

Employment of Disabled Persons in Sheltered and Unsheltered Conditions During the COVID 19 Pandemic in Poland*

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Abstract

The aim of the article is an attempt to analyse the changes taking place in the sheltered and open labour market in Poland and other countries during the COVID 19 pandemic. Disabled people are commonly considered to be at risk of social exclusion under standard conditions of the world economy. The crisis caused by the pandemic may have exacerbated this risk. Therefore, the authors decided to look at the impact of COVID-19 pandemic on the employment of disabled people and consequently to examine the efficiency of governmental initiatives aimed at protecting jobs and employers functioning in the sheltered and unsheltered environments respectively. The motivation to undertake research in this area was the willingness to continue our long-term research into the labour market situation of people with disabilities, and to enrich the knowledge on the evolution of this market. The period of the COVID -19 pandemic seems a favourable moment to verify the efficiency of labour market protection instruments in the situation of major socio-economic changes. In the past, such conditions frequently caused the market-driven mechanisms to disappoint (e.g. during the crisis of 2007-2008).

The article presents a descriptive and comparative analysis based on research involving both the world's leading literature and the statistical data available on the subject.

The time frame of the research covered the years 2019-2020 as well as the five initial months of 2021, thanks to the availability of consistent statistical data.

Keywords: COVID -19 pandemic, disability, sheltered labour market, open labour market.

Introduction

The period of the COVID-19 pandemic is commonly associated with the tragedy of millions of people who have lost their loved ones or have suffered heavily from the disease and its consequences. It is also noted that the effects of this pandemic, which emerged in China at the end of 2019 and in Europe in early 2020, have been felt by economies around the world. In Great Britain, for instance, it is claimed that entrepreneurs operating in sectors related to accommodation and catering, leisure and childcare, retail sale of industrial products, passenger transport, cinematography and arts are in a particularly difficult situation Economic Outlook (November 2020). Certainly, in other highly developed countries, where governments introduced a deep lockdown of their economies, the problems are similar and the financial support for entrepreneurs

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ineffective in many cases. To provide an example, between February and April 2020, more than three million of US entrepreneurs radically limited or closed their business, which has never happened in the American history before Fairlie (2020). This was a major driver of the significant weakening of American labour market during the first quarter of 2020 Bernstein a.o. (2020). In Japan, the groups at risk of dismissal have been found to include young people, women and those who perform simple jobs not requiring any qualifications Kikuchi (2021). South Africa, in its turn, saw a 40% decline in active employment one month after the lockdown was introduced in the second half of March 2020, after the first COVID 19 cases were detected in the country in February Jain a.o. (2020).

However, labour market surveys in many countries confirm a certain pattern, indicating that in the aftermath of the initial labour market shock caused by economic closures and layoffs, employment increases quite rapidly ODEP (2020). Thus, unlocking the economies after the spring lockdown of 2020 caused favourable changes in the labour market. However, it is estimated that reaching the employment levels of the late 2019 will take several or even several dozen months in some countries Cheng a.o. (2020).

People with disabilities are commonly classified as belonging to the disadvantaged sub-populations in the labour market Politaj (2015), Schur a.o.(2009) and therefore are covered by targeted programs within social policies framework Shima (2008). Especially in difficult macroeconomic conditions which make the market mechanisms ruthless, such people would not have a chance to compete for jobs with non-disabled people Priestley (2009). Historically speaking, until recently the main employers of disabled people used to be sheltered workshops and similar institutions (varying from country to country in terms of ownership, the percentage of disabled among their workforce as well as the disability types and degrees catered for) Politaj (2016). However, since the late 1990s there have been changes in the model of disabled employment and a general tendency towards, *inter alia*, a gradual departure from sheltered employment and towards the disabled finding employment at the open labour market. Technological progress is of great importance here, as it allows the disabled to take up jobs without the need to look for sheltered conditions Koza (2013), Myhill and Blanck (2009).

Our research attempted to analyse changes in the labour market during the COVID-19 pandemic, with particular emphasis on the disabled and their employers both in the sheltered and open labour markets and in the context of protective programs implemented that are aimed at counteracting the impact of COVID-19 pandemic. The time scope of the study covered the years 2019-2020 and the initial five months of 2021 (i).

