



The impacts of vocational rehabilitation[☆]

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HIGHLIGHTS

- We study the effects of vocational rehabilitation (VR) on employment and earnings.
- Effects are identified on the basis of variation in local treatment strategies.
- Properly designed VR can significantly raise employment among the disabled.
- Strategies focusing on rapid placement in regular jobs are the more effective.
- Sheltered jobs may reduce the chances for returning to the regular labor market.

ARTICLE INFO

Article history:

Received 5 February 2014
Received in revised form 18 August 2014
Accepted 22 August 2014
Available online 30 August 2014

JEL classification:

C21
C26
H55
I38
J24

Keywords:

Vocational rehabilitation
Social insurance
Treatment effects
Program evaluation

ABSTRACT

Based on local variations in vocational rehabilitation (VR) priorities, we examine the impacts of alternative VR programs on short- and long-term labor market outcomes for temporary disability insurance (TDI) claimants in Norway. The analysis builds on rich and detailed administrative registers covering 345,000 claimants. We find that a strategy focusing on rapid placement in the regular labor market is superior to alternative strategies giving higher priority to vocational training or sheltered employment. Strategies prioritizing subsidized regular education also tend to be relatively successful in terms of final outcomes, but at the cost of protracted periods of benefit dependency first.

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1. Introduction

In all OECD countries, individuals with disabilities have much lower employment rates than the population at large; see, e.g., OECD (2010, p. 51). The evidence is mounting, however, that this state of affairs is not a necessity. Newer research – within economics, epidemiology, and medicine – indicates that being disabled is generally far from incompatible with employment; to the contrary, work can in many cases prevent the onset of disabilities as well as help cure them; see,

e.g., Waddell (2004), Waddell and Burton (2006), OECD (2008), and Markussen et al. (2012). Many countries also devote significant resources to various rehabilitation programs aimed at securing employment for the disabled; yet so far with limited success. Rising disability insurance rolls have instead become a major concern in many industrialized countries; see Duggan and Imberman (2006), Burkhauser and Daly (2011), and Bratsberg et al. (2013).

While there already exists a large empirical literature on the impacts of labor market programs targeted at ordinary job seekers (see Kluge et al. (2007) and Card et al. (2010) for reviews, and Røed and Raaum (2005), Røed and Westlie (2012), and Gaure et al. (2012) for recent Norwegian evidence), there is less evidence on the treatment effects of vocational rehabilitation (VR). Moreover, the existing literature is to a large extent confined to small groups and specific institutional settings, implying low external validity. Scientific evaluations of vocational rehabilitation obviously face huge selection problems, since VR

[☆] This paper is part of the project “Effects of vocational rehabilitation programs”, financed by the Norwegian Ministry of Labor and Social Affairs. Data made available by Statistics Norway have been essential for the research project. Thanks to two anonymous referees for constructive comments and suggestions.

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programs are typically only offered to persons deemed by a caseworker both to be in need of a program (due to serious health problems) and to be able to benefit from it. In contrast to what is often assumed for participants in regular labor market programs, the most relevant alternative to a particular vocational rehabilitation program is not necessarily to be untreated, but rather to receive another type of treatment, to receive treatment at another point in time, or to be granted a permanent disability insurance benefit. Many disabled persons also participate in more than one treatment. The distributions of treatment alternatives are likely to vary across different institutional environments, making it difficult to compare studies from different countries. We thus believe that scientific progress in this area – particularly in terms of providing the kind of knowledge that policy-makers demand – requires a clear setting of realistically competing treatment strategies, characterized by well-defined policy parameters.

Our paper relates particularly closely to three existing studies. The first is Frölich et al. (2004), which examines the impacts of vocational rehabilitation programs in Sweden on the basis of nonparametric matching estimators. This study relies on the assumption that all variables that simultaneously affect the vocational rehabilitation (VR) participation decision and subsequent labor market outcomes are observed. The main conclusions are that there are no favorable effects of VR programs at all, but that workplace rehabilitation is better (less bad) than the alternative strategies of, e.g., “social” rehabilitation or education. The second study is Aakvik et al. (2005), which examines the impacts of vocational rehabilitation in Norway (for females only) on the basis of a latent variable model motivated by economic theory. This study exploits local variations in the “degree of rationing” to identify the distribution of treatment effects within the framework of a three-equation (one for the treatment decision, one for the outcome if treated, and one for the outcome if non-treated) single-factor model with normally distributed error terms.¹ The resultant empirical estimates suggest that VR participation has little or no effect on subsequent employment propensities, and that the effects even tend to be negative for actual participants. The estimates are very imprecise, however, and the authors emphasize that they are at best suggestive. The third study is Dean et al. (2014), which examines the effects of vocational rehabilitation in the state of Virginia for people with cognitive impairments. This analysis is based on an instrumental variables approach whereby each client’s treatment is instrumented with the proportion of other clients exposed to the same counselor and field office who were provided with the treatment in question. The main conclusion is that VR services have favorable long-run effects on labor market outcomes.

