supplements are grouped in a measure of non-taxable income. But the sample of study is not eligible for these transfers.

¹³The average age of onset for concurrent disabilities falls in between physical and cognitive disabilities. However, I do not observe which condition occurred first or if both types of disabilities occurred simultaneously.

Table 2: Demographic Summary Statistics by Disability Status and Aggregate Disability Type

	No Disability	All Disability	Aggregate Physical	Mental-Cognitive	Concurrent
Age	37.6 (8.7)	38.6 (7.1)	39.8 (7.1)	34.6 (6.3)	37.8 (6.7)
Age of Onset	- (-)	42.1 (9.4)	43.5 (9.1)	37.6 (9.2)	40.7 (9.2)
Female	0.488 (0.50)	0.578 (0.50)	0.563 (0.54)	0.592 (0.49)	0.601 (0.48)
Dropout	0.064 (0.24)	0.117 (0.33)	0.119 (0.34)	0.041 (0.20)	0.138 (0.34)
High School	0.181 (0.38)	0.209 (0.41)	0.203 (0.42)	0.172 (0.38)	0.231 (0.41)
Post Secondary	0.750 (0.43)	0.667 (0.48)	0.674 (0.49)	0.783 (0.41)	0.618 (0.48)
Married	0.719 (0.45)	0.647 (0.49)	0.722 (0.46)	0.634 (0.48)	0.510 (0.49)
Number of Children	0.8 (1.1)	0.7 (1.0)	0.7 (1.0)	0.9 (1.1)	0.6 (0.9)
<i>Pre-Onset Labour Market Statistics</i>					
Labour Market Participation Rate	0.845	0.796	0.808	0.843	0.756
Wages, Salaries, and Commissions	46,770	37,389	37,998	42,022	34,648
Total Government Transfers	2,181	3,038	2,778	2,380	3,806
Disability Relevant Transfers	1,188	1,857	1,683	1,229	2,429
Family Transfers	900	1,044	976	1,053	1,189
Family Total Income	102,909	80,518	82,396	90,931	73,253
After-Tax Income	44,271	36,482	36,860	40,318	34,485

Note: Standard deviations are in parentheses. The sample reflects working age (25-55), living in the Canadians from provinces, whose disability onset occurred in working life. Survey weights have been applied so the sample reflects the demographic composition of Canada in 2012. Pre-onset statistics are predicted from an OLS regression controlling for a 2nd order polynomial in age and evaluated at age forty. All income measures other than transfers are top coded at the 99th percentile.

Key differences in income and employment prior to onset by aggregate disability types are also highlighted. Individuals experiencing an aggregate physical disability are less likely to be employed and earn less than those who never receive a disability. Conversely, individuals who experience a mental-cognitive shock exhibit similar employment and pre-onset earnings as the never-disabled group. Once again, these patterns are consistent with different exposure risks associated with various occupations and demographics. Individuals experiencing mental-cognitive disabilities tend to work more, have higher earnings prior to onset, and receive fewer disability-related transfers.¹⁴

In Table 3, I contrast differences by the more granular disability types.¹⁵ Within aggregate physical, individuals with exclusively pain-related conditions tend to have higher levels of education and earn more through employment prior to the onset of their disabilities. The opposite is true for disabilities related to

¹⁴Note the positive amounts of disability-relevant transfers reflect the inclusion of SA programs, which is available for individuals that are not disabled.

¹⁵Demographic characteristics and pre-onset incomes and employment are very similar across mobility, flexibility, and dexterity activity limitations.

Table 3: Demographic Summary Statistics By Disability Types Within Aggregate Groupings

	Exclusively Mental Health	Cognitive Functioning	Kinetic Ability	Exclusively Pain
Age	33.8 (6.1)	36.3 (6.4)	40.88 (7.15)	37.9 (6.51)
Age of Onset	36.9 (9.1)	39.3 (9.3)	44.51 (8.74)	41.89 (9.47)
Female	0.646 (0.48)	0.477 (0.50)	0.576 (0.52)	0.540 (0.51)
Dropout	- (-)	- (-)	0.149 (0.37)	0.070 (0.26)
High School	0.213 (0.41)	0.226 (0.42)	0.219 (0.43)	0.178 (0.39)
Post Secondary	0.787 (0.41)	0.774 (0.42)	0.630 (0.50)	0.746 (0.45)
Married	0.645 (0.48)	0.611 (0.49)	0.700 (0.48)	0.758 (0.44)
Number of Children	0.9 (1.1)	0.8 (1)	0.59 (0.95)	0.8 (1.07)
<i>Pre-Onset Labour Market Statistics</i>				
Labour Market Participation Rate	0.857	0.819	0.811	0.804
Wages, Salaries, and Commissions	43,444	40,933	36,011	41,587
Total Government Transfers	2,192	2,739	3,005	2,391
Disability Relevant Transfers	1,066	1,534	1,884	1,333
Family Transfers	1,029	1,115	984	967
Family Total Income	92,579	89,162	78,634	88,788
After-Tax Income	41,314	39,809	35,855	40340

Note: Standard deviations are in parentheses. The sample reflects working age (25-55), living in the Canadians from provinces, whose disability onset occurred in working life. Survey weights have been applied so the sample reflects the demographic composition of Canada in 2012. Pre-onset statistics are predicted from an OLS regression controlling for a 2nd order polynomial in age and evaluated at age forty. All income measures other than transfers are top coded at the 99th percentile.

kinetic ability. This observation is intriguing because it shows opposite signs for the SES-health gradient among individuals experiencing limitations to their kinetic ability compared to exclusively pain.

Within mental-cognitive, disabilities due exclusively to mental health limitations tend to manifest earlier in working life than cognitive functioning. Disabilities in cognitive functioning tend to be related to work or aging, and mental health conditions are more likely related to work or diseases. Additionally, a higher proportion of females experience mental health disabilities, but there are no noticeable differences in family composition between the two groups. In terms of socioeconomic factors, both mental health and cognitive disabilities have comparable levels of education, employment, and income before the onset of their disability. However, there are notable differences in the attachment to government programs before the reported onset. Individuals limited in cognitive functioning tend to rely more on disability-related transfers provided by the government.

Table 4 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

Table 4: 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 5: 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.

not sum to one. Aggregate physical disabilities are 10pp more likely to be related to work. Similarly, Table

5 reports the reason for onset by the disaggregated disability types. Like the aggregate types, the activity limitations within aggregate physical are 10-20pp more likely to occur at work than cognitive functioning or mental health types.

5 Description of Robustness Checks

This section discusses sensitivity of results to alternate selection criterion and model specifications. In conducting the robustness of estimates to alternate specification, I use a simple two-way fixed effect estimation rather than the IW or PSM estimators. As mentioned in the text, it can be shown that this produces nearly identical results to the IW estimator, as my estimation sample has a very large never-treated control group. The IW estimation is a computationally expensive, which is exacerbated by the low computation power of the computers available in the research and data center. Moreover, these robustness exercises involve slicing the estimation sample into smaller subgroups. This creates the risk of the size of some sub populations falling below the count threshold to be approved for extraction from the Statistics Canada Research and Data Center. Results from these exercises may be made available upon request, subject to vetting requirements.

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.

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.

Onset Caused by Labour Market Outcome

A final robustness check addresses 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.

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

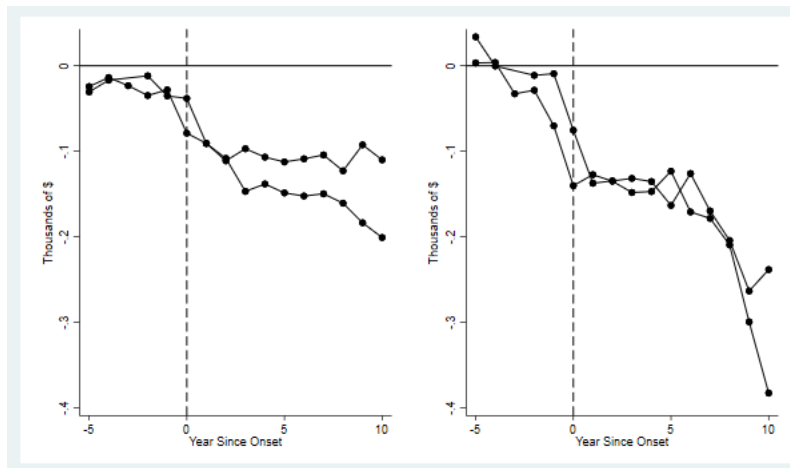
the long run. However, these estimates are highly imprecise due to the reduced sample size resulting from further subgrouping of the disabled population.

6 Supplementary Results

This appendix 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. For market income, I show results for total market income, and an aggregate of self-employment income and other employment income (i.e., all paid income through employment that is not WSC or self-employment). These estimates illustrate the effects of disability onset on potential substitution toward alternative sources of employment income. For Government transfers, I separately estimate models for two categories of transfers; transfers targeting individuals with disabilities and transfers targeting families. Lastly, I provide estimates for total before-tax income and total nontaxable income.

In addition, I present results for all dependent variables using a subsample of individuals who report disabilities exclusively related to pain. These individuals do not report any limitations in activities connected to kinetic ability. As discussed in Section 3 of the main text, individuals who report kinetic disabilities may also cite pain as a limiting factor, but this appendix focuses on those whose reported disabilities are solely attributed to pain.

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



Note: Implied percentage effects are derived using ratio of estimates from models for WSC in Figure 1 of the main text and the average pre-onset WSC from Table 2 in this Appendix.

Figure 2: Effect of Disability Types on Self-Employment and Other Employment Income

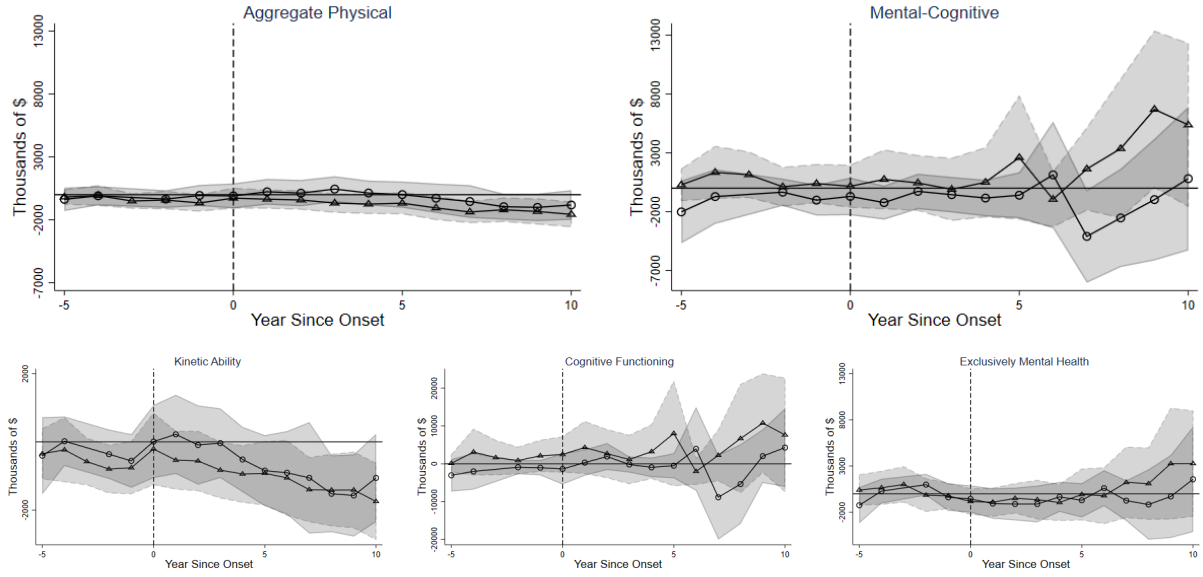
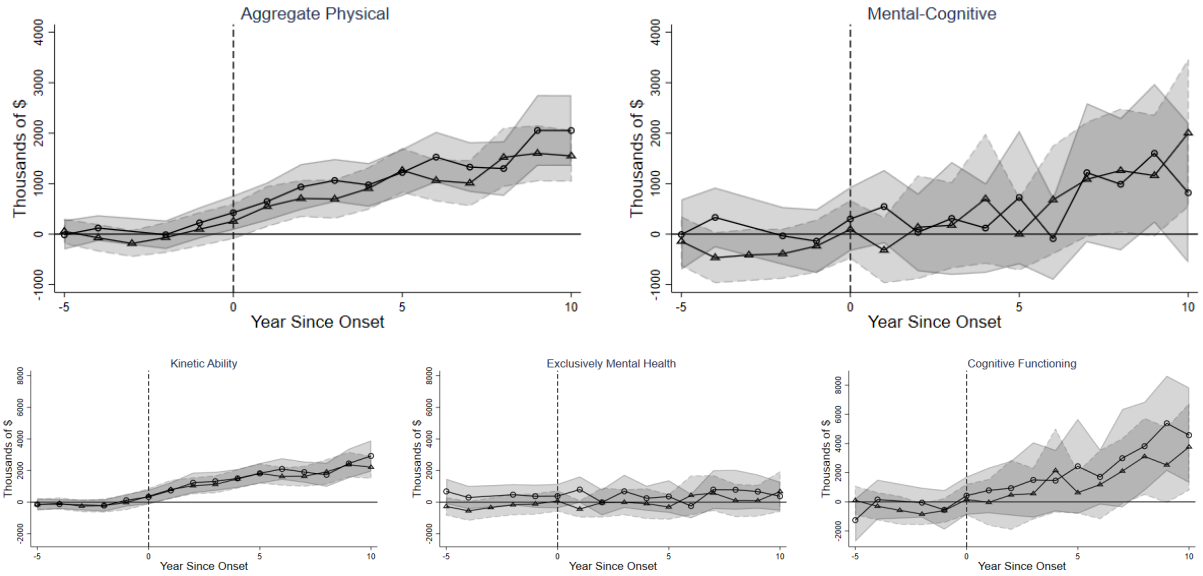
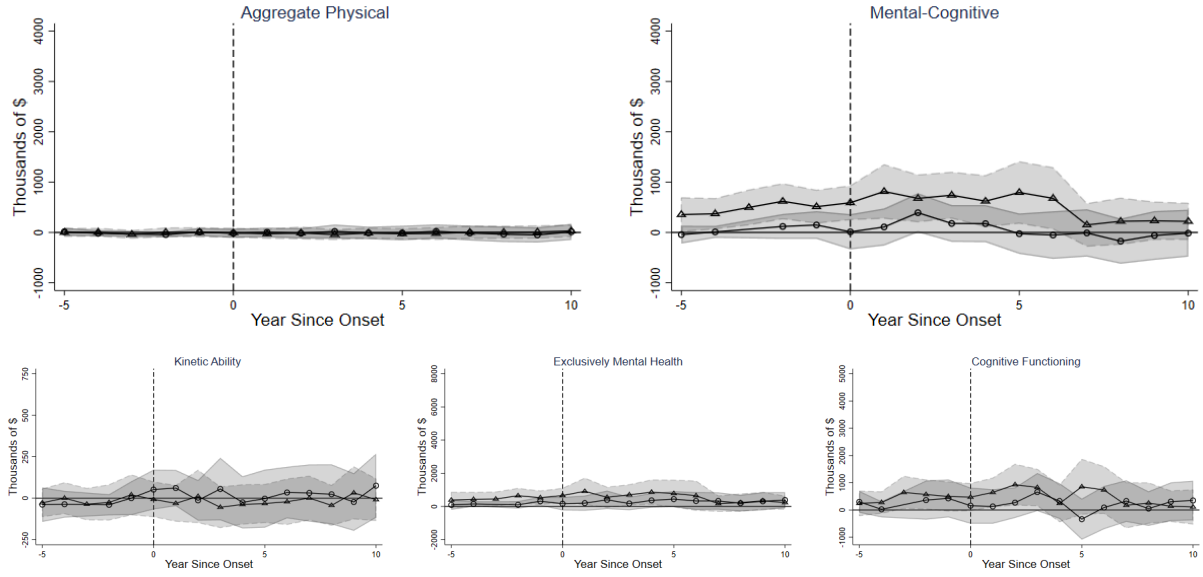