The disabled employment model

Sheltered employment is increasingly subject to widespread criticism Migliore (2010). In particular, the reference is made to the low efficacy of rehabilitation programs implemented and to exacerbating the social exclusion through negligible transition of disabled people from the sheltered into the open labour market Sulewski (2007). Moreover, sheltered employment is accused of deepening the isolation of disabled people and condemning them to stay mainly in the company of other disabled, with limited contact with non-disabled people Martin (2001).

In Poland, the classic process of vocational and social rehabilitation of the most severely disabled is expected to take place through occupational therapy workshops (WTZ), vocational development centres (ZAZ), sheltered workshops (ZPCh), and possibly cooperatives of the disabled. If such persons are able to demonstrate their capability of independent functioning, they may find employers on the open labour market (Fig. 1).

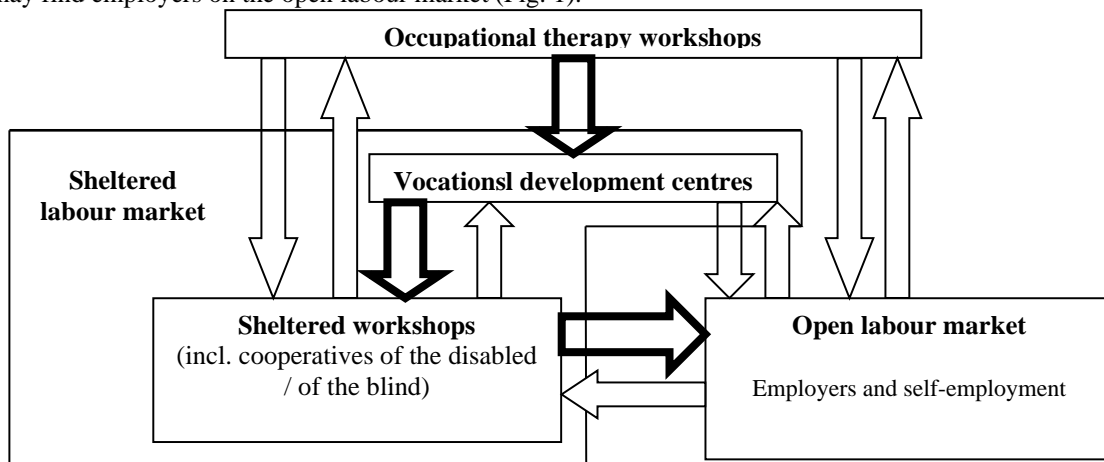


Fig. 1. Diagram of the Polish system of vocational rehabilitation of the disabled

Source: Own work.

Theoretically, the most severely disabled people should first go to occupational therapy workshops (WTZ) (ii) Law (1991) in order to acquire basic life skills and general fitness improvement, as well as to upgrade both life activity and specialist professional skills, and consequently to make them fit for work at vocational development centres or for vocational training Regulation (2004). It should be added that the disabled who participate in an occupational therapy workshop do not have the employee status, and the workshop does not count as their employer. They are also not considered as active within the sheltered labour market. The next stage should be their transition to ZPCh in order to upgrade their professional skills and enhance their integration with non-disabled people. The final outcome of the process should be their entry into the open labour market through employment or self-employment.

In practice, however, the above sequence has not always been followed, as there have been cases of a different course of vocational rehabilitation of the disabled. The disabled would pass directly from WTZ to ZPCh or to open labour market. Sometimes, e.g. as a consequence of disability aggravation, they would feel forced to return from the ZPCh or the open labour market back to WTZ etc.

Employers acting as sheltered workshops (including cooperatives of the disabled) must meet certain statutory requirements in terms of offering the working conditions adapted to the needs and capabilities of disabled people. They also have to meet the condition of offering at least 50% of FTE to disabled people, including 20% of the total to be offered to those with moderate-to-severe disability Law (1997). On the other hand, the size of subsidies for disabled employment are the same for ZPChs as for organizations operating at the open labour market. A person running a sheltered workshop must create a company fund for rehabilitation of the disabled, which accumulates profits gained from tax (iii) and duty exemptions. These exemptions from taxes and fees make, in principle, the only incentive for creation of a sheltered workshop. In the opinion of many Polish employers, for over a dozen years now, the relation between the gains to be earned from the official status of a sheltered workshop and the formal requirements to be met has been less and less attractive.

