

# **5** **Harnessing the promise of the Future of Work for all**

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The rapidly changing world of work offers promising potentials to make work more accessible and more inclusive for people with disability. Work may become healthier for all as well. However, these promises will only materialise if countries take the necessary policy actions. This chapter proposes a set of five principles to help governments to do so.

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# In Brief

The Future of Work offers potential to permanently improve the labour market situation of people with disability – but this is not a given. OECD countries have an imperative to steer towards a healthy and inclusive Future of Work for all.

- **The world of work is changing at rapid speed.** Technological progress, artificial intelligence (AI) and globalisation are reshaping our labour market. Non-standard forms of work have emerged and expanded, including platform work, own-account and dependent self-employment, and employees on on-call and zero-hour contracts. The way we work is permanently evolving as well, most notably because of the large rise in teleworking accelerated by the COVID-19 pandemic that is likely here to stay.
- **The changing world of work may increase or decrease the prevalence of disability.** While technological change, AI and globalisation have lowered the physical toll of work, they also contribute to increased labour market insecurity with repercussions for physical and mental health. Non-standard forms of work, much like self-employment, can offer health benefits through more autonomy and flexibility. However, their elevated labour market insecurity and worse access to health, social protection and employment supports can compromise worker health. Teleworking can provide an accessible workspace for many people with disability (PWD) and facilitate a better work-life balance, but can worsen health by lengthening working hours and increasing occupational health and safety risks (Section 5.1).
- **Similarly, the changing world of work can be a boon or a bane for PWD.** Technological progress, AI, globalisation, more flexibility and autonomy and more teleworking all have the potential to make work more accessible and inclusive by accommodating health problems. At the same time, if managed poorly, PWD may experience a further aggravation of their labour market disadvantage. PWD are slightly more exposed to risks of job loss due to automation. Those in non-standard forms of work and self-employment face inferior job quality. Teleworking is somewhat less an option for PWD. Moreover, any negative effects of the changing world of work on health will be more harmful for people with pre-existing disability (Sections 5.2, 5.3 and 5.4).
- **It is largely in the hands of OECD countries to harness the promise of a healthy and inclusive Future of Work for all – including those with disability.** This chapter proposes a set of five guiding principles to steer towards inclusion: (i) invest in skills and digital access; (ii) build inclusive public employment services; (iii) improve job quality of dependent employment by mainstreaming flexibility; (iv) improve job quality of non-standard forms of work and self-employment; (v) pivot advancements in innovation and technology towards inclusion (Section 5.5).

## 5.1. The impacts of a changing world of work on prevalence of disability

The world of work is changing at rapid speed. Technological progress, artificial intelligence (AI) and globalisation are reshaping our labour market: tasks that can be automated (routine tasks) lose importance, non-routine tasks are of growing importance. Additionally, new organisational business models have contributed to a rise in non-standard forms of work. These forms of work share certain characteristics of self-employment, including potentially more autonomy and flexibility, but also more labour market insecurity and less access to health, social protection and employment supports. The COVID-19 pandemic seems only to have accelerated these trends. Moreover, the pandemic has brought about a mass social experiment in changing working practices in the form of teleworking, which is likely here to stay (OECD, 2021<sup>[11]</sup>).

The changing world of work will impact prevalence of disability and worker health by its effects on job quantity and job quality. Job quality, as defined in the OECD Job Quality Framework (Box 5.1), refers to the attributes of a job that affect worker well-being, including earnings quality, labour market security and the quality of the work environment. This section provides a broad overview of the state-of-the-art evidence of how technological change, AI and globalisation (Section 5.1.1), non-standard forms of work and self-employment (Section 5.1.2) and teleworking (Section 5.1.3) may influence worker health.

### Box 5.1. The OECD Job Quality Framework

Job quality refers to the attributes of a job that affect worker well-being. Job quality is inherently multi-dimensional. The OECD Job Quality Framework focuses on three key dimensions that have been shown to be particularly relevant for well-being:

- **Earnings quality.** This refers to the extent to which the earnings received by workers in their jobs contribute to their well-being. Earnings quality accounts for both the level of earnings and their distribution across the workforce.
- **Labour market security.** This encompasses both the risk and the employment and financial consequences of losing a job. The latter includes the expected duration of non-employment as well as coverage and generosity of income replacement when encountering job loss.
- **Quality of the work environment.** This relates to the nature and intensity of work, the organisation of work and the working atmosphere. The quality of the working environment depends crucially on whether workers have the job resources to meet the job demands. Important job resources include decision latitude, learning opportunities and good relationships with colleagues. Job demands include for instance time pressure at work and physical health risk factors.

Source: OECD (2014<sup>[2]</sup>), “How good is your job? Measuring and assessing job quality”, [https://doi.org/10.1787/empl\\_outlook-2014-6-en](https://doi.org/10.1787/empl_outlook-2014-6-en); Saint-Martin, Inanc and Prinz (2018<sup>[3]</sup>), “Job Quality, Health and Productivity: An evidence-based framework for analysis”, <https://doi.org/10.1787/10.1787/a8c84d91-en>.

### 5.1.1. Impacts of technological change, AI and globalisation on health

The effects of technological change, AI and globalisation on the prevalence of disability are intricate. The largest health risks likely come from increased labour market insecurity.

Technological change, AI and globalisation will likely not lead to a large negative impact on job quantity, which would have knock-on effects on health. Working is generally beneficial to health. Negative health effects of job loss tend to be larger for sustained periods of non-employment, which may be the case if the

Future of Work entails more structural labour market adjustment (Classen and Dunn, 2012<sup>[4]</sup>). However, the available evidence suggests that technological change, AI and globalisation will probably not have a large negative impact on job quantity, though there can be net job declines in certain industries and occupations. The number of jobs actually increased across OECD countries in nearly all occupations over the last decade. There was even job growth in occupations at high risk of automation, albeit lower than in occupations at low risk of automation (Lane and Saint-Martin, 2021<sup>[5]</sup>; Georgieff and Milanez, 2021<sup>[6]</sup>). There is also no clear relationship between AI exposure and employment growth. AI is even associated with employment growth in sectors with high computer usage (Georgieff and Hye, 2021<sup>[7]</sup>).

Structural and temporal job loss will have much worse health consequences if a country does not provide universal access to health care, out-of-work benefits, reduced work capacity benefits and public employment services. Without universal health coverage, unemployment not only means a decrease in income, but also a loss in access to health if employer-provided health insurance is not replaced by public coverage. Universal health coverage is all the more important for PWD, given their higher need of health care and on average lower incomes (Banks, Kuper and Shakespeare, 2021<sup>[8]</sup>; Kuper and Heydt, 2019<sup>[9]</sup>). Studies for the United States, a country without universal health coverage, show that those who lost their job because of globalisation reduce and delay their health care utilisation which worsens their health status (Lang, McManus and Schaur, 2019<sup>[10]</sup>; Adda and Fawaz, 2020<sup>[11]</sup>). Consequences of job loss on health will also be larger if persons do not have access to out-of-work benefits, reduced work capacity benefits and public employment services. Out-of-work benefits provide income replacement and reduce the risk of falling into poverty when experiencing job loss. Reduced work capacity benefits – paid sick leave, disability benefits and workers' compensation – are particularly important to protect jobs, income and health of workers experiencing temporary sickness, disability or work-related injuries. Public employment services help people back into employment and towards expanding segments of the economy (OECD, 2018<sup>[12]</sup>).

Arguably the largest health risk of technological change, AI and globalisation come from increased labour market insecurity. Technological change, AI and globalisation change job tasks and increase job turnover. Exposed workers may also experience lower wage growth (OECD, 2019<sup>[13]</sup>; Thewissen and Van Vliet, 2019<sup>[14]</sup>; Thewissen, van Vliet and Wang, 2017<sup>[15]</sup>). Labour market insecurity causes stress, sleep disturbance, lower job satisfaction and gloomier expectations about the future. This then can lead to mental and physical health problems, with stronger effects for persons with pre-existing health problems (Hummels, Munch and Xiang, 2021<sup>[16]</sup>; Macchia and Oswald, 2021<sup>[17]</sup>; OECD, 2012<sup>[18]</sup>; Mai et al., 2019<sup>[19]</sup>). Workers directly exposed to globalisation in the United Kingdom, as well as their partners and children, reported lower mental health over the last few decades (Colantone, Crinò and Ogliari, 2019<sup>[20]</sup>). Globalisation had negative physical and mental health effects for manufacturing workers in routine jobs in the United States, translating into increased hospitalisation and mortality rates (Adda and Fawaz, 2020<sup>[11]</sup>). Trade liberalisation in the United States also increased mortality and drug overdoses (the so-called “deaths of despair”), as well as an increase in the uptake of disability insurance (Pierce and Schott, 2020<sup>[21]</sup>). The latter two studies are likely upper bound estimates of the effects of import competition on worker health. The studies focus on the most exposed workers and regions in the United States that does not offer universal health coverage and less generous social protection than most other OECD countries.

Middle- and low-skilled workers disproportionately bear the largest risks of job loss and labour market insecurity. Technological change, AI and globalisation lead to patterns of job polarisation, a decrease in the share of middle-skill jobs, which is mostly the result of upskilling, an increase in the share of high-skill jobs. Drivers of job polarisation are manifold. They include the decline of the manufacturing sector which has relatively many middle-skill jobs, and the more routine and offshorable nature of many middle-skill jobs (Michaels, Natraj and Van Reenen, 2014<sup>[22]</sup>; Thewissen and Van Vliet, 2019<sup>[14]</sup>; OECD, 2020<sup>[23]</sup>; Acemoglu et al., 2021<sup>[24]</sup>; OECD, 2019<sup>[13]</sup>).

The effects of technological change, AI and globalisation on quality of the work environment are manifold. First, technological change and globalisation have made work less physical and dangerous, with potential but also risks for occupational health and safety.

Technological change and globalisation have led to long-term shifts away from physically demanding and dangerous work. Technological change as the engine of economic development has allowed for compositional shifts from agriculture, to manufacturing and more recently to the services sector. This transition has contributed to making work much less physical and dangerous, since work accident rates are considerably lower in the services industry (Tomba et al., 2021<sup>[25]</sup>; Kaplan and Schulhofer-Wohl, 2018<sup>[26]</sup>). Certain physical risks, however, may have increased because of more screen time in the services sector. This includes prolonged sitting and higher risk of musculoskeletal symptoms (Coenen et al., 2019<sup>[27]</sup>). Technological change and globalisation can further lower physical risks work by automating or offshoring physically demanding and dangerous tasks. Dangerous jobs are more often offshored than safe ones in the American manufacturing industry, which has contributed to lower workplace injury and illness rates (Lai, Lu and Ng, 2019<sup>[28]</sup>).<sup>1</sup> Responsible business conduct demands firms to make tasks less dangerous rather than offshoring them to other countries, as recommended in the OECD Guidelines for Multinational Enterprises.

Technological change and globalisation may lower compliance with occupational health and safety by firms, though they also offer the potential to improve enforcement and efficiency. Increased import competition in the manufacturing industry in the United States can lead firms to allocate resources towards productivity at the expense of safety, translating into higher work injury rates (McManus and Schaur, 2016<sup>[29]</sup>). On the other hand, technological change and AI can contribute to more efficient occupational health and safety standards and better enforcement (Lane and Saint-Martin, 2021<sup>[5]</sup>; EU-OSHA, 2018<sup>[30]</sup>). For instance, the Norwegian Labour Inspection Authority (NLIA) has created a machine learning algorithm to predict non-compliance with occupational health and safety among Norwegian firms. This algorithm can help to better target labour inspections (Dahl, Sørberg and Eskov, 2017<sup>[31]</sup>). Improved occupational health and safety standards are a major contributor to better worker health (Tomba et al., 2016<sup>[32]</sup>; Levine, Toffel and Johnson, 2012<sup>[33]</sup>).

Second, technological change and globalisation may affect prevalence of disability by increasing cognitive job demands, but also job resources and decision latitude to cope with these demands. Healthy jobs are characterised by well-balanced job demands and resources (Saint-Martin, Inanc and Prinz, 2018<sup>[3]</sup>).

There are indications that cognitive job demands have gone up, though the evidence is inconclusive. Technological change and globalisation have led to a long-term trend towards sectors and professions with more cognitive tasks (Kaplan and Schulhofer-Wohl, 2018<sup>[26]</sup>). Higher average cognitive job demands may explain the poor integration of workers with mental health problems (OECD, 2012<sup>[18]</sup>). While some studies find that computer use and robotisation contributed to higher work intensity across European countries (high pace of work, tight deadlines and time pressures) (Antón Pérez, Fernández-Macías and Winter-Ebmer, 2021<sup>[34]</sup>), others do not (Menon, Salvatori and Zwysen, 2020<sup>[35]</sup>).

Technological change and AI can help extend job resources and decision latitude available to workers to meet increased cognitive job demands. Technological change and AI can increase decision latitude. Computer use gives workers more control over the order, method and speed of their work (Menon, Salvatori and Zwysen, 2020<sup>[35]</sup>). Employees in British services companies report being appreciative of having fewer repetitive tasks and opportunities to assume more customer-facing responsibilities (Lacity and Willcocks, 2016<sup>[36]</sup>). Technological innovations can enable PWD to perform jobs better and can grant many workers greater flexibility, autonomy and better work-life balance (Section 5.2.2). New technology may also allow greater use of high-performance work practices that are typically associated with greater job satisfaction. However, certain technological innovations can also reduce workers' autonomy by facilitating closer monitoring of workers.

### 5.1.2. Impacts of non-standard forms of work and self-employment on health

The changing world of work induces the emergence of non-standard forms of work, which is all work that is different from permanent full-time dependent employment, and include:<sup>2</sup>

- Own-account self-employment: self-employed workers with no employees;
- Platform work: workers who provide services through online platforms. Platform workers often have an employment status as own-account self-employed workers;
- Dependent self-employment: self-employed workers who principally rely on only one client;
- On-call and zero-hour contracts: contracts with no guaranteed and/or unpredictable working hours.

Technological innovations have contributed to the growth in non-standard forms of work, by creating business models in which workers provide services through online platforms and by stimulating the overall demand for working time and workplace flexibility (OECD, 2019<sub>[13]</sub>).

Non-standard forms of work share several important characteristics with self-employment. Own-account and dependent self-employed are a subcategory of self-employed workers. Platform workers are often (rightly or wrongly) classified as self-employed. All have (to a certain extent) responsibility, autonomy and flexibility over the organisation of their work, as opposed to dependent salaried employment who are subordinate to an employer. Since there is more literature available on job quantity, job quality and health effects of self-employment, this section broadens the perspective and considers the health effects of self-employment as well as non-standard forms of work.

On the whole, it is not trivial to assess the overall impact of self-employment and non-standard forms of work on health and prevalence of disability for multiple reasons:<sup>3</sup>

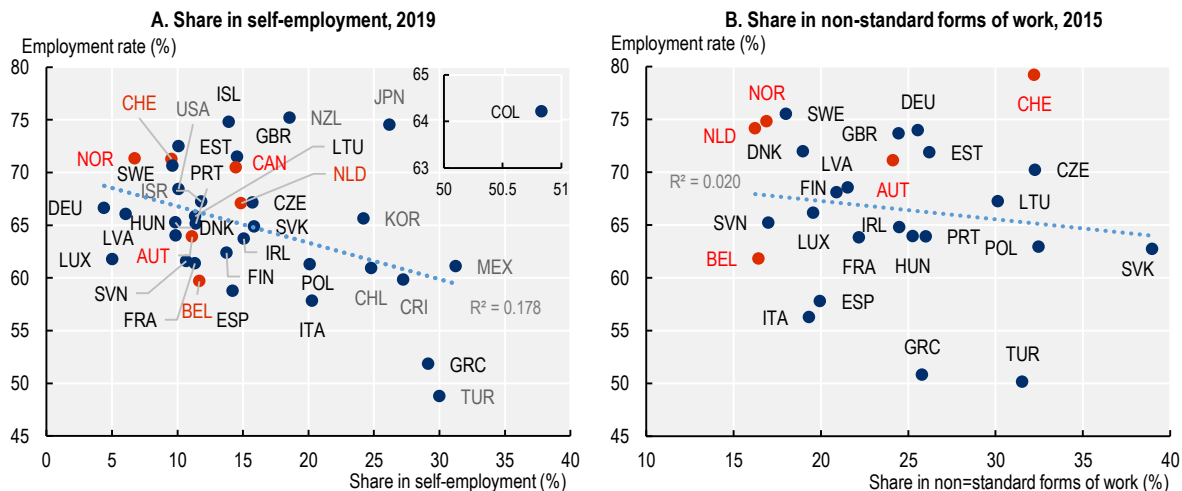
- Self-employment and non-standard forms of work are highly diverse. Self-employment ranges from directors or partners of large firms with employees to own-account and dependent self-employed who principally rely on one client, and from highly specialised to precarious freelance workers. Platform work also varies considerably. It can be divided into *crowd work*, consisting of tasks commissioned and carried out virtually, and *on-demand work*, where purchaser and provider are in physical proximity. Some platform work is specialised, but most work consists of standardised and routine gigs (Bastagli and Hunt, 2020<sub>[37]</sub>).
- Disability can both be a pull factor or a push factor out of self-employment and non-standard forms of work. On the one hand, PWD may be “pulled” into self-employment or non-standard forms of work, because of its potentially higher autonomy and flexibility. There may also be self-selection of people without disability (PWOD) into self-employment because of higher earnings at the top (e.g. younger or higher educated workers, or those more resilient to stress). On the other hand, PWD may be “pushed” into self-employed or work in a new form of work, for instance because of lower employment barriers compared to dependent employment or out of precariousness (Section 5.4). Such push and pull factors make it more complicated to evaluate whether self-employment or non-standard forms of work themselves have a direct effect on prevalence of disability (Bogan, Fertig and Just, 2021<sub>[38]</sub>; Levine and Rubinstein, 2017<sub>[39]</sub>).
- Legal definitions of self-employment and non-standard forms of work, including their entitlements to employment and social protection, differ across OECD countries. Own-account and dependent self-employed workers often find themselves in the “grey zone” between dependent employment and self-employment. Their entitlements to different types of employment and social protection differ per country (OECD, 2019<sub>[13]</sub>). As discussed previously, labour market insecurity and job loss will have much worse health consequences for workers who do not have access to out-of-work benefits, reduced work capacity benefits and public employment services.