Figure 3: Effect of Disability Types on Disability Relevant Transfers



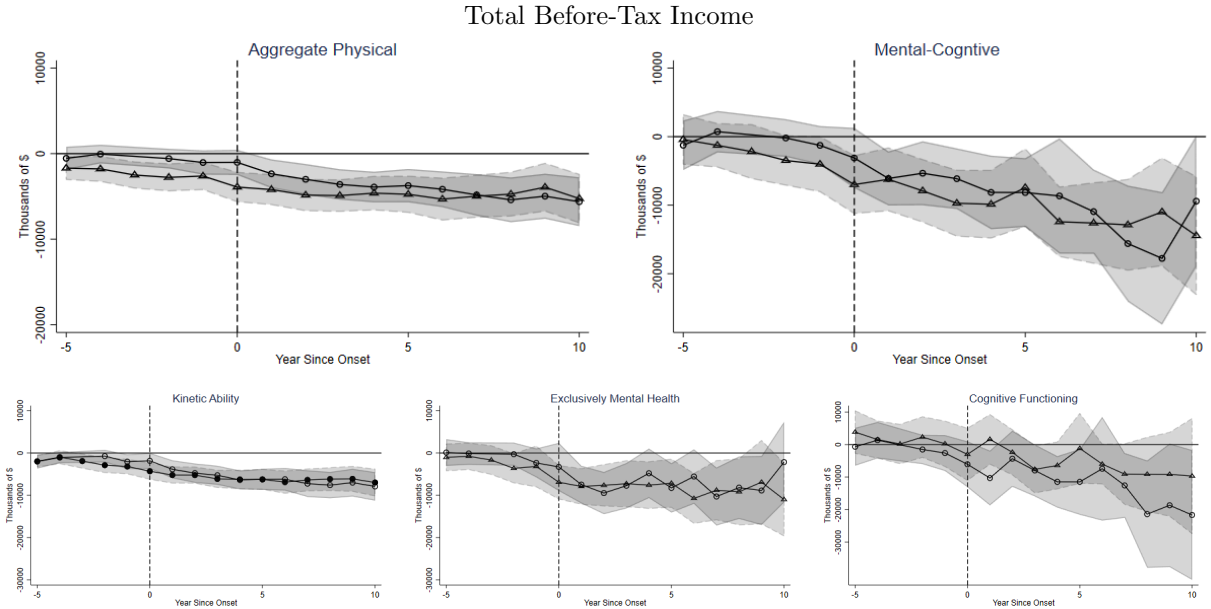
Notes: Figures present point estimates of the effects of disability onset in the $l \in \{-5, \dots, 10\}$ periods relative to its reported onset. The triangles correspond to estimates from the IW model and the circles correspond to estimates from the PSM model. The 95% confidence intervals for the point estimates is represented by the dashed and solid edged shaded region for the IW and PSM model, respectively

Figure 4: Effect of Disability Types on Family Relevant Transfers



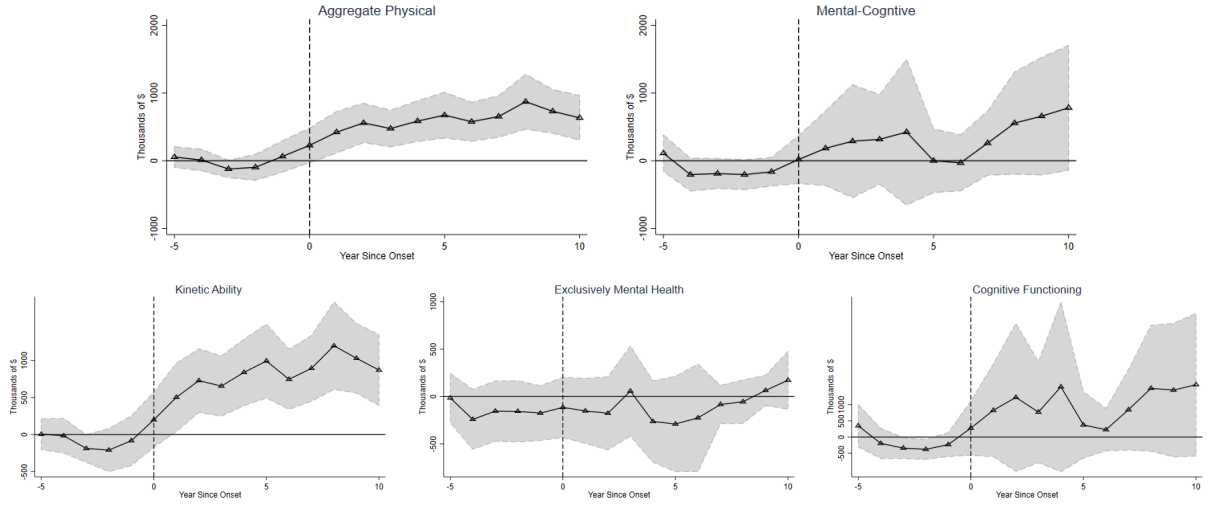
Notes: Figures present point estimates of the effects of disability onset in the $l \in \{-5, \dots, 10\}$ periods relative to its reported onset. The triangles correspond to estimates from the IW model and the circles correspond to estimates from the PSM model. The 95% confidence intervals for the point estimates is represented by the dashed and solid edged shaded region for the IW and PSM model, respectively

Figure 5: Effect of Disability Types on Before-Tax Income



Notes: Figures present point estimates of the effects of disability onset in the $l \in \{-5, \dots, 10\}$ 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

Figure 6: Effect of Disability Types on Non-Taxable Income



Notes: Figures present point estimates of the effects of disability onset in the $l \in \{-5, \dots, 10\}$ 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

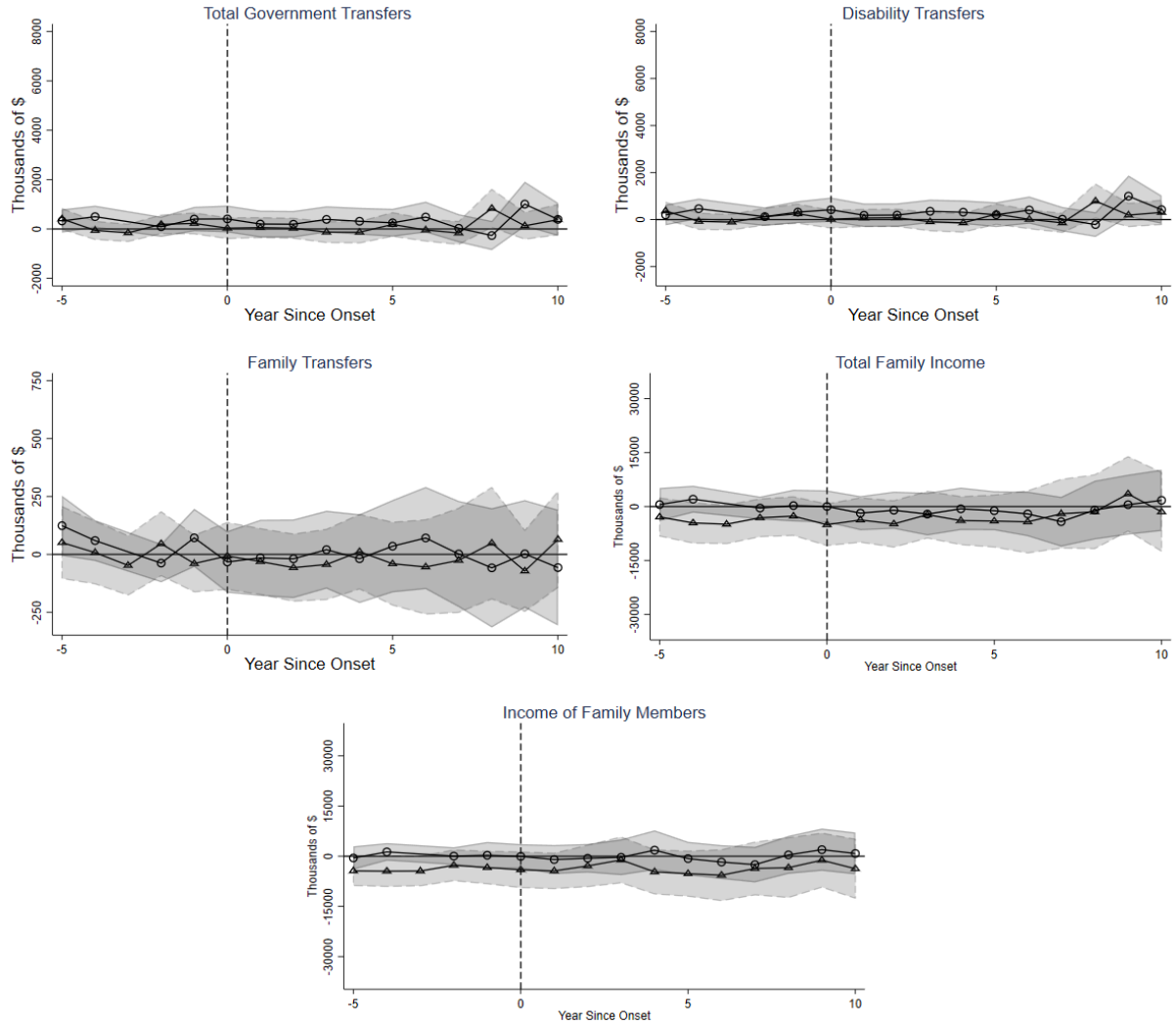
Figure 7: Effect of Exclusively Pain Type Disabilities on Income Measures



Notes: Figures present point estimates of the effects of disability onset in the $l \in \{-5, \dots, 10\}$ 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

