

# Disability and Employment Over the Life-Cycle

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# Motivation

- Is disability onset at a young age associated with better or worse employment outcomes over time compared with onset at older age?
- Economic theory predicts that younger people should invest more in human capital because they have a longer time to recoup the benefits and costs of their investment (Grossman 1972).
- Because human capital takes time to accumulate and rises with age, the models also predict the older the person is at onset the more human capital will be destroyed and thus the more difficult to recoup
- The human capital framework thus suggests that disability occurs, post-onset employment growth should be greatest for persons who are young at onset.

- There exist alternate hypotheses to the human capital characterisation of disability in the labour market
- Increased availability to financial resources for older workers with disabilities may serve as an inducement to work fewer hours
- Empirical evidence suggests that the discrimination caused by prejudice may be a particular problem for workers with little experience or who are less skilled than others (Baldwin and Johnson, 1994).

# Existing literature

- Large literature on labour market disadvantage of people with disabilities; few studies examine effects according to the age of onset
- Using the US Panel Study of Income Dynamics, Charles (2003) finds that older age onset of disability is associated with greater loss in expected earnings at the time of onset and a smaller recovery post-onset
- However, the disability information contained in the survey is limited; only a subset of early waves contained information on the timing of disability onset and it was not possible to disability severity or type of disability
- It is possible that older workers are predisposed towards severe disabilities or certain impairments which makes it harder to switch jobs or work schedules

# This study

- We estimate the dynamic effects of disability onset on employment at different ages for the male and female population
- Data is drawn from the Household, Income and Labour Dynamics Survey (HILDA) from Australia
- Detailed disability information has been collected annually since the inception of the survey: information on the timing of disability onset, an index of severity based upon the extent to which the disability limits ones ability to work, as well as detailed information on underlying health conditions and impairments
- While long-term labour market outcomes remain worse for mature age onset, the link is through the availability to resources and varies according to gender.

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- We therefore exclude young people in full-time study and older people who are eligible for the old age-pension

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- We define persons with severe disability as those that answered 6 or higher and persons with non-severe disability as those that answered 0 to 5.

	Male	Female	Total
Panel A: Aged 20-64 years			
Disability	0.146	0.162	0.154
Severe disability	0.071	0.076	0.073
Non-severe disability	0.075	0.086	0.081
Physical disability	0.063	0.067	0.065
Sensory disability	0.027	0.020	0.023
Mental disability	0.035	0.044	0.039
Observations	95,770	105,404	201,174
Panel B: Aged 20-34 years			
Disability	0.080	0.089	0.085
Severe disability	0.032	0.033	0.032
Non-severe disability	0.048	0.056	0.052
Physical disability	0.028	0.031	0.030
Sensory disability	0.009	0.008	0.008
Mental disability	0.030	0.033	0.032
Observations	34,462	37,066	71,528
Panel C: Aged 35-49 years			
Disability	0.131	0.144	0.138
Severe disability	0.058	0.066	0.062
Non-severe disability	0.073	0.078	0.075
Physical disability	0.058	0.060	0.059
Sensory disability	0.020	0.016	0.018
Mental disability	0.032	0.043	0.038
Observations	33,412	37,346	70,758
Panel D: Aged 50-64 years			
Disability	0.246	0.271	0.259
Severe disability	0.134	0.138	0.136
Non-severe disability	0.111	0.132	0.122
Physical disability	0.114	0.119	0.116
Sensory disability	0.057	0.038	0.047
Mental disability	0.045	0.056	0.051

# Definition of employment

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- Employment defined as discrete indicator of full (35 hours or more per week) or part (less than 35 hours per week) time employment; non-employment includes persons in unemployment or not in the labor force



# Disability onset

- We follow other studies and identify disability onset as the first reporting of disability in the sample years that the individual participates in the survey
- One distinct advantage of the HILDA is that it records whether disabling condition first developed in the preceding year before interview
- Specifically, we define disability onset as the first reporting of disability (which precedes the reporting of no disability in the previous period) for conditions that were first developed after the date of last interview
- Adding this restriction removes some 60% of the constructed onset sample