Higher shares of workers in self-employment or certain non-standard forms of work are not associated with more job quantity. If anything, higher shares of self-employment are correlated with lower employment

rates (Figure 5.1, Panel A). A higher share of workers in non-standard forms of work that can be identified in the data – employees working unpredictable hours, or dependent or own-account self-employed – is also not associated with higher employment rates (Figure 5.1, Panel B).<sup>4</sup>

### Figure 5.1. Higher shares of workers in self-employment or in non-standard forms of work are not associated with higher employment rates

Correlation between the employment rate and self-employment/non-standard work, workers aged 15-69



Note: Panel A: Share of workers who are self-employed. Data refer to 2018 (Australia, Belgium, Iceland, Ireland, Italy, United Kingdom). Data cover ages 15 and over (Australia, Colombia, Costa Rica, Japan, Korea, Mexico, New Zealand, Türkiye, United States). Panel B: Share of workers who are either (1) working unpredictable hours (i.e. employee who experiences regular working time arrangement changes of which they are informed at most several weeks in advance), (2) dependent self-employed (i.e. principally relying on only one client) or (3) own-account self-employed (i.e. without authority to hire or dismiss employees).

Source: OECD calculations based on EU Statistics on Income and Living Conditions (EU-SILC) and the *OECD Employment Database* <https://www.oecd.org/employment/emp/onlineoecdemploymentdatabase.htm> (Panel A) and the European Working Conditions Survey (EWCS) (Panel B).

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Chronic labour market insecurity combined with poor access to out-of-work and reduced work capacity benefits are a major health risk for many in self-employment and non-standard forms of work.

Job and income insecurity is high for many self-employed and those in non-standard forms of work. Many self-employed exit within five years (OECD, 2017<sup>[40]</sup>). Turnover on platforms is high as well (Urzi Brancati, Pesole and Fernandez Macias, 2020<sup>[41]</sup>). A second source of labour market insecurity is varying availability of work, leading to unpredictable income levels. For instance, varying and unpredictable working hours provoke stress among zero-hour contract workers (Wood, Burchell and Coutts, 2016<sup>[42]</sup>). Platform workers who provide platform services at least once a month relatively often state that they experience stress (Urzi Brancati, Pesole and Fernandez Macias, 2020, pp. 44-45<sup>[41]</sup>).

Self-employed and persons in non-standard forms of work often have limited access to out-of-work benefits and employment support to cushion the negative health effects of job loss. Even those who can access out-of-work support tend to receive markedly lower benefit levels. They also often have less access to labour law protections, collective bargaining rights and other benefits such as access to adult learning (OECD, 2019<sup>[13]</sup>). Certain workers in non-standard forms of work, such as platform workers, may also not be eligible to support from public employment services (PES). The primary mandate of PES is generally to tackle unemployment, meaning that they will prioritise unemployment benefit recipients over those in

non-standard forms of work seeking other employment opportunities. In some countries, only unemployment benefit recipients have access to PES, which excludes many workers in non-standard forms of work. In addition, PES may be less effective in providing advice whether benefit recipients are required to accept platform work and what skills are required for such type of work (ENPES, 2020<sup>[43]</sup>; OECD, 2019<sup>[44]</sup>).

Particularly worrying from a health perspective is the limited access to different reduced work capacity benefits, such as paid sick leave, disability benefits and workers' compensation. Paid sick leave, disability benefits and workers' compensation are the principal income replacement sources for workers who experience temporary sickness, disability or work-related injuries. In addition, self-employed workers and those in non-standard forms of work have much less often health insurance in countries without universal health coverage (Berkowitz et al., 2021<sup>[45]</sup>).

Self-employment and non-standard forms of work come with widely varying quality of the work environment. While some enjoy high wages and autonomy, many others are in more precarious situations with little autonomy and significant health risks.

Most self-employed workers and workers in non-standard forms of work earn less than employees. Self-employed with employees tend to earn on average more than employees, whereas those without employees (own-account workers) earn substantially less, although this may partly be because of underreporting of income (OECD, 2017<sup>[40]</sup>). Emerging evidence suggests that many platform workers earn very low wages, frequently well below national minimum wage level, although pay varies substantially (OECD, 2018<sup>[12]</sup>). There may not be always sufficient platform work available to make a living (Eurofound, 2020, pp. 28-29<sup>[46]</sup>). On-call and zero-hour contract workers tend to get paid only for the hours they worked, without any supplement (Burri, Heeger-Hertter and Rossetti, 2018<sup>[47]</sup>). Regression analysis shows that employees working unpredictable hours and dependent or own-account self-employed have lower hourly earnings across European countries (Annex 5.A).

Self-employment and platform work can bring health benefits through more autonomy and flexibility, though this is not a given. Autonomy over workload, tasks, working time and workplace is an important job resource to cope with job demands, and is as such an important factor of psychological well-being at work. In addition, autonomy over work content allows individuals to better self-define their role, which can help to overcome stereotypes and can lower attitudinal employment barriers (Martin and Honig, 2019<sup>[48]</sup>). Working time and workplace flexibility helps workers to flexibility fit work around personal preferences and constraints, in order to achieve a better work-life balance. In turn, this contributes to job satisfaction and worker well-being (Saint-Martin, Inanc and Prinz, 2018<sup>[3]</sup>).

- *Self-employed workers* report higher autonomy, working time and workplace flexibility than employees. This is less so for dependent or own-account self-employed workers, who often have little bargaining power vis-à-vis their clients and/or intermediaries (Annex 5.A) (OECD, 2017<sup>[40]</sup>).
- *Employees working unpredictable hours* report less autonomy and flexibility (Annex 5.A). They are dependent on their employer not only on workload, tasks, working time and workplace, but also when they can work (Burri, Heeger-Hertter and Rossetti, 2018<sup>[47]</sup>). Such lack of autonomy has repercussions on health. Seattle's 2017 Secure Scheduling ordinance that requires employers to provide two weeks' notice of work schedules improved subjective well-being, sleep quality, and economic security (Harknett, Schneider and Irwin, 2021<sup>[49]</sup>).
- *Platform workers have varying degrees of autonomy and flexibility.* Survey evidence indicates that platform workers can decide generally relatively easily when to work and for how long. Crowd workers providing online gigs also often enjoy workplace flexibility. However, most on-demand platform workers, such as ride hailing or food delivery, do not have autonomy on pay rate and generally have to perform a gig straight away. Most crowd workers have limited bargaining power on pay rate because of the often standardised and routine nature of gigs. Autonomy and flexibility is further decreased by online monitoring and rating systems that help determine who gets offered



a gig first. Autonomy and flexibility is the lowest for those who depend on platform work as their main source of income (Schwellnus et al., 2019<sup>[50]</sup>; SCP, 2021<sup>[51]</sup>; EU-OSHA, 2017<sup>[52]</sup>; etui, 2021<sup>[53]</sup>; OECD, 2019<sup>[13]</sup>).

Self-employment and many non-standard forms of work bring larger occupational safety and health risks. Many non-standard forms of work transfer responsibilities from occupational safety and health from the employer to individual workers (OECD, 2019<sup>[44]</sup>). However, these workers often lack certification, safety equipment and knowledge of relevant regulations. Fierce competition between workers may result in cutting corners and unnecessary risk taking. Certain platforms such as ride sharing apps subsidise drivers to stay on the road. At the same time, labour inspectorates are often not well prepared to cope with these non-standard forms of work adequately. Individuals in non-standard forms of work are often harder to reach, responsibilities and liability are less clear and there is little support from unions (Walters, 2017<sup>[54]</sup>; EU-OSHA, 2021<sup>[55]</sup>). Available evidence indeed indicates occupational safety and health risks for platform workers and their clients. The arrival of ride sharing led to an increase of 3% in the number of fatalities and fatal accidents, for both vehicle occupants and pedestrians. Ride hailing driving quality, in addition to increased congestion and road utilisation, likely plays a role (Barrios, Hochberg and Yi, 2020<sup>[56]</sup>). Platform workers who provide platform services at least once a month relatively often state that their work puts their safety and health at risk (Urzi Brancati, Pesole and Fernandez Macias, 2020, pp. 44-45<sup>[41]</sup>).

Self-employed and certain platform workers much more often work very long hours and during nights on a regular basis, which can have strong negative impacts on prevalence of disability (Box 5.2). Restricting to full-time workers, about a third work very long hours across European OECD countries on average; about five times as many as employees (Figure 5.2, Panel A).

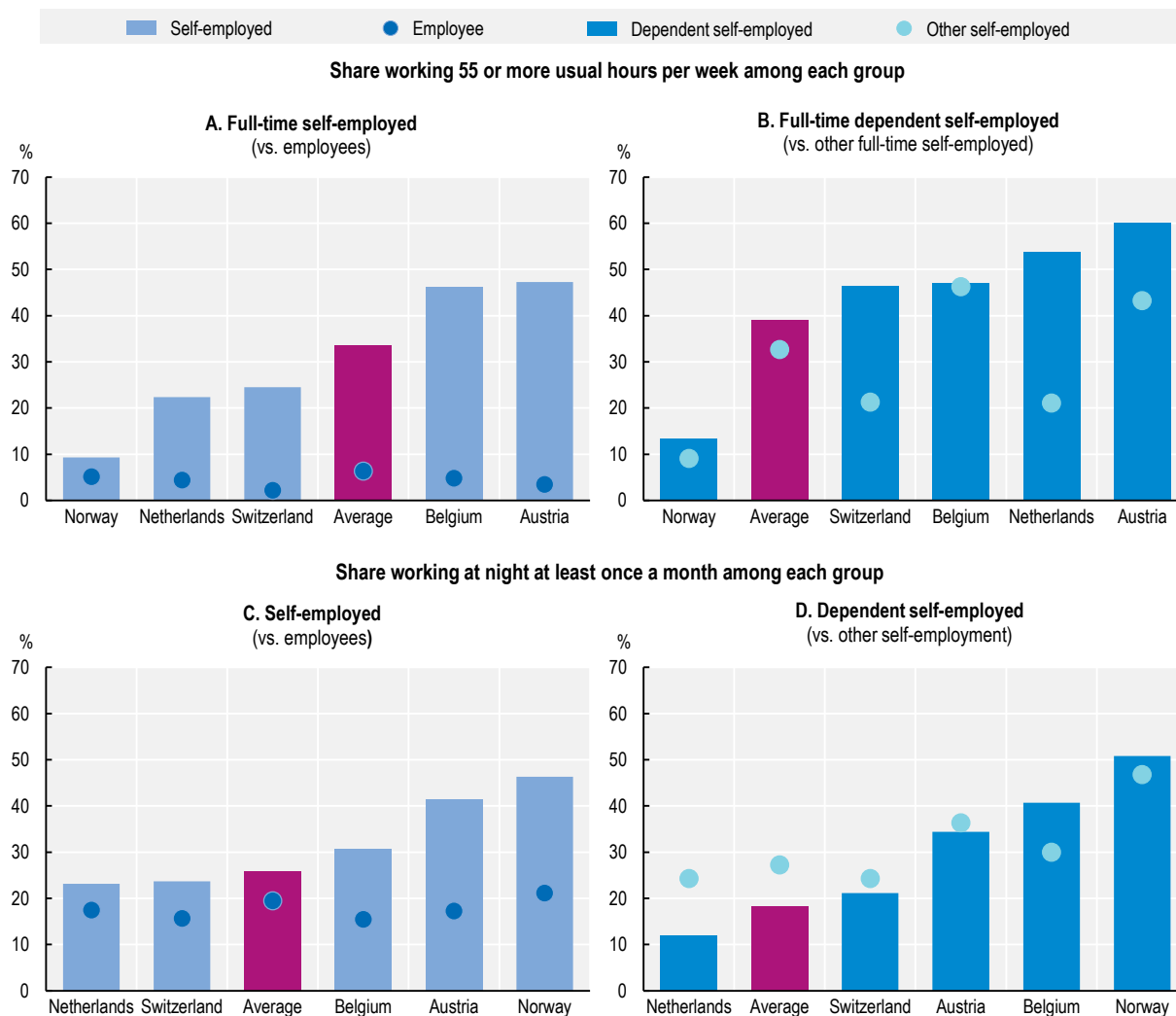
### Box 5.2. Working very long hours and night work have strong negative effects on health

Meta-analyses show that working very long hours and night work over prolonged periods has strong negative effects on a range of health factors.

Very long work hours and night work increase the prevalence of work accidents, physical and mental health problems and poor health behaviour, by raising stress and fatigue while reducing the time available for recovery (Hijzen and Thewissen, 2020<sup>[57]</sup>). The risk of a workplace accident among persons working 12 hours instead of eight hours a day and someone in night compared to day shifts is about twice as high (Wagstaff and Lie, 2011<sup>[58]</sup>; Wong et al., 2014<sup>[59]</sup>). Working 55 hours or more a week instead of 35-40 hours is associated with a 30% increased risk of strokes or diabetes among manual workers (Kivimäki et al., 2015<sup>[60]</sup>). Night workers have a 25% higher mortality rate of cardiovascular disease and lung cancer (Gu et al., 2015<sup>[61]</sup>). Working 55 hours or more increases the risk of depression by 50% (Virtanen et al., 2018<sup>[62]</sup>). Switching from day to night shift leads to a 25% higher risk of common mental disorders (Beltagy et al., 2018<sup>[63]</sup>). Moreover, fatigue and stress as a result of very long working hours and night shift also can result in less healthy lifestyle, including less physical activity, a higher prevalence of obesity, and a higher probability of smoking and excessive use of alcohol (Kivimäki et al., 2017<sup>[64]</sup>; Virtanen et al., 2015<sup>[65]</sup>; Ramin et al., 2015<sup>[66]</sup>).

**Figure 5.2. Self-employed workers more often work very long hours or at night**

Share among different groups of employed persons (aged 15-69) working long hours or at night, 2015



Note: Panels A and B are restricted to full-time workers (working 30 hours or more per week). Working hours are defined as total usual working hours (sum of working hours across all jobs). Dependent self-employed: self-employed who principally rely on one client. The purple bars represent the unweighted average of 21 European countries: Austria, Belgium, the Czech Republic, Denmark, Estonia, Germany, Finland, France, Ireland, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Source: OECD calculations based on the European Working Conditions Survey (EWCS), 2015.

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The difference is even larger when including part-time workers. Full-time dependent self-employed even more often work very long hours (Panel B). Self-employed in Austria and Belgium as well as dependent self-employed in the Netherlands particularly often work very long hours. Self-employed also work more often at night than employees (Panel C). Dependent self-employed work less often at night than other self-employed workers (Panel D).<sup>5</sup> Platform workers may work more often very long hours, though there might not be always sufficient work available to do so. Platform workers interviewed in the 2018 COLLEEM II survey, covering more than 38 000 platform workers in 16 EU member countries including the Netherlands, worked on average longer hours (measured as the sum of hours in regular and platform work) (Eurofound, 2020, pp. 28-29<sub>[46]</sub>). The platform workers work twice as often more than 60 hours per week than standard

workers (Urzi Brancati, Pesole and Fernandez Macias, 2020<sub>[41]</sub>). Yet, Deliveroo riders in Belgium between 2016 and 2017 worked on average only 23 hours per month, with very few working very long hours (Drahokoupil and Piasna, 2019<sub>[67]</sub>). Platform workers surveyed in the 2018 COLLEEM II survey were also more frequently involved in unsocial working hours. More than two-thirds worked via platforms at night (Urzi Brancati, Pesole and Fernandez Macias, 2020<sub>[41]</sub>).

### **5.1.3. Impacts of teleworking on health**

The COVID-19 pandemic brought about a mass social experiment in teleworking. The incidence of teleworking across the OECD surged from 16% in 2019 to 37% of employees in March/April 2020 (OECD, 2021<sub>[11]</sub>).<sup>6</sup> Firms and workers had to embrace teleworking out of necessity from one day to the other, in order to comply with government containment measures such as social distancing and stay-at-home policies. Workers who managed to telework saw much less of a deterioration in their labour market position throughout the COVID-19 pandemic (Beland, Brodeur and Wright, 2020<sub>[68]</sub>).

Teleworking practices are likely to stay, albeit not to the same degree as during the COVID-19 pandemic. About two-thirds of employees across 22 European OECD countries reported wanting to continue working from home at least several times a month, even without COVID-19 restrictions, in June/July 2020 and February/March 2021 (Eurofound, 2021<sub>[69]</sub>). Data from job postings for 20 OECD countries suggest that telework is here to stay, especially in countries with high levels of digital preparedness (Adrián et al., 2021<sub>[70]</sub>). Survey evidence among 30 000 American workers suggests that teleworking practices will be four times more prevalent than before the pandemic, with a “new normal” of about one in five full work days supplied from home across the economy (Barrero, Bloom and Davis, 2021<sub>[71]</sub>).<sup>7</sup> Data collected from a similar survey for the United Kingdom show very comparable patterns (Taneja, Mizen and Bloom, 2021<sub>[72]</sub>), as well as data from job postings across 20 OECD countries. There are multiple reasons for this large increase in teleworking in the new normal. First, the pandemic pushed aside inertia coming from experimentation costs, pessimistic expectations and workplace culture. Expectations with teleworking have on average been better than expected (Ozimek, 2020<sub>[73]</sub>). Second, firms and workers are now in a better position to work from home, as they have made the necessary investments in physical and human capital. Third, stigma with teleworking has greatly diminished. Fears of physical proximity may even continue to propel teleworking practices. Fourth, technological innovations that support teleworking have surged. In the United States, the share of new patent applications that advance technologies in support of video conferencing, telecommuting, remote interactivity and working from home has more than doubled from January to September 2020 (Bloom, Davis and Zhestkova, 2021<sub>[74]</sub>; Barrero, Bloom and Davis, 2021<sub>[71]</sub>).

Teleworking poses new opportunities as well as challenges for the relationship between work and prevalence of disability.

