Partial Disability Insurance

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Disability insurance (DI) programs are large and have expanded markedly in recent decades. The size and growth of DI programs have prompted considerable interest among policymakers and economists in the design of these and adjacent social insurance programs. For example, many countries operate partial DI programs that allow for graded benefits based on assessed work capacity. Such programs are supported by empirical evidence suggesting that many DI applicants and recipients retain some ability to work (Maestas, Mullen and Strand, 2013; Kostol and Mogstad, 2014). However, partial DI systems have received little attention in the literature, which predominantly analyzes binary DI programs (Diamond and Sheshinski, 1995; Low and Pistaferri, 2015; Haller, Staubli and Zweimüller, 2024), where individuals either qualify for a full DI pension or not at all.

We aim to fill this gap in the literature. Intuitively, it seems desirable from a welfare perspective to allow for partial DI as work capacity is not binary. However, a partial program also potentially attracts high-capacity individuals for whom the relevant alternative is regular employment, to a greater extent than what is true for full DI. Therefore, this paper studies how work incentives and work requirements affect sorting into partial vs. full DI programs or regular jobs, labor supply behavior within partial DI, and the role of firms hiring workers with reduced work capacity. Ultimately, our goal is to provide a framework for the optimal design of combined partial and full DI programs.

To this end, we leverage a unique reform in the Danish partial disability program. Denmark operates a partial disability program called flex job for individuals with some remaining work capacity, and a full disability pension program for those without any remaining work capacity. The partial disability program is large, covering approx. 2% of the work-age population, corresponding to 1/3 of the size of the ordinary DI program in Denmark.

Before 2013, individuals admitted into the flex job program typically worked 15–20 hours per week while receiving pay from the firm corresponding to a 37-hour work week. The firm then received a subsidy that covered 50% or 67% of the wage bill. Hence, under this program, individuals received a full-time salary regardless of their working hours, which created an incentive for workers to work as little as possible, conditional on finding a firm willing to employ them. From the firm's perspective, it was only attractive to employ individuals with relatively high work capacity and a substantial number of working hours, since firms bore 33–50% of the full-time salary cost.

A reform implemented in 2013 redirected the flex job program toward individuals with lower work capacity. Under the new program, firms pay flex job workers only for their effective working hours (taking into account reduced work efficiency), while the municipality tops up the wage with a subsidy paid directly to the individual. The subsidy is designed to bring the individual's total income up to a full-time equivalent wage. However, in contrast to the pre-2013 program, the subsidy is capped at a maximum of 19,952 DKK (2024 level) and with earned income at a rate of 30%, increasing to 55% for incomes above 16,323 DKK (2024 level).[1]

Hence, the 2013 reform changed both the incentives for some flex job workers to work additional hours (depending on their initial work hours and wage rate) and the incentives for firms to hire workers with lower work capacity. The reform also put more emphasis on the DI agency's screening of individuals, as the assessed work capacity not only determines whether an individual qualifies for a flex job, but also 1:1 determines the work requirement that individuals face upon entry. In combination, these changes created a potential moral hazard problem, where firms and workers have an incentive to hide individuals' actual work capacity (thereby reducing the assessed work capacity from the DI agency) and employ flex job workers on low-hour contracts.

Our empirical analysis provides three main results. First, despite being a main stated objective, flex jobs do not serve as a stepping stone back into ordinary employment - neither before nor after the reform. Instead, five years after program entry, the vast majority of individuals remain in the program, while a small minority transition to full-time DI. At most 2% re-enter the regular labor market.

Second, the reform changed the size and composition of the inflow into the flex job program. In particular, the reform increased the inflow of individuals with weaker labor market attachment and lower estimated work capacity as intended by the reform. This additional inflow into the flex job program largely mirrors a reduction in entries into full disability pensions.

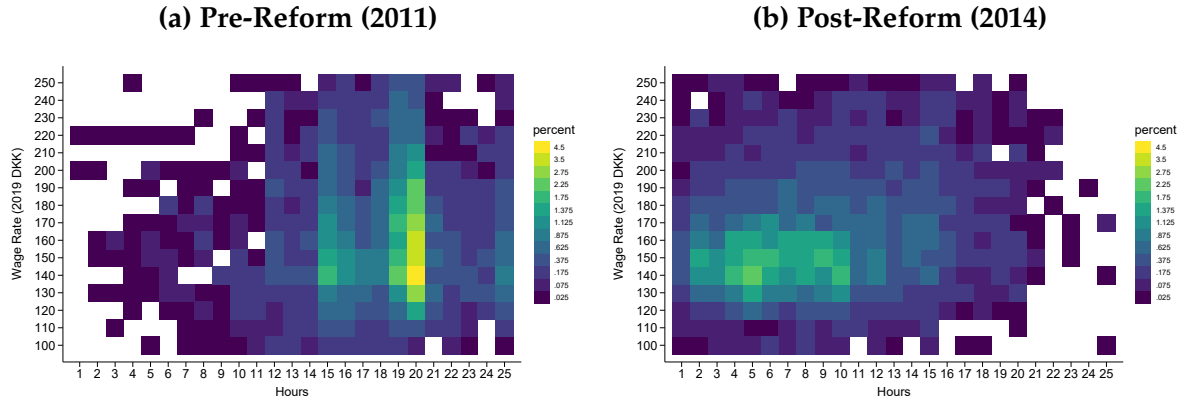
Our third main result is that contractual hours and wages for new flex job workers dropped significantly. Figure 1 illustrates the drastic shift in the hours and wage

[1] 19,952 DKK is around 3,000 USD.

distribution of new flex job workers. Panel (a) of Figure 1 shows the heatmap of hours–wage combinations for new flex job workers before the reform, and Panel (b) shows the same heatmap after the reform. We observe a striking shift toward lower hours and wages: after the reform, most flex jobs are below 10 weekly hours, and jobs with more than 20 hours have nearly vanished. Decomposing the reduction in hours into selection and behavioral effects, we find that the changes in work capacity of new flex job workers only explain a fraction of the drop in hours, suggesting that the new firm incentives introduced by the reform are driving part of the shift. Hence, the markedly lower contractual hours imply that both individual and firm moral hazard are sizable when designing partial DI programs.

In ongoing work, we quantify the relative importance of worker and firm moral hazard to assess the welfare implications of the 2013 reform and the trade-offs involved in designing partial DI programs.

Figure 1
Hours and Wage Distribution of Flex Job Entrants



Notes: This Figure plots the heatmap of hour-wage combinations of new flex job entries. Panel (a) shows the distribution of hours and wages of flex job contracts starting in 2011 before the reform. Panel (b) plots the hours-wage distribution of flex job contracts starting in 2014 after the reform.

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