

Disability quota policies and employers' use of inclusive language - evidence from job ads

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EXTENDED ABSTRACT

1 Introduction

Many industrialized countries implement quota policies to promote the integration of people with disabilities into the labor market. However, several studies document that firms often fail to comply with the required quotas and find only small positive (e.g., Lalive et al. 2013) or even negative effects (e.g., Barnay et al. 2019) on the employment of disabled individuals. To date, little is known about the underlying mechanisms induced by such quota policies, which may help explain the previous findings.

Our study addresses this research gap by investigating employers' recruitment behavior in response to disability quota policies in Germany. The study is motivated by firms indicating that their non-compliance is attributed to a lack of suitable disabled applicants (Hiesinger and Kubis 2022). Specifically, we explore whether disability quotas induce firms to actively recruit (and possibly attract more applications from) people with disabilities by using inclusive language in their job ads. In this way, we want to gain a better understanding of whether barriers to the labor market integration of people with disabilities are demand or supply driven. To do this, we use machine learning techniques to classify a large number of job ads and link them to administrative firm records, which also contain information on the employment of disabled individuals at the firm level. To identify causal effects, we exploit a special regulation of the German quota policy and apply a regression discontinuity design. In doing so, we hope to gain critical insights into the underlying mechanisms induced by disability quotas, which are essential for developing effective integration policies in the future.

2 Institutional background and research scope

The current integration policy in question, the German disability quota, is stipulated in the Ninth Book of the Social Code (§ 154 SGB IX). According to this law, all employers with 20 or more employees are obliged to fill at least five percent of their positions with employees with severe disabilities. A disability is classified as severe

if the degree of disability is 50 or higher. In the labor market, however, individuals can be treated as severely disabled from a degree of 30 if their disability limits their possibilities to find or keep a job. Failure to meet the quota results in a fine, which increases with firm size and the degree of non-compliance.

To analyze how this quota affects employers' recruitment behavior, we focus on job ads, which represent the starting point of most recruitment processes. To assess if firms actively attempt to recruit people with severe disabilities, we examine whether firms' job ads explicitly express affirmative action, some form of welcome policy, or at least an equal opportunity for applications from this group. Examples of such explicit expressions are "Severely disabled individuals will be given preferential consideration if equally qualified" (affirmative action), "We encourage applications from people with handicaps" (welcome policy), or "Our job vacancies are open to all applicants regardless of age, gender, race, sexual orientation, disability, religion and ideology" (equal opportunity). We classify job ads as "inclusive" if they contain one of these or similar statements.

In a first step, we want to use these classifications to answer the question of whether and which types of firms actively try to recruit people with severe disabilities. For this, we provide descriptive evidence on the correlation between posting an inclusive job ad and certain firm characteristics, such as size, sector, and workforce structure. This analysis will also focus on which types of expressions are used by which types of firms, as some expressions send a stronger signal than others, as shown in the examples above. Since some public employers at the state level are legally obliged to include such statements into their job ads, we additionally analyze their compliance with the law. In a second step, we want to answer the question to what extent the disability quota induces employers to actively try to recruit people with severe disabilities. To do this, we estimate the causal effect of the disability quota on firms' use of inclusive statements in job ads using a special threshold regulation of the German legislation.

3 Literature and contribution

Our study contributes firstly to the literature on anti-discrimination legislation for people with disabilities. Previous research mainly examines the effect of such policies on the employment of disabled individuals, often finding no positive or even slightly negative effects (e.g., Acemoglu and Angrist 2001, Beegle and Stock 2003, Bell and Heitmueller 2009, Barnay et al. 2019). There are, however, also two studies on the effect of disability quotas in Austria (Lalive et al. 2013) and Germany (Hiesinger 2022) that find small increases in the number of employees with disabilities at certain legal thresholds. By studying the quota's effect on firms' recruitment behavior, we aim to contribute to this literature by helping to understand what underlies the effect of such policies on the employment of disabled individuals. Specifically, we want to delve into the black box of what mechanisms triggered by the disability quota actually contribute to increasing the number of employees with disabilities in firms, or whether the absence of such mechanisms may in part explain why the quota policy does not have a greater impact.