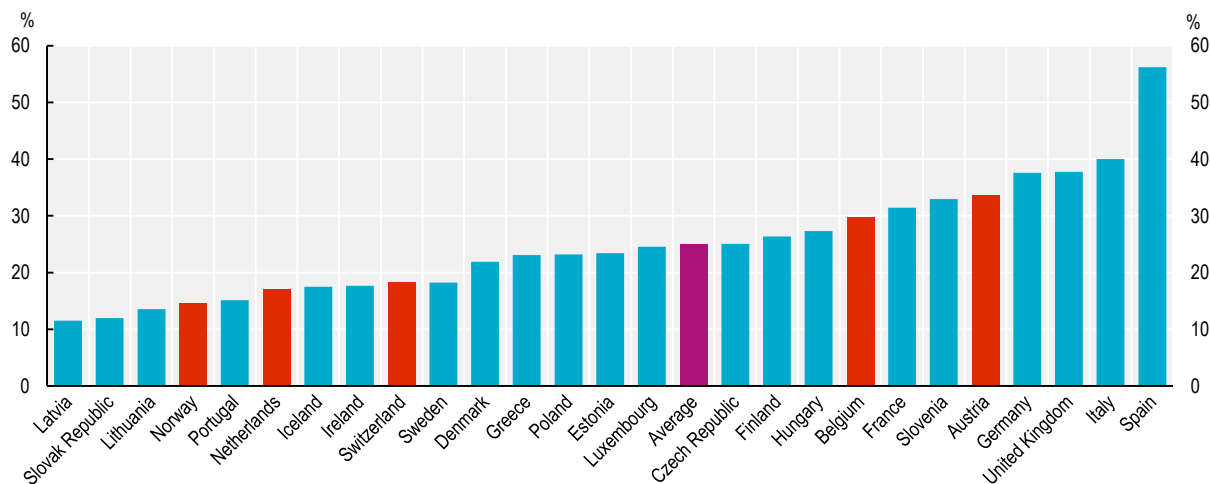
Initial evidence suggests that telework can bring health advantages and can accommodate individual constraints when it is a worker’s own choice.<sup>8</sup> First, teleworking provides more autonomy to flexibly plan a workday and allows for better work-life balance (Moon et al., 2014<sub>[75]</sub>). This makes teleworking an important accommodation to reduce the impact of individual constraints, such as having small children, care responsibilities or health problems, on work. Workplace and working time flexibility helps to reduce employment barriers for PWD and PWOD, contributes to firm performance and costs close to zero. The fact that many employees prefer continuing to telework systematically even without COVID-19 restrictions shows that such autonomy and flexibility is widely appreciated. A pre-COVID-19 study showed that almost half of Belgian teleworkers carry out small errands or domestic chores in between work activities and gear working hours to family needs (Walrave and De Bie, 2005<sub>[76]</sub>). Second, telework reduces potentially stressful commuting time. Third, telework provides workers the benefit from working from their own home with more control over their environment and potential stressors (Schur, Ameri and Kruse, 2020<sub>[77]</sub>). Since

potential health advantages all relate to flexibility, they likely only manifest for those who appreciate such factors and prefer to telework.

However, telework can also present health risks, in particular for workers who do not prefer to work from home. First, teleworkers work on average longer hours. Research from prior to the COVID-19 pandemic found that teleworkers spend more hours working than workers in offices across most OECD countries (Eurofound and ILO, 2017<sup>[78]</sup>). For example, Belgian teleworkers report working almost two hours per week more than their colleagues in the office (Walrave and De Bie, 2005<sup>[76]</sup>). Second, teleworkers more often work unsocial working hours in evenings and weekends. For instance, 27% of Dutch teleworkers often work in the evening, and 43% sometimes do (CBS and TNO, 2014<sup>[79]</sup>). Working at night, which are the most taxing unsocial working hours, remains unusual (Eurofound and ILO, 2017<sup>[78]</sup>). Third, telework may increase social isolation, blurred boundaries between work and home, distance to management and overall detachment from the workplace, although evidence is still inconclusive (Oakman et al., 2020<sup>[80]</sup>; Schur, Ameri and Kruse, 2020<sup>[77]</sup>). These factors can worsen mental health, sleep quality and productivity.<sup>9</sup> Fourth, homes are generally less equipped to work from which bring occupational health and safety risks. Employers need information and guidance on the implementation of workplace occupational health and safety (EU-OSHA, 2021<sup>[81]</sup>). Only one in four European firms with employees regularly working from home include the workplace at home in their workplace risk assessments (Figure 5.3). Again, health risks are likely much larger for workers who prefer not to telework, since they might be more exposed to such risks.

**Figure 5.3. Workplace risk assessments rarely cover workplaces at home**

Firms with employees who regularly work from home that include workplaces at home in their workplace risk assessments, 2019



Note: Firms with employees who regularly work from home that include workplaces at home in their workplace risk assessments. The purple bar represents the unweighted average of the 26 European countries shown.

Source: European Agency for Safety and Health at Work, (EU-OSHA) (2021<sup>[82]</sup>), *Teleworking during the COVID-19 pandemic: risks and prevention strategies*, <https://data.europa.eu/doi/10.2802/843915>.

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## 5.2. The promises and perils of technological change, AI and globalisation for people with disability

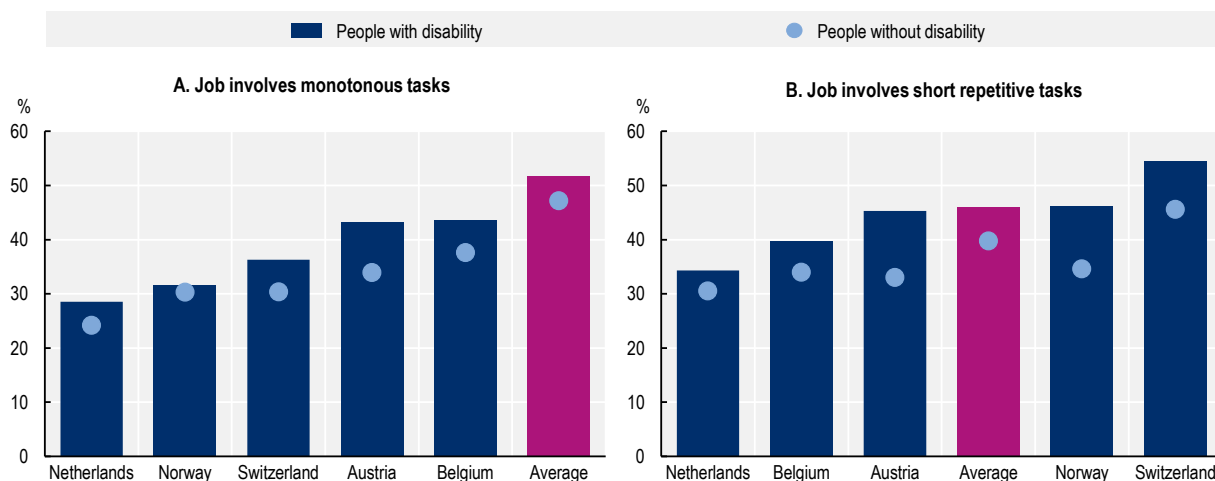
### 5.2.1. Automation and polarisation are larger job risks for people with disability

Automation and polarisation risk to further increase labour market disparities between people with disability (PWD) and people without disability (PWOD).

PWD more often perform monotonous and repetitive tasks in their work. Machines have a comparative advantage in carrying out monotonous and repetitive tasks, as these can be coded more easily into repetitive and systematic rules. Instead, abstract and interpersonal tasks are more ambiguous and require cognitive or service skills that are difficult to automate (Autor, 2019<sup>[83]</sup>; Goos, Manning and Salomons, 2014<sup>[84]</sup>; Thewissen, van Vliet and Wang, 2017<sup>[15]</sup>; Thewissen and Rueda, 2019<sup>[85]</sup>). About half the employed with disability indicate that their job contains monotonous and short repetitive tasks on average across European OECD countries (Figure 5.4). The work of employed PWD more often involves monotonous and short repetitive tasks than the work of their counterparts without disability.<sup>10</sup>

**Figure 5.4. People with disability more often perform repetitive and routine tasks in their work**

Share among employed people with disability vs. people without disability (aged 15-69), 2015



Note: Panel A: main paid job generally involves monotonous tasks. Panel B: job involves short repetitive tasks of less than 10 minutes. The purple bar represents the unweighted average of 21 European countries: Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Ireland, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Source: OECD calculations based on the European Working Conditions Survey (EWCS) of 2015.

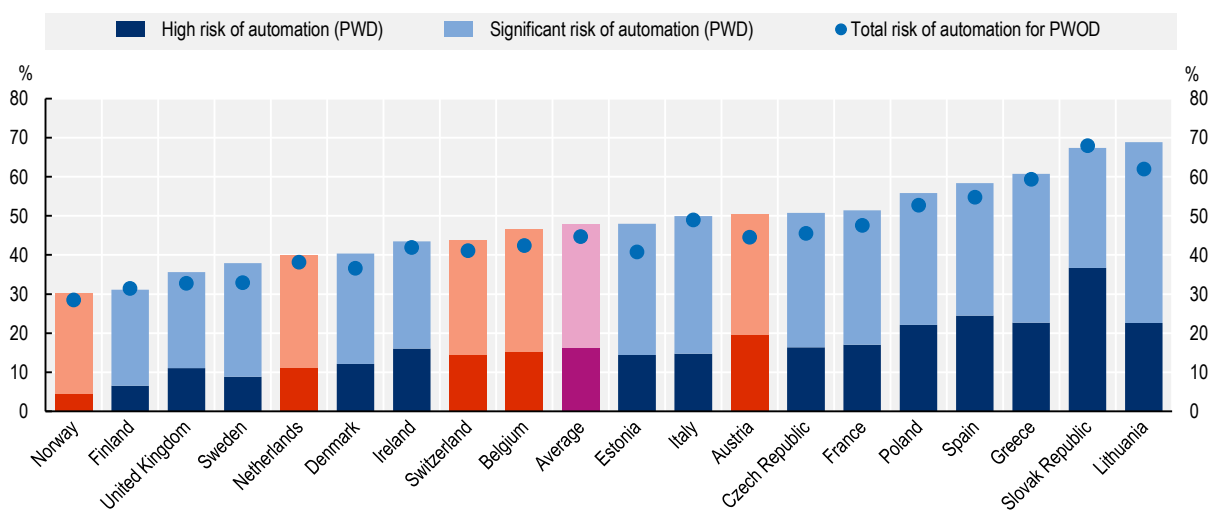
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Automation poses an important job risk for PWD across all European OECD countries. An estimated 16% of jobs of employed PWD on average across European OECD countries could disappear because of automation in the next 15-20 years, and a further 32% are likely to change substantially with the automation of job-specific tasks (Figure 5.5).<sup>11</sup> The total risk of job disappearance and substantial change due to automation for PWD is higher in Austria and considerably lower in the Netherlands and Norway. It is important to keep in mind, however, that these calculations only capture potential job destruction and do not account for the (possibly larger) number of jobs that technology generates (Georgieff and Milanez, 2021<sup>[6]</sup>; OECD, 2019<sup>[13]</sup>).

PWD face an elevated risk of job loss or profound job change due to automation in most OECD countries. On average across European OECD countries, PWD have a 3 percentage point higher risk of job loss or substantial job change (48% compared to 45% for PWOD) (Figure 5.5). The automation disability gap is higher in Austria and Belgium, and instead lower and not statistically significant in Norway. The on average higher risk comes from the fact that PWD more often have a job with a high share of routine, repetitive and monotonous tasks. This is related to the on average lower levels of education and older age of PWD: accounting for these factors reduces the automation disability gap by two-thirds.<sup>12</sup> This reinforces the importance of investing in education and skills to make sure that PWD are ready for the future of work.

**Figure 5.5. People with disability more often work in jobs at risk of automation**

Share of jobs held by people with and without disability (aged 15-69), at risk of automation, 2019



PWD: People with disability; PWOD: People without disability.

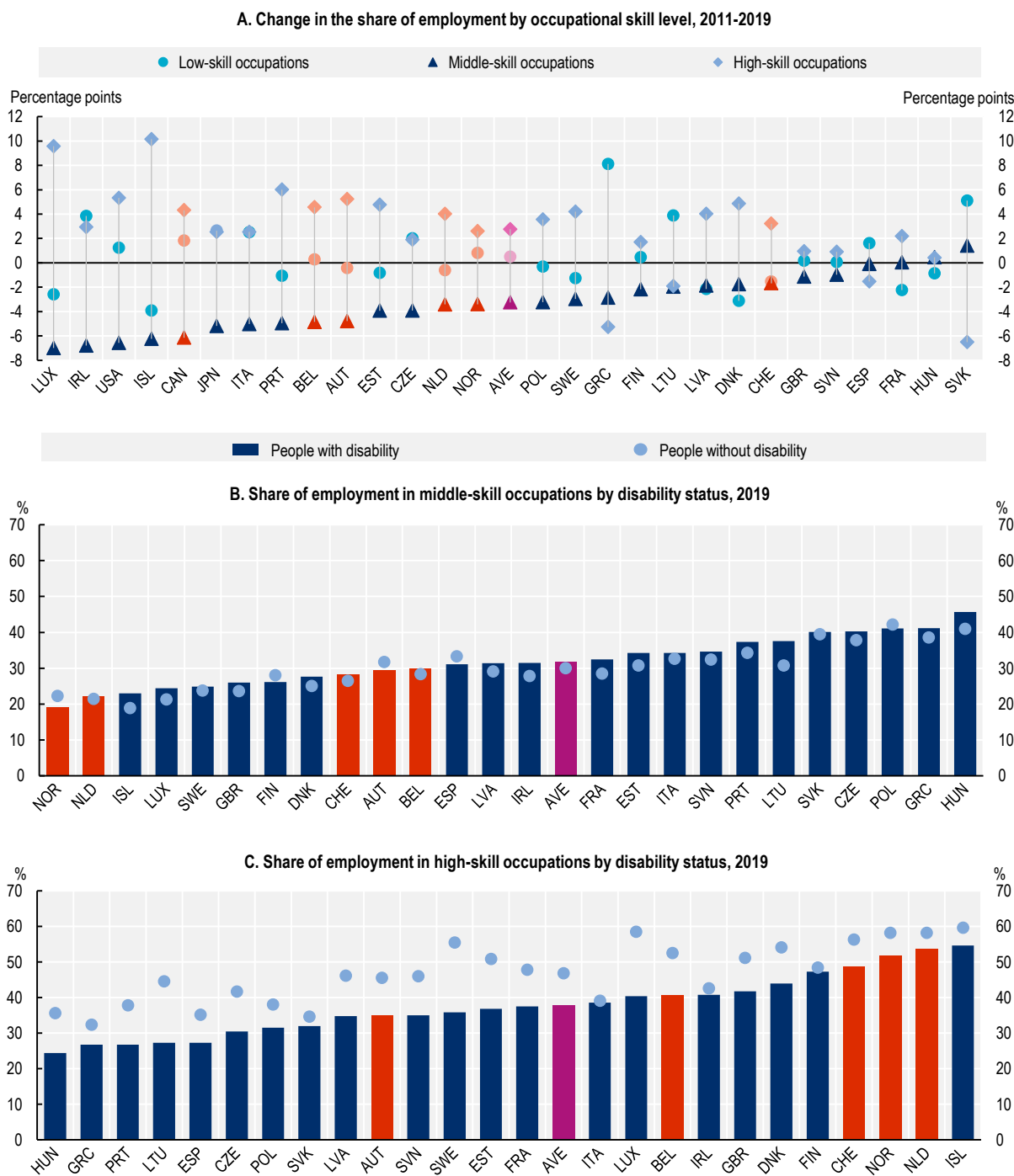
Note: Year 2018 (Iceland, Ireland, Italy, United Kingdom). The purple bar represents the unweighted average of the 19 European countries shown. Not enough detailed occupational information is available for Germany and Slovenia. No information on risk of automation is available for Hungary, Iceland, Latvia, Luxembourg, Portugal and Switzerland. For Switzerland, the average high and significant scores for risk of automation per occupation across the OECD are used and applied to Swiss labour market data. A variance decomposition shows that 92% of the variation in total risk of automation scores (the sum of high and substantial risk) from Nedelkoska and Quintini (2018<sup>[86]</sup>), "Automation, skills use and training", <https://doi.org/10.1787/2e2f4eee-en>, comes from variation between occupations within countries, whereas the remaining 8% of the variation comes from variation between countries within occupations. Thus, the average risk of automation at the OECD level likely is a good predictor of risk of automation in Switzerland. High risk of automation: a job has a probability of at least 70% of being automated. Significant risk of automation: a job has a probability of between 50% and 70% of being automated, implying that a significant share of tasks, but not all, could be automated. Total risk of automation: sum of high and significant risk of automation.

Source: OECD calculations based on the EU Statistics on Income and Living Conditions (EU-SILC).

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PWD are more exposed to trends in job polarisation and upskilling upending jobs in OECD countries. Job polarisation implies a decrease in the share of middle-skill jobs, compared to an increase in the share of low- and high-skilled jobs. The share of middle-skill jobs decreased on average by 2.9 percentage points between 2011 and 2019 across OECD countries for which data are available (Figure 5.6, Panel A). Most of this decrease was due to upskilling: the share of high-skill jobs increased by 2.6 percentage points on average across OECD countries.

Figure 5.6. Polarisation of the labour market is a larger risk for people with disability



Note: Employed persons aged 15-69. Occupations are classified under the ISCO-08 groups as follows: *High-skilled*: groups 1 (legislators, senior officials, and managers); 2 (professionals); and 3 (technicians and associate professionals); *Middle-skilled* groups 4 (clerks); 6 (skilled agricultural workers); 7 (craft and related trades workers); and 8 (plant and machine operators and assemblers); *Low-skilled* groups 5 (service workers and shop and market sales workers); and 9 (elementary occupations). The purple bars (AVE) represent the unweighted average of the countries shown in each panel. Data for Canada, Japan and the United States show the change between 1995 and 2015 in Panel A.

Source: OECD calculations based on the EU Statistics on Income and Living Conditions and OECD (2017<sup>[87]</sup>), *OECD Employment Outlook 2017*, [https://doi.org/10.1787/empl\\_outlook-2017-en](https://doi.org/10.1787/empl_outlook-2017-en) (Figure 3.A1.1) for Canada, Japan and the United States.

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People with disability have slightly more often a middle-skill job and therefore run a higher risk of job loss due to polarisation (Figure 5.6, Panel B). Moreover, they significantly less often have a high-skill job and thus benefit less from upskilling (Panel C).<sup>13</sup> A country-level study for Austria also finds that automation and offshoring affect important professions for workers with disability. For example, blind and seeing-impaired individuals often work in call centres, which have been outsourced to locations where labour is cheaper. Similarly, deaf and hearing-impaired individuals in Austria more often perform manual work, which is becoming less prevalent (Austrian Sozialministerium, 2019<sub>[88]</sub>).

### **5.2.2. Technology and AI can help to accommodate disabilities, but only if geared well**

Technological advances and AI have the potential to create a more inclusive and accommodating environment. However, they are by themselves no quick fix for labour market inclusion of PWD. If managed poorly, technological advances and AI may even exacerbate existing disparities.

