

Hiesinger, Karolin; Pohlan, Laura; Vetter, Franka

Article

The employment statistics of severely disabled people: Description and research potential

Journal for Labour Market Research

Provided in Cooperation with:

Institute for Employment Research (IAB)

Suggested Citation: Hiesinger, Karolin; Pohlan, Laura; Vetter, Franka (2025) : The employment statistics of severely disabled people: Description and research potential, Journal for Labour Market Research, ISSN 2510-5027, Springer, Heidelberg, Vol. 59, Iss. 1, pp. 1-20, <https://doi.org/10.1186/s12651-025-00395-0>

This Version is available at:

<https://hdl.handle.net/10419/336928>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



<https://creativecommons.org/licenses/by/4.0/>

ORIGINAL ARTICLE

Open Access



The employment statistics of severely disabled people: description and research potential

Karolin Hiesinger¹, Laura Pohlan^{1,2,3,4} and Franka Vetter^{1*}

Abstract

This article presents a description of the employment statistics of severely disabled people (BsbM) a unique administrative firm database of the German Federal Employment Agency. The data is collected as part of the process of administrating firm compliance with the disabled worker quota. This article examines the development of firms' compliance with the disability quota over time and identifies factors associated with a higher likelihood of compliance. It also highlights the research opportunities offered by the dataset and its potential for further refinement.

Keywords Disability, Employment obligation, Noncompliance fine

JEL Classification I10, J14, J21, J71

1 Introduction

Falling birth rates combined with an ageing population pose major challenges for industrialized countries in terms of the future working population, economic productivity and the long-term sustainability of social security systems. Germany is particularly affected by demographic change: Between 2001 and 2024, the proportion of employees subject to social insurance contributions and over the age of 55 rose significantly from 9.7 percent to 24.0 percent (Federal Employment Agency 2024a).

Ageing is often accompanied by age-related illnesses that have enduring effects (Meyer and Mok 2019). In addition, the proportion of people with (severe) disabilities increases dramatically with age, as disabilities usually

develop in the course of life. In Germany, 7.9 million individuals (9.3 percent of the population) are classified as having a permanent physical, mental or psychological health restriction involving severe disability. Of these individuals, only 12 percent are younger than 45 years, 29 percent are between 45 and less than 65 years old and 60 percent are 65 years and older (Federal Statistical Office 2024). In view of an ageing society and the current shortage of skilled workers, which is likely to worsen in the coming years, promoting the integration and maintaining the employability of employees despite disability is of central importance.

*Correspondence:

Franka Vetter
Franka.Vetter@iab.de

¹ Institute for Employment Research (IAB), Regensburger Str. 104,
90478 Nuremberg, Germany

² IZA, Bonn, Germany

³ LASER, Nuremberg, Germany

⁴ ZEW, Mannheim, Germany



© The Author(s) 2025. **Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

The literature on the situation of severely disabled people in the labor market has so far made little use of administrative data.¹ This article presents the employment statistics of severely disabled people (BsbM), a unique administrative database of the German Federal Employment Agency, which is collected as part of the process of administering firm compliance with the disabled worker quota. In Germany, at least five percent of the workforce of firms with 20 or more employees must be disabled workers. These firms have to declare annually which of their employees are disabled. Firms that do not comply with this obligation have to pay a fine which increases with the extent of their noncompliance.

The Federal Employment Agency publishes an annual report based on the BsbM data which describes the share of disabled workers in firms, e.g. by public/private employer, firm size or industry.² Apart from that, however, very little is known about the demand-side effects of the German disabled worker quota or determinants of quota fulfillment.³ With the exception of two scientific studies (see Sect. 5.1 and Sect. 5.2), the data set has not yet been used for further multivariate analyses.

This article aims to provide an overview of the BsbM data and its research potential. In a first step, we describe the institutional details that are relevant for the creation of the data set. In a next step, we use the data to show how the share of firms that fulfill the disabled worker quota has developed over time and which firms are more likely to comply with the regulation. Lastly, we discuss the research potential and possible further developments of the BsbM data.

2 Institutional background

2.1 Disability status

In Germany, individuals are considered to be severely disabled if they have been granted a degree of disability of at least 50 by a special independent agency. Therefore, a physician or medical expert must diagnose a physical, mental or psychological disorder that is not typical for the patient's age. This disorder must be expected to last for more than six months and must affect the individual's ability to participate in social life. An individual who wishes to be officially recognized as disabled must undergo a formal procedure conducted by the responsible authority, the *Versorgungsamt* (§152 SGB IX). In order to complete this procedure, all relevant medical documents for the previous two years (e.g., documents from the hospital or reports from the health insurance) must be provided to the *Versorgungsamt*. This institution then evaluates the degree of disability on a scale ranging from 20 to 100, graded in steps of ten, based on the extent of the impairment.⁴ Voicelessness or growth retardation of 120 to 130 cm are examples of a degree of disability of 50 – the threshold for *severe* disability. If the disability limits the ability to get or keep a job, individuals with a degree of disability between 30 and 50 may also be treated as severely disabled in the labor market context (*Gleichstellung*). An application for equal treatment must be submitted to and approved by the local public employment agency.⁵

The decision to obtain a (severe) disability status and to report that status to the employer is generally voluntary. There is only an obligation to disclose the disability status to the employer if the disability affects the job in such a way that the disability puts the disabled worker or his/her colleagues at risk. However, a recognized severe disability status can be advantageous in several respects from a worker's point of view. Firstly, disabled workers are subject to special protection against dismissal. If the disabled worker has worked in a firm for more than six months, the employer must obtain permission to dismiss him or her from the local integration office.⁶ Secondly, a severely disabled worker is entitled to more leave, i.e.,

¹ Most of the available studies on disabled people in the labor market using administrative data analyze disability insurance systems (see, e.g., Kostøl and Mogstad 2014; French and Song 2014 or Autor et al. 2019). Apart from that, however, there are very few studies studying the situation of disabled people in the labor market using administrative records. From a labor demand perspective, Lalive et al. (2013) analyze the effects of the Austrian disabled worker quota using administrative firm data. Further, Koller et al. (2006) use the predecessor data set of the data set described in this article combined with survey data to analyze firm dynamics around the former disabled worker quota in Germany. Hiesinger (2022) evaluates intended and unintended effects of the current disabled worker quota in Germany using the data set presented in this article combined with administrative firm data (see Sect. 5.1). From a labor supply perspective, we are not aware of any studies which evaluate the labor market effects of disability onset based on administrative data – except for the study by Collischon et al. (2025) that uses the data set presented in this article linked with administrative individual data (see also Sect. 5.2).

² The reports are available at <https://statistik.arbeitsagentur.de/>.

³ The German Bundestag mentions the absence of scientific research with regard to effects of the German disabled worker quota in a 2019 paper (Deutscher Bundestag 2019).

⁴ Note that applying for disability-related benefits is known to be a lengthy and bureaucratic process involving several parties (Becker et al. 2023). Therefore, the application of the (severe) disability status requires some effort and knowledge. Furthermore, it usually takes some time until the status is officially recognized: In 2017, the average processing time for initial applications was 3.3 months (Ministerium für Soziales, Gesundheit und Sport 2017).

⁵ According to Lechner and Vazquez-Alvarez (2011), it is rare that people with a degree of disability between 30 and 50 are not treated as severely disabled in the labor market.

⁶ Note, however, that in about 80 percent of cases, the integration offices approve the dismissal (Bundesarbeitsgemeinschaft der Integrationsämter und Hauptfürsorgestellen 2021).

an additional five days per year. In addition, a recognized disability status may help an employee to obtain special workplace equipment or financial support for vocational rehabilitation.⁷ Beyond that, it is also in the employer's interest for an employee to report his or her status, as this contributes to the disabled worker quota, which is described in the following section.

2.2 The disabled worker quota

As in many other OECD countries such as Austria, France, Italy and Spain, German labor law contains a mandatory employment quota to promote the employment of disabled individuals: Public and private employers with at least 20 employees have to fill at least five percent of their positions with severely disabled workers. There are special rules for small firms: Firms with 20 to less than 40 employees must fill at least one position with a severely disabled individual per year, while firms with 40 to less than 60 employees must fill at least two positions with a severely disabled individual. Firms with 60 or more employees must meet the five percent quota. The aim of this quota is to create an incentive for employers to employ disabled workers. Firms that do not comply with this obligation have to pay a graduated noncompliance fine (*Ausgleichsabgabe*).⁸

The fine is based on the number of unfilled positions and is graduated according to the degree of noncompliance, with the highest fine for firms that do not employ any individual with a severe disability. The fines range from 140–720 euros per month per unfilled position (status of legislation in 2024).⁹ Fig. 5 in the appendix provides an overview of the quota regulation according to firm size and the corresponding noncompliance fines. The fine must be paid to the integration offices and is used mainly to finance assistance for occupational rehabilitation for severely disabled individuals. In 2020, the revenue from the noncompliance fine in Germany amounted to almost 697 million euros (Bundesarbeitsgemeinschaft der Integrationsämter und Hauptfürsorgestellen 2021).

⁷ Apart from advantages in employment, individuals with a disability status may be eligible for supplementary financial assistance in daily life, such as reduced public transportation costs or museum fees. Furthermore, the status may entitle the individual to better institutional protection, for example in the form of favorable tax rules or earlier eligibility for retirement.

⁸ Note that paying the noncompliance fine does not remove the employment obligation. Thus, employers can be penalized beyond the noncompliance fine with an additionally fine of up to 10,000 euros if they culpably fail to comply with the employment obligation (§238 SGB IX). However, these additional fines are rarely imposed. For example, in 2010, only two fines were imposed (German Bundestag 2011).

⁹ Note that according to §223 SGB IX noncomplying firms can receive a 50 percent credit for the noncompliance fine by placing orders to officially recognized workshops for disabled people (*Werkstätten für behinderte Menschen*). These workshops are institutions aimed at enabling participation of severely disabled individuals in working life.