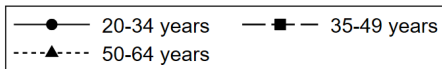
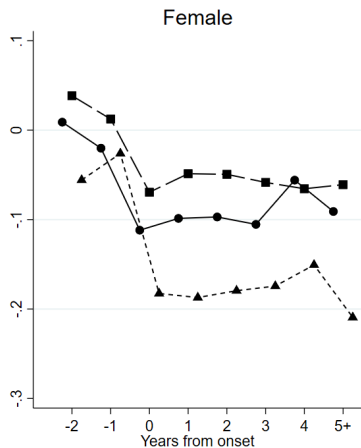
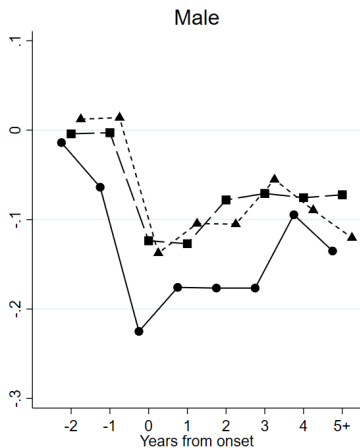
# Empirical approach

To measure the change in employment associated with disability according to the age of onset, we estimate the following dynamic fixed effects model for person  $i$  in year  $t$ :

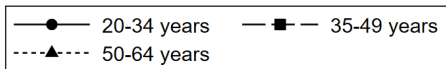
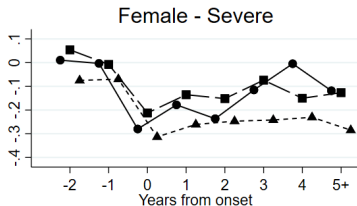
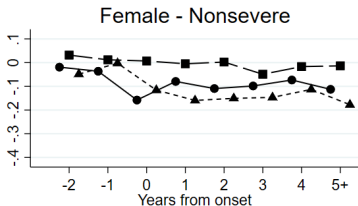
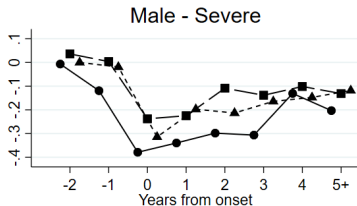
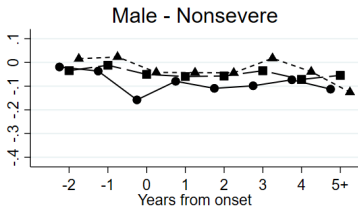
$$Y_{it} = \sum \sum \delta_{gk} D_{gkit} + \beta X'_{it} + \tau_t + \gamma_i + \epsilon_{it}, \quad (1)$$

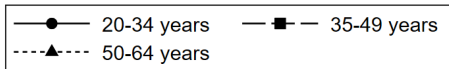
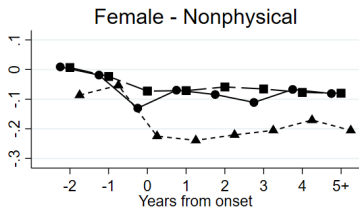
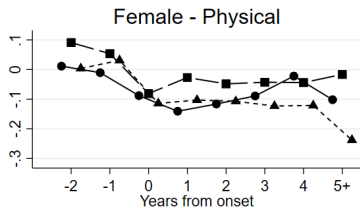
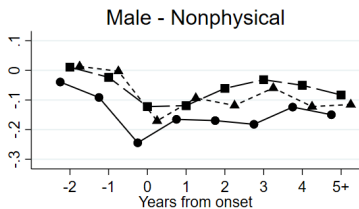
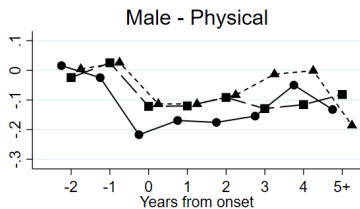
where  $Y_{it}$  is the employment status,  $D_{gkit}$  is an indicator variable equal to one if the disabled individual belongs to the onset age category  $g$  and is  $k$  years from the year of onset; and zero otherwise,  $X_{it}$  is a vector of time-varying individual characteristics;  $\tau_t$  and  $\eta_i$  are time and individual fixed effect;  $\epsilon_{it}$  is an idiosyncratic error term.