Figure 8: Effect of Exclusively Pain Type Disabilities on Income Measures

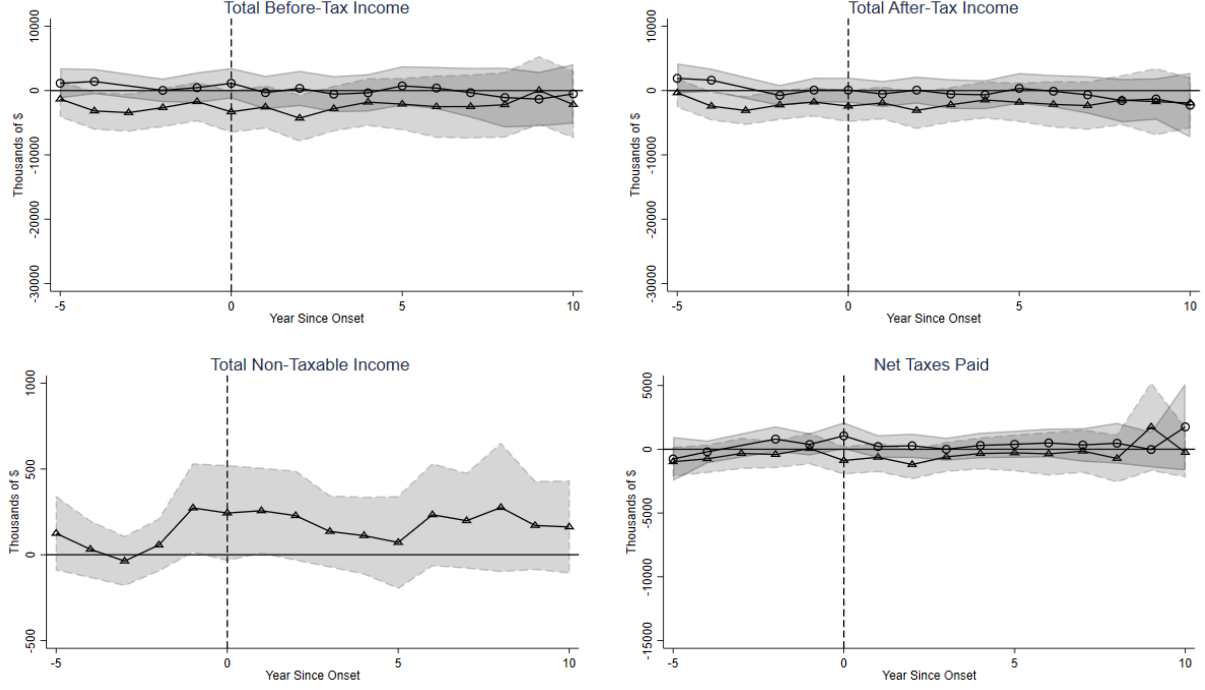
Government Transfers and Family Income



Notes: Figures present point estimates of the effects of disability onset in the $l \in \{-5, \dots, 10\}$ 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

Figure 9: Effect of Exclusively Pain Type Disabilities on Income Measures

Before-Tax Income, After-Tax Income, Non-Taxable Income, and Net Taxes Paid



Notes: Figures present point estimates of the effects of disability onset in the $l \in \{-5, \dots, 10\}$ 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

7 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 6: 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 ²	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 age²</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 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 7: 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 ²	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 age²</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 8: 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 ²	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 age²</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 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 9: 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 ²	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 age²</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 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 10: 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 ²	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 age²</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 11: 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 ²	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 age²</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 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.

8 Model Estimates

The final section of the Appendix reports the point estimate used to produce all figures in the main text and in the supplementary results of the Appendix.

Table 12: Estimates of the Dynamic Effect of Physical Disability on Components of Market Income.

Year Relative to Onset	Interaction-Weighted				Propensity Score Matching			
	Labour Market Participation Rate	Wages, Salaries, and Commissions	WSC for Participants	Non-Market Income	Labour Market Participation Rate	Wages, Salaries, and Commissions	WSC for Participants	Non-Market Income
-4	0.01 (0.01)	-923.73 (671.79)	-1385.13 (722.91)	-184.50 (290.9)	-0.01 (0.01)	-1163.18 (658.31)	-1292.37 (724.07)	-368.69 (473.11)
-3	0.00 (0.01)	-522.77 (728.58)	-597.72 (774.34)	-72.23 (401.15)	0.01 (0.01)	-639.63 (523.56)	-872.45 (617.54)	-86.78 (389.85)
-2	0.01 (0.01)	-885.45 (773.37)	-870.94 (791.81)	-500.23 (293.41)				
-1	-0.01 (0.01)	-1321.50 (823.04)	-774.80 (812.03)	-426.35 (356.63)	0.02 (0.01)	-447.16 (518.11)	-423.96 (594.45)	-349.89 (358.64)
0	0.00 (0.01)	-1070.08 (847.24)	-254.41 (821.73)	-655.63 (332.09)	-0.01 (0.01)	-1339.51 (676.01)	-645.13 (719.01)	-61.74 (427.56)
1	-0.01 (0.01)	-2995.17 (911.68)	-2286.95 (951.69)	-275.21 (402.73)	-0.01 (0.01)	-1449.33 (756.66)	-370.30 (768.69)	-96.69 (507.55)
2	-0.04 (0.01)	-3447.75 (946.23)	-2433.75 (992.6)	-355.50 (368.21)	-0.01 (0.01)	-3453.10 (910.59)	-2939.80 (1014.96)	231.24 (522.43)
3	-0.06 (0.01)	-4222.69 (977.4)	-2112.18 (977.83)	-421.33 (376.68)	-0.04 (0.01)	-4113.38 (1002.47)	-3063.99 (1015.52)	125.87 (535.07)
4	-0.08 (0.02)	-3685.30 (995.29)	-702.40 (959.98)	-667.34 (373.88)	-0.06 (0.01)	-5380.59 (973.28)	-4038.71 (1057.95)	446.27 (521.93)
5	-0.10 (0.02)	-4059.66 (1068.56)	-680.41 (1131.93)	-745.60 (382.72)	-0.08 (0.02)	-5252.23 (967.39)	-2782.55 (981.68)	132.30 (505.24)
6	-0.10 (0.02)	-4272.28 (1147.01)	-1299.47 (1215.21)	-676.10 (428.63)	-0.10 (0.02)	-5649.60 (1029.64)	-2924.48 (1089.1)	6.86 (532.62)
7	-0.10 (0.02)	-4134.41 (1275.54)	-813.22 (1350.79)	-1052.76 (473.06)	-0.09 (0.02)	-5787.22 (1111.89)	-3584.88 (1205.15)	-277.40 (595.9)
8	-0.10 (0.02)	-3963.58 (1284.32)	-1719.13 (1479.64)	-1373.15 (431.48)	-0.11 (0.02)	-5687.74 (1235.1)	-3060.80 (1309.76)	-543.17 (665.56)
9	-0.11 (0.02)	-4668.36 (1352.97)	-1883.43 (1458.32)	-1199.88 (476.9)	-0.10 (0.02)	-6107.14 (1328.62)	-4108.29 (1486.89)	-953.06 (527.2)
10	-0.09 (0.02)	-3513.27 (1366.28)	-1941.29 (1579.94)	-1332.19 (511.88)	-0.11 (0.02)	-6976.08 (1407.2)	-4981.38 (1467.65)	-1007.80 (558.52)
11	-0.12 (0.02)	-4180.60 (1444.13)	-1735.85 (1703.99)	-1566.55 (502.48)	-0.11 (0.02)	-7631.01 (1482.65)	-6623.02 (1638.94)	-819.65 (602.6)

Note: Table reports estimates of the effects of physical disability in the $l \in \{-4, \dots, 10\}$ years relative to its onset on measures of market income. The first four columns report estimates from the IW specification (equation X in the main text) and the last four columns report estimates from PSM specification (equation X in the main text). Standard errors, reported in parentheses below the estimates, are clustered at the individual level for all models. Wages, Salaries, and Commissions are censored at the 99 percentile.

Table 13: Estimates of the Dynamic Effect of Physical Disability on Government Transfers and Family Income.

Year Relative to Onset	Interaction-Weighted					Propensity Score Matching				
	Total Government Transfers	Disability Relevant Transfers	Family Transfers	Family Total Income	Family Members Income	Total Government Transfers	Disability Relevant Transfers	Family Transfers	Family Total Income	Family Members Income
-4	50.24 (132.68)	54.70 (122.9)	0.79 (40.13)	-2814.26 (1346.15)	-2150.69 (1388.21)	3.01 (158.9)	-14.74 (148.43)	14.73 (41.37)	-2102.79 (1340.25)	-1363.17 (1035.55)
-3	-74.77 (140.69)	-73.35 (133.53)	3.07 (39.84)	-2297.70 (1458.44)	-2278.34 (1286.36)	98.84 (135.97)	120.29 (130.06)	-17.02 (30.17)	-223.79 (1074.59)	-188.98 (829.7)
-2	-225.94 (137.94)	-185.43 (130.89)	-39.23 (39.48)	-2856.30 (1505.05)	-2598.23 (1318.11)	-47.38 (147.83)	-12.17 (144.57)	-42.71 (26.17)	-511.64 (1060.35)	74.35 (831.56)
-1	-61.54 (158.26)	-67.70 (150.55)	4.34 (43.72)	-1750.04 (1499.5)	-168.39 (1408.82)					
0	103.14 (175.32)	96.19 (167.26)	1.67 (45.76)	-2908.18 (1325.7)	-1962.63 (1538.66)	232.68 (167.09)	223.41 (157.75)	8.88 (40.8)	-587.71 (1292.32)	844.14 (983.65)
1	258.66 (182.72)	254.05 (173.92)	-4.71 (44.39)	-4281.78 (1641.7)	-2181.14 (1626.93)	417.66 (183.39)	425.83 (173.77)	-18.03 (46.54)	-1874.94 (1407.93)	-654.74 (1086.98)
2	530.93 (210.64)	547.70 (201.81)	-28.05 (45.32)	-4615.72 (1674.56)	-2963.81 (1558.67)	666.98 (201.28)	645.87 (102.52)	2.92 (48.12)	-3147.79 (1598.26)	-623.05 (1237.3)
3	696.82 (195.5)	705.08 (181.39)	-9.60 (59.72)	-5174.65 (1715.1)	-2426.48 (1711.31)	938.14 (240.33)	934.11 (232.18)	-17.07 (51.41)	-4032.89 (1604.23)	-1005.31 (1216.34)
4	651.73 (203.9)	694.79 (193.94)	-43.38 (50.15)	-4680.09 (1829.75)	-1434.15 (1938.66)	1099.04 (231.89)	1062.67 (217.92)	20.22 (70.41)	-4806.26 (1730.9)	-819.21 (1432.45)
5	891.64 (216.82)	903.72 (209.42)	-12.07 (50.42)	-6888.34 (1857.17)	-4571.16 (1927.93)	978.97 (235.44)	975.83 (221.17)	-10.10 (63.78)	-4937.25 (1847.8)	1432.45 (1621.79)
6	1228.08 (230.73)	1262.87 (221.85)	-25.96 (51.55)	-6983.12 (2128.99)	-5030.62 (2208.78)	1224.84 (250.31)	1220.98 (237.61)	-10.91 (74.25)	-6532.70 (1837.65)	-2124.28 (1503.55)
7	1047.42 (215.98)	1061.66 (205.85)	-20.74 (60.13)	-7636.95 (2378.83)	-4220.67 (2495.9)	1558.10 (270.7)	1526.61 (255.76)	21.03 (71.62)	-6078.85 (2172.67)	-1953.07 (1704.38)
8	1015.08 (237.13)	1010.68 (227.94)	2.74 (61.82)	-6975.57 (2440.78)	-5105.51 (2311.99)	1338.42 (265.86)	1328.25 (251.72)	-12.40 (75.75)	-6655.55 (2311.28)	-1029.37 (-1029.37)
9	1522.18 (302.62)	1521.29 (293.96)	3.38 (61.32)	-7126.88 (2664.45)	-5696.73 (2564.32)	1275.92 (287.62)	1299.01 (276.63)	-34.86 (79.77)	-6822.73 (2399.22)	-977.98 (1826.28)
10	1622.97 (282.98)	1600.65 (277.98)	8.37 (62.23)	-5501.32 (2718.19)	-3662.33 (2487.7)	2014.07 (370.83)	2054.36 (358.54)	-49.85 (76.74)	-6774.02 (2542.7)	-1797.61 (1910.54)
11	1597.56 (266.42)	1549.44 (255.79)	30.87 (58.05)	-8674.44 (2795.12)	-6381.98 (2503.74)	2088.21 (307.47)	2052.83 (357.53)	12.32 (82.17)	-7193.33 (2697.16)	-1750.87 (2062.47)

Note: Table reports estimates of the effects of physical disability in the $l \in \{-4, \dots, 10\}$ years relative to its onset on measures of market income. The first four columns report estimates from the IW specification (equation X in the main text) and the last four columns report estimates from PSM specification (equation X in the main text). Standard errors, reported in parentheses below the estimates, are clustered at the individual level for all models. Family Total Incomes are censored at the 99 percentile.

Table 14: Estimates of the Dynamic Effect of Physical Disability on Total Income Before and After Taxation.