To control compliance with the law, firms with at least 20 employees must report annually to the Federal Employment Agency the number of their employees (firm size) and how many of them are severely disabled. Generally, the employment obligation refers to the entire firm, which may consist of several establishments. The law specifies exactly which employees are counted towards firm size (§156 and §157 SGB IX). As the quota should not inhibit the willingness of firms to provide vocational training, apprentices, for example, are excluded from firm size calculation. Further excluded employee groups are workers who work less than 18 h per week, workers with a temporary contract of fewer than eight weeks as well as workers participating in job creation schemes, whose employment is not primarily for pay but e.g. for rehabilitation and workers who are elected to their job after continuous practice (e.g., elected civil servants). With regard to the reference period, firm size is measured as the annual average of the monthly number of employees. For further details on the firm size calculation, see Table 2 in the appendix.

With regard to disabled workers, a severely disabled individual, who is employed in a firm for twelve months per calendar year, is in general credited to one position relevant for the quota. In case of part-time employment, a disabled worker is also credited to one position as long as the part-time employment does not fall below 18 h a week. However, if part-time employment is necessary due to the nature and severity of the disability, a severely disabled individual can also be credited to a position if he or she works less than 18 h. Furthermore, in the case of a very severe impairment due to the disability, a disabled individual may also be credited to more than one position (multiple crediting). Apprentices are generally credited to two (and, in case of a very severe impairment due to the disability, to three) positions for the duration of vocational training. Disabled employers are also credited to one position. Last, since 2024, an individual who was previously employed in a workshop for disabled people (*Werkstätten für behinderte Menschen*) is credited to two positions in the first two years of employment in a firm. Table 3 in the appendix provides a detailed overview of how disabled workers are counted towards the quota according to the law (§158 SGB IX).

3 Data set description

3.1 Sample and content

The employment statistics of severely disabled people (BsbM) is the annual data set collected from the notifying procedure used to control compliance with the German disabled worker quota described in Sect. 2.2. Hence, the data cover all German firms that have at least 20 employees and thus are subject to the employment obligation.

Data have been available since 2003 and currently extend to 2021.¹⁰ The BsbM consists of basically two data sets, one at the firm level and one at the individual level. The firm data set contains all the essential information required to prove the employment obligation, in particular firm size, the number of disabled workers and the level of the noncompliance fine due. Further firm information such as region (federal states) and industry are also included. The individual data set contains information about the disabled workers in a firm, namely their sex, date of birth and how often they are counted to a position relevant for the quota (see Sect. 2.2).¹¹ The statistics are published as an annual excel-sheet for Germany and each federal state on the website of the Federal Employment Agency.¹² The sheets contain basic descriptive statistics such as the compliance rate by firm size, region or industry as well as gender and age structure of the employed disabled workers. The collection and structure of the data is described in a quality report. As the data set is based on legally binding information, the data quality is considered to be very high (Federal Employment Agency 2022). In addition to the statistics which are based on the employment obligation, there is also a representative partial survey among firms with fewer than 20 employees every five years (2005, 2010, 2015 and 2020). The general aim of this survey is to obtain an overview of the number of severely disabled people in employment on the general labor market. However, the quality of the partial survey is rated as moderate (Federal Employment Agency 2022).

3.2 Linkage to establishment data

The BsbM firm data set contains an establishment identifier, which allows merging additional information from administrative establishment data of the Federal Employment Agency, namely the Establishment History Panel (BHP). This cross-sectional data set contains all establishments in Germany with at least one employee liable to social security contributions and provides annual detailed information on each establishment's workforce, e.g., regarding skills, employment type or wages, as of the reference date, June 30th (Schmucker et al. 2018). Note, however, that the BsbM is based on firms which may consist of several establishments. Thus, in the case of multi-establishment firms, we can only merge the BHP

information from the main establishment.¹³ As a consequence, the firm characteristics we use in the following analyses stem from different entities. The firm size originates from the notifying procedure and thus from the BsbM data, i.e. it refers to the entire firm. In Sect. 2.2, we explained which employee groups count for the notifying procedure and which do not (see also Table 2 in the appendix). The industry information comes from the BHP and is likely also relevant for the entire company in the case of multi-establishment firms. The other BHP characteristics, such as employment structure, unemployment rate, and median gross daily pay, refer to the main establishment. For single-establishment firms, this is equivalent to firm-level information.

4 Descriptive insights: employment obligation

Which firms (do not) comply with the employment obligation? In this section, we analyze which firm characteristics are associated with compliance. For this, we use the BsbM firm data set merged with BHP data as described in the previous section. The linked sample consists of firms with at least 20 employees in the years 2003 to 2021 resulting in 2,750,498 firm-year observations originating from 296,342 unique firms.¹⁴ Table 4 in the appendix reports descriptive statistics of some firm characteristics.

4.1 Incidence of compliance

Generally, firms may be classified either as compliers or noncompliers. While compliers are firms that employ at least as many disabled workers as required by the law, noncompliers are firms that do not fulfill the quota and must pay the noncompliance fine. As already described in Sect. 2.2, noncompliers can be assigned to one of three levels (*Stufen*) of the fine according to their degree of noncompliance. Firms with a low (high) degree of noncompliance are assigned to level 1 (3) of the fine and

¹⁰ Enacted in 2001, the "Integration and Rehabilitation of Disabled People (SGB IX, 2001)" as part 3 of Book IX of the Social Code forms the legal framework for promoting the integration of disabled people in the German labor market. The law forms the basis for the employment obligation and thus for the collection of the necessary data. It built upon the People with Severe Disabilities Act (PSDA), which was originally implemented in 1974.

¹¹ The last column of Table 3 in the appendix shows the shares of disabled employees accounted for by each type.

¹² The statistics are available at <https://statistik.arbeitsagentur.de/>.

¹³ As part of the notifying procedure, firms have to specify which establishment is their main establishment (*Firmensitz*) according to the German Commercial Register. For firms with several establishments, the establishment identifier in the BsbM data refers to the specified main establishment. To identify the share of firms with several establishments in our sample, we have linked the BsbM data to a new data product of the IAB research data center which links establishments and firms based on the information of the Mannheim Enterprise Panel (MUP) and the BHP (Diegmann et al. 2024a, b). Of the 2,750,498 firm-year observations in our sample, 2,679,488 (97.4%) could be matched to the MUP-BHP. Out of the matched firm-year observations, 23.7 percent are multi-establishment firms. This goes roughly in line with data by the IAB Establishment Panel, a survey of establishments in Germany, where about 70 percent of establishments are independent companies without any other places of business.

¹⁴ The BsbM firm data set contains 2,802,103 firm-year observations in the years 2003 to 2021. Close to 36,000 observations cannot be linked to the BHP. A further roughly 15,000 observations have to be excluded due to missing information, in particular on median gross daily pay.

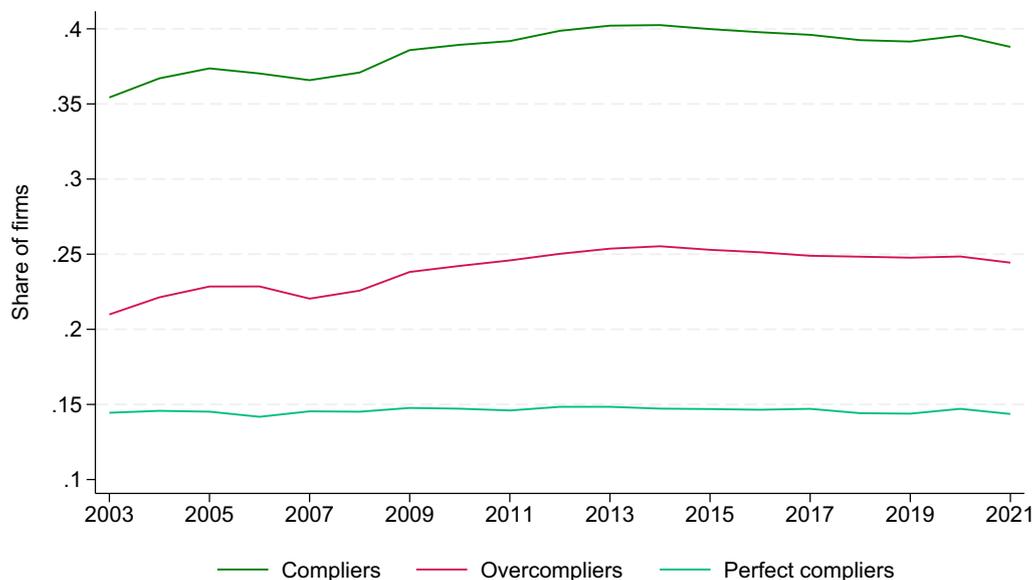


Fig. 1 Share of firms that comply with regulation. *Notes:* The figure shows the share of firms that comply with the employment obligation described in Sect. 2 (compliers). Compliers can be divided into perfect compliers (firms that employ as many disabled workers as the quota stipulates) and overcompliers (firms that employ more disabled workers as the quota stipulates). Number of observations: 2,750,498. *Source:* BsbM and BHP, 2003–2021, own calculations

must pay a comparatively small (large) fine.¹⁵ Fig. 6 in the appendix reports the share of firms that are assigned to level 1, 2 or 3 of the noncompliance fine, respectively. Most noncompliant firms are assigned to level 1, meaning that the degree of noncompliance is low for the majority of noncompliers.

Compliers can be divided into overcompliers and perfect compliers. Overcompliers are firms that employ more severely disabled workers than the quota stipulates, while perfect compliers employ exactly as many workers as required by the law (see Sect. 2.2).