Assistive technology renders any impairment or functional limitation less disabling, by creating a more accommodating social and physical environment.<sup>14</sup> Disability is an attribute resulting from the interaction between the individual and the environment. A biological difference (an impairment or functional limitation) only becomes disabling if the environment does not allow the person to function according to their capacities (OECD, 2003, p. 179<sub>[89]</sub>). From this perspective, assistive technology is an “intermediary”: it can promote inclusion of PWD by making the environment more accommodating. Accommodation of the workplace and the work environment is a major enabler for PWD to access, stay, perform and advance in a job (further discussed in Section 5.5).

Many major technological innovations have already made a great impact on everyday life for PWD and PWOD. Major technological innovations are so impactful since they allow a large part of the population to perform functions that otherwise would be difficult. Examples are legion. Elevators are an assistive technology for everyone. Smartphones greatly facilitate communication and can accommodate diverse types of constraints through apps and assistance functions. The Internet provides a major source of information, promotes social inclusion and facilitates networking, job search and applying without the need of physical proximity.

There are numerous examples of recent assistive (AI-enabled) technologies that help PWD contribute their skills and talents on the job in more inclusive work environments. Assistive innovations that are integrated into already widely available technologies are likely to be the most impactful for PWD.

- Vision-to-language tools, such as *Microsoft’s Seeing AI* app, can describe text and objects aloud for people who are blind or have low vision.<sup>15</sup> This free app will be incorporated in Microsoft products often used on the work floor, like Word, Outlook and PowerPoint. An evaluation by Microsoft researchers showed that the algorithm underlying the Seeing AI app achieved high scores on an image-captioning benchmark test (Hu et al., 2021<sub>[90]</sub>).
- Text simplification tools such as IBM’s Content Clarifier can help people with cognitive disability to understand content.<sup>16</sup>
- YouTube’s AI-enabled auto-captioning helps deaf people and those with hearing loss watching recorded or live video.<sup>17</sup>
- Virtual or augmented reality technology can help PWD with the social competency skills needed for a successful job interview. The American disability interest group Administration for Community Living (ACL) has awarded a grant to the Kessler Foundation, an American rehabilitation and disability research centre, to develop a Virtual Reality Job Interview Program to help individuals (re-)enter the workforce after a brain injury.

Furthermore, technological advances and AI can make education and adult learning more accessible (Chapter 6). Technology helps to make learning more independent of place and time. It also helps individuals to change the speed and degree of difficulty of learning (Verhagen, 2021<sub>[91]</sub>). Examples include



instructional videos via YouTube, Accenture's "Skills to Succeed Academy" with bite-sized, gamified learning modules, or even complete online offers by universities, for instance in Flanders (Tindemans and Dekocker, 2020<sup>[92]</sup>).

Technological advances and AI have the potential to revolutionise rehabilitation. Promising fields include smart environments, intelligent mobile and wearable devices and the application of robotics designed to maintain or improve the functional capabilities of people (Luxton and Riek, 2019<sup>[93]</sup>). Machine learning already has many applications in health care and health research, and is starting to find its way into rehabilitation (Anderson, 2019<sup>[94]</sup>).

However, technological advances and AI do not necessarily improve labour market integration of people with disability and can even widen existing disparities.

First, PWD frequently do not have access to even basic digital technology, which is a prerequisite to make use of most technological advances and AI. About one in seven PWD does not have a computer in their household and one in six does not have access to internet for personal use when needed on average across European OECD countries (Figure 5.7, Panels A and B). This rate is about three times higher than among PWOD. PWD have better access to basic digital tools in the Netherlands, Norway and Switzerland. Affordability is a major factor for lack of access. Around 6% cite affordability as the principal reason for not having access to these tools – again, about three times as often as their peers without disability. Age and education cannot fully explain the digital access gap.<sup>18</sup> Another factor may be that PWD may need specialised equipment or software.

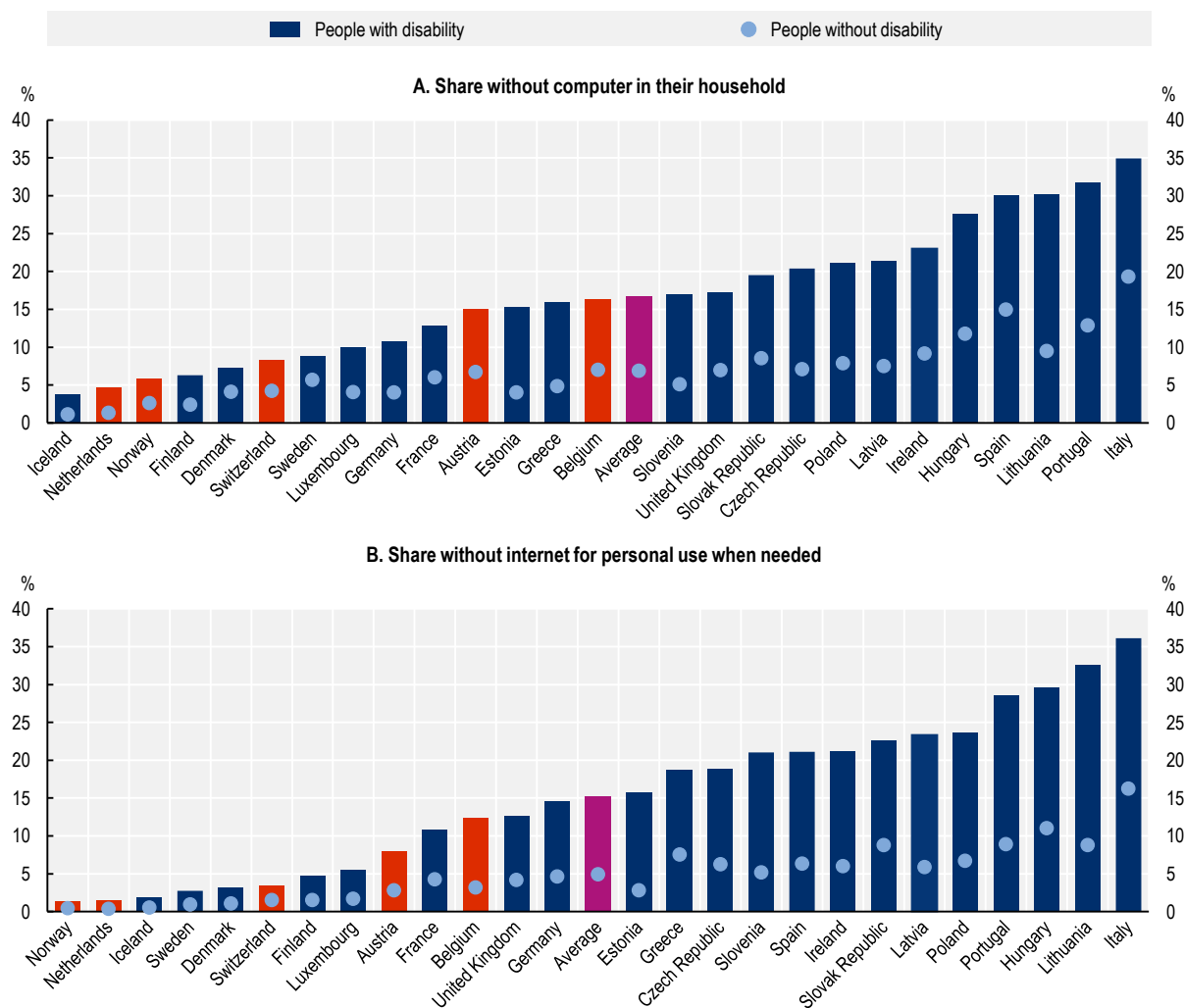
Second, PWD have lower digital skills to use technology and AI in an effective manner. Fewer PWD go online, and those who go online less often make use of online public, private or employment services.

Third, technologies and AI are often not designed with bodies and abilities of PWD in mind. PWD interacting with technology are extraordinarily diverse. For instance, it cannot be assumed that everyone can use a machine, browser or website. Technological and AI innovations that are inaccessible to PWD put them at an even greater labour market disadvantage. For instance, online application processes may place certain PWD at a disadvantage. Job application websites are often inaccessible for persons with visual impairment who use screen readers. People with cognitive disability may require additional time during digital application processes, which can result in an application tool timing out (Tomba, Samosh and Boucher, 2020<sup>[95]</sup>).

Fourth, AI may further marginalise PWD by reproducing stereotypes. The performance of AI and machine learning algorithms is largely determined by its training data. If the training data does not include particular subgroups, then the algorithm will not reflect their needs accurately or can even inadvertently amplify existing stereotypes. This problem looms particularly large for PWD, because of the wide diversity of ways disabilities manifest themselves and the highly sensitive and not always disclosed nature of disability – precisely because of the potential for discrimination based on stereotypes (Trewin, 2018<sup>[96]</sup>). For instance, a vision-to-language tool may poorly recognise the utterances of individuals with vision-related disability if they are not well represented in the training data. AI to analyse the candidate's facial expressions in video job interviews may misinterpret and disfavour candidates with mental disability (White, 2019<sup>[97]</sup>; Hutchinson et al., 2019<sup>[98]</sup>). On the other hand, machine learning can also be used to detect stereotypes, such as an algorithm detecting ageism in job vacancies (Burn et al., 2021<sup>[99]</sup>).


**Figure 5.7. People with disability often lack access to basic digital tools**

Persons aged 15-69, 2019



Note: Data refer to 2018 (Iceland, Ireland, Italy) and to 2016 (United Kingdom). The purple bars represent the unweighted average of the 26 European countries shown.

Source: OECD calculations based on the EU Statistics on Income and Living Conditions (EU-SILC).

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### 5.3. Non-standard forms of work and self-employment do not necessarily improve the labour market position of people with disability

PWD are overrepresented in non-standard forms of work. Whilst non-standard forms of work, including self-employment, can bring attractive autonomy and flexibility, they do not necessarily improve the labour market position of PWD.

PWD are slightly more often self-employed than their peers without disability. About 14% of PWD are self-employed (Figure 5.8, Panel A). It reaches 18% in the Netherlands, where there are strong incentives to become self-employed due to much lower tax rates compared to employees (OECD, 2019<sub>[100]</sub>). PWD are slightly more often self-employed than PWOD on average across European OECD countries. The gap is

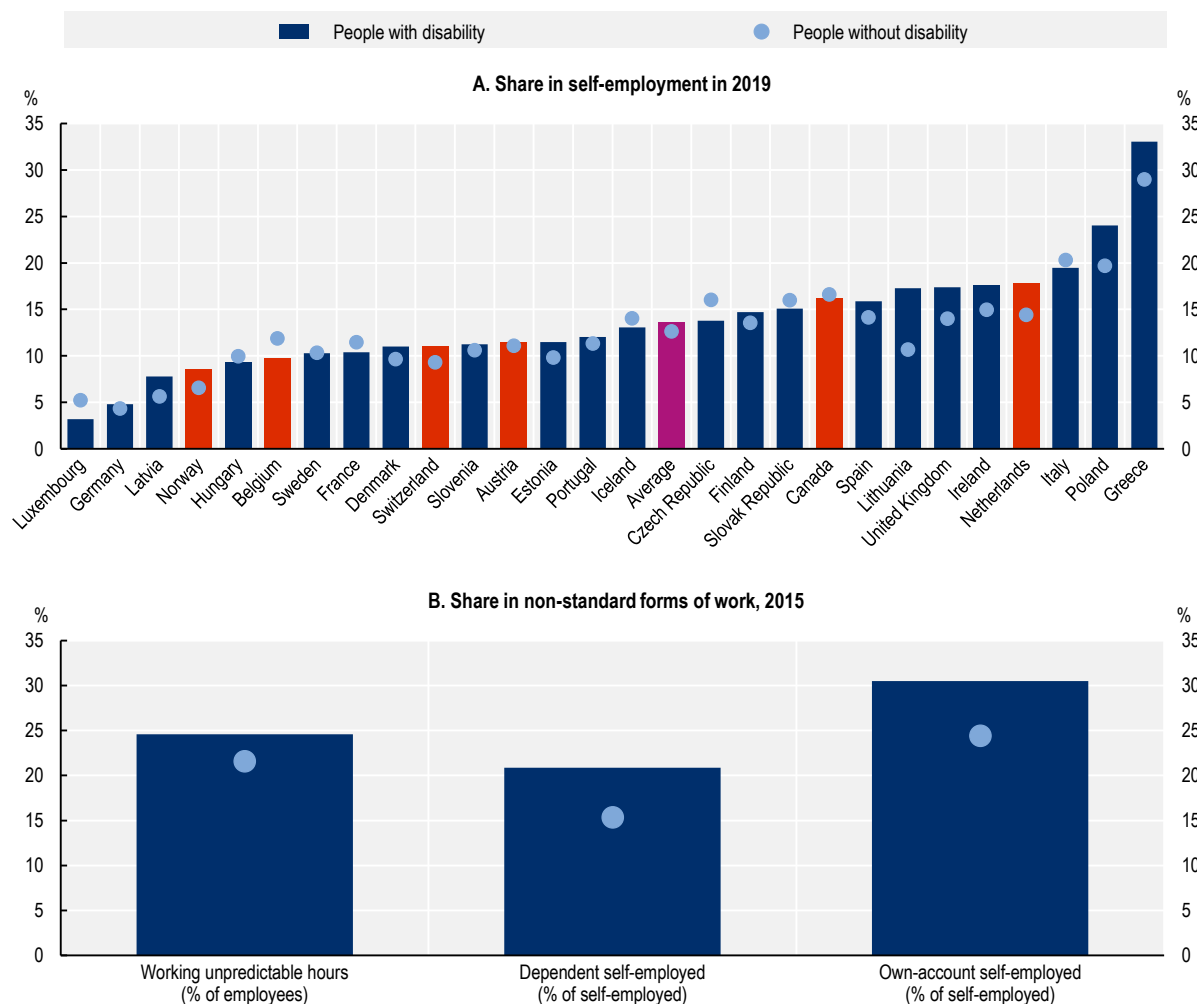
higher in the Netherlands – almost 4 percentage points. The gaps are no longer significant when accounting for differences in education or age.<sup>19</sup>

PWD are overrepresented in certain non-standard forms of new work. Among employees, PWD more often work unpredictable hours (i.e. employees who experience regular working time arrangement changes of which they are informed at most several weeks in advance) (Figure 5.8, Panel B). Among self-employed, PWD are more often dependent self-employed (i.e. principally relying on only one client) or own-account self-employed (i.e. without authority to hire or dismiss employees) on average across European OECD countries.<sup>20</sup>

There is little information whether PWD are more often involved in platform work. It is notoriously difficult to collect data on platform workers, and even more so to identify platform workers with disability.<sup>21</sup> On the one hand, PWD may be underrepresented on platforms, since platform workers tend to be younger and higher educated. These groups have lower disability rates (Eurofound, 2018<sub>[101]</sub>; Austrian Sozialministerium, 2019<sub>[88]</sub>). On the other hand, there are some indications that PWD are overrepresented on platforms, in particular on crowd work platforms on which work is commissioned and carried out virtually. About a quarter of platform workers offering services at least once a month said that a motivation for platform work was that it “allows them to work despite health issues or disability” in a large European survey covering both on-demand and crowd work (Pesole et al., 2018<sub>[102]</sub>).<sup>22</sup> About 19% of crowd workers reported having current physical or mental health conditions or illnesses lasting or expected to last at least 12 months in a 2015 and 2017 survey across 75 countries, with most coming from the United States and India. More than half of these individuals said that their health problems affect the kind of paid work that they can do. Around a fifth said that their health problems strongly affect their ability to carry out day-to-day activities, with crowd work providing an alternative way of working and earning income. About 8% stated that the most important motivation for crowd work is that they “can only work from home”. Of these, a quarter said that this was due to their health problems (Berg et al., 2018<sub>[103]</sub>). A small survey among Amazon Mechanical Turk workers in the United States found that about half the respondents met clinical criteria for social anxiety (Shapiro, Chandler and Mueller, 2013<sub>[104]</sub>).

The flexibility and autonomy that non-standard forms of work can offer are attractive “pull” factors for PWD. Self-employment and certain non-standard forms of work can in principle offer more flexibility and autonomy over workload, tasks, working time and workplace than dependent employment, though this is not always the case. PWD may value such flexibility and autonomy to accommodate health problems. PWD frequently state that flexibility and autonomy are key reasons to become self-employed (Norstedt and Germundsson, 2021<sub>[105]</sub>). A study combining in-depth interviews and a small survey among American crowd workers with disability found that working time and workplace flexibility was their main motivation to offer services on a platform (Zyskowski et al., 2015<sub>[106]</sub>). PWD may also appreciate the decision-making power and voice to shape their job that non-standard forms of work can offer. This can allow PWD to self-define their role, which can be important to overcome societal stereotypes.

**Figure 5.8. People with disability are more often self-employed and in certain non-standard forms of work**



Note: Panel A: The purple bar represents the unweighted average of the 27 countries shown. Panel B: Working unpredictable hours: employee who experiences regular working time arrangement changes of which they are informed at most several weeks in advance. Dependent self-employed: principally relying on only one client. Own-account self-employed: without authority to hire or dismiss employees. Data represent the unweighted average for 26 European countries: Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Source: Data provided by Employment and Social Development Canada based on the Canadian Income Survey, 2019 and OECD calculations based on the EU Statistics on Income and Living Conditions (EU-SILC) (Panel A) and the European Working Conditions Survey (EWCS) (Panel B).

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On the other hand, PWD may be “pushed” into non-standard forms of work because of employer discrimination. Self-employed workers do not depend on an employer or a job application process to find work. People generally do not have to disclose their disability in order to offer their services on a platform. In many cases, especially when the work is done remotely, the disability is not known to the customer (SCP, 2021<sup>[51]</sup>). Avoiding (potential) employer discrimination is a recurring motivation among self-employed with disability (Norstedt and Germundsson, 2021<sup>[105]</sup>; Jones and Latreille, 2011<sup>[107]</sup>). Even those with disability who manage to enter dependent employment may experience lower autonomy and flexibility. For instance, one in four Belgian employees with moderate disability and more than one in three with severe

disability mention having insufficient autonomy in their work, compared to one in six employees without disability (Bourdeaud'hui, Janssens and Vanderhaeghe, 2021<sup>[108]</sup>).

In addition, self-employment and platforms are not barrier-free for PWD.