Year Relative to Onset	Interaction-Weighted				Propensity Score Matching			
	Before-Tax Income	After-Tax Income	Non-Taxable Income	Net Taxes Paid	Before-Tax Income	After-Tax Income	Non-Taxable Income	Net Taxes Paid
-4	-1695.15 (677.6)	-767.60 (537.42)	54.60 (78.67)	-927.54 (266.97)	-544.22 (691.44)	-197.07 (659.13)		-347.15 (477.69)
-3	-1783.34 (743.88)	-933.41 (579.92)	10.53 (80.84)	-849.92 (287.41)	-49.30 (557.91)	-25.83 (507.09)		-23.46 (283.53)
-2	-2500.14 (779.84)	-1885.55 (592.68)	-122.21 (65.78)	-614.59 (292.01)				
-1	-2772.24 (807.51)	-1927.78 (619)	-96.67 (98.3)	-844.46 (285.95)	-578.33 (588.06)	-794.46 (497.29)		216.12 (288.57)
0	-2616.42 (808.59)	-1829.67 (607.53)	63.80 (118.2)	-786.76 (304.19)	-1037.38 (727.12)	-936.37 (583.64)		-101.01 (294.11)
1	-3909.79 (875.99)	-2540.40 (678.02)	226.99 (130.91)	-1369.38 (286.08)	-1019.41 (751.19)	-1070.65 (606.55)		51.24 (312.76)
2	-4199.99 (895.48)	-2766.94 (692.87)	421.46 (156.44)	-1433.06 (295.44)	-2352.18 (861.66)	-1797.81 (683.96)		-554.37 (308.41)
3	-4850.50 (930.59)	-3055.97 (738.47)	558.33 (148.59)	-1794.54 (286.07)	-2998.06 (912.65)	-2111.21 (714.49)		-886.86 (311.15)
4	-4903.57 (939.75)	-3282.85 (741.14)	475.22 (137.96)	-1620.72 (338.77)	-3598.40 (909)	-2626.60 (741.27)		-971.80 (306.85)
5	-4619.39 (1000.8)	-3042.85 (783.26)	585.53 (153.46)	-1576.54 (319.38)	-3907.18 (915.54)	-2862.60 (741.74)		-1044.58 (363.23)
6	-4750.33 (1078.34)	-3150.94 (830.5)	673.06 (172.91)	-1599.40 (353.42)	-3734.45 (994.07)	-2918.38 (790.72)		-816.07 (338.81)
7	-5318.88 (1250.51)	-3612.85 (944.07)	576.69 (146.51)	-1706.03 (422.75)	-4166.57 (1066.77)	-3096.16 (843.22)		-1070.42 (362.67)
8	-4973.24 (1256.09)	-3230.77 (960.24)	652.85 (156.61)	-1742.48 (413.73)	-4824.41 (1242.05)	-3933.25 (959.05)		-891.15 (418.16)
9	-4736.35 (1304.33)	-2769.04 (1006.76)	872.10 (207.36)	-1967.31 (437.06)	-5399.77 (1337.24)	-4242.44 (1020.59)		-1157.33 (446.81)
10	-3923.44 (1425.36)	-2797.65 (1258.46)	729.97 (164.98)	-1125.80 (695.74)	-4974.28 (1344.47)	-3810.66 (1056.54)		-1163.63 (432.7)
11	-5251.80 (1446.11)	-3264.25 (1117.9)	633.85 (168.39)	-1987.55 (473.07)	-5622.28 (1460.29)	-4850.24 (1336.28)		-772.03 (736.63)

Note: Table reports estimates of the effects of physical disability in the $l \in \{-4, \dots, 10\}$ years relative to its onset on measures of personal incomes. The first four columns report estimates from the IW specification (equation X in the main text) and the last four columns report estimates from PSM specification (equation X in the main text). Standard errors, reported in parentheses below the estimates, are clustered at the individual level for all models. Total Before-Tax and After-Tax Incomes are censored at the 99 percentile.

Table 15: Estimates of the Dynamic Effect of Mental-Cognitive Disability on Components of Market Income.

Year Relative to Onset	Interaction-Weighted				Propensity Score Matching			
	Labour Market Participation Rate	Wages, Salaries, and Commissions	WSC for Participants	Non-Market Income	Labour Market Participation Rate	Wages, Salaries, and Commissions	WSC for Participants	Non-Market Income
-4	-0.02 (0.02)	138.59 (1676.39)	1071.85 (1557.09)	286.63 (686.87)	0.00 (0.03)	1418.45 (2013.78)	-1163.78 (1259.48)	-2015.54 (1363.3)
-3	-0.03 (0.03)	161.64 (1821.7)	1823.84 (1554.49)	1342.36 (1127.98)	-0.01 (0.02)	-13.14 (1777.5)	-858.89 (1129.55)	-712.36 (1184.08)
-2	-0.02 (0.03)	-1376.55 (1795.38)	-848.57 (1662.66)	1145.91 (987.29)				
-1	-0.01 (0.02)	-1201.99 (1824.71)	-888.32 (1794.83)	121.90 (838.93)	0.00 (0.02)	-471.21 (1041.13)	-1848.34 (968.57)	-336.80 (590.88)
0	-0.01 (0.02)	-2949.36 (1842.04)	-3321.34 (1804.48)	393.87 (830.29)	-0.01 (0.03)	-391.03 (1492.25)	-1440.99 (1201.29)	-1012.76 (671.01)
1	-0.07 (0.03)	-5892.80 (2254.91)	-4488.75 (2268.2)	164.22 (912.8)	-0.01 (0.03)	-3167.77 (1649.57)	-4693.21 (1430.56)	-697.41 (814.78)
2	-0.08 (0.04)	-5351.65 (2314.94)	-3398.43 (2082.63)	749.33 (1274.53)	-0.07 (0.03)	-5770.57 (1847.54)	-6008.95 (1557.71)	-1223.14 (738.26)
3	-0.07 (0.04)	-5670.70 (2417.19)	-4307.29 (2269.84)	446.30 (1187.64)	-0.07 (0.04)	-5658.02 (2007.8)	-6179.86 (1672.47)	-267.26 (767.03)
4	-0.08 (0.04)	-6225.35 (2530.69)	-4543.78 (2424.89)	-96.71 (1345.77)	-0.07 (0.04)	-5333.78 (2272.12)	-5388.19 (2025.35)	-550.09 (769.11)
5	-0.08 (0.04)	-6181.04 (2683.89)	-5937.28 (2501.68)	505.37 (1501.6)	-0.09 (0.04)	-5688.32 (2480.39)	-4275.04 (2055.4)	-836.09 (792.14)
6	-0.10 (0.04)	-5182.03 (2612.31)	-4358.14 (2537.45)	2605.90 (2669.49)	-0.07 (0.05)	-6861.34 (2666.16)	-7151.74 (1919.64)	-596.86 (999.45)
7	-0.02 (0.04)	-7183.30 (3027.24)	-9085.65 (3077.98)	-948.41 (1190.31)	-0.07 (0.05)	-5295.69 (3065.69)	-6563.95 (2193.61)	1133.24 (2315.81)
8	-0.08 (0.05)	-7496.10 (3567.95)	-7066.83 (3604.25)	1637.52 (1785.31)	-0.02 (0.04)	-7133.23 (3073.89)	-11031.87 (2321.12)	-4093.28 (2011.4)
9	-0.17 (0.06)	-8802.16 (3522.54)	-3514.30 (2992.5)	3365.66 (3004.87)	-0.09 (0.05)	-8582.99 (3504.66)	-6253.97 (2642.96)	-2525.39 (2132.77)
10	-0.24 (0.07)	-12584.01 (4161.89)	-3468.58 (3421.51)	6705.80 (3389.65)	-0.17 (0.06)	-11069.20 (3894.53)	-6313.24 (2419.21)	-968.20 (2637.12)
11	-0.29 (0.06)	-16080.99 (4377.81)	-4126.20 (5462.13)	5380.12 (3535.87)	-0.19 (0.06)	-10014.39 (4186.67)	-4170.03 (3065.45)	812.99 (3112.42)

Note: Table reports estimates of the effects of Mental-Cognitive disability in the $l \in \{-4, \dots, 10\}$ years relative to its onset on measures of market income. The first four columns report estimates from the IW specification (equation X in the main text) and the last four columns report estimates from PSM specification (equation X in the main text). Standard errors, reported in parentheses below the estimates, are clustered at the individual level for all models. Wages, Salaries, and Commissions are censored at the 99 percentile.

Table 16: Estimates of the Dynamic Effect of Mental-Cognitive Disability on Government Transfers and Family Income.

Year Relative to Onset	Interaction-Weighted				Propensity Score Matching					
	Total Government Transfers	Disability Relevant Transfers	Family Transfers	Family Total Income	Family Members Income	Total Government Transfers	Disability Relevant Transfers	Family Transfers	Family Total Income	Family Members Income
-4	211.07 (287.68)	-143.42 (246.67)	354.66 (170.81)	655.38 (-3189.53)	491.07 (2957.69)	-40.91 (367.71)	-8.68 (355.51)	-43.22 (90.47)	-7318.32 (4021.71)	-5780.78 (3465.74)
-3	-112.48 (271.5)	-467.25 (252.82)	371.11 (153.57)	4204.15 (-4181.49)	3839.42 (4063.18)	359.46 (308.06)	331.00 (302.36)	10.68 (60.83)	-3700.29 (3979.91)	-3148.70 (3182.32)
-2	84.36 (319.18)	-414.34 (258.18)	496.87 (176.32)	2685.19 (-4436.39)	3277.50 (4218)					
-1	224.75 (296.61)	-389.78 (247.45)	619.02 (177.47)	1019.69 (-4288.76)	3653.15 (4478.74)	83.99 (338.04)	-35.11 (292.23)	119.08 (126.87)	-728.84 (4539.53)	-587.91 (3486.43)
0	250.88 (294.49)	-236.56 (262.59)	511.38 (166.65)	-643.21 (-4316.56)	2583.70 (4584.86)	5.11 (353.16)	-139.74 (323.65)	147.82 (140.77)	-2486.01 (4850.13)	-1072.65 (3910.53)
1	682.42 (332.96)	93.69 (288.88)	590.07 (171.1)	-3268.55 (-4632.3)	3505.57 (4765.05)	287.21 (368.8)	300.57 (323.58)	12.02 (178.98)	-5199.42 (5094.33)	-2056.72 (3764.34)
2	486.85 (390.27)	-318.88 (329.07)	813.78 (271.69)	-6522.29 (-4154.85)	-1740.53 (4002.36)	545.32 (371.25)	545.32 (371.25)	108.24 (188.48)	-7027.76 (5253.69)	-927.59 (4378.97)
3	846.99 (518.45)	136.22 (519.36)	676.50 (237.47)	-4964.18 (-3988.12)	2094.25 (4156.24)	405.99 (452.5)	35.13 (393.65)	392.05 (198.18)	-10737.23 (4574.79)	-4289.66 (3816.97)
4	949.56 (443.15)	174.69 (430.68)	739.80 (232.53)	-5079.85 (-4160.68)	3690.19 (4124.39)	311.08 (581.7)	311.08 (571.69)	178.77 (186.9)	-13304.71 (4782.83)	-6562.94 (3992.58)
5	1351.74 (644.55)	699.34 (650.74)	621.33 (258.28)	-5051.94 (-4635.63)	4987.38 (5560.21)	322.13 (470.82)	120.03 (453.02)	174.74 (188.58)	-10736.28 (5134.18)	-2527.90 (4260.09)
6	853.00 (431.5)	-0.77 (361.54)	794.00 (311.73)	-1673.96 (-4754.97)	3802.19 (4902.53)	702.86 (673.41)	725.72 (675.07)	-24.71 (205.19)	-9103.27 (5332.46)	-416.21 (4522.77)
7	1418.10 (556.55)	678.27 (544.18)	677.49 (310.85)	-4046.62 (-5074.36)	5455.83 (5263.91)	-102.70 (469.56)	-90.10 (417.34)	-51.95 (241.68)	-7359.18 (6115.3)	-70.82 (4600.24)
8	1292.88 (616.35)	1085.37 (574.80)	149.49 (215.98)	-5406.74 (-4424.94)	2848.50 (4388.65)	1242.27 (736.77)	1218.01 (703.6)	-9.62 (240.4)	-8921.93 (6111.51)	2207.33 (5336.33)
9	1545.50 (669.27)	1259.64 (621.6)	222.29 (233.97)	-4364.01 (-5831.05)	3768.53 (5073.62)	861.11 (679.66)	988.50 (670.07)	-174.00 (229.16)	-12063.02 (6219.28)	2100.27 (4856.13)
10	1528.44 (655.32)	1159.88 (609.85)	231.65 (189.52)	-13585.32 (-6162.7)	-7029.57 (4053.83)	1602.99 (715.23)	1602.31 (702.61)	-60.27 (247.81)	-11233.59 (7757.72)	3811.05 (5637.71)
11	2331.56 (747.58)	2002.87 (741.19)	220.20 (183.72)	-17591.52 (-7064.46)	-8204.16 (5284.83)	911.68 (699.34)	818.86 (709.1)	-14.99 (238.16)	-12918.28 (8389.23)	-4720.95 (5504.76)

Note: Table reports estimates of the effects of Mental-Cognitive disability in the $l \in \{-4, \dots, 10\}$ years relative to its onset on measures of government transfers and household income. The first four columns report estimates from the IW specification (equation X in the main text) and the last four columns report estimates from PSM specification (equation X in the main text). Standard errors, reported in parentheses below the estimates, are clustered at the individual level for all models. Family Total Incomes are censored at the 99 percentile.

Table 17: Estimates of the Dynamic Effect of Mental-Cognitive Disability on Total Income Before and After Taxation.