Between 2003 and 2021, the share of firms that comply with the employment obligation has markedly increased, as shown in Fig. 1. The share rose from roughly 36 percent in 2003 to 40 percent in 2012. After remaining at a level of just over 40 percent in the years 2013 and 2014, the share decreased to 39 percent in 2021. The share of overcompliers has increased from roughly 21 percent in 2003 to just below 25 percent in 2021. The share of perfect compliers has remained at a relatively stable level of 15 percent throughout the whole period. Regarding the variation of the complier status within firms, we look at the share of firms that switch from being a complier to being a noncomplier or vice versa between the previous and the following year. On average, only around 11 percent of the firms that were subject to the employment

obligation in the previous year change their complier status in the following year.

Analyzing compliers by firm characteristics reveals substantial variation in the share of compliers in different industries and firm size categories (see Fig. 2). Specifically, around 70 percent in public administration comply with the employment obligation. The energy and water supply sector follows at a considerable distance, with roughly half of the firms complying. Among firms in the mining industry and the healthcare sector, the share of compliers is around 45 percent. In contrast to these comparatively high percentages, the share of complying firms is just above 30 percent in the finance and insurance industry and even below 30 percent in the hospitality industry and the real estate and housing sector.

Looking at the compliance of different firm size categories, we document an u-shaped pattern: The share of firms that comply with the employment obligation is highest among firms with 20 to 39 employees and with 1000 and more employees (46–48 percent). In contrast, only around 26 percent of firms with 60 to 249 employees employ the required number of severely disabled workers. The shares of the remaining firm size categories (40–59 and 250–999 employees) lie between 30 and 40 percent.

Since the number of severely disabled workers that have to be employed in firms is determined upon the total number of regular employees, it lends itself to analyze the incidence of severely disabled employees by firm size. As visible in the upper panel of Fig. 3, the

¹⁵ Note that since 2024, there exists a fourth level of the fine which has to be paid by firms which do not employ any severely disabled individual (see also Fig. 5 in the appendix).

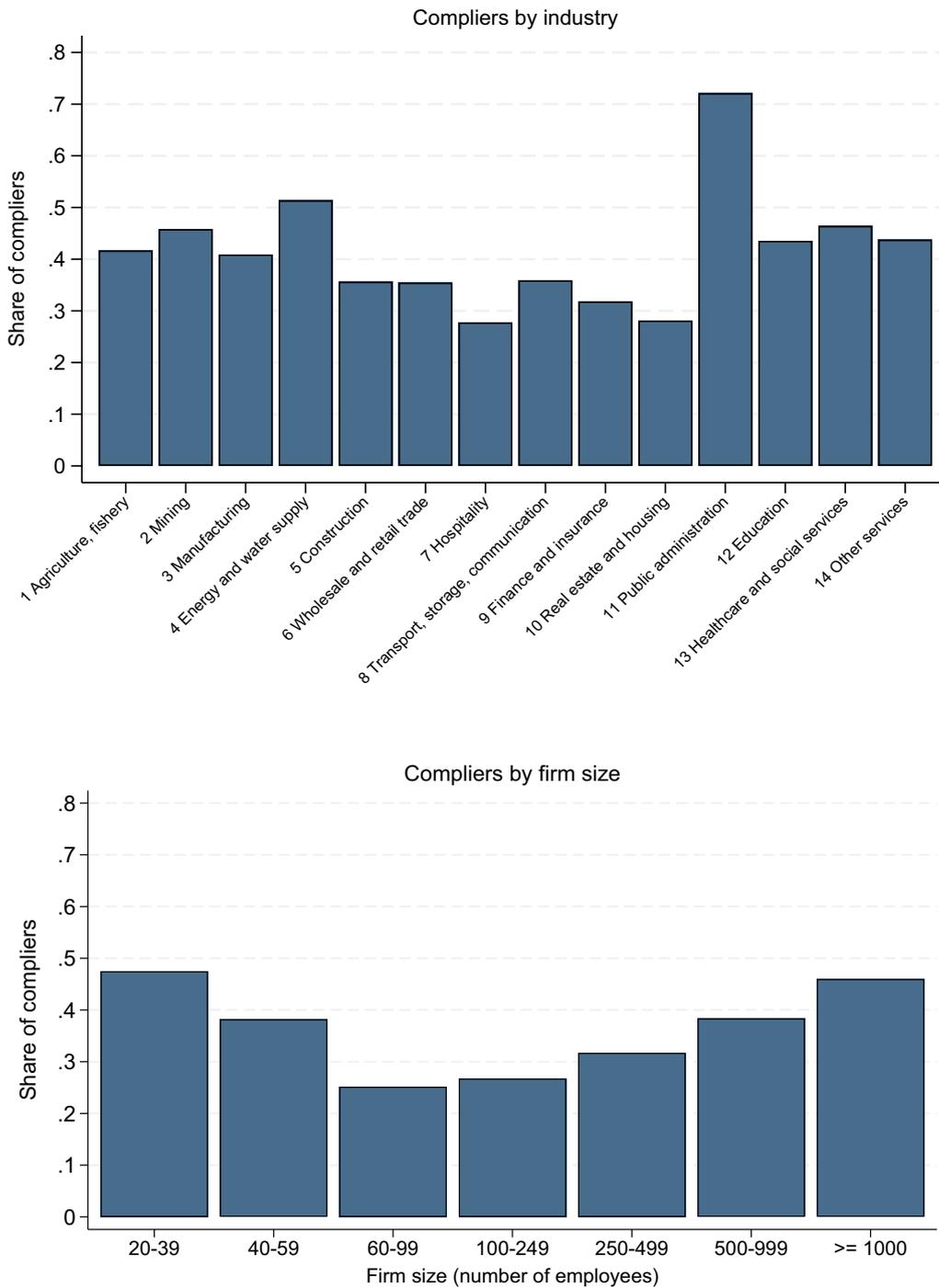


Fig. 2 Compliers by industry and firm size. *Notes:* The figure shows the share of compliers by industry and firm size categories. Number of observations: 2,750,498. *Source:* BsbM and BHP, 2003–2021, own calculations

average firm share of severely disabled employees in all employees increases with firm size. In firms with 20 to

39 employees, an average of 2.9 percent of employees are severely disabled. The average share in firms with 40

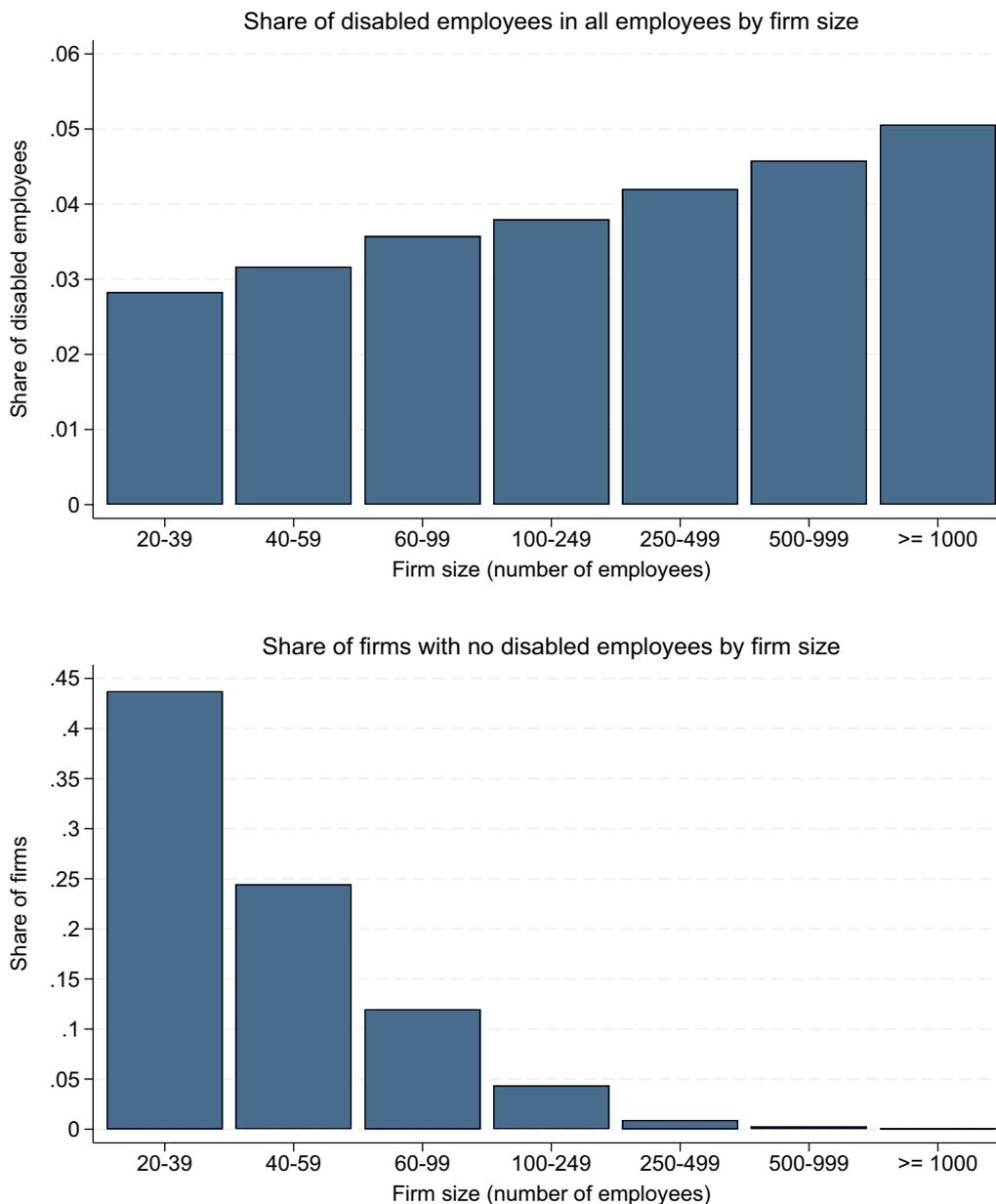


Fig. 3 Incidence of disabled employees by firm size. *Notes:* The figure shows the average firm share of disabled employees in all employees as well as the share of firms with zero disabled workers by firm size. Number of observations: 2,750,498. *Source:* BsbM and BHP, 2003–2021, own calculations

to 59 employees is slightly higher and amounts to 3.1 percent. Recall that firms with 60 and more employees are obliged to fill at least five percent of their positions with severely disabled workers. In firms with 60 to 99 and also in firms with 100 to 249 employees, the average share of severely disabled employees is well below five percent. With increasing firm size, the share comes closer to the five percent mark. It is, however, only in firms with 1000 and more employees that severely

disabled employees, on average, make up five percent of all employees.