The COVID-19 pandemic and its impact on the labour market

The appearance of SARS-CoV-2 in China in November 2019 and its rapid spread to other countries and continents triggered the COVID-19 pandemic in early 2020. Individual countries as good as competed with each other in measures to slow down the virus spread, introducing various types of restrictions and even temporary lockdowns of entire economies Qiu a.o. (2020). In many cases, this resulted in cessation of business activity, dismissal of employees and the need to use social aid from the government Milani (2021). Some countries saw just a decline in GDP growth, while others experienced a recession. While every recession is unique in some ways, the sharp decline in economic activity triggered by COVID-19 is unprecedented and unrecorded in economic history Yeganeh (2021). The impact of the crisis on the labour market is of key importance for changes occurring at the macroeconomic level, including in gross domestic product (GDP) as well as in family income Bonacini a.o. (2021). In the long term, the pandemic's persistence will undoubtedly have further negative economic and financial consequences. The same fate will also befall employers, who similarly are protected for a time thanks to government aid to alleviate the effects of the pandemic Botha a.o. (2021).

The first symptoms of negative changes in the labour market were noted during the first wave of the pandemic, i.e. in the winter and spring of 2020. At the same time, significant disproportions between changes occurring in different countries can be observed. In early April, 18% of those polled in the US and 15% in the UK reported losing their jobs during the previous four weeks due to the pandemic. At the same time, the proportion amounted to just 5% in Germany Adams- Prassl a.o. (2020). In the subject literature, the prevailing opinion is that the next waves will further aggravate the already difficult situation of enterprises operating in sectors which are sensitive to the restrictions introduced in individual countries to counteract the spread of the pandemic Gossling a.o. (2020), Hassan a.o. (2020). The industries commonly mentioned in this context include all the individual segments of hospitality sector OECD (2020).

The emergence of vaccines and the programs of massive vaccination were to restore social and economic life to normal, similar to pre-pandemic conditions. The protective economic measures made it also possible to temporarily protect the labour market, but not in all the economies. In India, which is one of the countries hardest hit by successive waves of the COVID-19 pandemic, surveys of the economic situation of the population during the second wave showed that 55% of respondents reported a decrease in income. At the same time, the inflation-adjusted figures showed that as many as 97% of the country's population experienced a decline in income during the pandemic, and that the work activity rate fell to 40% from the 42.5% reported before the pandemic began Vapiwala (2021). In the UK, in turn, there was a very strict lockdown of economy during the first wave of the pandemic (during this period, many companies sent their employees on furlough, reduced working hours or switched to remote work) Dias a.o. (2020), during the subsequent waves the scope of restrictions was much smaller, which translated into an evident improvement in the labour market situation in 2021 Labour market overview (2021). A number of the European Union countries, including Poland, did the same.

In Poland, the first cases of COVID-19 were recorded in March 2020. The government's reaction to this fact was similar to that of most EU countries. The announced universal lockdown did not differ significantly from that applied in most European

EU countries. The relatively stable situation on the Polish labour market, both in terms of supply and demand, was certainly influenced by the measures applied within the Polish so-called anti-crisis shields.

The analysis of the Central Statistical Office data, obtained within the survey of economic activity of the population, shows that during the last few quarters preceding the COVID-19 pandemic, the situation on the Polish labour market had been improving systematically: the working population has increased (up to Q4 of 2019 inclusive), at the same time the number of the unemployed decreased, and the unemployment rate decreased accordingly to 2.9% in the same Q4 (Table 1).

Table 1: Economic activity of people aged 15 and over (15-89*) during the 2019-2021 period (by quarters).