Our paper also connects with a somewhat larger literature discussing the merits of alternative rehabilitation strategies, particularly distinguished by their emphasis on employment versus education, by their use of sheltered versus non-sheltered treatment environments, and by their strictness with respect to requiring that vocational rehabilitation has really been tried before a permanent disability insurance (PDI) can be granted. An important issue in this literature is whether required skills-upgrading should take place before a placement in the labor market is attempted or vice versa. While empirical research from the U.S. generally finds that a place-and-train strategy is superior to train-and-place (Skinner et al., 2009; Campbell et al., 2011), European evidence is more mixed (Burns et al., 2007; Catty et al., 2008; Howard et al., 2010). Finally, our analysis relates to a recent U.S. literature, examining labor supply behavior among rejected disability insurance applicants. This literature essentially shows that disability insurance applicants whose claims were rejected due to the assignment of a “strict” judge, do tend to return to the labor market, although with significantly lower earnings than before; see Bound (1989), French and Song (2009), Maestas et al. (2011), and Von Wachter et al. (2011).

¹ The degree of rationing is calculated as the percentage of applicants in local districts who do not participate in the program.

The purpose of the present paper is to provide new and comprehensive empirical evidence on the effectiveness of alternative rehabilitation strategies, based on an empirical approach that exploits (idiosyncratic) local variations in rehabilitation policies as the source of exogenous variation in treatment exposure. This approach relies on the idea that, viewed from the population of disabled individuals, there is an element of random-assignment-like variation in local authorities’ treatment priorities. In practice, these local variations are identified by the distribution of observed treatments among other claimants registering in the same treatment environment at approximately the same time (controlled for individual and environmental characteristics and local labor market conditions). Our empirical basis is administrative register data from Norway encompassing the complete population of individuals who entered the temporary disability insurance (TDI) program – and, hence, came under the risk of being referred to vocational rehabilitation – from 1996 through 2005. We examine the impacts of vocational rehabilitation strategies on labor market outcomes for a period of up to seven years after entry into TDI, with particular emphasis on subsequent employment, earnings, and social insurance dependency.

While the idea of exploiting local variation in treatment strategies originated from the emergence of qualitative empirical evidence indicating that rehabilitation policies do vary a lot across different social insurance districts in Norway, we will confirm its validity through a rigorous quantitative analysis in this paper. It is notable, however, that the qualitative evidence to a large extent attributes the variation to differences in local “treatment cultures”, as well as to inherited practices and program suppliers (Proba, 2012). The resultant differences in treatment practices have been allowed to thrive and persist precisely because “hard” evidence regarding the treatment effects of various programs is almost non-existent, leaving plenty of room for local administrators to base their policy choices on a combination of individual judgment, guesswork, personal experience, and convenience.

Our empirical analysis consists of two parts; a “reduced form” analysis, where we examine the impacts of the local treatment environment on subsequent outcomes for all potential participants, and an “instrumental variables” (IV) analysis, where we examine the impacts of actual participation in distinct treatment types, using characteristics of the local treatment environment as instruments. The reduced form analysis identifies the average intention-to-treat-effects of marginal changes in the local “treatment portfolio”. A main advantage of this approach is that it is valid even if the treatment environment affects potential participants beyond the impacts associated with actual participation in a particular activity; e.g. by modifying incentives to accept (and search for) jobs or to leave the program for other reasons. It also scores high on the criterion of policy-relevance, since it is the design of rehabilitation institutions and strategies that corresponds most closely to the policy makers’ choice variables. A major drawback, however, is that “local treatment strategies” are intrinsically unobserved, and hence bound to be measured with significant error. This biases the estimated reduced form coefficients toward zero. The instrumental variables strategy solves the measurement error problem, and also provides coefficient estimates that are more interpretable than the reduced form coefficients. It identifies the average effects of participating in particular program activities for the sub-population of TDI claimants whose treatment choices are affected by the design of the local treatment environment (the “compliers”). However, the validity of this interpretation requires that the treatment environments affect post-TDI outcomes only through their impacts on actual program participation. Moreover, while we can use all TDI spells in the reduced form analysis, we can only use completed spells (for which the realized treatment has been revealed) in the instrumental variables analysis.

Our main finding is that vocational rehabilitation strategies giving high priority to early placement in the regular labor market are more successful in terms of raising subsequent (non-subsidized) employment and earnings. Strategies emphasizing support for regular

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