Looking at averages of firm shares conceals the fact that there exists a large number of firms that do not employ any severely disabled worker (see lower panel of Fig. 3). The share of firms that do not employ any severely disabled workers sharply decreases with firm size. Among firms with 20 to 39 employees, around 44 percent of firms do not employ any severely disabled individual. In

Table 1 Firm characteristics and compliance. *Source:* BsbM and BHP, 2003–2021, own calculations

Specification	(1)	(2)	(3)	(4)
Firm size (Reference category: 20–39 empl)				
40–59 empl	−0.104*** (0.002)	−0.105*** (0.002)	−0.105*** (0.002)	−0.104*** (0.002)
60–99 empl	−0.245*** (0.002)	−0.248*** (0.002)	−0.249*** (0.002)	−0.248*** (0.002)
100–249 empl	−0.238*** (0.002)	−0.243*** (0.002)	−0.243*** (0.002)	−0.240*** (0.002)
250–499 empl	−0.198*** (0.004)	−0.206*** (0.004)	−0.207*** (0.003)	−0.202*** (0.003)
500–999 empl	−0.148*** (0.005)	−0.156*** (0.005)	−0.158*** (0.005)	−0.150*** (0.005)
>= 1000 empl	−0.091*** (0.007)	−0.087*** (0.007)	−0.090*** (0.007)	−0.085*** (0.007)
East		0.009*** (0.002)	−0.019*** (0.002)	−0.033*** (0.002)
Share women		0.056*** (0.004)	0.059*** (0.004)	0.011*** (0.004)
Share marginal empl		−0.013** (0.006)	−0.008 (0.006)	−0.141*** (0.006)
Share low-skilled empl		−0.088*** (0.007)	−0.093*** (0.007)	0.202*** (0.008)
Share high-skilled empl		−0.275*** (0.005)	−0.280*** (0.005)	−0.136*** (0.005)
Share simple manual empl		0.021*** (0.004)	0.024*** (0.004)	−0.049*** (0.004)
Share simple service empl		0.064*** (0.004)	0.067*** (0.004)	−0.044*** (0.004)
Share simple commercial/admin empl		−0.014*** (0.005)	−0.015*** (0.005)	−0.028*** (0.005)
Quartiles of median gross daily pay (Reference category: Q1)				
Q2 Median gross daily pay		0.042*** (0.002)	0.044*** (0.002)	0.029*** (0.002)
Q3 Median gross daily pay		0.082*** (0.002)	0.085*** (0.002)	0.052*** (0.002)
Q4 Median gross daily pay		0.101*** (0.003)	0.105*** (0.003)	0.046*** (0.003)
Unemployment rate			0.629*** (0.027)	0.478*** (0.025)
Share 25–34 yr old empl				−0.295*** (0.009)
Share 35–44 yr old empl				−0.095*** (0.009)
Share 45–54 yr old empl				0.278*** (0.009)
Share 55+ yr old empl				0.722*** (0.009)
Industry (Reference category: Agriculture, fishery)				
Mining	0.085*** (0.016)	0.027* (0.016)	0.029* (0.016)	0.030* (0.015)

Table 1 (continued)

Specification	(1)	(2)	(3)	(4)
Manufacturing	0.058*** (0.007)	0.025*** (0.007)	0.026*** (0.007)	0.065*** (0.007)
Energy and water supply	0.187*** (0.012)	0.144*** (0.012)	0.141*** (0.012)	0.177*** (0.011)
Construction	-0.044*** (0.007)	-0.083*** (0.007)	-0.084*** (0.007)	-0.029*** (0.007)
Wholesale and retail trade	-0.026*** (0.007)	-0.060*** (0.007)	-0.063** (0.007)	0.019*** (0.007)
Hospitality	-0.125*** (0.007)	-0.155*** (0.008)	-0.157*** (0.008)	0.002 (0.008)
Transport, storage, communication	-0.016** (0.007)	-0.067*** (0.007)	-0.070*** (0.007)	0.004 (0.007)
Finance and insurance	0.003 (0.009)	-0.048*** (0.009)	-0.050*** (0.009)	0.027*** (0.009)
Real estate and housing	-0.086*** (0.007)	-0.085*** (0.007)	-0.089*** (0.007)	0.017** (0.007)
Public administration	0.390*** (0.008)	0.316*** (0.008)	0.318*** (0.008)	0.305*** (0.008)
Education	0.066*** (0.009)	0.078*** (0.009)	0.074*** (0.009)	0.083*** (0.009)
Healthcare and social services	0.113*** (0.007)	0.076*** (0.007)	0.072*** (0.007)	0.130*** (0.007)
Other services	0.069*** (0.007)	0.042*** (0.008)	0.036*** (0.008)	0.068*** (0.007)
Constant	0.427*** (0.006)	0.410*** (0.007)	0.349*** (0.007)	0.277*** (0.010)
Observations	2,750,498	2,750,498	2,750,498	2,750,498
R ²	0.078	0.087	0.088	0.137

Notes: empl = employees. admin = administration. Q = quartiles. yr = year. The table shows OLS regression results for different specifications. Specification (1) includes establishment size and industry dummies, specification (2) includes in addition an East dummy, the shares of female, marginal, low- and high-skilled employees and the shares of employees in simple manual, simple service and simple commercial or administrative jobs as well as quartile dummies of median gross daily pay. Specification (3) includes in addition the unemployment rate, specification (4) adds the shares of employees of a specific age group. All specifications include year dummies

the group of firms with 40 to 59 employees, the share is almost half and among firms with 60 to 99 employees around a quarter of the share of the smallest firm size category. Among firms with 100 to 249 employees, around four percent do not employ any severely disabled individual and for firms with more employees the share is close or almost equal to zero.

Last, we look at the development of the share of severely disabled workers in firms with at least 60 employees over time. One can distinguish between the overall share and the average firm share of disabled employees in all employees (see Fig. 7 in the appendix). The overall share captures the ratio between the total number of severely disabled workers and the total number of employees in all German firms with at least 60 employees. The average

firm share is calculated as the average of the firm-specific ratios between the number of severely disabled employees and the total number of employees. Since the overall share is pushed up by large firms that tend to employ more severely disabled workers than they are required to (overcompliers), it is higher than the average firm share. Between 2003 and 2021, the overall share increased from 4.2 percent in 2003 to 4.8 percent in 2021. The average firm share increased from 3.5 percent to 3.9 percent in the same period.

4.2 Firm characteristics and compliance

In the following, we aim to identify firm characteristics that are associated with firms' compliance with the employment obligation. In doing so, we run OLS

regressions of a dummy variable indicating firms' compliance on various firm characteristics. Importantly, this exercise purely yields correlations. There may be unobserved dimensions that affect explanatory and dependent variables, potentially causing endogeneity issues that we do not account for. Table 1 shows the results for four different specifications. In specification (1), we consider solely the size and industry of firms. Specification (2) includes additional characteristics of firms and the work force. As a way to cover the supply side, we add the county level unemployment rate in specification (3). To account for the age structure in firms, we add shares of specific age groups in specification (4). The results are robust to using a logit model.

Starting with the firm size dummies, it is noticeable that they remain remarkably stable throughout all specifications. Relative to firms with 20 to 39 employees, firms in all other firm size categories are significantly less likely to employ the required number of severely disabled workers. Firms with 60 to 99 employees are roughly 25 percentage points less likely to comply with the employment obligation relative to the reference group. In contrast to this large difference, the probability of compliance of firms with 1000 and more employees is only around 9 percentage points lower than the probability of the reference group. This goes in line with the u-shaped pattern observed in the lower panel of Fig. 2. Firms with 20 to 39 employees only have to employ one severely disabled individual which is likely the reason for their higher compliance. Smaller firms additionally tend to pay lower wages meaning that the noncompliance fine represents a larger relative share of their average wage and thus a stronger financial disincentive. Larger firms are more likely to be high-wage firms meaning that the financial disincentive of the fine is substantially weaker. Additionally, they tend to incur a higher productivity loss from employing severely disabled workers compared to smaller firms. At the same time, however, large firms might be able to accommodate severely disabled workers more easily (Lalive et al. 2013).

Regarding the industries, Table 1 indicates that firms in public administration are most likely to comply with the employment obligation. The size of the estimates, which are above 0.3 in all specifications, reflects the high percentage of compliers, as can be seen in the upper panel of Fig. 2. One explanation for the high estimates in public administration is that the lowering of the employment quota from 6 to 5 percent in the year 2001 did not and still does not apply to a specific group of public employers. Public employers of the federal government who met the 6 percent quota on October 31 in 1999 are still obliged to fill 6 percent of their positions with severely disabled workers (§241 SGB IX). In addition, almost

all federal states have laws that require their regional authorities to favor disabled applicants in case of equal suitability. Moreover, many federal authorities have inclusion agreements (§166 SGB IX) with similar regulations. Finally, all public employers, regardless of whether they operate at the municipal, state or federal level, must invite severely disabled applicants to an interview unless they are clearly not suitable for the position (§165 SGB IX).

Next, firms in education, healthcare and social services, energy and water supply as well as other services are significantly more likely to employ the required number of severely disabled employees than the reference group (agriculture and fishery). This could also partly be due to the special role of public employers in the employment of severely disabled people. Although most public employers are part of the public administration sector, institutions such as universities or childcare facilities are also often publicly owned. As can be seen in Fig. 8 in the appendix, the share of public employers in these industries is noticeably higher compared to other industries (except from public administration).