Year Relative to Onset	Interaction-Weighted				Propensity Score Matching			
	Before-Tax Income	After-Tax Income	Non-Taxable Income	Net Taxes Paid	Before-Tax Income	After-Tax Income	Non-Taxable Income	Net Taxes Paid
-4	571.96 (1516.63)	1046.63 (1237.75)	110.87 (138.18)	-474.67 (392.83)	-604.62 (1494.83)	-359.70 (1154.33)		-244.92 (483.69)
-3	416.26 (1533.36)	621.11 (1161.23)	-205.48 (124.06)	-204.85 (505.29)	286.96 (1327.69)	339.25 (1073.66)		-52.29 (433.28)
-2	-781.08 (1599.46)	-325.34 (1197.38)	-189.72 (113.09)	-455.74 (508.17)				
-1	-1412.69 (1656.85)	-415.21 (1259.81)	-205.23 (113.23)	-997.48 (495.24)	-650.29 (1117.81)	-972.82 (868.43)		322.52 (462.41)
0	-1819.54 (2047.45)	-1493.39 (1485.42)	-163.04 (107.39)	-326.15 (663.64)	-1239.23 (1361.74)	-933.82 (1062.66)		-305.41 (477.92)
1	-5444.96 (2039.11)	-3741.60 (1561.77)	17.57 (179.98)	-1703.36 (585.27)	-3027.15 (2195.55)	-3172.50 (1628.62)		145.35 (712.42)
2	-4472.53 (2137.63)	-3025.72 (1660.74)	183.45 (280.84)	-1446.81 (590.97)	-6649.27 (1912.32)	-5501.33 (1526.09)		-1147.94 (583.07)
3	-5539.74 (2202.49)	-3854.43 (1748.12)	288.93 (426.02)	-1685.32 (706.86)	-5451.97 (2136.95)	-4432.71 (1751.88)		-1019.25 (561.62)
4	-7103.57 (2380.36)	-5377.58 (1929.04)	315.71 (337.14)	-1725.99 (938.48)	-5842.17 (2151.36)	-4850.90 (1743.6)		-991.27 (696.29)
5	-6732.86 (2423.28)	-4135.83 (1971.64)	423.10 (550.16)	-2597.03 (701.8)	-6778.32 (2396.24)	-5948.14 (2023.08)		-830.18 (872.87)
6	-4260.42 (2772.77)	-2209.59 (2232.36)	-0.06 (239.69)	-2050.82 (764.35)	-8254.47 (2472.24)	-6307.78 (2071.73)		-1946.70 (667.41)
7	-8360.02 (2480.71)	-5197.98 (2125.23)	-31.46 (211.03)	-3162.04 (625.04)	-6345.04 (3504.31)	-4427.13 (2886.62)		-1917.91 (832.85)
8	-8328.39 (2847.14)	-4910.20 (2252.24)	260.34 (242.05)	-3418.18 (789.28)	-9713.55 (2812.00)	-7195.19 (2333.58)		-2518.36 (796.95)
9	-8436.16 (3307.89)	-4757.72 (2778.08)	556.49 (385.83)	-3678.43 (734.86)	-12377.62 (3592.75)	-9002.05 (2794.00)		-3375.57 (985.68)
10	-7478.00 (3843.19)	-4138.34 (3203.66)	658.35 (443.15)	-3339.66 (968.48)	-13168.99 (3978.49)	-9899.17 (3191.20)		-3269.82 (1000.7)
11	-10348.11 (4362.71)	-5818.41 (3896.01)	781.70 (471.18)	-4529.70 (944.52)	-7851.26 (4405.77)	-6385.17 (3494.16)		-1466.09 (1204.78)

Note: Table reports estimates of the effects of Mental-Cognitive disability in the $l \in \{-4, \dots, 10\}$ years relative to its onset on measures of personal income. The first four columns report estimates from the IW specification (equation X in the main text) and the last four columns report estimates from PSM specification (equation X in the main text). Standard errors, reported in parentheses below the estimates, are clustered at the individual level for all models. Total Before-Tax and After-Tax Incomes are censored at the 99 percentile.

Table 18: Estimates of the Dynamic Effect of Kinetic Ability Disability on Components of Market Income.

Year Relative to Onset	Interaction-Weighted				Propensity Score Matching			
	Labour Market Participation Rate	Wages, Salaries, and Commissions	WSC for Participants	Non-Market Income	Labour Market Participation Rate	Wages, Salaries, and Commissions	WSC for Participants	Non-Market Income
-4	0.02 (0.01)	-724.07 (701.72)	-1573.28 (730.95)	-348.51 (375.16)	-0.01 (0.014)	-2059.47 (775.14)	-1883.00 (707.31)	-406.15 (577.84)
-3	0.01 (0.01)	285.10 (798.13)	-167.11 (844.48)	-233.42 (479.49)	0.02 (0.01)	-1065.75 (603.61)	-1387.31 (576.62)	20.20 (370.1)
-2	0.02 (0.01)	-212.22 (880.47)	-550.24 (915.11)	-578.36 (349.07)				
-1	0.01 (0.01)	-526.63 (928.03)	-599.72 (926.63)	-797.85 (359)	0.02 (0.013)	-389.38 (638.69)	-307.99 (616.68)	-361.82 (368.71)
0	0.01 (0.01)	-1080.26 (947.71)	-848.65 (936.14)	-759.93 (389.73)	0.01 (0.014)	-1294.67 (800.68)	-1377.12 (644.13)	-557.94 (400.07)
1	-0.01 (0.02)	-3044.24 (1036.99)	-2657.00 (1058.91)	-207.59 (536.19)	0.00 (0.016)	800.68 (894.39)	-2314.20 (777.55)	9.82 (546.37)
2	-0.04 (0.02)	-4016.84 (1062.48)	-3096.02 (1101.78)	-536.22 (433.85)	-0.02 (0.017)	-4838.05 (1102.84)	-3921.49 (846.96)	221.83 (591.78)
3	-0.06 (0.02)	-4693.94 (1089.99)	-3132.43 (1107.1)	-560.01 (445.42)	-0.05 (0.019)	-5671.79 (1234.59)	-4672.09 (947.98)	-91.01 (592.18)
4	-0.09 (0.02)	-5050.82 (1124.74)	-2817.79 (1138.36)	-828.54 (417.5)	-0.07 (0.02)	-6603.43 (1237.9)	-5414.18 (1187.76)	-35.63 (520.17)
5	-0.12 (0.02)	-6042.95 (1222.16)	-2994.10 (1356.41)	-942.39 (425.49)	-0.09 (0.022)	-7276.05 (1172.25)	-6410.51 (1141.41)	-516.02 (487.48)
6	-0.12 (0.02)	-5563.10 (1341.64)	-2725.91 (1516.12)	-922.37 (475.7)	-0.11 (0.023)	-8354.24 (1241.07)	-6560.73 (1250.43)	-843.28 (530.46)
7	-0.12 (0.02)	-5648.41 (1464.28)	-3206.64 (1703.92)	-1056.91 (560.54)	-0.11 (0.023)	-7922.25 (1355.53)	-7365.01 (1217.93)	-907.13 (623.92)
8	-0.12 (0.02)	-5193.47 (1463.27)	-3158.88 (1738.96)	-1402.23 (480.87)	-0.12 (0.025)	-8128.47 (1542.38)	-7673.89 (1237.26)	-1055.13 (834.18)
9	-0.12 (0.03)	-5333.09 (1527.16)	-3534.20 (1749.3)	-1413.58 (536.59)	-0.11 (0.026)	-7651.71 (1578.99)	-8298.60 (1358.76)	-1522.55 (574.4)
10	-0.12 (0.03)	-5126.04 (1594.55)	-3350.52 (1801.87)	-1411.20 (568.31)	-0.12 (0.027)	-8084.84 (1645.38)	-9477.29 (1416.55)	-1572.58 (614.12)
11	-0.15 (0.03)	-5744.97 (1714.15)	-3295.31 (2031.60)	-1749.13 (571.5)	-0.13 (0.028)	-9420.23 (1784.59)	-10769.75 (1630.62)	-1057.25 (658.66)

Note: Table reports estimates of the effects of Kinetic Ability disability in the $l \in \{-4, \dots, 10\}$ years relative to its onset on measures of personal income. The first four columns report estimates from the IW specification (equation X in the main text) and the last four columns report estimates from PSM specification (equation X in the main text). Standard errors, reported in parentheses below the estimates, are clustered at the individual level for all models. Wages, Salaries, and Commissions are censored at the 99 percentile.

Table 19: Estimates of the Dynamic Effect of Kinetic Ability Disability on Government Transfers and Family Income.

Year Relative to Onset	Interaction-Weighted				Propensity Score Matching					
	Total Government Transfers	Disability Relevant Transfers	Family Transfers	Family Total Income	Family Members Income	Total Government Transfers	Disability Relevant Transfers	Family Transfers	Family Total Income	Family Members Income
-4	-172.32 (166.95)	-144.06 (158.21)	-27.98 (42.63)	-2717.98 (1390.6)	-743.95 (1728.89)	-164.53 (212.49)	-137.03 (196.46)	-39.00 (52.96)	-2658.17 (1600.41)	-752.32 (1282.48)
-3	-95.27 (184.08)	-84.11 (184.08)	0.18 (47.68)	-727.30 (1531.83)	-730.58 (1412.62)	-159.44 (164.01)	-127.39 (155.42)	-36.63 (40.96)	-606.69 (1274.06)	-363.72 (1065.25)
-2	-290.72 (189.22)	-252.85 (179.13)	-36.10 (48.44)	-1343.30 (1691.82)	-1271.06 (1496.79)					
-1	-248.41 (221.15)	-215.24 (210.08)	-25.61 (54.32)	-717.89 (1690.32)	1593.82 (1621.14)					
0	-6.60 (243.3)	-25.59 (231)	20.25 (61.54)	-2806.88 (1711.48)	-813.52 (1835.09)					
1	365.25 (257.12)	371.11 (248.28)	-7.37 (53.48)	-3592.43 (1844.87)	-823.97 (1892.27)					
2	779.41 (302.94)	802.66 (293.15)	-31.30 (55.15)	-4889.01 (1789.8)	-1850.04 (1705.69)					
3	1045.49 (277.82)	1036.91 (258.7)	10.71 (80.73)	-5168.12 (1815.49)	-1925.25 (1774.54)					
4	1065.41 (287.39)	1123.24 (274.67)	-54.90 (62.67)	-5806.44 (2039.76)	-1382.00 (2053.73)					
5	1437.16 (306.55)	1471.34 (298.32)	-37.79 (60.6)	-8286.39 (2040.26)	-4217.97 (2092.62)					
6	1777.17 (320.14)	1816.87 (310.71)	-32.50 (58.68)	-8263.84 (2462.04)	-4598.23 (2581.69)					
7	1615.31 (295.09)	1626.55 (284.94)	-21.52 (69.82)	-8956.79 (2598.46)	-2886.45 (2981.73)					
8	1641.61 (329.61)	1638.45 (320.09)	0.58 (67.41)	-9298.31 (2450.04)	-5440.80 (2478.2)					
9	1872.09 (405.33)	1916.78 (396.93)	-43.48 (61.28)	-9876.85 (2645.2)	-6507.73 (2657.43)					
10	2421.48 (398.28)	2371.19 (395.78)	31.92 (80.4)	-10201.92 (2662.46)	-4700.97 (2792.22)					
11	2224.86 (362.76)	2209.71 (355.68)	-9.16 (64.04)	-12249.32 (2677.8)	-7422.20 (2553.8)					

Note: Table reports estimates of the effects of Kinetic Ability disability in the $l \in \{-4, \dots, 10\}$ years relative to its onset on measures of personal income. The first four columns report estimates from the IW specification (equation X in the main text) and the last four columns report estimates from PSM specification (equation X in the main text). Standard errors, reported in parentheses below the estimates, are clustered at the individual level for all models. Family Total Incomes are censored at the 99 percentile.

Table 20: Estimates of the Dynamic Effect of Kinetic Ability Disability on Total Income Before and After Taxation.

Year Relative to Onset	Interaction-Weighted				Propensity Score Matching			
	Before-Tax Income	After-Tax Income	Non-Taxable Income	Net Taxes Paid	Before-Tax Income	After-Tax Income	Non-Taxable Income	Net Taxes Paid
-4	-1955.64 (672.52)	-1047.88 (535.19)	4.91 (106.18)	-907.76 (261.76)	-2003.47 (848.11)	-1842.12 (674.18)		-161.35 (378.82)
-3	-972.77 (786.42)	-70.87 (632.44)	-15.78 (119.52)	-901.91 (312.73)	-1069.69 (663.81)	-1323.91 (589.18)		254.22 (363.14)
-2	-1902.53 (858.91)	-1149.30 (651.05)	-187.31 (96.13)	-753.23 (278.92)				
-1	-2871.20 (891.09)	-1784.79 (682.74)	-208.90 (148.93)	-1086.41 (318.63)	-724.33 (748.18)	-1006.60 (632.46)		282.26 (356.74)
0	-3186.68 (885.04)	-1897.42 (681.06)	-82.72 (171.6)	-1289.26 (287.08)	-2046.53 (887.89)	-1585.86 (721.35)		-460.67 (378.69)
1	-4301.46 (974.85)	-2655.26 (775.94)	198.99 (190.29)	-1646.20 (297.71)	-1838.77 (954.57)	-1794.18 (797.14)		-44.59 (378.37)
2	-5203.80 (979.41)	-3317.33 (775.32)	502.43 (235.31)	-1886.48 (299.19)	-3845.95 (1086.41)	-2819.62 (894.29)		-1026.33 (421.77)
3	-5217.61 (979.06)	-3094.54 (788.16)	727.48 (219.54)	-2123.06 (278.7)	-4751.74 (1158.27)	-3580.99 (930.88)		-1170.76 (405.06)
4	-6116.08 (1041.56)	-3940.16 (843.46)	654.26 (207.28)	-2175.92 (394.84)	-5256.01 (1141.31)	-4079.98 (927.47)		-1176.03 (409.92)
5	-6242.72 (1120.98)	-3985.57 (887.17)	837.61 (229.3)	-2257.15 (323.44)	-6364.60 (1137.64)	-4919.03 (935.85)		-1445.57 (492.81)
6	-6230.36 (1201.48)	-3924.93 (948.56)	991.96 (254.66)	-2305.43 (344.21)	-6231.20 (1268.07)	-4708.53 (1008.91)		-1522.67 (446.47)
7	-6882.74 (1346.15)	-4478.73 (1036.83)	745.59 (207.13)	-2404.01 (408.5)	-6195.84 (1353.33)	-4629.05 (1075.83)		-1566.78 (462.06)
8	-6358.13 (1322.51)	-3759.99 (1026.8)	892.67 (226.09)	-2598.13 (383.85)	-7236.63 (1596.89)	-5508.59 (1245.03)		-1728.04 (540.34)
9	-6162.20 (1381.99)	-3554.85 (1090.98)	1197.78 (301.7)	-2607.35 (394.72)	-7584.60 (1583.48)	-5849.95 (1228.57)		-1734.66 (520.99)
10	-6111.53 (1506.77)	-3422.68 (1204.92)	1028.36 (239.11)	-2688.85 (399.16)	-7005.07 (1660.65)	-5343.00 (1310.44)		-1662.07 (531.68)
11	-6975.96 (1625.56)	-4074.30 (1284.28)	869.56 (244.39)	-2901.66 (441.65)	-7894.18 (1716.83)	-6027.25 (1353.33)		-1866.93 (553.86)

Note: Table reports estimates of the effects of Kinetic Ability disability in the $l \in \{-4, \dots, 10\}$ years relative to its onset on measures of personal income. The first four columns report estimates from the IW specification (equation X in the main text) and the last four columns report estimates from PSM specification (equation X in the main text). Standard errors, reported in parentheses below the estimates, are clustered at the individual level for all models. Total Before-Tax and After-Tax Incomes are censored at the 99 percentile.