This paper also relates to a growing literature on the existence and the elimination of barriers to labor market integration of marginalized groups, in particular studies analyzing the role of language in this context. Examples include Kuhn and

Shen (2013), who analyze gender discrimination, and Burn et al. (2022, 2025), who examine age discrimination in job ads. In analyzing how to remove barriers and foster the labor market integration of marginalized groups, some experimental studies, such as Flory et al. (2021) and Ibañez and Riener (2018), vary the use of affirmative action or equal opportunity statements in recruitment material. The findings of both studies indicate that such statements exert an influence on the composition of applicant pools. Apart from experimental settings, however, relatively little is known about the extent to which such statements are actually used in job ads and about the firms that post them. Using state-of-the-art machine learning methods and a large sample of job ads, we therefore contribute to this literature by providing descriptive evidence on the correlation between firm characteristics and firms’ use of inclusive job ads.

4 Data

This study uses three different data sources. The job ads are taken from *BA Job-suche*, the job search platform of the Federal Employment Agency. The job ad data are available starting in April 2019 and contain the text of the ad, as well as a wide range of meta data including the number of positions behind the job ad, occupational information, and when it was posted. We use all job ads posted between April 2019 and December 2022 in their first version, resulting in over 30 million job ads. We match these data to our second data source, the Employment Statistics of Severely Disabled People (BsbM), an administrative data set provided by the Federal Employment Agency. As described above, firms are obliged to fill a certain number of positions with severely disabled individuals. In order to monitor compliance, firms are required to report annually the number of all employees and the number of employees with severe disabilities. The data collected as part of this reporting process constitute the BsbM. The data cover all companies that are subject to the disability quota and thus all German firms with at least 20 employees. Last, additional establishment characteristics, such as size, sector, and workforce structure, are taken from the Establishment History Panel (BHP), an administrative cross-sectional data set covering all establishments with at least one employee subject to social security contributions.

5 Methodology

To determine whether a job ad is inclusive or not, we use machine learning techniques. Specifically, we perform text classification based on Bidirectional Encoder Representations from Transformers (BERT) (Devlin et al. 2019). BERT is a state-of-the-art natural language processing model that has the ability to produce contextualized embeddings, meaning the representation of a word adapts based on its surrounding words, allowing it to capture nuanced meanings. Pre-trained on massive text corpora, we fine-tune the BERT model for our specific application by training it on labeled job ads. Using this fine-tuned model, we are then able to reliably predict whether a job ad is inclusive or not for more than 30 million job ads.

To empirically analyze whether the disability quota leads to a significant increase in inclusive job ads, we use a regression discontinuity design. We exploit a special regulation of § 154 SGB IX for firms with less than 60 employees. This special

regulation requires firms with 20 to less than 40 employees to fill at least one position with severely disabled individuals and companies with 40 to less than 60 employees to fill a minimum of two positions with severely disabled individuals. We compare firms just below and just above the threshold of 40 employees, where the number of positions to be filled with severely disabled individuals doubles from one to two. Under the assumption that all factors potentially influencing the use of inclusive job ads are continuous at the threshold, we can isolate the effect of the disability quota. We exclude public employers from the causal identification, as some of them are obliged to use inclusive language in their job ads.

6 Preliminary results and outlook

Preliminary descriptive results indicate that the inclusion of a statement signaling affirmative action, some form of welcome policy, or an equal opportunity towards people with severe disabilities is positively correlated with firm size. One explanation is that the required number of positions to be filled with severely disabled individuals increases with firm size. Furthermore, preliminary analyses show that particularly firms in the sector “Public administration, defense and social security” post inclusive job ads. This is mainly driven by the high share of public employers in this sector. While only some of them are obliged to include inclusive statements in their job ads, many public employers have internal agreements to favor or particularly welcome people with severe disabilities.

Moving forward, we will extend our analysis by conducting a more detailed descriptive examination and estimating the causal effect of the disability quota on firms’ recruitment behavior. To the extent that firms just above the threshold post significantly more inclusive job ads, this could help us analyze whether inclusive job ads translate into higher employment of severely disabled individuals. Such evidence could provide new insights into whether changes in recruitment behavior lead to actual improvements in labor market integration, contributing to the broader discussion on the effectiveness of disability quotas.

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