In the construction sector, in contrast, the likelihood of firms complying with the employment obligation is significantly lower than in agriculture and fishery. One explanation could be that work in this sector typically involves physically demanding tasks. These can hardly be performed by many severely disabled people, as physical disabilities still make up the majority of disabilities (Federal Statistical Office 2022). As mining work is also likely to be physically strenuous, the positive estimates for mining may seem counterintuitive, but this could be partly due to the issuance of so-called *Versorgungsscheine*. These certificates are given to miners who, after having worked underground for at least five years, are requested to perform less physically demanding work because they have suffered an injury or developed an illness while working underground (§2 and §3 BMSG NW). Workers with such a certificate are credited to one full position, even if they are not severely disabled (§158 SGB IX). The picture is less clear for the other industries. Most have negative estimates in specifications (1) to (3), but change sign in specification (4), in which age group shares are included. This could indicate that the workforce structure plays a role in certain industries.

For the firm characteristics added in specifications (2) and (3), it should first be noted that the estimates for a number of firm characteristics are quite volatile and seem to correlate with age, as the sign of some estimates switches in specification (4). The share of female employees, however, is positively associated with the probability of compliance in all specifications. Similarly stable, but negative in all specifications, are the estimates for the

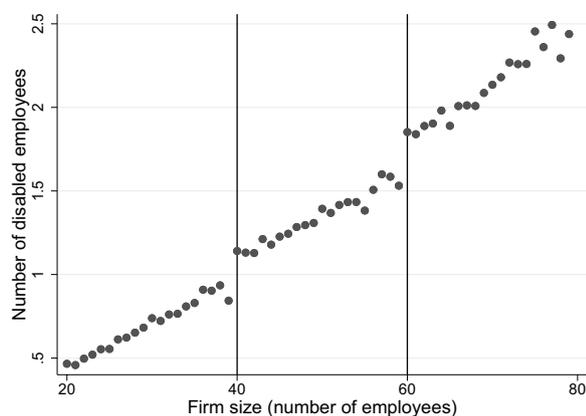


Fig. 4 Disabled employees by firm size (2021). *Notes:* The figure shows the average number of disabled employees by firm size for 2021. The estimated effects of the 40- and 60-employee threshold on the number of disabled workers are statistically significant at the 1 percent level (results not shown, but available upon request). The histograms shown in Fig. 9 in the appendix illustrate that firm size density drops at the thresholds, indicating that some firms purposely stay (*bunch*) below the thresholds (McCrary 2008). A formal test for the presence of a discontinuity in the firm size distribution (Cattaneo et al. 2020) also rejects the null that there is no bunching at the 1 percent level for both thresholds. Number of observations: 120,077. *Source:* BsbM 2021, own calculations

share of high-skilled employees. A possible explanation for this could be that severely disabled workers tend to perform tasks that require a lower level of qualification (Kaye 2009). Moreover, high-skilled individuals may have a lower risk of becoming disabled (see, e.g., Collischon et al. 2025; Lechner and Vazquez-Alvarez 2011).

The estimates of the quartiles of median gross daily pay are also quite stable. Firms whose median gross daily pay is at or below the 25th percentile of the median gross daily pay distribution are significantly less likely to meet the employment obligation than firms above the 25th percentile. Furthermore, the estimates of the unemployment rate in specifications (3) and (4) both suggest a positive association with the likelihood to employ the required number of severely disabled employees. A higher unemployment rate could mean a higher labor supply of severely disabled people, which might in turn enable firms to find and hire severely disabled workers more easily. Due to the volatility of the estimates for the other characteristics, their relationship with compliance is rather unclear.

Finally, the estimates in specification (4) indicate a strong association between the probability to comply and the age structure of employees. There is a particularly strong correlation with the share of employees aged 55 and older. Given that disabilities occur mainly in older people, with 78 percent of severely disabled people being

55 years and older (Federal Statistical Office 2024), this is not surprising. In fact, the age structure could even be seen as an outcome, at least for smaller firms, and hence should be interpreted with caution.

5 Research potential

The previous section has shown that complying with the employment obligation strongly correlates with certain firm characteristics. Given the shortage of administrative data on disabled individuals in the labor market, the BsbM data set offers great research potential to further explore, in particular, the role of firms in including disabled workers into the labor market.

5.1 Firm behavior around labor law thresholds

First, the data set may be particularly advantageous for analyses of labor law threshold effects within the disabled worker quota. A labor law threshold indicates the firm size – indicated by the number of employees – above which labor law regulations become relevant. Small firms are often exempt from regulations due to their limited financial and administrative resources, and reliance on individual workers (Koller 2010). The German labor law contains approximately 160 threshold regulations which are often measured differently: Not only do numerous thresholds exist, but there are also considerable differences in reference points (establishment, firm or employer), reference period (e.g., normally employed workers or the annual average of the monthly number of workers), excluded employee groups (e.g., apprentices or freelance collaborators), and the measurement of the thresholds (per capita or full-time-equivalents).¹⁶

Despite the considerable number and legal relevance of labor law thresholds in Germany, little is known about their impact on firm and employee behavior.¹⁷ To date, no or only minor effects of these regulations have been identified in studies analyzing thresholds in German labor law. In contrast, Garicano et al. (2016) find substantial firm responses to the 50-employee threshold in France, where the number of effective labor laws increases markedly. One potential explanation for this difference could be that the existing studies for Germany (e.g., Bauer et al. 2007; Bauernschuster 2013) were unable to accurately calculate the number of workers in a firm or establishment due to data restrictions, resulting in potential measurement error. Since firm size determines the

¹⁶ For an overview of selected and currently valid threshold regulations in Germany for small and medium-sized firms, see Hiesinger (2024).

¹⁷ Bauer et al. (2007) and Bauernschuster (2013) study the effects of a change in the threshold of dismissal protection. Wagner et al. (2001) and Koller et al. (2007) analyze the impacts of the German disabled worker law. The threshold regarding paid leave of absence of a works council member is studied by Koller et al. (2010) and Backes-Gellner and Mohrenweiser (2010).

treatment status, this error can substantially affect the analyses.

The BsbM data is based on the notification procedure used to monitor compliance with the disabled worker quota. Thus, it includes firm size information that correspond to the defined criteria for firm size as specified in the German disabled worker law. This feature enables a more comprehensive analysis of threshold effects in comparison to previous research.

To illustrate potential threshold responses to the disabled worker quota, Fig. 4 shows the number of disabled workers by firms size for firms with 20 to less than 80 employees as an example for the year 2021. It displays remarkable discontinuities at the 40- and 60-employee threshold of the employment obligation (see Sect. 2.2), suggesting that – in contrast to previous studies – labor law thresholds may have a substantial impact on firm employment decisions.

In a detailed analysis, Hiesinger (2022) exploits this unique advantage of the data set and estimates intended and unintended effects of the 40-employee threshold of the disabled worker quota during the time period 2004–2011. The author finds remarkable effects of the threshold: Firms respond to the threshold in the intended way and employ significantly more disabled workers when they are located just above the threshold. However, there are also unintended effects of the quota as some firms purposely stay below the threshold and adjust their workforce accordingly to avoid the (increase in the) noncompliance fine. This behavior – also called *bunching* – is particularly pronounced among those firms that face the largest increase in costs at the threshold.

Investigating this firm behavior further could be particularly interesting in light of the 2024 reform of the disabled worker law. As part of the reform, the noncompliance fine was increased substantially for firms that do not employ *any* disabled individual. As shown in Fig. 3 in Sect. 4.1, the share of firms with no disabled employees is substantial, especially among small and medium-sized firms. As the fine promotes the employment of disabled workers, the reform will probably further increase employment prospects for individuals with disabilities, particularly among firms of smaller size. However, as the fine has also unintended consequences, which are more pronounced among those firms facing the highest costs at the threshold, the reform will probably also promote the firms' bunching behavior. Analyzing the effects of the 2024 reform could therefore contribute to an even better understanding of the behavior of those firms which are located close to labor law thresholds.

5.2 Labor market effects of disability onset

However, many noncomplying employers claim that they cannot fulfill the quota because there are just too few (suitable) applicants (Hiesinger and Kubis 2022). In 2023, over 325 thousand more individuals with severe disabilities would have had to be employed for all firms to meet the quota. In contrast, only 166 thousand disabled individuals were registered unemployed (Federal Employment Agency 2024b). Thus, even if it were possible to bring all unemployed disabled individuals into employment, many firms would still not be able to meet the quota. However, not all disabled people who are not in employment are registered as unemployed, e.g., those who receive disability pension, and there could be relevant employment potential behind these disabled people. Against this background, understanding the labor market consequences of becoming disabled is crucial as most of the disabilities occur during the working life. A better insight of where individuals end up after disability onset may help to (better) get disabled individuals back into employment.

In fact, the study by Collischon et al. (2025) shows that the typical adjustment path after a disability onset is not a transition into *unemployment*, but into *nonemployment*. As disability onsets virtually have no impact on unemployment benefit receipt, the impact of the contact with the Federal Employment Agency and related activation programs seems limited. In addition to the high relevance of nonemployment after disability onset, the authors find that part-time employment and occupational switches play a significant role after becoming disabled. Furthermore, the negative labor market effects of disability onset are more pronounced for severely disabled, older and low-skilled individuals.

The study again uses the BsbM (individual) data set and links it to the BHP and the Integrated Employment Biographies (IEB) of the Federal Employment Agency.¹⁸ The IEB include detailed information on individual characteristics, different labor market states and individual- and establishment-related employment information such as wages, occupation and industry on a daily basis. As the IEB covers all individuals in Germany with at least one entry in their social security records, a large control group of nondisabled individuals with similar characteristics can be matched to the disabled individuals to compare employment trajectories after (potential) disability onset. The combined data set thus allows a detailed

¹⁸ The records were linked based on personal identifiers from the individual BsbM data set. The linkage was performed by the IAB's Data Infrastructure Management (DIM) department. 86 percent of the severely disabled individuals could be linked to the IEB. From 2014 onwards, personal identifiers are hashed in the data due to stricter data protection regulations. Thus, the records can be linked only up to 2013.

analysis of the labor market effects of disability onset, including potential adjustment paths and effect heterogeneities, for a large number of disabled individuals over a long time period.¹⁹ Moreover, administrative data is generally less vulnerable to sample selection, measurement error and panel attrition compared to survey data. In this way, the challenges that previous survey-based studies had to contend with can be overcome.