Year / quarter	Total	Economically active population					Economically inactive persons	Activity rate	Employment rate	Unemployment rate	
		total	employed persons		Unemployed persons						
			total	working							
				full-time		part-time					
in thousands							in %				
2019	Q1	30,305	16,940	16,274	15,097	1,177	666	13,365	55.9	53.7	3.9
	Q2	30,285	17,031	16,484	15,302	1,182	548	13,254	56.2	54.4	3.2
	Q3	30,274	17,151	16,619	15,522	1,097	532	13,124	56.7	54.9	3.1
	Q4	30,266	16,953	16,467	15,362	1,105	486	13,313	56.0	54.4	2.9
2020	Q1	30,288	16,954	16,425	15,264	1,162	529	13,334	56.0	54.2	3.1
	Q2	30,272	16,801	16,274	15,160	1,114	527	13,471	55.5	53.8	3.1
	Q3	30,265	17,074	16,512	15,439	1,073	561	13,192	56.4	54.6	3.3
	Q4	30,256	17,086	16,555	15,475	1,080	531	13,170	56.5	54.7	3.1
2021	Q1	29,898	17,120	16,433	15,348	1,085	687	12,778	57.3	55.0	4.0
	Q2	29,854	17,203	16,597	15,541	1,056	606	12,651	57.6	55.6	3.5
	Q3	29,817	17,342	16,814	15,834	980	528	12,475	58.2	56.4	3.0

* From Q1 2021 onwards, data refer to the population aged 15-89 (until Q4 2020 it was 15 years or more).

Source: GUS (2021a).

The appearance of the SARS-CoV-2 virus in Poland, the announcement of epidemic in March 2020 and the immediate undertaking of measures to protect the health and life of citizens resulted in the disruption of the hitherto existing trends in the Polish labour market, including those resulting from its seasonality. The introduced restrictions involving social isolation also resulted in limiting (and in many cases even closing) the activities of individual industries, with a domino effect in other sectors of the economy due to their interdependence GUS (2021). During Q1 of 2020, as compared to Q4 of 2019, the number of economically active people and the general number of the employed decreased (which, however, was largely seasonal). On the other hand, data of Statistics Poland for Q2 and Q3 of 2020 clearly show the already negative impact of the first wave of the pandemic on the Polish labour market. During that period, both the number of unemployed and the unemployment rate increased, which was uncommon in the periods immediately before the pandemic. As the first wave of pandemic was dying out and the Polish economy went gradually unlocked, the situation on the labour market improved. It was notable already at the end of Q3, and especially in Q4 of 2020. In 2021, a continuation of positive changes was observed at the Polish labour market.

Situation of the disabled at the Polish labour market during the COVID-19 pandemic

Persons with disabilities, who have been disadvantaged at the labour market for many years, are particularly at risk of exclusion from that market in crisis situations. This has been particularly notable in the era of COVID-19 pandemic. During the COVID-19 pandemic, sheltered workshops continued to disappear from the Polish labour market (Table 2).

Table 2: Employers of the disabled and the disabled employees in Poland between January 2018 and May 2021

Month	Sheltered workshops		Open market		Total	
	employers	disabled employees	employers	disabled employees	employers	disabled employees
Year 2019						
January	887	104,697	30,241	145,495	31,128	250,192
February	881	104,256	30,504	146,244	31,385	250,500
March	877	103,645	30,652	147,442	31,529	251,087
April	875	103,391	30,981	147,478	31,856	250,869
May	874	103,482	30,955	146,958	31,829	250,440
June	869	103,403	31,278	147,569	32,147	250,972

July	867	103,027	31,325	147,215	32,192	250,242
August	858	102,007	31,391	146,448	32,249	248,455
September	852	101,661	31,567	146,815	32,419	248,476
October	851	100,769	31,532	147,688	32,383	248,457
November	849	100,219	31,530	146,920	32,379	247,139
December	848	99,879	31,664	145,828	32,512	245,707
Year 2020						
January	829	98,451	31,317	143,899	32,146	242,350
February	821	97,787	31,487	145,235	32,308	243,022
March	813	97,118	30,709	143,660	31,522	240,778
April	804	94,812	29,518	138,806	30,322	233,618
May	793	92,516	29,354	139,158	30,147	231,674
June	792	92,678	30,438	141,381	31,230	234,059
July	789	92,828	30,913	142,434	31,702	235,262
August	790	92,576	31,269	142,328	32,059	234,904
September	787	93,469	31,576	141,767	32,363	235,236
October	786	93,070	31,793	142,096	32,579	235,166
November	784	92,266	31,743	141,719	32,527	233,985
December	784	92,004	31,680	140,767	32,464	232,771
Year 2021						
January	780	91,103	31,703	139,851	32,483	230,954
February	779	91,315	31,911	140,569	32,690	231,884
March	776	91,486	32,095	141,215	32,871	232,701
April	767	90,734	32,044	141,178	32,811	231,912
May	765	90,191	32,002	142,041	32,767	232,232

