Early-Onset Disability, Education Investments, and Social Insurance (Job Market Paper)

Individuals with an early-onset (before age 18) disability attain substantially less education than their non-disabled counterparts. In Canada, this equates to an eighteen percentage point gap in post-secondary attainment between these populations. This gap is likely related to how an early-onset disability affects the cost and return to investing in education and the availability of additional income through social insurance policies. In this paper, I build and estimate a structural life-cycle model of education investment and labour market choices to analyze the effect of social insurance policies on education investments for early-onset individuals. I focus on two social insurance policies in Canada: provincial social assistance (SA) and federal disability insurance (DI). Using linked Canadian survey and administrative tax data, I estimate the model and reproduce the education gap, life-cycle employment rates, and attachment to SA and DI. I find that the effect of an early-onset disability on the financial return to education plays the most prominent role in driving the education differential between the early-onset and non-disabled individuals. I also find approximately 15% of the gap in educational attainment is due to additional resources available via SA for individuals with a disability. DI is more relevant for older ages and has trace effects on education. Through counterfactual experiments, I find education investments and employment rates are inversely related to the generosity of SA, and there is a tradeoff between individual welfare and the moral hazard from the generosity of SA. Instead, post-secondary grants for early-onset individuals increase their educational attainment, employment, and improves welfare. Moreover, this policy helps pay for itself through added tax revenues and reduced dependence on SA.

The Longitudinal Effects of Disability Types on Incomes and Employment

A work-limiting disability can have important impacts on personal income in the years around its onset. Using linked Canadian survey and administrative tax data, I estimate the effect of different disability types in the ten years after onset on the level and composition of the main components of personal income. I distinguish disability types based on reported limitations to daily activities, and group them into physical, cognitive, or concurrent (both). My empirical results show substantial heterogeneity in the effect on personal income by disability type. In the years following onset, people with cognitive disabilities experience larger and more permanent declines in employment and total market income than those with physical disabilities. However, those with only cognitive disabilities receive similar increases in total government transfers, but less transfers from programs most relevant to disability. Instead, this group offsets some of the decline in market income via other transfers, such as programs that target families. Finally, the estimated effect of concurrent disabilities on market income and government transfers appears to be additive as it equals the sum of the effects of physical and cognitive disabilities.

The Labour Market Consequences of Disability: Types, Severity, Persistence, and Onset

This paper analyzes the heterogeneous effect of a work-limiting disability on labour market outcomes. Rich with information on the traits of a disability, I use the Participation and Activity Limitation Survey to compare the relative importance of each trait and their interactions. The set of disability traits includes the type of activity limitation (physical or cognitive), timing of onset, severity, and chronicity. I find substantial cross-sectional variation in labour supply and earnings across the activity limitations. My results show the timing of onset has large significant impacts on the labour market outcomes of individuals with disabilities. Further, the effects of disabilities that onset before age eighteen appear to inflict additional wage penalties through reduced skill accumulation.