# Baseline results

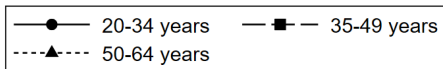
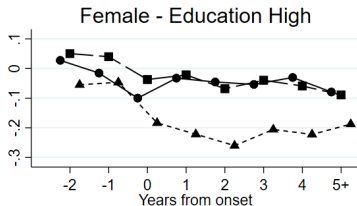
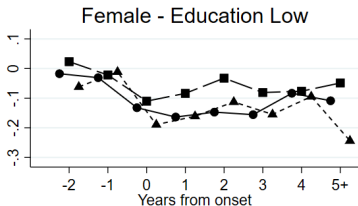
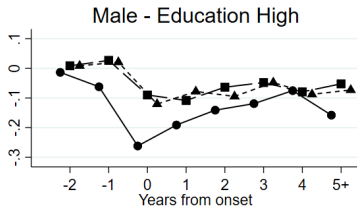
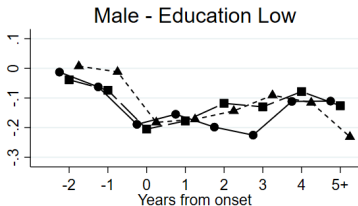


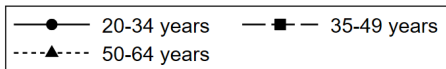
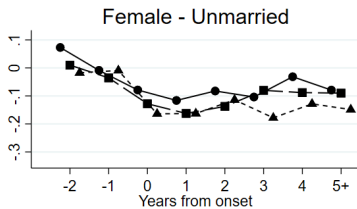
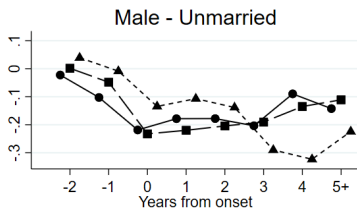
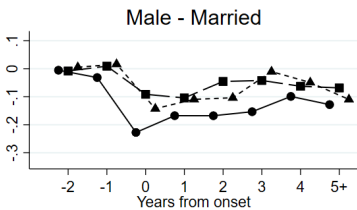
# Dimensions of disability



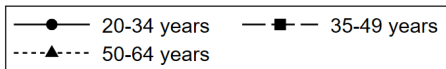
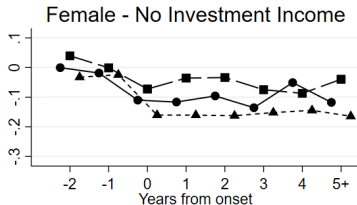
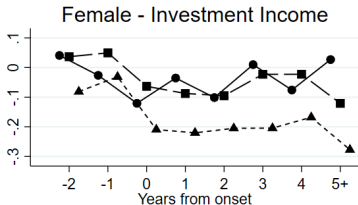
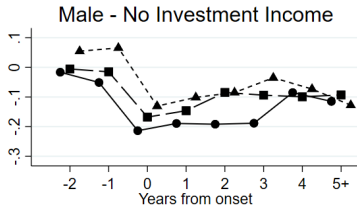
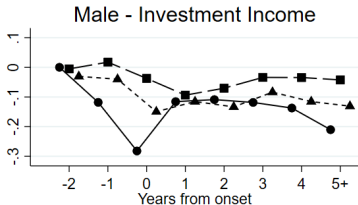


# Socioeconomic dimensions

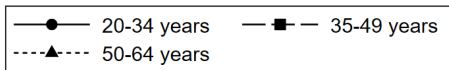
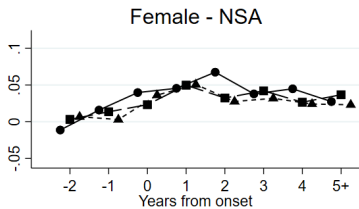
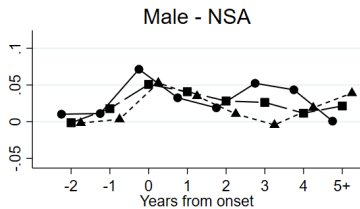
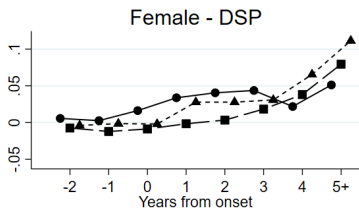
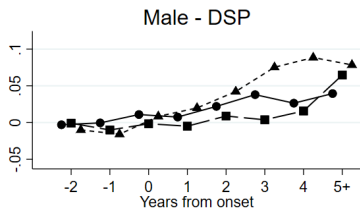




# Availability of financial resources







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- The finding is robust to different dimensions of disability including the extent to which the disability limits work capacity and whether it restricts physical activity or physical work
- We document further that the effects are largest for married educated women with access to financial income
- We also document a relatively large increase in the uptake of disability benefits among older women five or more years after onset

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- It may be more socially acceptable for women to retire early for those with the means. For those without the means there exist incentives to apply for public disability support (Atalay and Barrett 2015).
- **There is a need to explore policy options to keep older women who acquire a disability engaged in the workforce; policies aimed at financial incentives may lessen the large long-run employment losses**

Thank you for listening

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