- PWD face disadvantage to become self-employed because of informational, financial and attitudinal barriers. First, a prosperous business requires information, analysis and business organisation to find demand and generate a concept that satisfies the demand. PWD may be at a disadvantage because of a smaller network to draw from, digital barriers, lower levels of education and job-related skills (Chapter 6). Second, PWD more often lack the financial resources necessary to start a successful business because of lower income and savings (Chapter 4) (Vaziri et al., 2014<sup>[109]</sup>). Third, self-employed PWD may still experience discrimination from customers and other important partners, such as funders, collaborators and employees. Successfully starting a business also demands confidence in own capabilities. PWD more often report lower self-esteem, for instance due to experienced discrimination or difficulties in education or previous work (OECD, 2012<sup>[18]</sup>). Fourth, self-employed persons may face higher costs to accommodate their health problems.
- PWD may experience specific barriers on platforms. While platform work has much lower informational and financial start-up costs than self-employment, it also generally offers less flexibility and autonomy and may not necessarily empower PWD to the same extent. For instance, certain workplaces such as cars for taxi drivers may still not be accessible for all PWD. Worktime flexibility may be limited for certain on-demand applications for which demand is highly time-dependent. Attitudinal barriers may still exist through reputation and rating, which may discriminate against PWD for instance if a person takes longer to complete a task. Furthermore, PWD may face additional employment barriers to access platforms. PWD may not have the digital tools and skills to access platforms. In addition, platforms may not be built using a Universal Design and can therefore inadvertently thwart participation. For instance, crowd work websites generally do not allow participants to filter gigs for accessibility (Zyskowski et al., 2015<sup>[106]</sup>).

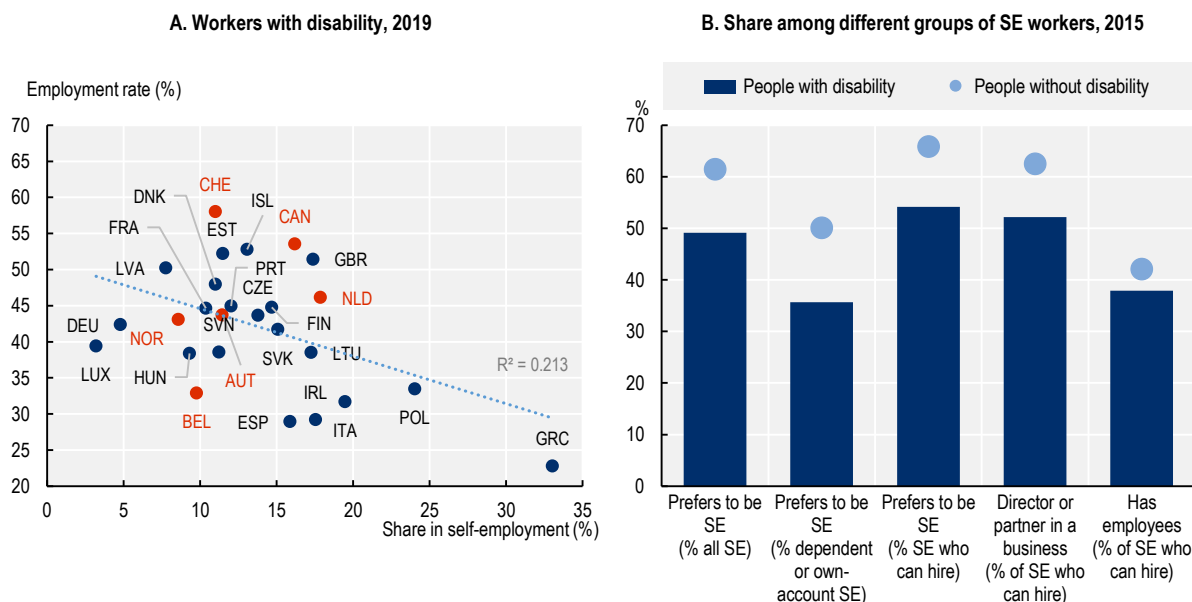
While it is difficult to conclude to what extent PWD are pushed or pulled into non-standard forms of work, the available evidence suggests that non-standard forms of work do not necessarily improve the labour market position of PWD.<sup>23</sup>

First, self-employment is not associated with higher employment rates among PWD. If anything, there is a negative association between share of workers in self-employment and employment rates among PWD (Figure 5.9, Panel A).<sup>24</sup> It is not possible to conduct such an analysis for shares in other non-standard forms of work due to small sample size.

Second, PWD less often prefer to be self-employed, suggesting that they are more often pushed rather than pulled into this type of employment than PWOD. Self-employed PWD less often state that self-employment was their preferred choice (Figure 5.9, Panel B). In fact, only a third of own-account or dependent self-employed with disability prefer to work as self-employed.<sup>25</sup>

Third, PWD in non-standard forms of work seem to face inferior job quality. Self-employed PWD are also less often director or partner and less often actually have employees (Figure 5.9, Panel B). Additional analysis shows that PWD who work unpredictable hours or who are self-employed have lower hourly earnings and more often work unsocial hours, although they also report more workplace flexibility (Annex 5.A). Working unsocial hours on a regular basis and working at night has significant negative health consequences. Unfavourable employment and working conditions are likely to be even more harmful for those with pre-existing disability.

**Figure 5.9. Self-employment and other non-standard forms of work do not seem to improve the labour market position of people with disability**



SE: Self-employed.

Note: Panel A: Share of employed people with disability (aged 15-69) who are self-employed. Data refer to 2018 (Belgium, Iceland, Ireland, Italy, United Kingdom). Panel B: Data show the unweighted average for 26 European countries: Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Switzerland, Türkiye and the United Kingdom.

Source: OECD calculations based on EU Statistics on Income and Living Conditions (EU-SILC) and the Canadian Income Survey (CIS, 2019), provided by Employment and Social Development Canada (Panel A) and the European Working Conditions Survey (EWCS) (Panel B).

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#### 5.4. Teleworking can be an important enabler for people with disability

Much like technology, prevalent teleworking practices can be great push to break down some of the employment barriers that PWD face, but are not a silver bullet for labour market integration. Teleworking has to be the autonomous choice of the employee rather than enforced by the employer in order to be an accommodator.

The advantages of teleworking are particularly promising for PWD. First, the fact that teleworking provides more autonomy to flexibly organise a workday and work-life balance allows PWD to more easily plan medical appointments, breaks or rehabilitative exercises. Second, reducing commuting time and expenses is particularly beneficial for PWD who may find it difficult, costly or stressful to travel. Third, PWD can benefit from working from their own home, where they have more control over their environment and potential stressors, and where they are close to medical equipment and therapeutics at home (Schur, Ameri and Kruse, 2020<sup>[77]</sup>).

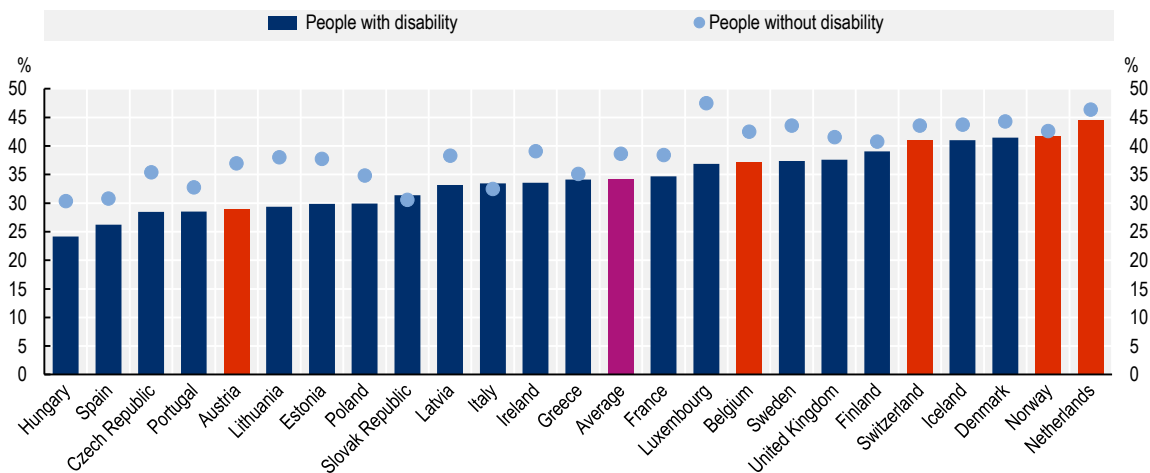
More mainstreamed teleworking practices are a helpful facilitator for PWD. Mainstream availability reduces the stigma that comes with requesting or receiving accommodation. Being allowed to telework in a setting where working from home is rare can even be perceived as preferential treatment (Tomba et al., 2015<sup>[110]</sup>). Furthermore, mainstreamed teleworking prevents the need to disclose disability to make a case for teleworking. In particular people with unobservable disability, such as mental health problems, may not want to or may find it hard to disclose their disability and should not be forced to do so to receive accommodation.

However, mainstreamed teleworking does not necessarily boost labour market integration of PWD. First, disadvantages of teleworking may weigh more heavily on PWD too. Any negative health effects of teleworking will likely be more taxing for those with pre-existing disability. In addition, PWD may be less effective at work if their office desk is accommodated, but their home desk is not. Imposed teleworking may even be a cost-cutting strategy to circumvent accommodation obligations. Teleworking may also bring career risks. Line managers and employers may accommodate disabilities less effectively for staff that is teleworking. More broadly, being “out of sight, out of mind” of the employer may be a larger career risk for groups already facing labour market disadvantage, including PWD (OECD, 2021<sup>[111]</sup>; Oakman et al., 2020<sup>[80]</sup>; Schur, Ameri and Kruse, 2020<sup>[77]</sup>).

Second, teleworking is currently not an option for all PWD. PWD often lack digital access or the necessary digital skills to successfully telework (Chapter 6). Moreover, only a third of jobs held by PWD can be readily performed from home – fewer than the share of jobs held by their peers without disability. The extent to which a job is amenable to teleworking depends on its occupational task structure. For instance, occupations requiring workers to be outdoors (e.g. food delivery) or to use specialised equipment (e.g. a vehicle) cannot feasibly be performed at home, in contrast to for instance occupations only requiring a laptop and internet (e.g. an accountant) (Dingel and Neiman, 2020<sup>[112]</sup>). On average across European OECD countries, 34% of jobs held by PWD can be readily performed from home, compared to 39% of jobs of PWOD (Figure 5.10). PWD are overrepresented in lower-skill and lower-paid occupations that are less readily performed remotely (OECD, 2020<sup>[113]</sup>; OECD, 2020<sup>[114]</sup>). Yet, PWD have less often a job amenable to teleworking when accounting for differences in age and education.<sup>26</sup>

**Figure 5.10. About a third of jobs held by employees with disability can be performed remotely**

The share of jobs in dependent employment (aged 15-69) amenable to teleworking, 2019



Note: Data refer to 2018 for (Iceland, Ireland, Italy) and to 2016 (United Kingdom). The purple bar represents the unweighted average of the 24 European countries shown. The share of jobs amenable to teleworking is based on the types of tasks performed in different occupations and the share of those occupations in national labour markets.

Source: OECD calculations based on EU Statistics on Income and Living Conditions (EU-SILC); Dingel and Neiman (2020<sup>[112]</sup>), “How many jobs can be done at home?”, <http://dx.doi.org/10.1016/j.jpubeo.2020.104235>; OECD (2020<sup>[113]</sup>), *OECD Regions and Cities at a Glance 2020*, <https://dx.doi.org/10.1787/959d5ba0-en> and OECD (2020<sup>[114]</sup>), “Capacity for remote working can affect lockdown costs differently across places”, <https://doi.org/10.1787/0e85740e-en>.

StatLink  <https://stat.link/qnww5d>

## 5.5. Towards a healthy and inclusive Future of Work for all

It is largely in the hands of OECD countries to harness the promise of a healthy and inclusive Future of Work for all people, including PWD. Whether countries will make the most of the major opportunities offered by technological progress, AI, globalisation and new work practices will largely depend on the policy decisions that they make. These policy decisions are all the more important for PWD. If managed right, PWD can substantially gain from these opportunities. In contrast, if managed poorly, PWD may experience a further aggravation of their labour market disadvantage.

This section proposes a set of guiding principles to promote a healthy and inclusive Future of Work for all, including for PWD:

1. Invest in skills and digital access
2. Build inclusive public employment services
3. Improve job quality of dependent employment by mainstreaming flexibility
4. Improve job quality of non-standard forms of work and self-employment
5. Pivot advancements in innovation and technology towards inclusion

The section illustrates these five guiding principles by providing examples of promising practices from the six country cases and other OECD countries. It goes beyond the purview of this section to comprehensively review how the six countries perform on all policy fields involved.

### **1. Invest in skills and digital access**

A first guiding principle is to heavily invest in skills and digital access for all, so that everyone can make the most of the changing world of work.

As it will be discussed at length in Chapter 6, countries should improve their adult learning system to get skills right for all – including for PWD. Skill investments are the first-best policy to prepare workers for a changing world of work, by allowing them to transition to growing segments of the economy. Adult learning systems currently too often fail to reach PWD, even though they more often have lower skills and face an elevated risk of profound job change or job loss from the changes that lie ahead. Investing in digital skills deserves particular attention, given their rapidly growing importance in societies and economies.

Countries need to step up their game to ensure universal digital access. At present, many PWD do not have access to a computer or internet. Countries should make real investments to attain universal access to safe and affordable internet in the not-too-distant future. Countries may want to draw inspiration from Norway and Canada, which are both investing considerable money in achieving universal access to fast internet. Furthermore, costs of digital access should be taken into consideration when setting benefit levels (Chapter 4). Austria, for instance, has incorporated the costs of internet in their disability, old-age and social assistance benefit systems (Austrian Sozialministerium, 2012<sub>[115]</sub>). Finally, countries may want to experiment with targeted financial or in-kind support to provide internet connections and laptops to groups in which PWD are overrepresented. Such programmes exist for instance to promote access to remote learning. An example is the *Connectivity Funding* programme in the United Kingdom that funds internet access to children and young people up to 19 years old who are at a disadvantage and cannot access remote learning. The funding is also available for older students with disability.<sup>27</sup>

### **2. Build inclusive public employment services**

A second guiding principle is to ensure that public employment services (PES) provide comprehensive and individualised support to promote labour market integration of all.



Currently, few PWD make use of the services offered by PES. Contrary to stated political intentions, early intervention to prevent long-term unemployment and labour market exit for PWD is too often missing. PES are a central government body to tackle unemployment and promote sustainable employment in a world in which job losses and job transitions are becoming more and more common throughout individual working lives. A broad evidence base shows the positive impacts of employment services on labour market (re)integration, including in the six country cases covered here (Desiere, Van Landeghem and Struyven, 2019<sup>[116]</sup>; Brown and Koettl, 2015<sup>[117]</sup>; Chapter 6). PES are all the more important during the COVID-19 pandemic and beyond, when risk of job loss and economic restructuring loom even larger, in particular for those who had poorer labour market outcomes already before the onset of the crisis (OECD, 2021<sup>[11]</sup>).

Any barriers that prevent persons on benefits received because of temporarily or permanently reduced work capacity to register with the PES should be removed. Certain countries demand that persons have proof of remaining work capacity to be able to register with the PES. This is the case for example in Austria (beneficiaries on disability benefits and paid sick leave), Switzerland (disability benefits, paid sick leave and workers' compensation) and the Netherlands (disability benefits).<sup>28</sup>

PES should reach out proactively to reach all PWD, including those on reduced work capacity benefits. Even if persons on reduced work capacity benefits can register with PES, they rarely do when registration is not encouraged. For instance, very few persons on disability benefits, workers' compensation or any other benefit (such as social assistance) register with PES in Flanders (Belgium). Countries can facilitate outreach through their administrative records on reduced work capacity benefits and other supports, such as records regarding legally determined disabilities and wage subsidies (OECD, 2021<sup>[118]</sup>).

Countries may want to consider making participation in active labour market policies obligatory for certain groups on reduced work capacity benefits, such as young persons, as well as individuals who enter disability benefits or who acquire a disability and have significant remaining work capacity. Countries can do so by adopting a mutual-obligations framework as currently exists for jobseekers, in which governments have the duty to provide benefit recipients with effective employment services, and in turn, beneficiaries have to participate to improve their employability (OECD, 2018<sup>[12]</sup>). Voluntary participation provides disappointing results. Only about 3% of the disability benefit population participated in an initiative for additional career guidance and adult learning in Flanders (Belgium) in 2020 (Chapter 6). In a concept strategy, the Flemish Parliament does not seem ready to make participation obligatory (Flemish Parliament, 2021<sup>[119]</sup>). The Dutch Government has plans to make registration with the PES obligatory for people on disability benefits with remaining work capacity. In the new regime, all new registrants will write together with the PES a re-integration plan, with follow-up support for five years. Countries can draw inspiration from rehabilitation and workers' compensation schemes, where obligations for training and reintegration are generally stronger. An interesting case in this regard is the 2014 reform in Austria. The reform abolished the temporary disability benefit and replaced it by either a rehabilitation benefit, for people in need of medical or occupational rehabilitation, or a retraining allowance for people who can no longer carry out the occupation they were trained for. The PES has responsibility to track and promote labour market integration (Fuchs et al., 2018<sup>[120]</sup>).

PES should provide individualised support to meet the complex needs of PWD. PWD, as many who face labour market disadvantage, often encounter very specific or even multiple obstacles. Adequate support requires an individualised combination of different active labour market programmes, such as adult learning to increase skills in order to improve employability, followed by job-search assistance and potentially employment subsidies. PES can provide better individualised support firstly by profiling of clients. Promising innovative practices using advanced statistical modelling come from the PES in Flanders (Belgium) and Austria (Box 5.3). Secondly, countries can enhance their individualised support by investing in better co-ordination between employment, health and education services (OECD, 2021<sup>[118]</sup>). The Norwegian Centres for Work Coping that integrate mental health and employment support are a promising practice of such co-ordination (Box 5.3).

### Box 5.3. Promoting inclusion and effectiveness of public employment services in Austria, Flanders (Belgium) and Norway

In Flanders (Belgium), PES (VDAB) use machine-learning and multiple sources of information to predict a jobseeker's probability of being unemployed for more than six months. The underlying model is flexible, allowing it to be updated regularly in order to remain accurate under changing economic circumstances. The model uses detailed information on socio-economic characteristics and labour market history of jobseekers, information collected by caseworkers and "click data" of jobseekers' activity on the PES website. Whether or not a person has a disability is used as a socio-economic characteristic in the model. An evaluation in 2019 showed that the Flemish PES model is able to predict with a high level of accuracy the jobseeker's probability to remain unemployed. PWD face on average a much higher predicted probability of being unemployed for more than six months. The evaluation also indicated that more can be done to reach all jobseekers during the first year of unemployment. Between 14-24% of jobseekers do not participate in any activation measure or find employment within 12 months. Those with higher predicted probability of being unemployed, including PWD, particularly often do not participate in any activation measure or find employment (Desiere, Van Landeghem and Struyven, 2019<sup>[116]</sup>).