5.3 Further development of the data set

As the BsbM data set contains an identifier of the main establishment it is possible to link further information from establishment survey data. The Institute for Employment Research conducts two large establishment surveys that may be particularly relevant for this. First, the IAB Job Vacancy Survey (JVS) as a repeated cross-section of German establishments offers detailed information on vacancies as well as on employers' search and recruitment processes (for more information on the JVS, see Bossler et al. 2020). The main questionnaire obtains information about the workforce, workflows and the number and structure of vacancies. Furthermore, the questionnaire contains a module covering the most recent successful hiring process and the most recent recruitment failure. In addition to the main questionnaire, the survey includes questions that vary from wave to wave. In 2021 and in 2024, this module asked about the employment of disabled workers (for descriptive results of the questions of the 2021 module see Hiesinger and Kubis 2022). Linking these information to the BsbM data could provide further insights on how labor market shortages, recruitment processes and the employment of disabled workers are related to each other.

Second, the IAB Establishment Panel, as an annual survey of the same establishments in Germany, provides longitudinal establishment information since 1993 (for more information see Ellguth et al. 2014). The major part of the survey consists of questions about the structure of the workforce and establishment characteristics which are asked annually in a similar or identical form. The core questionnaire is supplemented by individual modules covering in-depth questions on selected aspects or current political issues. In this context, information on, e.g., health care efforts and strategies were collected in 2012. Combining this data could provide important insights into how occupational health management measures and the fulfilment of the disabled worker quota are linked. Apart from that, analyzing further correlations with general establishment characteristics, such as collective bargaining coverage or further training measures, could also

reveal relevant aspects of the employment of disabled workers.²⁰

Finally, we would like to note that only descriptive statistics based on the BsbM data are freely accessible online via <https://statistik.arbeitsagentur.de/Auswertung>. Individual evaluations can be requested via this link:

<https://statistik.arbeitsagentur.de/Datenanforderung>.

The BsbM data linked at the micro level can only be viewed or obtained via the IAB if the requirements of §75 SGB X (transmission of social data for research) are met.

6 Conclusion

This article provides an overview and some descriptive insights of the employment statistics of severely disabled people (BsbM), the data set based on the notifying procedure for the disabled worker quota in Germany.

Many firms still do not meet the quota, according to which five percent of jobs should be filled by severely disabled workers. We show that compliance with the employment obligation increased from 2003 until 2014 to over 40 percent, followed by a slight decline until 2021. Compliance varies substantially by firm size and industry, with firms in the smallest and largest firm size categories as well as firms operating in public administration having the highest compliance rates. Further firm characteristics such as the age and skill structure of the workforce are also strongly correlated with quota compliance. Last, many – in particular small and medium-sized – firms do not employ any severely disabled worker. This may be particularly relevant in view of the 2024 reform, according to which firms that do not employ any severely disabled individual have to pay a higher noncompliance fine.

Our summary of the two existing scientific studies using the BsbM data linked with administrative establishment and individual records highlights the data set's research potential. However, the latter has not yet been fully exhausted. There are still many research topics to be analyzed and the dataset to be further developed, for instance by linking it with survey data.

Appendix

Appendix A: definitions and institutional details

See Fig. 5 and Tables 2 and 3 here.

¹⁹ As the data cover firms that are subject to the employment obligation (see Sect. 3.1), the study analyzes the employment trajectories of disabled individuals employed in firms with at least 20 employees only.

²⁰ Note that Koller et al. (2006) use a linkage of the IAB Establishment Panel and a pre-version of the BsbM data to evaluate the threshold effects of the former threshold of 25 employees.

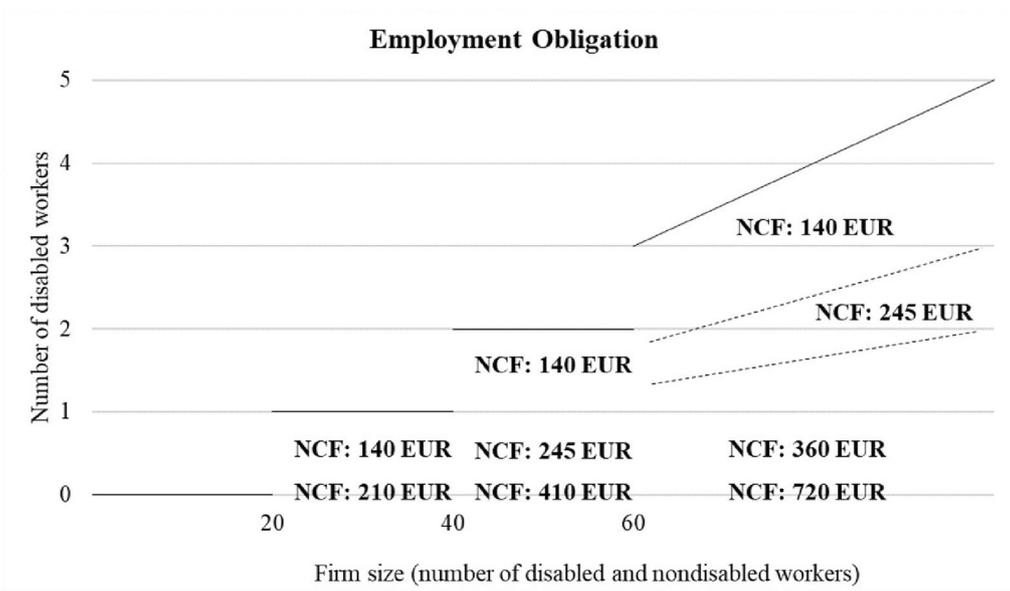


Fig. 5 Employment obligation and monthly noncompliance fines (NCF). *Notes:* The figure shows the legal regulations concerning the German employment quota and current noncompliance fines (NCF) according to §160 SGB IX. The fines are due per month and unfilled position. For firms with 60 and more employees, the noncompliance fine is based on the share of noncompliance: The fine is 720 euros for firms with zero severely disabled workers (level 4), 360 euros for firms with more than 0 to less than 2 percent of severely disabled workers (level 3), 245 euros for firms with 2 to less than 3 percent of severely disabled workers (level 2) and 140 euros for firms with 3 to less than 5 percent of severely disabled workers (level 1). For details on the firm size calculation, see Table 2 in the appendix. For the distribution of firms by level of noncompliance see Fig. 6 in the appendix. *Status:* Legislation in force in 2024. Before 1 January 2024, the increased fine for firms that did not employ any severely disabled worker (level 4, i.e. 210 euros, 410 euros and 720 euros) did not exist

Table 2 Calculation of firm size according to the disabled worker law (§156 and §157 SGB IX)

Excluded groups of workers	Apprentices (including special trainee positions for lawyers and teachers) Individuals who work less than 18 hours per week Individuals with a temporary contract of fewer than eight weeks Individuals whose employment is not primarily for pay (e.g., individuals whose employment is primarily for rehabilitation) Individuals participating in job creation schemes according to SGB III Individuals who are elected to their job after continuous practice
Temporal dimension	The relevant measure for the firm size is the <i>annual average</i> of the monthly number of positions.
Calculation details	Fractions of 0.5 or more are rounded down to the nearest whole number for firms with 20 to 59 positions. Fractions of 0.5 or more are rounded up to the nearest whole number for firms with 60 or more positions.

Status: Legislation in force in March 2024

Table 3 Crediting of severely disabled workers (§ 158 SGB IX). *Source:* BsbM, 2003–2021, own calculations

Type of disabled worker	Number of positions counted	Share in percent
Disabled worker with a dod \geq 50 working at least 18 hours/week (default)	1	80.781
Disabled worker with a dod \geq 30 and $<$ 50 if disability restricts possibility to find/hold a job	1	15.293
Disabled worker working less than 18 hours/week with a severe impairment due to the disability	1	0.168
Disabled worker working less than 18 hours/week due to partial retirement or part-time vocational training	1	0.875
Disabled worker with a very severe impairment due to the disability	2-3	1.453
Disabled apprentice	2	0.906
Disabled apprentice with a severe impairment due to disability	3	0.014
Disabled employer	1	0.029
Disabled worker who was previously employed in a workshop for disabled workers	2 for the first two years	–
Holder of a miner's pension certificate (<i>Bergmannsversorgungsschein</i>)	1	0.430

Temporal dimension: The relevant measure is the *annual average* of the monthly number of positions. A firm that e.g. claims to employ one disabled individual must prove a total of at least 12 months of employment of one (or more) severely disabled individual(s) in one calendar year.

Notes: dod = degree of disability. The table shows the number of positions credited per type of disabled worker as well as the shares of disabled employees accounted for by each type for the years 2003–2021. The type “Disabled worker who was previously employed in a workshop for disabled workers” has only been counted since the 2024 reform

Status: Legislation in force in March 2024

Appendix B: further descriptive results

See Table 4 and Figs. 6, 7, 8 and 9 here.