Table 21: Estimates of the Dynamic Effect of Mental Health Disability on Components of Market Income.

Year Relative to Onset	Interaction-Weighted				Propensity Score Matching			
	Labour Market Participation Rate	Wages, Salaries, and Commissions	WSC for Participants	Non-Market Income	Labour Market Participation Rate	Wages, Salaries, and Commissions	WSC for Participants	Non-Market Income
-4	-0.04 (0.03)	-1966.08 (1839.33)	988.57 (1452.33)	402.18 (841.3)	0.01 (0.03)	-150.29 (1504.48)	-1098.13 (1321.34)	-1246.16 (997.28)
-3	-0.03 (0.03)	-672.77 (1877.95)	-348.77 (1662.92)	642.84 (917.24)	-0.01 (0.02)	-1343.80 (1063.63)	-1932.77 (1059.49)	284.41 (679.99)
-2	-0.01 (0.03)	-2074.14 (1910.37)	115.34 (1741.16)	1007.34 (981.63)				
-1	-0.03 (0.03)	-3192.43 (2037.34)	-2518.67 (2018.29)	-149.62 (908.62)	0.01 (0.03)	-879.78 (1292.4)	-2749.65 (1165.87)	984.47 (591.6)
0	-0.03 (0.03)	-4643.81 (2185.19)	-3118.38 (2122.48)	-231.05 (704.58)	0.00 (0.03)	-2141.60 (1808.08)	-2551.91 (1407.63)	-377.18 (755.17)
1	-0.06 (0.03)	-6638.98 (2409.03)	-5182.69 (2117.36)	-845.10 (709.73)	-0.02 (0.03)	-4874.33 (1935.24)	-4758.13 (1618.58)	-562.48 (744.18)
2	-0.09 (0.04)	-6457.55 (2479.34)	-6725.63 (2402.22)	-921.88 (783.72)	-0.05 (0.03)	-7670.36 (2134.24)	-5360.65 (1700.11)	-1064.11 (834.88)
3	-0.10 (0.04)	-6479.40 (2757.55)	-5456.51 (2370.75)	-497.53 (816.03)	-0.06 (0.05)	-6352.07 (2356.39)	-4820.05 (1852.9)	-1111.77 (899.85)
4	-0.09 (0.05)	-5260.93 (3016.92)	-4833.27 (2831.07)	-643.77 (1073.2)	-0.08 (0.05)	-5902.25 (2773.8)	-4174.52 (2355.13)	-1112.54 (1013.96)
5	-0.09 (0.05)	-4965.68 (3146.41)	-3765.25 (2972.33)	-948.58 (998.03)	-0.09 (0.05)	-4015.04 (3047.09)	-2208.18 (2280.86)	-344.56 (821.19)
6	-0.09 (0.06)	-4481.62 (3222.25)	-4247.03 (2904.41)	-80.20 (1411.38)	-0.12 (0.06)	-6921.02 (3200.45)	-6387.05 (2231.35)	-709.62 (947.24)
7	0.00 (0.04)	-8817.99 (3447.01)	-4166.30 (2841.1)	-218.24 (1547.61)	-0.08 (0.06)	-4631.66 (3591.71)	-4645.71 (2474.33)	607.53 (989.11)
8	-0.06 (0.05)	-7640.26 (4449.75)	-10632.39 (3315.58)	1231.92 (1951.38)	0.03 (0.04)	-8901.65 (3683.85)	-8996.76 (2859.92)	-749.25 (1119.3)
9	-0.13 (0.07)	-6953.64 (4849.49)	-7696.40 (3844.1)	1088.85 (1973.05)	0.00 (0.05)	-7287.89 (3853.11)	-3574.55 (3073.86)	-1169.70 (1941.76)
10	-0.18 (0.09)	-9770.67 (5236.54)	-3631.80 (3629.22)	3264.95 (3068.55)	-0.12 (0.07)	-8587.06 (4373.21)	-3765.21 (2876.6)	-298.46 (2291.71)
11	-0.18 (0.07)	-14788.74 (5014.68)	-4215.51 (3201.37)	3270.30 (2913.76)	-0.11 (0.07)	-6531.38 (4700.89)	-530.86 (3515.93)	1567.63 (2912.84)

Note: Table reports estimates of the effects of Mental Health disability in the $l \in \{-4, \dots, 10\}$ years relative to its onset on measures of personal income. The first four columns report estimates from the IW specification (equation X in the main text) and the last four columns report estimates from PSM specification (equation X in the main text). Standard errors, reported in parentheses below the estimates, are clustered at the individual level for all models. Wages, Salaries, and Commissions are censored at the 99 percentile.

Table 22: Estimates of the Dynamic Effect of Mental Health Disability on Government Transfers and Family Income.

Year Relative to Onset	Interaction-Weighted				Propensity Score Matching					
	Total Government Transfers	Disability Relevant Transfers	Family Transfers	Family Total Income	Family Members Income	Total Government Transfers	Disability Relevant Transfers	Family Transfers	Family Total Income	Family Members Income
-4	118.73 (305.61)	-270.43 (282.21)	387.96 (239.16)	-1913.85 (-3572.16)	-1018.75 (3528.87)	789.62 (432.76)	680.35 (406.25)	94.26 (151.4)	-5516.82 (4509.46)	-5239.51 (3619.53)
-3	-139.72 (303.61)	-552.09 (304.58)	428.82 (216.68)	1726.79 (-4118.67)	2006.14 (4031.56)	237.06 (366.65)	291.51 (372.66)	151.40 (79.6)	-6276.89 (4566.57)	-5991.40 (3442.68)
-2	111.44 (368.64)	-342.55 (310.83)	448.38 (216.06)	249.80 (-5086.91)	2124.30 (4854.84)					
-1	469.96 (347.45)	-170.24 (324.69)	648.31 (225.62)	-3309.61 (-5248.9)	1464.54 (5490.97)	585.66 (379.7)	470.83 (336.65)	98.86 (112.52)	-1592.18 (6214.84)	-2394.91 (4775.73)
0	377.38 (352.3)	-114.81 (331.18)	527.45 (208.29)	-2078.03 (-5130.87)	2455.45 (5587.69)	691.74 (394.67)	374.91 (372.4)	316.29 (132.95)	-4573.57 (6582.09)	-3286.94 (5245.12)
1	709.31 (369.56)	71.57 (326.83)	658.86 (221.22)	-4322.32 (-5089.08)	3613.18 (5633.01)	536.78 (444.27)	383.41 (387.86)	164.46 (204.48)	-4101.31 (6996.57)	-1654.89 (3074.44)
2	437.38 (430.85)	-436.85 (263.38)	913.21 (406.47)	-9199.86 (-4444.5)	-1411.57 (4568.28)	796.49 (474.51)	796.49 (422.07)	200.37 (231.16)	-8223.44 (7311.03)	-1875.37 (5935.8)
3	540.19 (451.73)	-26.87 (469.82)	553.12 (311.07)	-7009.25 (-4122.68)	1400.40 (4405.28)	365.06 (550.49)	-12.83 (417.4)	398.34 (283.04)	-15278.80 (6022.33)	-4315.24 (5102.83)
4	705.15 (404.89)	-9.02 (405.32)	702.52 (312.12)	-1049.84 (-4575.55)	7304.95 (4726.94)	908.42 (550.98)	688.05 (533.59)	177.29 (202.96)	-15407.84 (6505.26)	-6590.56 (5462.96)
5	775.28 (477.36)	-95.27 (482.13)	860.98 (376.01)	-2633.03 (-5097.25)	8532.11 (7128.86)	633.80 (418.8)	247.53 (401.95)	366.33 (222.12)	-2378.80 (6999.97)	-2378.80 (5910.64)
6	490.58 (377.8)	-307.23 (397.16)	779.96 (412.44)	-2711.98 (-5150.88)	4380.02 (4901.03)	815.48 (514.06)	356.20 (533.38)	443.18 (242.69)	-13414.64 (7345.97)	-5264.42 (6212.09)
7	1117.50 (566.54)	430.94 (626.93)	648.59 (450.91)	-7471.18 (-5180.84)	3105.43 (5161.44)	126.15 (455.02)	-245.87 (392.05)	329.82 (271.04)	-11838.89 (453.74)	-6413.91 (6081.22)
8	784.99 (596.47)	574.14 (566.28)	169.25 (238.25)	-4644.68 (-5781.27)	3713.00 (5845.71)	1187.18 (673.32)	791.36 (623.32)	330.18 (264.44)	-16702.39 (7500.68)	-6683.04 (6177.43)
9	368.14 (604.02)	99.02 (522.58)	232.44 (268.19)	-5786.08 (6588.68)	2580.95 (6291.58)	1048.16 (653.8)	782.44 (640.75)	197.58 (313.66)	-13964.46 (7650.39)	-5417.64 (3808.25)
10	542.23 (593.57)	86.90 (498.06)	341.83 (259.63)	-10461.21 (-9084.49)	-4753.20 (5706.06)	1082.66 (5984.08)	668.10 (506.99)	313.49 (276.74)	-16829.18 (8234.25)	-7543.69 (6125.34)
11	981.16 (746.67)	669.55 (641.78)	232.71 (203.05)	-14950.47 (10911.86)	-6115.69 (8031.84)	923.72 (505.88)	373.82 (461.2)	386.97 (238.59)	-18207.59 (11081.33)	-15511.93 (7403.68)

Note: Table reports estimates of the effects of Mental Health disability in the $l \in \{-4, \dots, 10\}$ years relative to its onset on measures of personal income. The first four columns report estimates from the IW specification (equation X in the main text) and the last four columns report estimates from PSM specification (equation X in the main text). Standard errors, reported in parentheses below the estimates, are clustered at the individual level for all models. Family Total Incomes are censored at the 99 percentile.

Table 23: Estimates of the Dynamic Effect of Mental Health Disability on Total Income Before and After Taxation.

Year Relative to Onset	Interaction-Weighted				Propensity Score Matching			
	Before-Tax Income	After-Tax Income	Non-Taxable Income	Net Taxes Paid	Before-Tax Income	After-Tax Income	Non-Taxable Income	Net Taxes Paid
-4	-1027.93 (1619.18)	-388.43 (1326.94)	-15.50 (133.91)	-639.50 (416.92)	124.15 (1607.7)	229.18 (1264.54)		-105.02 (517.07)
-3	-774.19 (1599.15)	89.31 (1237.92)	-241.63 (161.62)	-863.50 (509.67)	-107.30 (1346.56)	-229.28 (1078.68)		121.98 (455.48)
-2	-1656.63 (1734.08)	-863.30 (1278.52)	-154.31 (162.47)	-793.33 (571.73)				
-1	-3619.02 (1755.38)	-2026.44 (1340.55)	-156.72 (165.32)	-1592.58 (527.84)	-267.73 (1393.29)	-588.79 (1051.05)		321.06 (516.56)
0	-3175.96 (2465.56)	-2540.47 (1804.95)	-175.73 (147.71)	-635.50 (755.29)	-2338.32 (1739.09)	-1781.85 (1345.74)		-556.47 (550.56)
1	-6914.24 (2024.53)	-4735.37 (1572.68)	-115.10 (162.06)	-2178.87 (568.01)	-3279.95 (2898.17)	-3371.61 (2164.25)		91.66 (866.43)
2	-7899.07 (2145.32)	-5655.30 (1683.82)	-152.16 (175.63)	-2243.77 (548.55)	-7462.81 (2266.6)	-6107.80 (1829.78)		-1355.01 (600.52)
3	-7633.45 (2505.05)	-5991.25 (1972.96)	-177.46 (197.17)	-1642.20 (839.76)	-9463.74 (2537.71)	-7593.00 (2082.28)		-1870.74 (612.63)
4	-7246.17 (2775.43)	-6019.37 (2316.55)	57.58 (242.98)	-1226.80 (1214.63)	-7728.63 (2734.09)	-6966.93 (2189.06)		-761.70 (838.94)
5	-7586.17 (2816.03)	-5266.48 (2175.92)	-264.21 (219.52)	-2319.69 (805.36)	-4784.93 (2980.15)	-5171.96 (2572.3)		387.03 (1110.34)
6	-7137.46 (2911.3)	-4735.40 (2216.26)	-290.43 (257.05)	-2402.06 (854.19)	-8248.97 (2967.47)	-7218.24 (2359.16)		-1030.73 (812.78)
7	-10733.81 (3005.5)	-7567.58 (2431.39)	-225.65 (290.42)	-3166.22 (808.16)	-5553.50 (3281.58)	-4721.28 (2581.26)		-832.22 (874.9)
8	-8789.57 (3579.51)	-5167.62 (2820.1)	-84.03 (103.47)	-3621.94 (900.31)	-10282.68 (3492.25)	-8480.30 (2860.21)		-1802.39 (876.84)
9	-9178.11 (3986.82)	-5744.34 (3272.3)	-55.27 (117.04)	-3433.77 (863.3)	-8187.57 (3758.71)	-6187.73 (2962.05)		-1999.84 (1022.71)
10	-6889.17 (5036.95)	-4495.95 (4070.2)	64.39 (81.82)	-2393.22 (1146.08)	-8856.83 (4162.09)	-6914.94 (3309.58)		-1941.89 (1086.14)
11	-10995.83 (4397.52)	-7030.76 (3586.24)	172.22 (156.15)	-3965.07 (1067.55)	-2136.22 (4866.25)	-2628.34 (3799.03)		492.12 (1296.47)

Note: Table reports estimates of the effects of Mental Health disability in the $l \in \{-4, \dots, 10\}$ years relative to its onset on measures of personal income. The first four columns report estimates from the IW specification (equation X in the main text) and the last four columns report estimates from PSM specification (equation X in the main text). Standard errors, reported in parentheses below the estimates, are clustered at the individual level for all models. Total Before-Tax and After-Tax Incomes are censored at the 99 percentile.