Source: PFRON (2021)

During the analysed period of the pandemic, 48 employers with sheltered workshop status disappeared (decrease between March '20 and May '21) and 6,927 disabled employees have left the Polish sheltered labour market. In the open labour market during the same period, the number of employers who employ people with disabilities went up from 30,709 to 32,002, i.e. by 1,293. On the other hand, the number of disabled workers employed there decreased by 1,619 people.

The average number of people with disabilities employed by an employer operating on the open or sheltered labour market also changed. Before the pandemic, sheltered workshops employed 119.1 people with disabilities on average, while at the open labour market it was 4.61 disabled employees per employer. By May 2021, an average sheltered workshop has reduced its workforce by over 1.0 FTE, while in the open labour market the decrease amounted to just 0.17 FTE. It should be added that the quota system in force in Poland obliges an employer offering at least 25 FTE jobs to have at least 6% of the disabled among his staff (under the pain of a fine for non-compliance). Thus, the increase in the number of employers employing people with disabilities, coupled with a simultaneous decrease in the average disabled employment figure during the COVID-19 pandemic, indicates the desire to avoid the fines payable to the State Fund for Rehabilitation of Disabled People. During the COVID-19 pandemic crisis this factor proved of great importance, especially since the employers could also receive wage subsidies to support the disabled employment.

The analysis of the structure of the labour market of the disabled demonstrates that a vast majority of these people work for employers operating in unsheltered conditions. Thus, they work in conditions similar to those offered to workers without disabilities, whom they need to match with professional skills and competence and with whom they need to compete in the workplace. The disabled working in sheltered conditions theoretically enjoy working and healthcare conditions that are better than those offered at the open labour market.

Information obtained from the State Fund for Rehabilitation of Disabled Persons, which maintains records of Polish employers with at least some disabled personnel, proves that the transformation of the disabled labour market, which has been going on for over a dozen years and consists in departure from sheltered employment towards disabled employment at the open labour market, got even more dynamic during the COVID-19 crisis. During the period from January 2018 to May 2021 inclusive, the number of employers operating at the open labour market who decided to employ people with a recognized disability increased by 2,900. During the same period, the number of working disabled increased by 2,450. However, there was a decrease in the average number of disabled employees per employer at the open labour market. In May 2021, an average open-market employer offered 4.44 FTE jobs to the disabled. In January 2018, the average was 4.8.

In order to account for seasonal variations in employment, it seems more reliable to analyse fluctuations in disabled employment going by individual months of the pandemic and comparing them to the corresponding months from just before

the pandemic and from the previous year, always bearing in mind that the first COVID-19 cases in Poland were recorded in March 2020 (Fig. 1).