Table 4 Summary statistics. *Source:* BsbM and BHP, 2003–2021, own calculations

	Mean	SD	Min	Max
Firm size				
20-39 empl	0.451	0.498	0	1
40-59 empl	0.178	0.382	0	1
60-99 empl	0.145	0.352	0	1
100-249 empl	0.140	0.347	0	1
250-499 empl	0.047	0.212	0	1
500-999 empl	0.022	0.148	0	1
>= 1000 empl	0.016	0.126	0	1
East	0.197	0.398	0	1
Share women	0.418	0.272	0	1
Share marginal empl	0.109	0.135	0	0.989
Share low-skilled empl	0.118	0.105	0	1
Share medium-skilled empl	0.701	0.198	0	1
Share high-skilled empl	0.152	0.187	0	1
Share simple manual empl	0.120	0.214	0	1
Share simple service empl	0.181	0.253	0	1
Share simple commercial/admin empl	0.074	0.171	0	1
Median gross daily pay	93.736	34.981	0.01	505.420
Share 15-24 yr old empl	0.108	0.097	0	1
Share 25-34 yr old empl	0.204	0.117	0	1
Share 35-44 yr old empl	0.241	0.099	0	1
Share 45-54 yr old empl	0.263	0.107	0	1
Share 55+ yr old empl	0.184	0.118	0	1
Unemployment rate	0.073	0.037	0.013	0.254
Industry				
Agriculture, fishery	0.015	0.122	0	1
Mining	0.003	0.054	0	1
Manufacturing	0.249	0.432	0	1
Energy and water supply	0.008	0.086	0	1
Construction	0.078	0.268	0	1
Wholesale and retail trade	0.165	0.371	0	1
Hospitality	0.031	0.174	0	1
Transport, storage, communication	0.060	0.238	0	1
Finance and insurance	0.018	0.131	0	1
Real estate and housing	0.163	0.370	0	1
Public administration	0.039	0.193	0	1
Education	0.018	0.134	0	1
Healthcare and social services	0.104	0.306	0	1
Other services	0.049	0.216	0	1

Notes: SD = standard deviation. Min = minimum. Max = maximum. empl = employees. admin = administration. yr = year. The table shows descriptive statistics of firms represented in the BsbM. Number of observations: 2,750,498

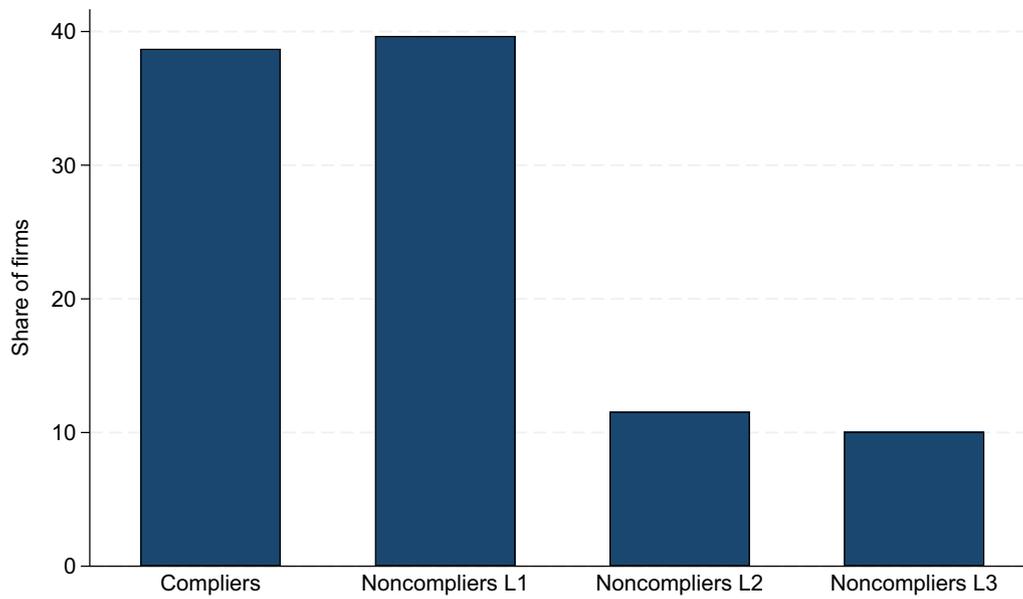


Fig. 6 Share of firms by level of noncompliance fine. *Notes:* L = Level. The figure shows the share of firms by the level of the noncompliance fine. Noncomplying firms are assigned to one of three levels of the noncompliance fine according to the degree of noncompliance. Firms with a low (high) degree of noncompliance are assigned to level 1 (3) and have to pay a comparatively small (large) fine. Since compliers fulfill the employment obligation, they do not have to pay a fine. Number of observations: 2,750,498. *Source:* BsbM, 2003–2021, own calculations

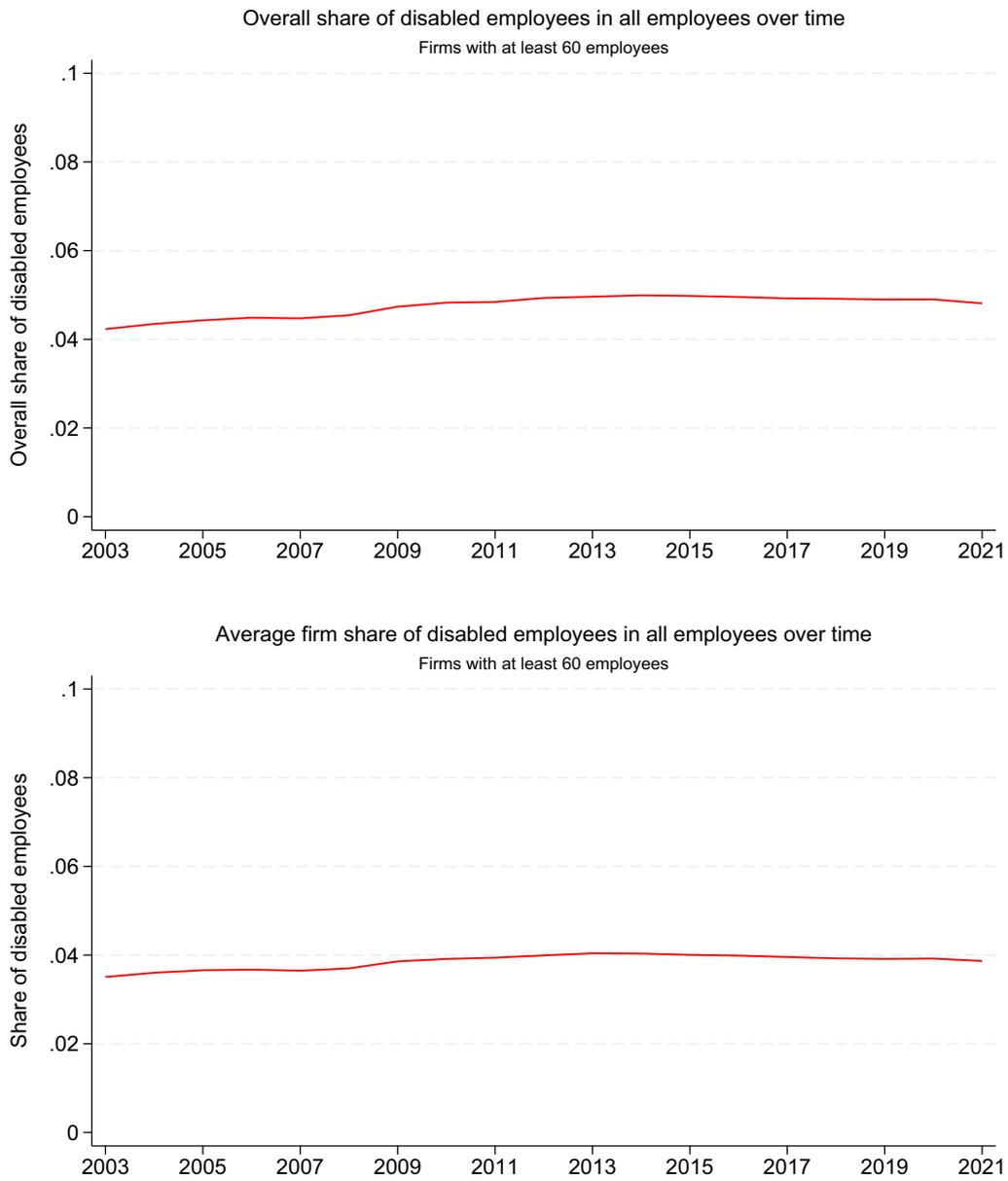


Fig. 7 Share of disabled employees over time. *Notes:* The figure shows the overall share of disabled employees in all employees as well as the average firm share of disabled employees in all employees over time. The sample is restricted to firms with at least 60 employees. Number of observations: 1,022,099. *Source:* BsbM and BHP, 2003–2021, own calculations