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

Year Relative to Onset	Interaction-Weighted				Propensity Score Matching			
	Labour Market Participation Rate	Wages, Salaries, and Commissions	WSC for Participants	Non-Market Income	Labour Market Participation Rate	Wages, Salaries, and Commissions	WSC for Participants	Non-Market Income
-4	0.01 (0.03)	4457.71 (3401.73)	5302.24 (3522.79)	117.02 (1155.67)	0.018 (0.057)	1668.87 (4003.87)	-1098.13 (1321.34)	-3040.65 (2191.52)
-3	-0.04 (0.05)	485.43 (3804.94)	5627.73 (3064.49)	3110.25 (3102.09)	0.041 (0.056)	1663.91 (4027.05)	-1932.77 (1059.49)	-2012.88 (2444.05)
-2	-0.03 (0.05)	-957.23 (3595.38)	3458.45 (2900.21)	1636.17 (2333.43)				
-1	0.02 (0.04)	2050.13 (3206.88)	4342.32 (3375.34)	870.55 (1800.53)	0.027 (0.035)	-2546.46 (1873.1)	-2749.65 (1165.87)	-906.37 (937.5)
0	0.01 (0.04)	2.94 (2991.49)	1140.56 (3178.7)	2108.67 (2104.02)	0.064 (0.044)	-3264.37 (2974.37)	-2551.91 (1407.63)	-1036.33 (1027.04)
1	-0.10 (0.06)	-5073.39 (4238.31)	753.56 (4131.42)	2473.18 (2397.29)	0.036 (0.046)	-5855.98 (3731.33)	-4758.13 (1618.58)	-1372.22 (2089.35)
2	-0.09 (0.06)	-3923.88 (4176.46)	1130.77 (3932.57)	4314.92 (3509.13)	-0.092 (0.054)	-12709.52 (4428.28)	-5360.65 (1700.11)	314.22 (1759.94)
3	-0.03 (0.06)	-5083.42 (3988.47)	-3450.97 (3706.8)	2681.85 (3257.71)	-0.055 (0.05)	-10147.37 (4602.77)	-4820.05 (1852.9)	1923.07 (1804.83)
4	-0.09 (0.07)	-8820.48 (3708.24)	-5280.39 (3510.19)	1139.30 (3278.79)	-0.011 (0.047)	-10830 (4751.23)	-4174.52 (2355.13)	-185.22 (1077.37)
5	-0.06 (0.06)	-9378.79 (4050.27)	-8164.56 (4643.59)	3212.80 (3630.42)	-0.075 (0.062)	-12342.84 (4183.13)	-2208.18 (2280.86)	-939.89 (1310.07)
6	-0.15 (0.07)	-8912.47 (4191.42)	-5777.49 (4400.82)	8019.82 (7056.36)	0.032 (0.079)	-9735.73 (5209.1)	-6387.05 (2231.35)	-500.55 (1672.48)
7	-0.07 (0.09)	-6030.28 (5083.25)	-6149.96 (4675.56)	-2029.67 (1745.02)	-0.093 (0.076)	-12152.13 (5773.09)	-4645.71 (2474.33)	3942.99 (5653.26)
8	-0.11 (0.12)	-8729.44 (6355.57)	-7383.02 (6735.7)	2232.93 (3430.95)	-0.071 (0.053)	-12953.12 (6156.52)	-8996.76 (2859.92)	-8847.89 (5716.68)
9	-0.24 (0.13)	-13035.27 (6655.44)	-3932.93 (4630.67)	6681.61 (7302.57)	-0.141 (0.098)	-18150.4 (8320.48)	-3574.55 (3073.86)	-5364.99 (5369.47)
10	-0.32 (0.14)	-16339.65 (7594.53)	-1272.64 (6894.29)	10763.89 (6652.51)	-0.255 (0.099)	-23972.53 (9510.58)	-3765.21 (2876.6)	2022.39 (3618.12)
11	-0.43 (0.12)	-17188.88 (8910.68)	10795.57 (7284.34)	7626.71 (7663.19)	-0.283 (0.108)	-26502.96 (11024.95)	-530.86 (3515.93)	4291.17 (5296.45)

Note: Table reports estimates of the effects of Cognitive Functioning disability in the $l \in \{-4, \dots, 10\}$ years relative to its onset on measures of personal income. The first four columns report estimates from the IW specification (equation X in the main text) and the last four columns report estimates from PSM specification (equation X in the main text). Standard errors, reported in parentheses below the estimates, are clustered at the individual level for all models. Wages, Salaries, and Commissions are censored at the 99 percentile.

Table 26: Estimates of the Dynamic Effect of Cognitive Functioning Disability on Total Income Before and After Taxation.

Year Relative to Onset	Interaction-Weighted				Propensity Score Matching			
	Before-Tax Income	After-Tax Income	Non-Taxable Income	Net Taxes Paid	Before-Tax Income	After-Tax Income	Non-Taxable Income	Net Taxes Paid
-4	3849.38 (3346.59)	3821.49 (2718.82)	349.76 (334.12)	27.89 (879.4)	-667.05 (2967.19)	205.36 (2344.59)		-872.41 (1044.22)
-3	1542.98 (2918.26)	491.75 (2185.86)	-193.80 (237.85)	1051.24 (1132.05)	1365.89 (2847.79)	2480.63 (2359.41)		-1114.74 (1050.1)
-2	179.41 (3093.61)	33.96 (2376.38)	-339.35 (165.58)	145.45 (945.38)				
-1	2313.86 (3191.33)	2144.38 (2409.27)	-378.81 (158.51)	169.47 (979.05)	-1503.14 (2290.55)	-684.51 (1936.33)		-818.62 (933.36)
0	252.61 (3565.73)	-43.63 (2464.59)	-230.57 (188.49)	296.25 (1335.11)	-2592.03 (2806.63)	-702.56 (2346.27)		-1889.47 (1046.17)
1	-2997.48 (4095.16)	-2163.50 (3064)	276.88 (430.2)	-833.99 (1271.61)	-6053.21 (3585.78)	-3729.65 (2611.7)		-2323.55 (1435.98)
2	1615.70 (3897.77)	1573.20 (2926.32)	827.71 (732.07)	42.50 (1265.35)	-10281.15 (4290.38)	-7312.93 (3225.53)		-2968.22 (1526.91)
3	-2364.67 (3544.75)	-469.54 (2685.66)	1227.57 (1167.4)	-1895.13 (1237.09)	-4332.53 (4398.18)	-1978.55 (3410.92)		-2353.99 (1424.57)
4	-7611.86 (3695.54)	-4940.04 (2718.56)	771.13 (797.34)	-2671.83 (1416.29)	-7954.84 (4067.71)	-3759.30 (3120.06)		-4195.54 (1415.75)
5	-6419.60 (3677.4)	-3209.82 (3087.85)	1553.23 (1338.03)	-3209.78 (1220.37)	-11463.56 (4029.99)	-7225.36 (3256.52)		-4238.20 (1339.7)
6	-1162.25 (5492.8)	446.18 (4575.42)	376.45 (522.8)	-1608.43 (1513.65)	-11467.59 (5149.49)	-6026.67 (4373.94)		-5440.92 (1451.01)
7	-5987.98 (3123.87)	-2645.61 (3009.78)	228.34 (334.45)	-3342.37 (983.86)	-7421.68 (8128.83)	-2935.23 (6813.12)		-4486.44 (1704.1)
8	-9082.03 (4748.16)	-5712.73 (3532.49)	844.22 (635.88)	-3369.30 (1621.02)	-12560.97 (5081.74)	-5870.86 (3910.04)		-6690.11 (2077.17)
9	-9115.39 (5801.62)	-4777.78 (4742.94)	1507.42 (992.66)	-4337.62 (1496.22)	-21385.36 (8409.87)	-13913.35 (6356.26)		-7472.02 (2374.59)
10	-9135.63 (6585.37)	-4512.08 (5424.3)	1450.95 (1052.92)	-4623.54 (1881.2)	-18666.06 (9687.77)	-10918.84 (7427.11)		-7747.22 (2568.8)
11	-9684.13 (9039.01)	-4413.79 (8142.82)	1618.25 (1125.24)	-5270.33 (2043.14)	-21649.49 (10183.46)	-12941.99 (7799.55)		-8707.51 (2887.78)

Note: Table reports estimates of the effects of cognitive functioning disability in the $l \in \{-4, \dots, 10\}$ years relative to its onset on measures of personal income. The first four columns report estimates from the IW specification (equation X in the main text) and the last four columns report estimates from PSM specification (equation X in the main text). Standard errors, reported in parentheses below the estimates, are clustered at the individual level for all models. Total Before-Tax and After-Tax Incomes are censored at the 99 percentile.

Table 27: Estimates of the Dynamic Effect of Exclusively Pain Disability on Components of Market Income.

Year Relative to Onset	Interaction-Weighted				Propensity Score Matching			
	Labour Market Participation Rate	Wages, Salaries, and Commissions	WSC for Participants	Non-Market Income	Labour Market Participation Rate	Wages, Salaries, and Commissions	WSC for Participants	Non-Market Income
-4	-0.01 (0.01)	-1304.73 (1339.97)	-982.39 (1465.48)	80.26 (439.25)	-0.02 (0.019)	-531.90 (1220.55)	-740.12 (922.61)	-258.10 (804.29)
-3	-0.02 (0.02)	-1897.70 (1390.71)	-1073.04 (1486.75)	223.83 (678.3)	0.01 (0.014)	-67.54 (1001.64)	85.51 (765.84)	-44.10 (769.56)
-2	0.00 (0.02)	-1904.66 (1417.97)	-990.69 (1465.57)	-369.85 (490)				
-1	-0.03 (0.02)	-2610.24 (1492.32)	-696.54 (1482.31)	200.20 (715.39)	0.03 (0.015)	-56.29 (882.72)	469.42 (676.69)	-501.73 (736.71)
0	-0.02 (0.02)	-1007.03 (1561.16)	1055.48 (1496.01)	-470.05 (563.49)	-0.02 (0.019)	-748.78 (1197.82)	444.41 (822.16)	-359.27 (937.43)
1	-0.02 (0.02)	-2886.43 (1636.29)	-1428.43 (1718.82)	-354.93 (565.91)	0.00 (0.02)	663.76 (1345.82)	2187.23 (895.36)	-1061.73 (823.72)
2	-0.03 (0.02)	-2493.33 (1696.31)	-1113.44 (1838.48)	-1.46 (614.19)	0.01 (0.021)	-936.30 (1552.49)	195.42 (1077.21)	-1073.24 (761.91)
3	-0.06 (0.02)	-3403.00 (1763.94)	-214.05 (1611.68)	-131.94 (621.6)	0.00 (0.022)	-277.88 (1674.74)	985.95 (1200.58)	-1046.24 (840.81)
4	-0.06 (0.02)	-1251.54 (1788.24)	3029.96 (1711.02)	-336.26 (666.2)	-0.02 (0.019)	-1396.71 (1558.19)	-39.91 (1213.68)	-905.73 (805.03)
5	-0.07 (0.02)	-486.78 (1888.14)	3199.37 (1842.23)	-369.30 (684.64)	-0.03 (0.023)	139.32 (1677.56)	2389.90 (1211.83)	-1433.74 (820.65)
6	-0.06 (0.02)	-1880.20 (1996.83)	1407.34 (1910.15)	-218.59 (773.7)	-0.04 (0.023)	227.06 (1746.61)	1818.66 (1317.45)	-1062.83 (900.61)
7	-0.07 (0.03)	-1350.06 (2238.86)	3471.41 (2011.13)	-1039.57 (770.71)	-0.02 (0.025)	-165.53 (1830.05)	1304.78 (1422.43)	-968.99 (1019.58)
8	-0.06 (0.03)	-1644.83 (2312.25)	1118.54 (2483.75)	-1347.32 (741.14)	-0.04 (0.027)	456.55 (2023.19)	2383.07 (1641.19)	-1159.16 (1145.19)
9	-0.08 (0.03)	-3406.38 (2425.44)	1176.05 (2404.53)	-822.15 (832.47)	-0.04 (0.026)	-800.11 (2332.36)	2645.33 (1747.03)	-1375.49 (1122.95)
10	-0.04 (0.02)	-381.81 (2385.78)	927.89 (2725.99)	-1184.28 (889.52)	-0.05 (0.03)	-3367.22 (2355.98)	1112.34 (1880.68)	-999.30 (1068.55)
11	-0.07 (0.03)	-1229.52 (2489.02)	1251.46 (2841.96)	-1214.40 (851.6)	-0.04 (0.027)	-2965.40 (2322.37)	-840.14 (1921.35)	-980.48 (1176.03)

Note: Table reports estimates of the effects of exclusively pain disability in the $l \in \{-4, \dots, 10\}$ years relative to its onset on measures of personal income. The first four columns report estimates from the IW specification (equation X in the main text) and the last four columns report estimates from PSM specification (equation X in the main text). Standard errors, reported in parentheses below the estimates, are clustered at the individual level for all models. Wages, Salaries, and Commissions are censored at the 99 percentile.