The statistical model of PES in Austria (AMAS) predicts the likelihood of re-employment among unemployed jobseekers in the short and long-term with a very high level of accuracy. The short-term model assesses the probability of moving into unsubsidised employment for at least three months in the first seven months after the start of unemployment. The long-term model estimates the probability of moving into unsubsidised employment for at least six months over 24 months. Clients are then assigned to three different client groups, with low, medium or high probability of labour market reintegration. The model makes use of a large set of variables of jobseekers, including whether or not a PWD, regional labour market opportunities and detailed labour market histories on prior work experience, unemployment and participation in active labour market programmes.

In Norway, the PES contain "Centres for Work Coping" (*Senter for Jobbmestring*). These Centres offer specialist employment services combined with cognitive behavioural therapy to people with mild to moderate mental disability who are still in work, on sick leave or inactive. Employment counsellors interact with therapists and their clients' employers. The services can include up to 15 sessions and are currently established in eight of Norway's 19 counties. A randomised controlled trial found that individuals receiving these services after 12 and 18 months more often keep or increase their labour force participation and report lower depression and anxiety and increased health-related quality of life, compared to a control group that received generic care (support from their general practitioner and vocational rehabilitation measures by the PES) (Reme et al., 2015<sup>[121]</sup>). The participants reported 10 to 46 months after the intervention higher income, higher work participation and more months without receiving benefits, but the effects were only significant for individuals on long-term benefits at inclusion (Øverland, Grasdal and Reme, 2018<sup>[122]</sup>). Other evaluations of Prompt Mental Health Care therapies used by the Centres also report positive labour market and health outcomes (Knapstad et al., 2020<sup>[123]</sup>; Myrtveit Sæther et al., 2020<sup>[124]</sup>).

Source: Øverland et al. (2018<sup>[122]</sup>), "Long-term effects on income and sickness benefits after work-focused cognitive-behavioural therapy and individual job support: a pragmatic, multicentre, randomised controlled trial", <https://dx.doi.org/10.1136/oemed-2018-105137>; Reme et al. (2015<sup>[121]</sup>), "Work-focused cognitive-behavioural therapy and individual job support to increase work participation in common mental disorders: A randomised controlled multicentre trial", <https://dx.doi.org/10.1136/oemed-2014-102700>; Desiere, Van Landeghem and Struyven (2019<sup>[116]</sup>), "Wat het beleid aanbiedt aan wie: een onderzoek bij Vlaamse werkzoekenden naar vraag en aanbod van activering", <https://hiva.kuleuven.be/nl/nieuws/docs/2018-hivaprofilering-rapport-eind-nl-fin.pdf>.

### **3. Improve job quality of dependent employment by mainstreaming flexibility**

A third guiding principle to promote a healthy and inclusive Future of Work for all is to mainstream accommodation practices that improve flexibility and autonomy of dependent employment. Such mainstreaming will make dependent employment more attractive for workers, which will be particularly appealing to PWD. Many workers resorting to self-employment and non-standard forms of work do so because dependent employment does not offer sufficient flexibility and autonomy, even though it generally offers better earnings quality, labour market security including access to employment and social protection and quality of the work environment. For employers, dependent employment carries important benefits as well. It facilitates attracting, retaining and investing in talent by building linkages with their workforce and reducing turnover. High turnover and uncertainty whether their workforce will stay involve significant hiring, training and productivity costs (OECD, 2019<sup>[13]</sup>).

Accommodating to individual preferences and constraints by making adjustments in the workplace is important for all workers, with and without disability. A large evidence base indicates that accommodation – any change in the workplace, such as job task, working time or work environment, to enable a person to access, perform and advance in a job – helps to reduce employment and work barriers for all workers and contributes to firm performance. An extensive literature review of accommodation is published elsewhere (OECD, 2021<sup>[125]</sup>).

Low-cost working time and workplace flexibility are the most demanded and effective types of accommodation, with close to zero costs for employers. The most commonly requested adjustments to accommodate individual preferences and constraints by American employees with and without disability and British employees with disability are flexible and adjusted working hours, working from home and occasional time off to attend medical appointments. Such accommodation has close to zero costs, as reported by employers and managers (Schur et al., 2014<sup>[126]</sup>; Sundar et al., 2018<sup>[127]</sup>; Business Disability Forum, 2020<sup>[128]</sup>). Evidence even seems to suggest that low-cost flexibility accommodations are more effective than expensive forms of accommodation to improve employment outcomes for PWD (Anand and Sevak, 2017<sup>[129]</sup>; Kuznetsova and Bento, 2018<sup>[130]</sup>; Nevala et al., 2015<sup>[131]</sup>). The importance of flexibility for PWD is widely acknowledged in white papers, including in Austria and Flanders (Belgium) (Austrian Sozialministerium, 2019<sup>[88]</sup>; Flemish Commission for Diversity, 2021<sup>[132]</sup>).

PWD will benefit from mainstreamed workplace and working time flexibility. Mainstreaming flexibility prevents the need to disclose disabilities and is therefore particularly important for people with unobservable disability, such as mental health problems (OECD, 2015<sup>[133]</sup>). The need to disclose is currently an important barrier to obtain accommodation. Employee characteristics, particularly the presence of personality traits correlated with assertiveness and open communication, are more important predictors of receiving accommodation than employer characteristics among a sample of newly disabled workers over age 50 (Hill, Maestas and Mullen, 2016<sup>[134]</sup>). Moreover, widely available working time and workplace flexibility reduces the stigma that may come with requesting or receiving accommodation, which may even be perceived as preferential treatment (Tompa et al., 2015<sup>[110]</sup>).

Countries should provide all employees a statutory entitlement to request workplace and working time flexibility. This entitlement should be irrespective of the employee's needs to cover the case of disability and sickness and should only be refused by their employer on strict grounds. Statutory entitlements for flexibility exist in all six countries apart from Switzerland (Table 5.1).<sup>29</sup> However, only in the Netherlands, workers can ask for flexibility irrespective of their motivation, which employers can only refuse on the basis of strictly defined business reasons (Box 5.4). The United Kingdom has a similar regime (Box 5.4). Canadian employees also have a statutory entitlement regardless their needs, though employers can refuse the request more easily. The statutory right to working time flexibility in Austria and Belgium only covers care responsibilities and education. Employers can reject any request on the grounds of disability. In Norway, health is only a valid reason for the statutory entitlement if workers can show a medical certificate or if the worker is 62 or older. The statutory right to workplace flexibility is left to collective

agreements in Austria, Norway and for the most part in Belgium, with no information on the content. Switzerland does not have any statutory entitlement. Workplace and working time flexibility is left entirely to the individual employer and employee to agree on, and employers can refuse requests for flexibility on any ground (OECD, 2021<sup>[135]</sup>).

**Table 5.1. Employees with disability often do not have statutory entitlements to a flexible workplace and flexible working time**

Statutory entitlements for private sector employees to ask for flexible workplace (teleworking) and working time (reducing contractual working hours), 2020

	Type of flexibility	Enforceable entitlement to request		Under which conditions in case of health problems	Ground for refusal in case of health problems
		For at least some workers?	For workers with disability?		
Austria	Workplace	In collective agreements (no further information)	N/A	N/A	N/A
	Working time	Care responsibilities, education	No		
Belgium	Workplace	Yes for occasional teleworking. Regular teleworking in collective agreements (no further information)	Occasional telework: personal or circumstantial reasons (Regular telework: N/A)	Occasional telework: all employees (Regular telework: N/A)	Occasional telework: Can be refused on any ground (Regular telework: N/A)
	Working time	Care responsibilities, education	No		
Canada	Workplace	Yes (no reasons defined)		All employees with six months tenure	Defined but not very strict (additional costs, deterioration in quality etc.)
	Working time				
Netherlands	Workplace	Yes (no reasons defined)		<ul style="list-style-type: none"> <li>All employees with six months tenure in firms with at least 10 employees</li> <li>Request two months before proposed date</li> </ul>	Strictly defined reasons
	Working time				
Norway	Workplace	In collective agreements (no further information)	N/A	N/A	N/A
	Working time	Yes (health, care responsibilities, education)		Medical certificate necessary unless 62 or older	Strictly defined reasons
Switzerland	Workplace	No			
	Working time	No			

Ease of entitlement: Light blue (good ease); darker blue (with limits); darkest blue (no entitlement).

Note: Enforceable right to request is based on statutory rules unless stated otherwise. Reasons related to age and early retirement (e.g. in Norway and Austria) are left out.

Source: OECD Policy Questionnaire on Working Time Regulation 2020; OECD (2021<sup>[135]</sup>), "Working time and its regulation in OECD countries: How much do we work and how?", <https://doi.org/10.1787/c18a4378-en>; [https://www.parlament.gv.at/PAKT/VHG/XXVII/A/A\\_01301/index.shtml#tab-Uebersicht](https://www.parlament.gv.at/PAKT/VHG/XXVII/A/A_01301/index.shtml#tab-Uebersicht); <https://emploi.belgique.be/fr/themes/contrats-de-travail/teletravail/teletravail-occasionnel>; <http://www.cnt-nar.be/CCT-COORD/cct-085.pdf>.

Countries should regulate teleworking to maximise health benefits and reduce health risks. Teleworking needs to become part of the legal and practical understanding of the workplace. Particularly important for worker health and well-being is to ensure that teleworking remains a choice made jointly and in agreement by employers and employees, unless during a pandemic when teleworking is a necessity. It should not be adopted as a strategy to cut costs or as an excuse to avoid implementing workplace adjustments, leading to a reduction in long-term physical and environmental planning for PWD and PWOD. Furthermore, countries should invest in encompassing occupational health and safety regulations and guidelines that cover the workplace at home (EU-OSHA, 2021, p. 13<sup>[81]</sup>). Such regulations and guidelines should cover the topic of working time, given that persons working from home more often work longer and unsocial hours. Countries can draw inspiration from Spain's teleworking regulation (Box 5.4) as well as from the Framework Agreement on Digitalisation that specifies "modalities of connecting and disconnecting", adopted in June 2020 by the European social partners (OECD, 2021<sup>[135]</sup>; Criscuolo et al., 2021<sup>[136]</sup>).

#### **Box 5.4. Mainstream accommodation practices to improve flexibility and autonomy of dependent employment in the Netherlands, the United Kingdom and Spain**

In the Netherlands, employees have the right to ask for reduced working hours and workplace flexibility by law. The entitlement is unconditional: it does not require any motivation. Moreover, all employees who work in a firm with at least ten employees and have at least six months of tenure have this statutory right, regardless for instance their contract status. Employers can only refuse a request based on strictly defined business reasons.

The United Kingdom implemented in 2014 the Flexible Working Regulations Act which grants all employees with at least six months of tenure (excluding agency workers) the right to request flexible working arrangements, including teleworking. Employers' ground for refusal is limited to strictly defined business reasons.

Spain adopted a regulation on teleworking in September 2020 (Royal Decree-Law 28/2020). The regulation was the result of tripartite social dialogue. The regulation stipulates that teleworking requires the agreement of both workers and employers and grants teleworkers the same rights as those who perform their duties on the company's premises. The regulation contains specific clauses on working time. Workers are entitled to adopt flexible working hours in accordance with the terms established in a remote working agreement and clauses in collective bargaining agreements. Flexible hours can cover working hours, rest time as well as agreed hours of availability. The law also obliges the worker and the firm to keep a register of working time. Collective agreements can establish specific terms relating to the right to disconnect.

Source: OECD (2021<sup>[125]</sup>), *Disability, Work and Inclusion in Ireland: Engaging and Supporting Employers*, <https://doi.org/10.1787/74b45baa-en>; Eurofound (2021<sup>[137]</sup>), *Working time in 2019–2020*, <https://doi.org/10.2806/275402>.

#### **4. Improve job quality of non-standard forms of work and self-employment**

A fourth guiding principle is to improve job quality of non-standard forms of work and self-employment, most notably by expanding access to health, social protection and employment supports. This is important to promote a healthy Future of Work for all workers in such types of employment, including many of them with disability.

Reducing fiscal and regulatory differences between employment forms and combating false self-employment is important to improve job quality. Workers in non-standard forms of work who find themselves somewhere in the "grey zone" between dependent employment and self-employment often cannot access protections and supports designed with dependent full-time employment on a permanent contract with a unique employer

in mind. Keeping the “grey zone” as small as possible, ensuring the correct classification of workers and tackling misclassification are therefore essential steps to protect workers adequately and to ensure that firms that respect protective regulations are not disadvantaged (OECD, 2018<sup>[138]</sup>; 2019<sup>[13]</sup>).

Universal health coverage, not tied to employment status nor to benefits, is a cornerstone policy to reduce the health risks of employment loss. Without universal health coverage, unemployment not only means a decrease in income, but also the loss of health coverage. Universal health coverage is all the more important for PWD, given their higher need of health care and on average lower incomes (Chapter 4). Countries should pay particular attention to include self-employed workers and those in non-standard forms of work, who less frequently have health insurance in countries without universal health coverage (Berkowitz et al., 2021<sup>[45]</sup>). Linking access to health care to reduced work capacity benefit entitlement is also problematic from both an equity and work incentives perspective. Such a system implies that people risk losing access to health care when they take up employment and become unemployed. Such linked systems exist for instance in Ireland and the United States (OECD, 2021<sup>[125]</sup>). Country-specific recommendations to improve universal health coverage, including for the six country cases covered in this report, are beyond the scope of this report (OECD, 2021<sup>[139]</sup>).

Governments should invest in broad access to out-of-work benefits and employment support to reduce the health risks of labour market insecurity. Out-of-work benefits mitigate the physical and mental health effects of unemployment and increased labour market insecurity, by providing income replacement and reducing the risk of falling into poverty when becoming unemployed. These benefits are all the more important for persons who face labour market disadvantage, such as PWD. Only a handful of OECD countries provide comprehensive access to all self-employed to unemployment benefits, to the same extent as employees.<sup>30</sup> Canada, the Netherlands, Norway and Switzerland exclude most self-employed. In Austria, self-employed workers have six months to decide whether to opt into voluntary unemployment insurance upon starting their business, which is a binding decision for eight years. In 2015, only 0.3% of all eligible self-employed chose to opt in. In Belgium, self-employed workers who have been declared bankrupt, are in a collective debt settlement, or who have been forced to interrupt their business activities, as well as self-employed workers in economic difficulties who cease all their self-employed activities may be (under certain conditions) entitled to a monthly benefit and social contribution exemptions (OECD, 2018<sup>[138]</sup>; OECD, 2019<sup>[13]</sup>). A promising practice in this regard is Denmark, which has standardised and simplified access to unemployment benefits across different types of employment in 2018 (Box 5.5). Self-employed persons and those in non-standard forms of work can also benefit from better access to PES (OECD, 2019<sup>[44]</sup>).

Policy makers should pay particular attention to closing entitlement gaps to incapacity benefits, which are the principal policies to protect jobs, income and health of workers experiencing sickness, disability and injury (Table 5.2):

- Self-employed workers have limited or no access to paid sick leave in half the OECD countries. Access and contribution payment is voluntary in Austria, Canada and the Netherlands and partial in Belgium, and both partial and voluntary in Norway. In the Netherlands, voluntary access is further restricted to those self-employed with a previous compulsory insurance record of at least one year, i.e. only those who were in dependent employment prior to self-employment. A detailed discussion of the importance of and entitlements to paid sick leave is provided elsewhere.
- Self-employed workers in Belgium, the Netherlands and Switzerland do not have the same entitlements to disability benefits as employees. Disability benefits are the prime source of income replacement for workers who experience disability (Chapter 4). Self-employed workers have the same entitlements to disability benefits as employees in most OECD countries. However, this is not the case for instance in the Netherlands, where enrolment is voluntary, and in Belgium, where self-employed are only eligible if they are unable to pursue any career (not just their previous career like employees). In Switzerland, the first-pillar disability benefits are mandatory, while second-pillar payments are voluntary.

- Self-employed workers only have full access to workers' compensation in a minority of OECD countries. Workers' compensation, also called accident insurance in countries like Switzerland (SUVA), provides income replacement to workers with (total or partial) disability because of a work injury or occupational disease. Access and contribution payment is voluntary in Austria, Canada, Norway and Switzerland.<sup>31</sup>

Offering self-employed voluntary access to incapacity benefits leads to very low coverage.<sup>32</sup> For instance, only 2% of eligible self-employed in the Netherlands and 8% in Austria opted into the voluntary sickness insurance part that covers the first six weeks of sick leave (CBS, 2019<sub>[140]</sub>; OECD, forthcoming<sub>[141]</sub>). A long strand of literature shows that individuals are not sufficiently forward-looking to purchase the right amount of insurance. This may be even worse in the case of long-run risks with severe financial consequences, such as sickness, disability and injury (OECD, 2019<sub>[100]</sub>). Moreover, in a voluntary insurance scheme, those who have the highest risk have the greatest incentive to join. This adverse selection leads to a downward spiral of rising premiums and falling coverage, unless willingness to enrol is very high or governments provide public subsidies to reduce premiums. The self-employed who enrolled into voluntary short-term sickness insurance in Austria had nearly twice the average duration of sickness absence compared to compulsory insured employees (OECD, 2018<sub>[138]</sub>). Enrolment in the Canadian *Special Benefits for Self-employed Workers* that cover sickness and parental benefits and care benefits for ill family members is much higher among persons with much lower incomes and with children. Enrolees claim benefits much more frequently than obligatory covered employees. The state funds the employer-side contributions to encourage enrolment. This proves to be an expensive undertaking, with premiums only covering one-third of benefit payments during the evaluated period (Employment and Social Development Canada, 2016<sub>[142]</sub>).

Workers in new non-standard forms of work have even less often access to reduced work capacity benefits. For instance, zero-hour contract workers in the Netherlands (about 7% of all employees) are only eligible to employer-provided sick pay for those hours they were called upon by their employer (OECD, 2018<sub>[138]</sub>; Spasova et al., 2017<sub>[143]</sub>). Dutch on-call workers are sometimes explicitly excluded from collective labour agreements that extend paid sick leave, such as in the gas stations and laundromat sector (OECD, 2019<sub>[13]</sub>). Workers in hybrid forms of self-employed work, such as freelancers, gig or casual workers, are particularly often excluded from paid sick leave (OECD, 2019<sub>[13]</sub>). They are also excluded from paid sick leave, disability benefits and workers' compensation in countries that arrange such benefits or benefit top-ups by collective agreements, for instance in Sweden and partly in the Netherlands (OECD, 2018<sub>[138]</sub>). About half of the platform workers in EU countries and the United States indicated not to have access to sickness benefits in a 2017 survey (Eurofound, 2020<sub>[46]</sub>). Some countries have taken initiatives to grant workers in non-standard forms of work access to workers' compensation. Dependent contractors in Korea and Spain are entitled to workers' compensation. In France, the 2016 *El Khomri* law obliges platforms to provide reimbursement to workers earning more than EUR 5 100 per year from platform work who voluntarily take up insurance (OECD, 2019<sub>[44]</sub>).