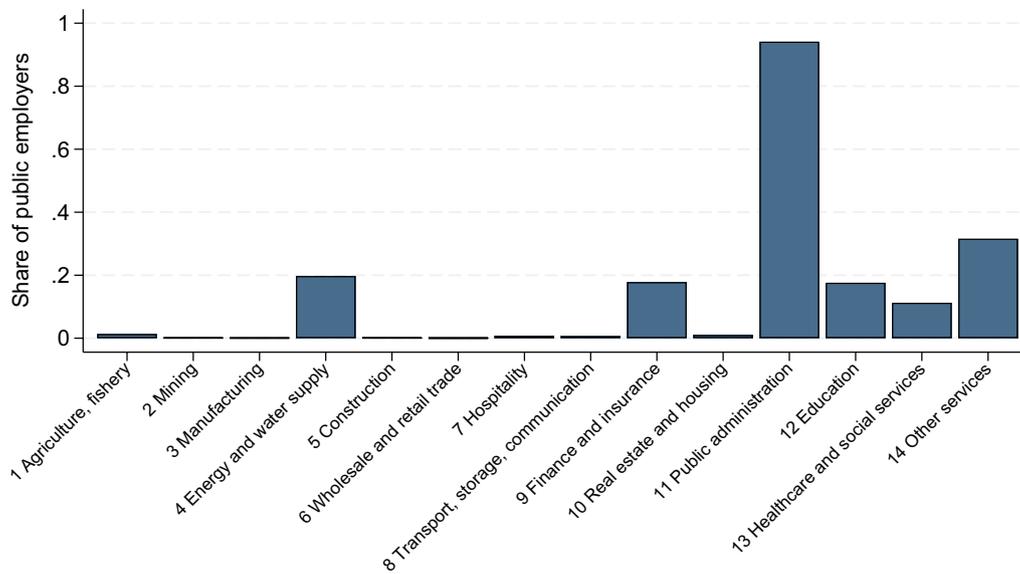
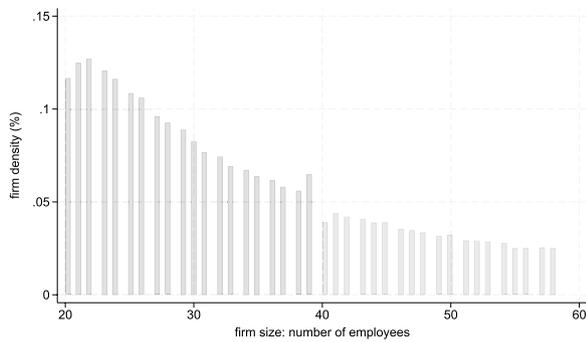
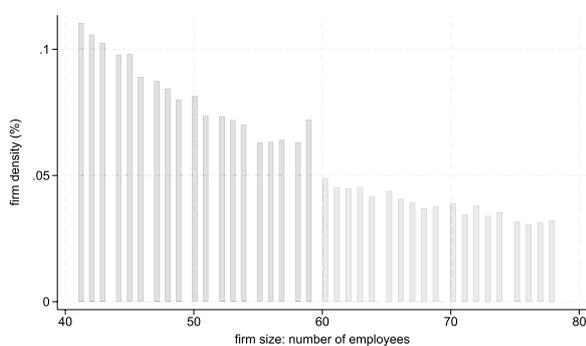


Fig. 8 Share of public employers by industry. *Notes:* The figure shows the share of public employers by industry. Number of observations: 2,750,498. *Source:* BsbM, 2003–2021, own calculations



(A) 40-Employee Threshold



(B) 60-Employee Threshold

Fig. 9 Firm size density. *Notes:* Histograms indicating firm size density around the 40- and 60-employee threshold. *Source:* BsbM 2021, own calculations

Acknowledgements

The authors particularly thank Alexander Kubis and IAB's Data Infrastructure Management (DIM) department for valuable expertise and support in the process of data collection. The authors further thank Agnes Dunder for sharing her expert knowledge of institutional details.

Author contributions

The authors are solely responsible for this article. The authors read and approved the final manuscript.

Funding

Not applicable.

Data availability

This paper uses micro-level administrative data from the Federal Employment Agency. Since data access is restricted by the laws of the German Social Code, the data is not freely available to the research community. Members of the research community can apply for data access at the Institute for Employment Research (IAB) if the requirements of §75 SGB X (transmission of social data for research) are met. The reproduction codes for the analysis are available from the authors upon request.

Declarations

Ethics approval and consent to participate

Not applicable.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no Conflict of interest.

Received: 11 July 2024 Accepted: 20 February 2025

Published online: 22 April 2025

References

- Autor, D., Kostøl, A., Mogstad, M., Setzler, B.: Disability benefits, consumption insurance, and household labor supply. *Am. Econ. Rev.* **109**(7), 2613–2654 (2019)
- Backes-Gellner, U., Mohrenweiser, J.: Die Wirkung des Betriebsverfassungsgesetzes am Beispiel der Freistellung von Betriebsräten—ein Beitrag zur Rechtsstatsachenforschung. *J. Econ. Stat.* **230**(4), 420–435 (2010)
- Bauer, T.K., Bender, S., Bonin, H.: Dismissal protection and worker flows in small establishment. *Economica* **296**(74), 804–821 (2007)
- Bauernschuster, S.: Dismissal protection and small firms' hirings: evidence from a policy reform. *Small Bus. Econ.* **40**, 293–307 (2013)
- Becker, S., Gehlen, A., Geyer, J., Haan, P.: Reform der Erwerbsminderungsrente senkt Armutsrisiko, kommt aber spät. *DIW Wochenbericht* **90**(17), 191–197 (2023)
- Bossler, M., Gürtzgen, N., Kubis, A., Küfner, B., Lochner, B.: The IAB Job Vacancy Survey: design and research potential. *J. Lab. Market Res.* **54**(1), 13 (2020)
- Bundesarbeitsgemeinschaft der Integrationsämter und Hauptfürsorgestellen: Behinderung & Beruf und Soziale Entschädigung. *BIH Jahresbericht 2020-2021* (2021)
- Cattaneo, M.D., Jansson, M., Ma, X.: Simple local polynomial density estimators. *J. Am. Stat. Assoc.* **115**(531), 1449–1455 (2020)
- Collischon, M., Hiesinger, K., Pohlan, L.: Disability onset and labor market outcomes. *Soc.-Econ. Rev.* forthcoming (2025)
- Deutscher Bundestag: Sachstand: Pflicht zur Beschäftigung schwerbehinderter Menschen. (2019)
- Diegmann, A., Doherr, T., Hälbig, M., Wolter, S.: Linking the Mannheim Enterprise Panel (MUP) with administrative establishment data of IAB. Technical report, Institute for Employment Research, Nürnberg (2024a)
- Diegmann, A., Gottschalk, S., Hälbig, M., Schmucker, A., Wolter, S.: The Mannheim Enterprise Panel linked to the Establishment History Panel of the IAB 2010-2020 (MUP-BHP 1020) (2024b)
- Ellguth, P., Kohaut, S., Möller, I.: The IAB establishment panel—methodological essentials and data quality. *J. Lab. Market Res.* **47**(1), 27–41 (2014)
- Federal Employment Agency: Grundlagen: Qualitätsbericht - Beschäftigungsstatistik schwerbehinderter Menschen (2022)
- Federal Employment Agency: Beschäftigte nach ausgewählten Merkmalen (Zeitreihe Quartalszahlen) (2024a)
- Federal Employment Agency: Berichte: Blickpunkt Arbeitsmarktsituation schwerbehinderter Menschen 2023 (2024b)
- Federal Statistical Office: Statistik der schwerbehinderten Menschen 2021. Kurzbericht (2022)
- Federal Statistical Office: Statistik der schwerbehinderten Menschen 2023. Kurzbericht (2024)
- French, E., Song, J.: The effect of disability insurance receipt on labor supply. *Am. Econ. J. Econ. Pol.* **6**(2), 291–337 (2014)
- Garicano, L., Lelarge, C., Van Reenen, J.: Firm size distortions and the productivity distribution: evidence from France. *Am. Econ. Rev.* **106**(11), 3439–3479 (2016)
- German Bundestag: Drucksache 17/5815 (2011)
- Hiesinger, K.: To include or not to include? Firm employment decisions with respect to the German disabled worker quota, IAB Discussion Paper No. 25/2022 (2022)
- Hiesinger, K.: Essays on the economics of sickness absence, working conditions and health in the labor market, PhD thesis (2024)
- Hiesinger, K., Kubis, A.: Beschäftigung von Menschen mit Schwerbehinderungen. Betrieben liegen oftmals zu wenige passende Bewerbungen vor, IAB Kurzbericht 11/2022 (2022)
- Kaye, H.S.: Stuck at the bottom rung: Occupational characteristics of workers with disabilities. *J. Occup. Rehabil.* **19**, 115–128 (2009)
- Koller, L.: Ökonomische Auswirkungen arbeits- und sozialrechtlicher Schwellenwerte. Peter-Lang-Verlag, Frankfurt a. Main (2010)
- Koller, L., Schnabel, C., Wagner, J.: Arbeitsrechtliche Schwellenwerte und betriebliche Arbeitsplatzdynamik: Eine empirische Untersuchung am Beispiel des Schwerbehindertengesetzes. *Zeitschrift für Arbeitsmarktforschung* **39**, 181–199 (2006)
- Koller, L., Schnabel, C., Wagner, J.: Schwellenwerte im Arbeitsrecht: Höhere Transparenz und Effizienz durch Vereinheitlichung. *Perspektiven der Wirtschaftspolitik* **8**(3), 242–255 (2007)
- Koller, L., Schnabel, C., Wagner, J.: Freistellung von Betriebsräten - Eine Beschäftigungsbremse? *Zeitschrift für Arbeitsmarktforschung* **41**, 305–326 (2010)
- Kostøl, A.R., Mogstad, M.: How financial incentives induce disability insurance recipients to return to work. *Am. Econ. Rev.* **104**(2), 624–655 (2014)
- Lalive, R., Wuellrich, J.-P., Zweimüller, J.: Do financial incentives affect firms' demand for disabled workers? *J. Eur. Econ. Assoc.* **11**(1), 25–58 (2013)
- Lechner, M., Vazquez-Alvarez, R.: The effect of disability on labour market outcomes in Germany. *Appl. Econ.* **43**(4), 389–412 (2011)
- McCrary, J.: Manipulation of the running variable in the regression discontinuity design: a density test. *J. Economet.* **142**(2), 698–714 (2008)
- Meyer, B.D., Mok, W.K.: Disability, earnings, income and consumption. *J. Pub. Econ.* **171**, 51–69 (2019)
- Ministerium für Soziales, Gesundheit und Sport, 'Pressemitteilung: Bearbeitungszeiten für Schwerbehindertenausweise sind in MV bundesweit am kürzesten', (2017), www.regierung-mv.de/Landesregierung/sm/Aktuell/?id=142433&processor=processor.sa.pressemitteilung
- Schmucker, A., Eberle, J., Ganzer, A., Stegmaier, J., Umkehrer, M.: Establishment History Panel 1975-2016, FDZ Datenreport 01/2018 (2018)
- Wagner, J., Schnabel, C., Kölling, A.: Threshold values in German labor law and job dynamics in small firms: the case of the disability law. *IFO-Studien* **47**(1), 65–75 (2001)

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.