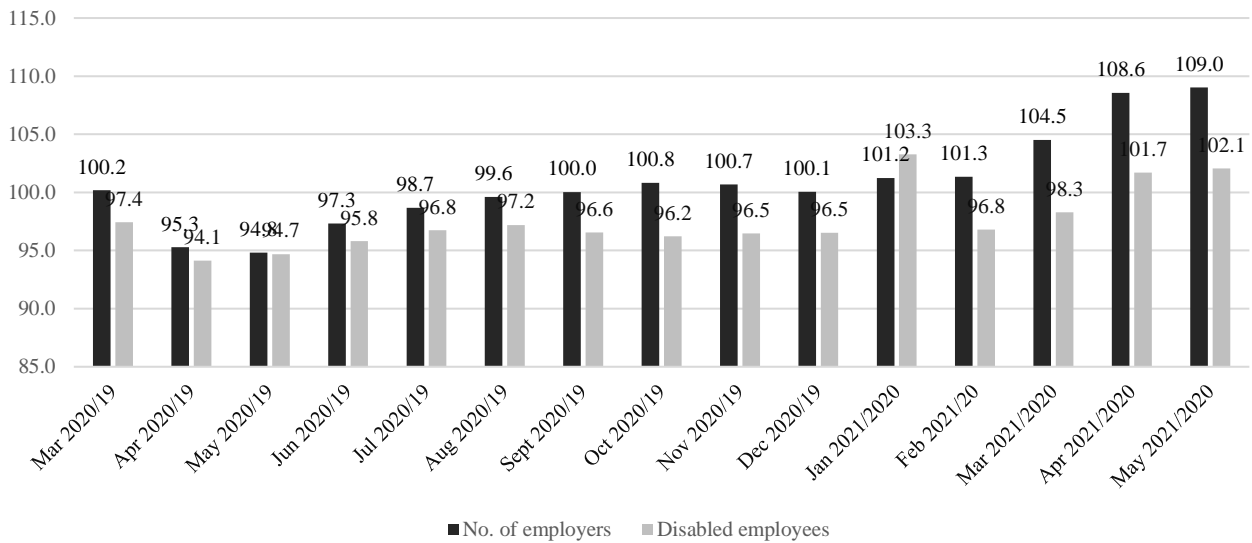


Fig. 1. Comparison of the number of employers and disabled employees in the open labour market in Poland in terms of a month during the pandemic vs. the corresponding month of the previous year (In %).

Source: Own calculations based on data contained in PFRON (2021).

This comparison demonstrates that after the initial decline in the number of employers of disabled people in the open labour market during the first six months following the appearance of the SARS-CoV-2 virus in Poland, a general increase was recorded between September 2020 and May 2021. However, the increase in the number of employers was not matched by an increase in the number of disabled employees, with the exception of the two-month period of April and May 2021, i.e. the period of introducing vaccination against COVID-19 on a mass scale.

The situation at the sheltered labour market was different. Monthly comparisons of the numbers of sheltered workshops and the disabled employed in them, as presented in Fig. 2, demonstrate that during the pandemic the numbers of both sheltered workshops and the disabled they employed continued to decline.

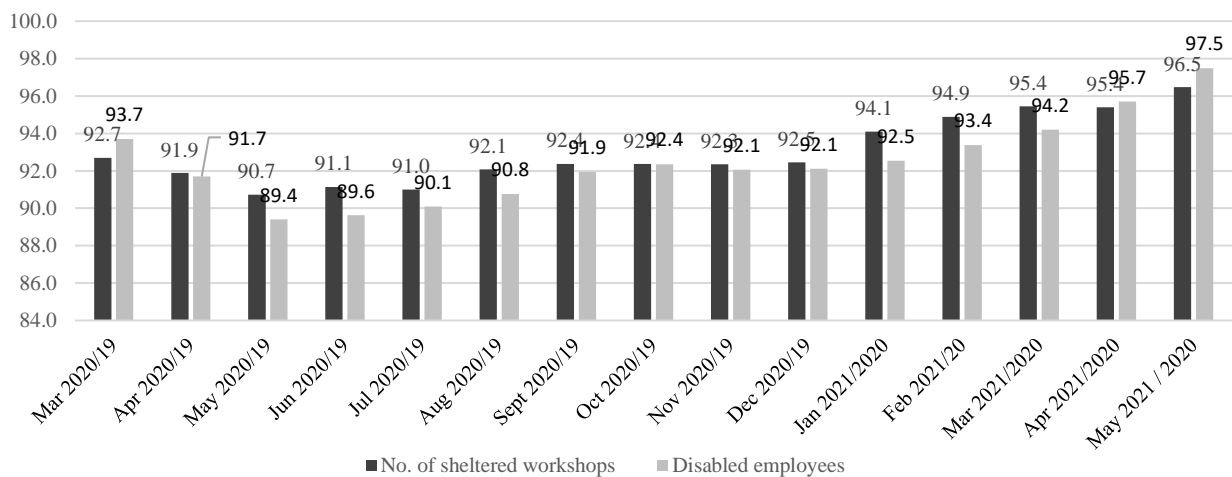


Fig. 2. Comparison of the number of Polish sheltered workshops and their employees in terms of a month during the pandemic vs. the corresponding month in the pre-pandemic period (In %).

Source: Own calculations based on data contained in PFRON (2021).