**Table 5.2. Self-employed workers often have worse access to sickness benefits, disability benefits and workers' compensation**

Situation as of 2021 (ignoring temporary improvements implemented throughout the COVID-19 pandemic)

	Sickness benefits	Disability benefits	Workers' compensation
Australia	Standard	Voluntary	Voluntary
Austria	Voluntary	Standard	Voluntary
Belgium	Partial	Partial	No scheme
Canada	Voluntary	Standard	Voluntary
Chile	Standard	Partial	Standard
Colombia	Standard	Standard	Voluntary
Costa Rica	Standard	Standard	Voluntary
Czech Republic	Voluntary	Standard	No access
Denmark	Partial	Standard	Voluntary
Estonia	Partial	Standard	No access
Finland	Standard	Standard	Voluntary
France	Standard	Standard	No access
Germany	Voluntary	Standard	Voluntary
Greece	Partial	Standard	No scheme
Hungary	Standard	Standard	Standard
Iceland	Standard	Standard	Standard
Ireland	No access	Standard	No access
Israel	No access	Standard	Standard
Italy	No access	Standard	Standard
Japan	Partial	Partial	Voluntary
Korea	No scheme	Standard	Voluntary
Latvia	Standard	Standard	No access
Lithuania	Standard	Standard	No access
Luxembourg	Standard	Standard	Standard
Mexico	No access	Standard	Voluntary
Netherlands	Voluntary	Voluntary	No scheme
New Zealand	Standard	Standard	Standard
Norway	Partial/Voluntary	Standard	Voluntary
Poland	Voluntary	Standard	Standard
Portugal	Standard	Standard	Standard
Slovak Republic	Standard	Standard	No access
Slovenia	Standard	Standard	No scheme
Spain	Standard	Partial	Voluntary
Sweden	Partial	Partial	Partial
Switzerland	Standard	Standard	Voluntary
Türkiye	Standard	Partial	Standard
United Kingdom	Partial	Standard	No access
United States	No scheme	Standard	No access

Ease of access to benefits: Light blue (most accessible); darker blue (partially accessible); darkest blue (least accessible).

Note: *No scheme*: no statutory scheme. *No access*: statutory scheme only exists for full-time employees but self-employed workers are excluded. *Partial*: eligibility conditions, waiting period, benefit level or benefit duration are less advantageous for self-employed compared to employees. *Voluntary*: self-employed can choose to opt into the statutory scheme for full-time employees. Data refer to 2021, except for Canada, Chile, Costa Rica, and Mexico (2019), and for Iceland, Israel, Japan, Türkiye and the United Kingdom (2018).

In Switzerland, the first pillar of disability insurance is standard for self-employed workers, while the second pillar is voluntary for self-employed and mandatory for regular workers.

Source: European Commission's Mutual Information System on Social Protection (MISSOC), United States' Social Security Administration's Social Security Programs Throughout the World (SSPTW), OECD (2020<sup>[144]</sup>), "Paid sick leave to protect income, health and jobs through the COVID-19 crisis", <https://doi.org/10.1787/a9e1a154-en>.



Arguments commonly put forward to restrict access to social protection for the self-employed are little convincing in the case of reduced work capacity benefits (OECD, 2019<sup>[13]</sup>).

- A first common argument is that *entrepreneurship is an activity where owners take on themselves the risks of business failure*. However, sickness, disability and injury are largely out of a person's control and should therefore not be a determinant of business success. It is inefficient if healthy firms go bankrupt because of sickness, disability and injury of the owner. It is also inequitable, since in that case persons who happen to be more prone to health problems, such as PWD or older workers, would be disproportionately affected and may refrain from becoming entrepreneur in the first place. Medical reasons can be a frequent cause of bankruptcy. For instance, an estimated two fifths of personal bankruptcies in Canada were medical (Himmelstein et al., 2014<sup>[145]</sup>).
- A second common argument is that *requiring the self-employed to pay the equivalent of both employer and employee contributions is an excessively large financial burden*. However, it is much healthier to extend reduced work capacity benefits and contributions and if considered necessary provide public financial support independent of reduced work capacity to promote entrepreneurship.
- A third common argument is that it *is too complicated to calculate social security contributions for the self-employed*, because of fluctuating earnings and possibilities to avoid contributions by optimising the contribution base. Many OECD countries use declared tax revenues to calculate the earnings base for contributions – a high quality and readily available data source deemed sufficiently good for tax purposes. Countries also sometimes use average income of multiple years to reduce fluctuations and potential for contribution base optimisation. Countries can again learn from the example of Denmark, where workers only need to provide earnings information, irrespective of income source (self-employment or dependent employment) (Box 5.5).
- A fourth common argument is that *undue benefit take-up (fraud) may be a more important concern, as there is no employer to confirm sickness, disability or injury*. Undue absenteeism is not very common and may be even less common among self-employed. For instance, the self-employed take less sick leave even in countries with voluntary systems such as Germany and the Netherlands (Baert, van der Klaauw and van Lomwel, 2018<sup>[146]</sup>; Lechmann and Schnabel, 2014<sup>[147]</sup>). Undue disability benefit and workers' compensation take-up seem even less likely because of more stringent medical certification requirements. More broadly, countries should reduce undue absenteeism by requiring medical certification and participation in return-to-work programmes in line with remaining work capacity (Chapter 4).

More broadly, the arguments in favour of universal access to reduced work capacity benefits are strong. First, all workers regardless of their income source deserve protection of their income, job and health when experiencing sickness, disability and injury. Second, reduced work capacity policies protect workplaces, economies and societies beyond the health of the individual worker. Paid sick leave facilitates workers with a contagious disease (such as a cold or with COVID-19) to stay at home, avoiding infections of others at or on their way to work as collateral damage. Empirical results shows that access to paid sick leave substantially reduces influenza-type and COVID-19 infection rates, reducing total sickness absence and sickness expenditure (OECD, forthcoming<sup>[141]</sup>). Reduced work capacity policies can only play this role when they are widely available. Third, separate regimes by employment status are an important driver for (fake) self-employment and non-standard forms of work. For instance, the exceptional growth and level of self-employment and certain non-standard forms of work in the Netherlands is to a large extent driven by differences in taxes and regulations across employment forms, including in sickness and disability payments (OECD, 2019<sup>[100]</sup>).

### Box 5.5. Encompassing health and social protection in Denmark, Canada and Germany

Denmark implemented in 2018 a reform to improve accessibility of unemployment benefits for self-employed workers and workers in non-standard forms of work. Before the reform, self-employed persons had to provide a substantial amount of records on revenue and tax declarations, whereas employees only had to prove that they met the minimum earnings threshold. In addition, the insurance system only allowed for registration as either dependent employee or self-employed, which made it more challenging for individuals combining dependent and self-employment to meet the minimum earnings threshold. The reform harmonises benefit receipt rules: eligibility is only based on a minimum income threshold over a three-year window regardless of source of income. This should make access more predictable, as workers can readily verify whether they attain the threshold on their tax returns. The reform should also improve access for those who combine income from various sources, since all income from work is considered together. The reform further simplifies the administrative process to prove that a firm has closed down. In addition, it introduces a six-month “job search” period, during which benefit recipients have to look for dependent employment and are not allowed to start their own business to prevent that self-employed continue working while receiving benefits (OECD, 2018<sup>[138]</sup>).

Canada introduced a (now discontinued) special COVID-19 sickness benefit that covered all workers irrespective of employment status and that is more generous than the existing paid sick leave system for employees. The emergency benefit in Canada consists of a flat-rate payment of CAD 500 (EUR 380) per week for up to six weeks. The benefit covers all Canadian residents who cannot work at least 50% of their work week because they must self-isolate due to COVID-19 and have earned at least CAD 5 000 (EUR 3 800) in 2019, 2020, 2021 or in the 12 months preceding isolation. The benefit does not distinguish by source of income and therefore includes self-employed workers, who previously had only voluntary access to sickness benefits, and gig workers. However, the special benefit only provides income compensation in relation to COVID-19 symptoms and therefore does not protect workers with other health problems (OECD, 2020<sup>[144]</sup>).

The integrated entrepreneurship scheme *enterability* provides targeted support to people with severe disability in setting up a business in Germany. The scheme offers its target group entrepreneurship as a potential pathway to inclusion. Support includes seminars, training and exchange of ideas on business creation and management in pre and post start-up phase, alongside managing disability-related challenges such as health prevention, accommodation and financial constraints. The project supported about 1 400 people with severe disability between 2004 and 2019. The scheme was awarded a European Enterprise Promotion Award in 2015 in the “Responsible and Inclusive Entrepreneurship” category.

Source: OECD (2018<sup>[138]</sup>), “The Future of Social Protection: What Works for Non-standard Workers?”, <https://doi.org/10.1787/9789264306943-en>.

Certain countries can extend coverage by making temporary paid sick leave expansions put in place throughout the COVID-19 pandemic permanent. Throughout the pandemic, 17 OECD countries improved access to sickness benefits for self-employed workers in case of COVID-19 symptoms or mandatory quarantine. Countries can choose to make these time-bound extensions permanent and applicable for all sicknesses. For instance, Canada implemented an emergency sickness benefit covering all workers irrespective of employment status (Box 5.5). Norway reduced the sickness benefits waiting period for self-employed workers from 16 to three days. Austria and the Netherlands, however, did not extend sickness benefits to self-employed workers without voluntary insurance – not even in the case of mandatory quarantine (OECD, 2020<sup>[144]</sup>).

Countries may further want to improve job quality of self-employment and non-standard forms of work by investing in inclusive entrepreneurship programmes. About half the self-employed with disability prefer self-employment, for instance because of entrepreneurial motives. Public policy can do more to address the barriers that (aspiring) entrepreneurs with disability face. Effective schemes can include targeted packages of training, coaching and finance. An interesting example of such a scheme that specifically targets the needs of people with severe disability comes from Germany (Box 5.5).

### **5. Pivot advancements in innovation and technology towards inclusion**

As a fifth and final principle for a healthy and inclusive Future of Work for all, governments should pivot advancements in innovation and technology towards inclusion.

Governments should be stewards of inclusion in mainstream innovation and technology by advocating *Universal Design*. Technologies built on the basis of Universal Design are developed from the outset in such a way that (virtually) everyone can access, understand and benefit from it, irrespective of their needs or ability. Universal Design is a key principle to promote the integration of PWD not just in the field of innovation and technology, but also for instance in education and adult learning. Countries have obligations and responsibilities to promote Universal Design, as stipulated by for instance the United Nations Convention on the Rights of Persons with Disabilities (UN CRPD) and anti-discrimination and accessibility law.<sup>33</sup> All OECD countries also assume responsibility to actively promote Universal Design and inclusion in the development of AI by having signed the OECD Recommendation of the Council on Artificial Intelligence.<sup>34</sup> The obligation for Universal Design stretches out to joint activities performed by diverse ministries, public administrations and public agencies. A promising example of a whole-of-government approach towards the advancement of Universal Design comes from Norway (Box 5.6).

There are multiple ways through which governments can promote the Universal Design of mainstream technologies:

- The public sector should lead by example and embed Universal Design in all its digital and physical infrastructure, products and services. The Netherlands has adopted a law in 2018 that obliges all public sector institutions to make all of their digital and physical architecture accessible. The institutions need to report every year on Universal Design and accessibility since 2020 (Dutch Ministry of the Interior and Kingdom Relations, 2021<sub>[148]</sub>). Governments should also extend Universal Design and accessibility requirements in all public procurement tenders. The European Accessibility Act (EU-AA) contains obligations to incorporate Universal Design in public procurements.
- Universal Design should be a prerequisite when attributing public funds to develop any technology. Many innovation programmes, including in the field of AI, contain public funding, meaning that governments have a direct say and responsibility in steering innovation towards inclusion (Paunov, Planes-Satorra and Ravelli, 2019<sub>[149]</sub>).
- Firms should have access to clear guidance how to implement accessibility and Universal Design. A promising example for websites is the *Netherlands Design System (NLDS)*. The *NLDS* provides clear principles, ready-made programme codes and website components built on Universal Design. The *NLDS* further promotes exchange of knowledge and experiences between developers and actively integrates the voices of PWD. Another example is the Norwegian *Samveis* roadmap for technology and innovation. The roadmap provides firms and public institutions with tools and guidance for the integration of Universal Design throughout the entire cycle of innovation, including implementation and evaluation (Norwegian Ministry of Children, 2016<sub>[150]</sub>). An evaluation indicated that overall the digital infrastructure of the Swiss Government is fairly accessible, though the evaluation did not underscore the importance of Universal Design to integrate accessibility from the outset (Dungga and Weissenfeld, 2018<sub>[151]</sub>). According to the evaluation of the Austrian National Action Plan on Disability 2012-20, the Austrian Government can do more to develop standards and guidelines on Universal Design (Austrian Sozialministerium, 2020<sub>[152]</sub>).

- Government strategies on mainstream innovation and R&D should contain specific inclusion objectives. For instance, the AI strategies of France, Germany and the United Kingdom incorporate specific inclusion objectives to ensure a diverse AI talent pool, particularly by encouraging the participation of women and minority groups, and promoting the use of AI applications to drive social inclusion. The German AI Strategy supports broad societal dialogue around AI issues and provides funding to develop innovative AI applications that support social inclusion and cultural participation. Similarly, the French Strategy for AI supports AI-based social innovations (Paunov, Planes-Satorra and Ravelli, 2019<sub>[149]</sub>). The Pan-Canadian AI Strategy funds expert teams to examine the economic, ethical and social implications of AI. The Canadian research body CIFAR, which is responsible for this strategy, has written an action plan to promote equity, diversity and inclusion with measurable objectives on diversity of applicants and staff, bias-free recruitment, staff engagement and mandatory awareness training for staff (CIFAR, 2020<sub>[153]</sub>). The Austrian, Belgian, Dutch and Norwegian AI strategies and the Swiss digital strategy list social inclusion as an important principle, without setting concrete objectives (Norwegian Ministry of Local Government and Modernisation, 2020<sub>[154]</sub>; Austrian Council on Robotics and Artificial Intelligence, 2018<sub>[155]</sub>; Dutch Ministry of Economic Affairs and Climate Policy, 2019<sub>[156]</sub>; Swiss Confederation, 2020<sub>[157]</sub>).
- Countries may have to adjust regulatory frameworks to prevent biases against disability in mainstream technologies, in particular in the field of AI. Additional accountability mechanisms and robust performance metrics may be necessary to ensure that new technologies do not discriminate. For instance, such mechanisms may be needed to ensure that AI training data accurately reflect the diversity of persons (OECD, 2020<sub>[158]</sub>). Policy makers may also consider additional regulation of mainstream job application websites and online application processes, which may place people with visual impairment or with cognitive disability at a disadvantage (Tomba, Samosh and Boucher, 2020<sub>[95]</sub>).
- Accessibility and Universal Design should be part of any engineering curricula. In this way, the engineers of tomorrow will have a more inclusive user experience in mind. In Austria, lectures on accessibility are part of the curriculum for architecture, civil engineering, electrical engineering and information technology students (Austrian Sozialministerium, 2020<sub>[152]</sub>).

Governments can also stimulate the development and adoption of assistive technologies that are specifically designed to promote the needs of PWD. Again, governments have accepted such responsibility by ratifying the UN CRPD.<sup>35</sup>

- Governments can steer funding to advance assistive technologies.<sup>36</sup> Instruments include public spending, tax incentives and grants for R&D (Planes-Satorra and Paunovi, 2017<sub>[159]</sub>). The German AI Strategy provides funding to develop innovative AI applications that support social inclusion and cultural participation (German Federal Government, 2020<sub>[160]</sub>). A promising practice is the Canadian Accessible Technology Program established in 2017 (Box 5.6). Norway has also established a funding programme for assistive technologies, with NOK 21 million (about EUR 2.05 million) funding for 2021.
- There is also potential to stimulate the adoption of assistive technologies in firms. Most OECD countries have reasonable accommodation obligations that cover adoption of assistive technologies for employees with disability. All partners involved, be it employers, individuals or medical professionals and interest groups, should have access to clear information and guidance on how to put reasonable accommodation into practice and what supports are available. A promising practice here is the Job Accommodation Network in the United States (Box 5.6). Another is the Norwegian website <https://www.kunnskapsbanken.net>, which compiles information on assistive technologies, including for at work. Many countries provide financial support to compensate employers for the adoption of assistive technologies. Countries should make sure that the list on what technologies will be refunded remains up to date (Canadian Disability Advisory Committee, 2019<sub>[161]</sub>). Disability awareness training can also promote the adoption of assistive and personalised technologies at the work floor (OECD, 2021<sub>[125]</sub>).

More generally, the disability community should be part of the conversation on the development and adoption of technology. As is the case in other policy fields, actively involving the voices of those with lived experience helps to ensure that technologies are designed and adopted with bodies and abilities of PWD in mind. It further acts as a mechanism to make sure that policies are keeping pace with the technologies used by the community (Canadian Disability Advisory Committee, 2019<sup>[161]</sup>). In Austria, the disability community plays an active role in the adoption and regulation of telecommunication technologies and services (Austrian Sozialministerium, 2020<sup>[152]</sup>). The Dutch Government funds a specific expert group called User at the Centre (*Gebruiker Centraal*) with experts on digital accessibility. The expert group has sounding boards that include persons with lived experience.

### Box 5.6. Pivoting advancements in innovation and technology towards inclusion in Norway, Canada and the United States

Norway has been an early adapter of Universal Design embedded in a whole-of-government approach. It presented in 2009 its action plan “Norway universally designed by 2025” with specific objectives on a range of policy fields, including technology, innovation, physical infrastructure, formal education and adult learning (Norwegian Ministry of Children and Equality, 2009<sup>[162]</sup>). It has recently approved a new action plan with objectives for 2021-25 (Norwegian Department of Culture, 2021<sup>[163]</sup>). Evaluations indicate that most of the original plans were implemented, with progress in particular in promoting Universal Design in physical and digital infrastructure. The evaluations also point to substantial buy-in from a range of public sector institutions as well as groups representing PWD. Still, more detailed evaluations of the individual measures taken are lacking (Proba, 2019<sup>[164]</sup>; Lund and Bringa, 2016<sup>[165]</sup>).