Table 28: Estimates of the Dynamic Effect of Exclusively Pain Disability on Government Transfers and Family Income.

Year Relative to Onset	Interaction-Weighted				Propensity Score Matching					
	Total Government Transfers	Disability Relevant Transfers	Family Transfers	Family Total Income	Family Members Income	Total Government Transfers	Disability Relevant Transfers	Family Transfers	Family Total Income	Family Members Income
-4	409.12 (215)	369.73 (188.79)	51.12 (79.3)	-2905.59 (-2708.45)	-4387.27 (2234.52)	324.58 (240.75)	197.94 (225.02)	123.71 (66.28)	550.83 (2352.51)	-219.83 (-1725.79)
-3	-58.95 (187.38)	-74.66 (175.16)	7.78 (68.91)	-4573.28 (-2860.17)	-4471.37 (2337.25)	499.30 (227.86)	462.54 (220.79)	59.64 (44.92)	2051.63 (1905.27)	986.93 (1324.62)
-2	-155.65 (179.57)	-107.61 (169.44)	-47.59 (65.42)	-4933.65 (-2751.21)	-4429.00 (2257.29)					
-1	187.69 (191.25)	123.97 (182.34)	46.13 (70.41)	-3130.15 (-2687.53)	-2715.75 (2348.94)					
0	225.80 (217.08)	249.67 (208.15)	-39.54 (62.48)	-2663.46 (-2745.03)	-3385.23 (2480.76)					
1	31.85 (215.3)	16.11 (193.35)	-6.83 (73.78)	-5076.45 (-2955.56)	-4059.13 (2723.14)	90.75 (209.55)	125.74 (202.32)	-37.68 (42.37)	-421.96 (1622.57)	-2.89 (1314.31)
2	55.19 (206.61)	68.39 (185.63)	-31.00 (72.45)	-3747.10 (-3152.36)	-4392.85 (2704.22)	200.82 (277.85)	184.90 (256.34)	-15.07 (83.93)	-1847.64 (2422.03)	-666.91 (-1817.5)
3	28.81 (206.69)	78.06 (188.69)	-57.44 (74.04)	-4839.07 (-3294.6)	-2906.02 (3167.83)	193.14 (275.29)	192.65 (255.51)	-19.13 (86.64)	-1031.12 (2645.41)	-652.90 (-1980.96)
4	-128.73 (215.57)	-91.44 (198.6)	-43.70 (77.31)	-2264.26 (-3317.05)	-1115.88 (3494.51)	388.49 (272.24)	353.41 (253.92)	20.41 (85.89)	-2111.75 (3025.32)	-272.54 (-2557.71)
5	-132.41 (222.38)	-138.33 (202.59)	11.78 (82.13)	-3915.33 (-3409.52)	-4692.95 (3359.18)	313.16 (277.81)	314.95 (256.16)	-18.62 (97.84)	-632.12 (3012.8)	1810.68 (2828.93)
6	183.21 (244.98)	234.24 (221.08)	-40.48 (91.32)	-4045.64 (-3687.24)	-5216.08 (3440.8)	250.42 (289.02)	207.79 (270.49)	35.42 (101.86)	-1164.22 (2772.96)	-776.22 (2323.28)
7	-43.26 (229.89)	11.00 (204.94)	-54.48 (103.93)	-4276.52 (-4407.91)	-5672.61 (3881.94)	484.13 (318.82)	406.15 (295.14)	70.81 (112.55)	-2057.61 (3168.25)	-1075.80 (2465.81)
8	-164.39 (236.65)	-139.71 (207.74)	-25.81 (114.86)	-2007.36 (-4874.2)	-3678.45 (4023.37)	29.59 (291.95)	18.51 (264.97)	1.64 (117.07)	-4216.26 (3535.3)	-1804.83 (2624.35)
9	835.41 (393.59)	790.93 (367.88)	48.32 (122.88)	-1459.70 (-5236.8)	-3432.40 (4552.27)	-264.49 (302.12)	-212.73 (997.24)	-58.26 (269.3)	-987.58 (4166.63)	1262.62 (2780.15)
10	128.94 (277.59)	193.09 (251.22)	-71.94 (89.09)	3525.79 (-5285.51)	-1185.43 (4116.94)	1007.25 (448.1)	997.24 (464.67)	2.14 (118.67)	516.29 (4254.81)	2482.82 (3049.83)
11	377.24 (314.55)	306.64 (264.32)	64.52 (105.65)	-1476.79 (-5591.49)	-3752.38 (4499.12)	390.23 (342.95)	421.36 (306.72)	-57.17 (127.72)	1731.73 (4353.93)	1515.97 (2948.12)

Note: Table reports estimates of the effects of exclusively pain disability in the $l \in \{-4, \dots, 10\}$ years relative to its onset on measures of personal incomes. The first four columns report estimates from the IW specification (equation X in the main text) and the last four columns report estimates from PSM specification (equation X in the main text). Standard errors, reported in parentheses below the estimates, are clustered at the individual level for all models. Family Total Incomes are censored at the 99 percentile.

Table 29: Estimates of the Dynamic Effect of Exclusively Pain Disability on Total Income Before and After Taxation.

Year Relative to Onset	Interaction-Weighted				Propensity Score Matching			
	Before-Tax Income	After-Tax Income	Non-Taxable Income	Net Taxes Paid	Before-Tax Income	After-Tax Income	Non-Taxable Income	Net Taxes Paid
-4	-1318.16 (3346.59)	-340.49 (2718.82)	124.68 (334.12)	-977.67 (879.4)	1140.91 (1190.77)	1902.27 (1189.57)		-761.36 (879.87)
-3	1542.98 (2918.26)	491.75 (2185.86)	-193.80 (237.85)	1051.24 (1132.05)	1411.03 (996.99)	1614.79 (914.13)		-203.77 (454.28)
-2	179.41 (3093.61)	33.96 (2376.38)	-339.35 (165.58)	145.45 (945.38)				
-1	2313.86 (3191.33)	2144.38 (2409.27)	-378.81 (158.51)	169.47 (979.05)	34.50 (932.31)	-762.74 (825.81)		797.23 (513.73)
0	252.61 (3565.73)	-43.63 (2464.59)	-230.57 (188.49)	296.25 (1335.11)	453.70 (1217.86)	72.71 (982.43)		381.00 (443.28)
1	-2997.48 (4095.16)	-2163.50 (3064)	276.88 (430.2)	-833.99 (1271.61)	1132.91 (1205.16)	79.37 (987.11)		1053.54 (535.69)
2	1615.70 (3897.77)	1573.20 (2926.32)	827.71 (732.07)	42.50 (1265.35)	-319.14 (1325.52)	-532.81 (1036.24)		213.68 (454.8)
3	-2364.67 (3544.75)	-469.54 (2685.66)	1227.57 (1167.4)	-1895.13 (1237.09)	343.09 (1395.06)	70.56 (1067.97)		272.53 (485.26)
4	-7611.86 (3695.54)	-4940.04 (2718.56)	771.13 (797.34)	-2671.83 (1416.29)	-556.62 (1430.41)	-554.18 (1182.67)		-2.44 (459.16)
5	-6419.60 (3677.4)	-3209.82 (3087.85)	1553.23 (1338.03)	-3209.78 (1220.37)	-355.53 (1486.13)	-653.72 (1148.85)		298.18 (510.41)
6	-1162.25 (5492.8)	446.18 (4575.42)	376.45 (522.8)	-1608.43 (1513.65)	727.04 (1557.77)	340.79 (1215.89)		386.25 (542.42)
7	-5987.98 (3123.87)	-2645.61 (3009.78)	228.34 (334.45)	-3342.37 (983.86)	394.63 (1673.82)	-100.78 (1286.18)		495.41 (574.12)
8	-9082.03 (4748.16)	-5712.73 (3532.49)	844.22 (635.88)	-3369.30 (1621.02)	-329.82 (1969.19)	-667.35 (1484.63)		337.54 (671.19)
9	-9115.39 (5801.62)	-4777.78 (4742.94)	1507.42 (992.66)	-4337.62 (1496.22)	-1086.84 (2368.7)	-1559.03 (1719.68)		472.19 (816.24)
10	-9135.63 (6585.37)	-4512.08 (5424.3)	1450.95 (1052.92)	-4623.54 (1881.2)	-1332.12 (2161.62)	-1312.62 (1644.64)		-19.50 (714.29)
11	-9684.13 (9039.01)	-4413.79 (8142.82)	1618.25 (1125.24)	-5270.33 (2043.14)	-512.30 (2354.63)	-2268.94 (2565.83)		1756.63 (1738.98)

Note: Table reports estimates of the effects of exclusively pain disability in the $l \in \{-4, \dots, 10\}$ years relative to its onset on measures of personal incomes. The first four columns report estimates from the IW specification (equation X in the main text) and the last four columns report estimates from PSM specification (equation X in the main text). Standard errors, reported in parentheses below the estimates, are clustered at the individual level for all models. Total Before-Tax and After-Tax Incomes are censored at the 99 percentile.

References

- Baldwin, Marjorie L, and William G Johnson.** 2006. “A critical review of studies of discrimination against workers with disabilities.” *Handbook on the Economics of Discrimination*, 119–160.
- Case, Anne, Angela Fertig, and Christina Paxson.** 2005. “The lasting impact of childhood health and circumstance.” *Journal of Health Economics*, 24(2): 365–389.
- Cutler, David M, Mary Beth Landrum, Kate A Stewart, et al.** 2006. “How do the better educated do it? Socioeconomic status and the ability to cope with underlying impairment.” *Developments in the Economics of Aging*, 203.
- Grossman, Michael.** 2017. *The demand for health: a theoretical and empirical investigation*. Columbia University Press.
- Guvenen, Fatih, Burhan Kuruscu, Satoshi Tanaka, and David Wiczer.** 2020. “Multidimensional skill mismatch.” *American Economic Journal: Macroeconomics*, 12(1): 210–244.
- Hanushek, Eric A, and Ludger Woessmann.** 2008. “The role of cognitive skills in economic development.” *Journal of Economic Literature*, 46(3): 607–68.
- Kitao, Sagiri.** 2014. “A life-cycle model of unemployment and disability insurance.” *Journal of Monetary Economics*, 68: 1–18.
- Lindenlaub, Ilse.** 2017. “Sorting multidimensional types: Theory and application.” *The Review of Economic Studies*, 84(2): 718–789.
- Lise, Jeremy, and Fabien Postel-Vinay.** 2020. “Multidimensional skills, sorting, and human capital accumulation.” *American Economic Review*, 110(8): 2328–2376.
- Low, Hamish, and Luigi Pistaferri.** 2015. “Disability insurance and the dynamics of the incentive insurance trade-off.” *American Economic Review*, 105(10): 2986–3029.
- Lundborg, Petter, Anton Nilsson, and Dan-Olof Rooth.** 2014. “Adolescent health and adult labor market outcomes.” *Journal of Health Economics*, 37: 25–40.
- Mori, Hiroaki.** 2019. “Childhood health and lifecycle human capital formation.” Available Online: https://morihiroaki.github.io/files/M2_main6.pdf (Accessed 12/16/2020).
- Poetaev, Maxim, and Chris Robinson.** 2008. “Human capital specificity: evidence from the Dictionary of Occupational Titles and Displaced Worker Surveys, 1984–2000.” *Journal of Labor Economics*, 26(3): 387–420.
- Robinson, Chris.** 2018. “Occupational mobility, occupation distance, and specific human capital.” *Journal of Human Resources*, 53(2): 513–551.
- Roy, Andrew Donald.** 1951. “Some thoughts on the distribution of earnings.” *Oxford economic papers*, 3(2): 135–146.
- Sanders, Carl, Christopher Taber, et al.** 2012. “Life-cycle wage growth and heterogeneous human capital.” *Annual Review of Economics*, 4(1): 399–425.
- Yamaguchi, Shintaro.** 2012. “Tasks and heterogeneous human capital.” *Journal of Labor Economics*, 30(1): 1–53.