Canada launched in December 2017 the Accessible Technology Program. This programme consists of CAD 22 million (about EUR 16.74 million) of earmarked funding for innovative projects to develop assistive and adaptive digital devices and technologies over a period of five years. The programme is part of Canada’s Innovation and Skills Plan, a multi-year strategy to create well-paying jobs for the middle class. As of December 2021, the Accessible Technology Program has provided funding to 28 projects. Examples of projects include electronic tactile devices to display graphics with Braille text, inclusive audiobook players and voice assistant technologies and the design of a machine learning chat bot that can evaluate and respond to the digital information needs of users with disability.

The Job Accommodation Network in the United States is a comprehensive resource for information, free and confidential technical assistance, workshops and training on workplace accommodations. It receives funding from the US Department of Labor. The network provides information for all parties involved: employers, individuals, as well as other actors such as medical professionals and union representatives. It has detailed sections on assistive technologies and accommodation, including on how to implement Universal Design of workplace technologies.

Source: OECD (2021<sup>[125]</sup>), *Disability, Work and Inclusion in Ireland: Engaging and Supporting Employers*, <https://doi.org/10.1787/74b45baa-en>; Eurofound (2021<sup>[137]</sup>), *Working time in 2019–2020*, <https://doi.org/10.2806/275402>.

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## Annex 5.A. Job quality of non-standard forms of work

There are important differences in job quality across employment types in European countries (Annex Table 5.A.1):

- Employees working unpredictable hours have lower job quality than those working predictable hours. Employees working unpredictable hours report lower earnings quality, autonomy, working time and workplace flexibility and more often work unsocial hours.
- Self-employed workers compared to employees report more autonomy and working time and workplace flexibility, although they less often work part-time. However, they work much more often unsocial hours.
- Among the group of self-employed workers, those who are dependent or own-account self-employed have much lower hourly earnings, less autonomy including on working time, though they more often work part-time or at home.

### Annex Table 5.A.1. Job quality varies substantially across employment types in European countries

Differences in reported job quality among different groups of workers (aged 15-69), 2015

	Hourly earnings	Autonomy	Working time and workplace flexibility				Unsocial hours	
			Working time arrangements	Working from home	Easy taking 1-2 hours off	Working part-time	Very long working hours	Working at night
Employees working unpredictable hours (vs. other employees)	-5%***	-12 percentage points***	-18 percentage points***	-3 percentage points***	-18 percentage points***		+1 percentage point**	+18 percentage points***
Self-employed (vs. employees)		+18 percentage points***	+55 percentage points***	+26 percentage points***	+13 percentage points***	-3 percentage points***	+18 percentage points***	+10 percentage points***
Dependent or own-account self-employed (vs. other self-employed)	-18%***	-5 percentage points***	-4 percentage points***	+5 percentage points***	-3 percentage points*	+14 percentage points***	-3 percentage points*	

Difference in job quality relative to reference group (in parenthesis): Light blue (statistically significant better job quality); darkest blue (statistically significant worse job quality).

Note: Results show significant differences in reported job quality indicators, using fixed effects regressions controlling for gender, age, education, sector, occupation, firm size, contract type and whether or not working part-time. Hourly earnings: net monthly earnings per hour from main job, top and bottom-coded (1% and 99%). Autonomy: worker is able to choose or change order of tasks, methods of work as well as speed or rate of work. Working time arrangements: worker can choose between several fixed working schedules, adapt working hours within certain limits or entirely determine working hours. Working from home: person works at least several times a month from own home in main job. Easy taking 1-2 hours off: worker can fairly or very easily take 1-2 hours off during working hours to take care of personal or family matters. Working part-time: usually working fewer than 30 hours per week in main job. Very long working hours: working 55 or more usual working hours per week. Working at night: share working at night at least once per month. Data show the unweighted average for 26 European OECD countries: Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Source: OECD calculations based on the European Working Conditions Survey (EWCS).

Within each employment type, PWD generally more often work from home or part-time, but report worse job quality on most other dimensions (Annex Table 5.A.2).

### Annex Table 5.A.2. Job quality for each employment type varies by disability status in European countries

Differences in reported job quality per employment type between workers with and without disability (aged 15-69), 2015

	Hourly earnings	Autonomy	Working time and workplace flexibility				Unsocial hours	
			Working time arrangements	Working from home	Easy taking 1-2 hours off	Working part-time	Very long working hours	Working at night
Employees with disability working unpredictable hours with disability (vs. those without disability)				+4 percentage points**	-7 percentage points***			
Self-employed with disability (vs. those without disability)	-17%***		+2 percentage points**	+13 percentage points***		+9 percentage points***	+6 percentage points**	+8 percentage points***
Dependent or own-account self-employed with disability (vs. those without disability)	-18%***			+15 percentage points***		+9 percentage points**	+9 percentage points**	+10 percentage points**

Difference in job quality relative to reference group (in parenthesis): Light blue (statistically significant better job quality); darkest blue (statistically significant worse job quality).

Note: Results show significant differences in reported job quality indicators, using fixed effects regressions controlling for gender, age, education, sector, occupation, firm size, contract type and whether or not working part-time. Hourly earnings: net monthly earnings per hour from main job, top and bottom-coded (1% and 99%). Autonomy: worker is able to choose or change order of tasks, methods of work as well as speed or rate of work. Working time arrangements: worker can choose between several fixed working schedules, adapt working hours within certain limits or entirely determine working hours. Working from home: person works at least several times a month from own home in main job. Easy taking 1-2 hours off: worker can fairly or very easily take 1-2 hours off during working hours to take care of personal or family matters. Working part-time: usually working fewer than 30 hours per week in main job. Very long working hours: working 55 or more usual working hours per week. Working at night: share working at night at least once per month. Data show the unweighted average for 26 European OECD countries: Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom. Source: OECD calculations based on the European Working Conditions Survey (EWCS).

## Notes

<sup>1</sup> Li and Liang (2020<sub>[173]</sub>) show that export expansion in the American manufacturing industry contributed to lower workplace injury rates, possibly through higher investment in advanced equipment and better compliance of safety and health regulations.

<sup>2</sup> The chapter does not look into domestic outsourcing, which is the practice that workers are legally employed by one firm but in practice work for another. Examples are for instance many cleaners, security guards and cafeteria staff. Domestic outsourcing may lead to greater occupational injury. Domestically outsourced workers may be operating in a less known environment, and employer responsibilities for injuries are less clear cut (OECD, 2021<sub>[170]</sub>).

<sup>3</sup> This may explain the inconclusive findings in the (small) academic literature on the effects of self-employment on health. Studies report different associations between self-employment status and subjective well-being, prevalence of physical and mental health problems or mortality (Bencsik and Chuluun, 2019<sub>[174]</sub>; Toivanen, Mellner and Vinberg, 2015<sub>[168]</sub>; Willeke et al., 2021<sub>[166]</sub>). Studies attempting to gauge the causal effect, generally using longitudinal data, also report inconclusive findings. A study for the United States finds that healthier individuals select themselves into self-employment, and that self-employment itself may rather be negative for health (Rietveld, Kippersluis and Thurik, 2015<sub>[169]</sub>). Another study for the United States instead finds that people with mental health problems more often become self-employed (Bogan, Fertig and Just, 2021<sub>[38]</sub>). A study for Germany finds that switching from unemployment or dependent employment into self-employment generally improves physical and mental health (Nikolova, 2019<sub>[171]</sub>).

<sup>4</sup> Similar results are obtained when looking at the labour force participation rate, rather than the employment rate. There is essentially no correlation between changes over time between 2009 and 2019 in shares of self-employment and employment rates.

<sup>5</sup> Calculations are based on EWCS 2015. Self-employed work significantly more often very long hours than employees, also when restricting to full-time workers, and when accounting for age and education as well for as a broader set of factors at the person (education, age and gender), job (occupation, working part-time) and firm level (sector and firm size). Dependent self-employed work less often very long hours or at night than other self-employed, but this gap is only significant without taking into account differences in part-time work.

<sup>6</sup> Statistics refer to the share of employees (aged 15-64) working usually or occasionally from home in 2019, and to the share of workers with access to telework who were usually employed before the onset of the COVID-19 crisis in March/April 2020 (OECD, 2021<sub>[1]</sub>).

<sup>7</sup> According to the study, teleworking is feasible for about half of employees, and the typical plan for that half involves two workdays per week at home. Prevalence of teleworking peaked at about 60% of full days in May 2020 among workers able to work from home (Barrero, Bloom and Davis, 2021<sub>[71]</sub>).

<sup>8</sup> Only few studies have been conducted on the impact of teleworking on physical and mental health before the COVID-19 pandemic (Oakman et al., 2020<sub>[80]</sub>; OECD, 2021<sub>[111]</sub>). Moreover, conclusions from these studies may not necessarily generalise, as teleworking practices were fairly rare and likely predominantly performed by a group with strong teleworking preferences. On the other hand, it is not trivial to isolate the health effects of teleworking during the COVID-19 pandemic. The pandemic has heightened many risk factors associated with poor mental health (financial insecurity, unemployment, fear), while protective factors (social connection, employment and educational engagement, access to physical exercise, daily routine, access to

health services) fell dramatically (OECD, 2021<sup>[111]</sup>). Still, the existing evidence strongly suggests that positive health effects are larger and negative effects are smaller if telework is a worker's own choice.

<sup>9</sup> Blurred boundaries may apply to the work location for individuals without a dedicated space to work from at home, as well as to working time if work is shifted to evenings and weekends. Responsibilities for care of children or other family members exacerbate blurred lines between private and work life and can lead to work-family conflicts (Messenger, 2019<sup>[172]</sup>).

<sup>10</sup> Employed PWD perform monotonous and repetitive tasks significantly more often than their counterparts without disability across the pooled sample of European OECD countries. This also holds when accounting for age, education as well as a broader set of factors at the person (education, age and gender), job (self-employed or not, occupation, working part-time and type of contract) and firm level (sector and firm size). There are no indications that trends are significantly different in the five European country cases.

<sup>11</sup> These calculations are based on an index that quantifies the extent to which tasks in occupations per countries can be automated (Nedelkoska and Quintini, 2018<sup>[86]</sup>). No data on risk of automation are available for Switzerland, as the country did not participate in PIAAC. Instead, the average risk of automation per occupation across the OECD is used for this country. A variance decomposition shows that 92% of the variation in total risk of automation scores (the sum of high and substantial risk) from Nedelkoska and Quintini (2018<sup>[86]</sup>) comes from variation between occupations within countries, whereas the remaining 8% of the variation comes from variation between countries within occupations. Thus, the average risk of automation at the OECD level likely is a good predictor of risk of automation in Switzerland.

<sup>12</sup> The disability gap conditional on age and education is not significant in the Netherlands and Norway.

<sup>13</sup> PWD are significantly overrepresented in middle-skill occupations only for the pooled sample of European countries. The gap is no longer significant when controlling for age and education. PWD significantly less often are in high-skill occupations in the pooled sample of European countries as well as for the five European country cases. When controlling for age and education, the gap decreases by about 50% and is no longer significant in Norway and Switzerland.

<sup>14</sup> Assistive technology is any equipment, device or software that helps a PWD to perform a function in her or his social and physical environment that otherwise would be difficult.

<sup>15</sup> See <https://www.microsoft.com/en-us/ai/seeing-ai>.

<sup>16</sup> See <https://www.ibm.com/blogs/age-and-ability/2016/09/21/simplifying-content-for-people-with-cognitive-disabilities/>.

<sup>17</sup> See <https://ai.googleblog.com/2009/12/automatic-captioning-in-youtube.html>.

<sup>18</sup> Accounting for age and education reduces the gap by about a third to around 7 percentage points on average across European OECD countries. The disability digital access gap is significant for the pooled sample of European OECD countries and the five European country cases, with and without controlling for age and education, except in the case of Norway for access to internet when controlling for age and education. Further analysis broken down by country and age group shows that pooled across European OECD countries, the digital gap is notably higher for persons aged 55-69 (10-11 percentage points) compared to persons aged 30-54 (6 percentage points) and persons aged 15-29 (3-4 percentage points). This analysis cannot be conducted at the country level due to small sample size.

<sup>19</sup> Calculations are based on EU-SILC 2019. The self-employment rate among PWD decreased during the last decade across European countries on average. The decrease was relatively large in Norway, from 14 to 9%. Instead, in the Netherlands, workers with disability became more often self-employed, from 16 to 18%. The gap in self-employment rates between PWD and PWOD decreased, since the self-employment rate of workers without disability stayed about constant. Calculations using EWCS 2015 show slightly larger differences. Across the pooled sample of European OECD countries, PWD are 4 percentage points more likely to be self-employed. The gap shrinks to about 2-3 percentage points when taking into account age and education, as well as when accounting for a broader set of factors at the person (education, age and gender), job (occupation) and firm level (sector and firm size).

<sup>20</sup> Calculations are based on EWCS 2015. Due to low sample size, it is only possible to examine trends pooled across European OECD countries. Employees with disability significantly more often work unpredictable hours and self-employed PWD are significantly more often dependent self-employed, also when accounting for age and education as well for as a broader set of factors at the person (education, age and gender), job (occupation, working part-time) and firm level (sector and firm size). Self-employed persons are significantly more often own-account workers, unless when accounting for whether or not the person works part-time.

<sup>21</sup> There is a wide array of platforms, there is little to no administrative data available, platform workers may subscribe to a platform but not offer services and platform work typically has high turnover. Moreover, platforms typically do not ask workers whether they have a disability (Austrian Sozialministerium, 2019<sup>[88]</sup>).

<sup>22</sup> Data come from the 2017 COLLEEM I survey, covering more than 30 000 platform workers from different on-demand and gig-work platforms in 14 EU member countries including the Netherlands. However, many surveyed platform workers answered that most of the motivations stated in the survey were important in their particular case. For instance, an even larger share of platform workers stated that motivations related to flexibility, independence, but also attractive pay and interesting work were important in their case (Pesole et al., 2018<sup>[102]</sup>).

<sup>23</sup> It is difficult to conclude whether pull factors of flexibility and autonomy or the push factor of discrimination are the prime motivation for PWD to become self-employed or a platform worker for multiple reasons. First, few studies examine self-employment motivations of PWD, and often not in comparison to PWOD and with small sample size. Studies related to platform and other new forms of work are even rarer. Second, these studies only examine those who are in work, and not those outside the labour market who may not have entered because of discrimination. Third, discrimination can manifest itself in many ways, for instance in difference in salary, career perspective, or employers' unwillingness to make necessary workplace adjustments. PWD may also be discriminated against because of age or lower education.

<sup>24</sup> Similar results are obtained when looking at the labour force participation rate, rather than the employment rate. There is essentially no correlation between changes over time between 2009 and 2019 in shares of self-employment and employment rates for PWD.

<sup>25</sup> Calculations are based on EWCS 2015. All gaps discussed in the paragraph are significant with and without accounting for age and education, or when accounting for a broader set of factors at the person (education, age and gender), job (occupation) and firm level (sector and firm size), except for the gap in actually having employees (only significant without controls). The small sample size does not allow for a breakdown by countries.

<sup>26</sup> PWD have significantly less often a job amenable to telework for the pooled sample of European countries as well as for the five European country cases. When controlling for age and education, the gap decreases by about 50% and is no longer significant in Switzerland.

<sup>27</sup> See <https://www.gov.uk/government/publications/get-help-with-technology-conditions-of-internet-access-and-device-grants/get-help-with-technology-programme-conditions-of-internet-access-grants>.

<sup>28</sup> In the Netherlands, only those who have capacity to work can register with the PES. While benefit recipients of WGA (WGA 35-80 as well as WGA 80-100), *Wajong* and illness benefits (*Ziektewet*) can register, IVA recipients who have (almost) permanent disability cannot directly register, but generally first need to move to another benefit (UWV, 2020<sub>[167]</sub>).

<sup>29</sup> The case of part-time paid sick leave or graded work, where workers on paid sick leave with remaining work capacity perform regular duties for fewer hours than in their contract, topped up by partial receipt of paid sick leave, is not covered here (see Chapter 4). Graded work does not give an entitlement to persons experiencing health problems but not (yet) on paid sick leave.

<sup>30</sup> One reason for this is that there is no employer to verify genuine unemployment to be distinguished from gaps in payments from clients (OECD, 2018<sub>[138]</sub>).

<sup>31</sup> Belgium and the Netherlands do not have a separate workers' compensation scheme.

<sup>32</sup> Another option sometimes put forward to cover self-employed are individual activity accounts that allow beneficiaries to withdraw funds contributed by themselves. Such accounts exist for instance for vocational training, taking time for caring responsibilities or early retirement. They are, however, not a good substitute for an obligatory insurance system in the case of reduced work capacity benefits. They collect individual contributions for individual use, and therefore do not incorporate risk-sharing. As such, they would not even protect very high-earning individuals against catastrophic risks such as disability, severe injury or long-term sickness.

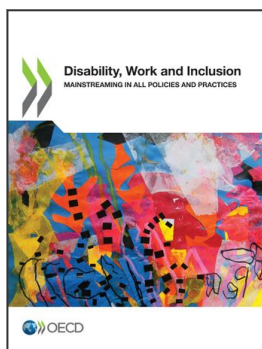
<sup>33</sup> Art. 1 of the United Nations Convention on the Rights of Persons with Disabilities (UN CRPD) obliges ratifying countries to “[...] undertake or promote research and development of universally designed goods, services, equipment and facilities [...], which should require the minimum possible adaptation and the least cost to meet the specific needs of a PWD, to promote their availability and use, and to promote universal design in the development of standards and guidelines [...].”

<sup>34</sup> Art. 1 of the OECD Recommendation of the Council on Artificial Intelligence states that “[...] stakeholders should proactively engage in responsible stewardship of trustworthy AI in pursuit of beneficial outcomes for people and the planet, [...] [and] advancing inclusion of underrepresented populations, reducing economic, social, gender and other inequalities, [...] thus invigorating inclusive growth, sustainable development and well-being”.

<sup>35</sup> Art. 4 of the UN CRPD requires countries “[t]o undertake or promote research and development of, and to promote the availability and use of new technologies, including information and communications technologies, mobility aids, devices and assistive technologies, suitable for PWD, giving priority to technologies at an affordable cost”.

<sup>36</sup> Countries may also want to consider investing in technologies that improve occupational safety and health to prevent disability and health problems.





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