It is worth observing that the fluctuations in the number of disabled persons employed in sheltered workshops followed closely the changes in the number of sheltered workshops as such. Interestingly, during the spring of 2021 the number of sheltered workshop employees decreased more slowly than the number of sheltered workshops, which must mean that companies that survived more than one year in the pandemic began to employ more people with disabilities. In this respect, the situation at the sheltered market was radically different from the situation at the open market.

It is also interesting to compare the numbers of people with disabilities employed at the sheltered market and at the open labour one, looking at their recognised degrees of disability (Fig. 3).

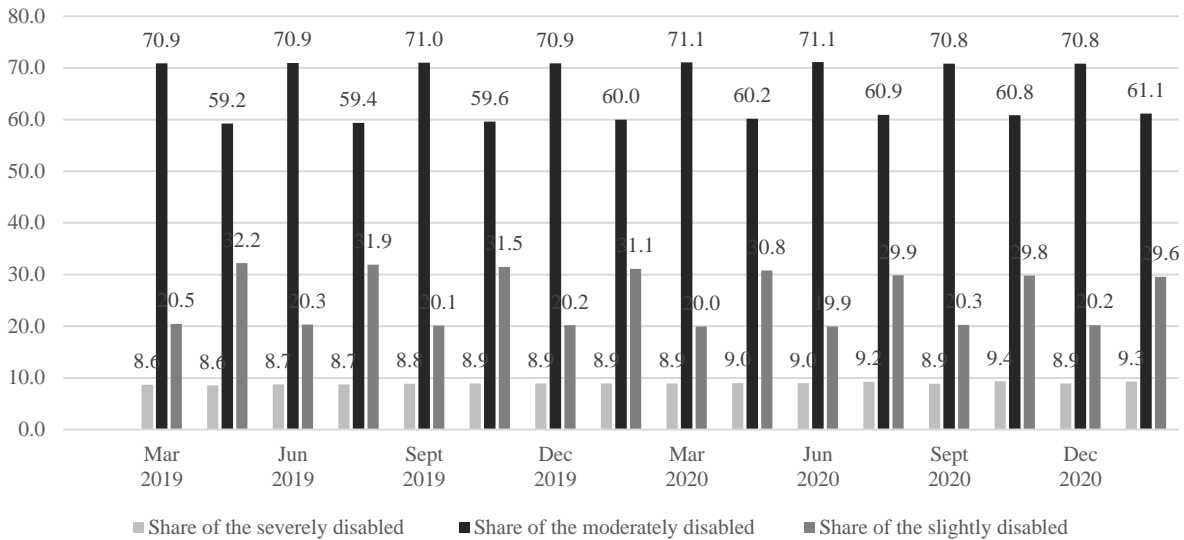


Fig. 3. Structure of disabled employment in the sheltered and unsheltered labour markets in Poland in the period before and during the COVID-19 pandemic (as at the end of the month) (In %).

Source: Own calculations based on data contained in PFRON (2021).

Employers of disabled people definitely most often employed people with a moderate degree of disability, covered by relatively high PFRON subsidies but generally less unreliable and more independent in the workplace than, for instance, the severely disabled. People most severely disabled had the lowest share in the disabled employment, regardless of the type of employer. Those moderately disabled accounted for just over 30%. Importantly, during the four quarters of 2020, employers of the open labour market increased the percentage of employees with the most severe disabilities, which may be related to the fact that they could obtain the largest subsidies for their employment, which was of great importance to the employers in the economic crisis caused by the pandemic. The enterprises operating at the sheltered labour market only slightly increased the percentage of employees with severe disabilities before the pandemic, but during the pandemic this process has slowed down further (the only increase was recorded in Q2 of 2020). With the moderately or slightly disabled, employers from the sheltered labour market practically retained the same percentage of these employees. Thus, at the sheltered labour market in Poland, the employment structure as broken down by the degree of disability remained practically unchanged during the pandemic. The situation was a bit different at the open labour market. These employers systematically lowered the percentage of workers with disabilities. It can be assumed that the subsidies received for their employment were not attractive enough.

Conclusions

Disabled workers, as one of the groups most threatened in the labour market, might have become victims of the cost-cutting measures applied by entrepreneurs in the face of pandemic-related lockdown freezing the economy. Both in the pre-pandemic period and during the pandemic quarter-years, there occurred a regular decline in the number of employers operating at the sheltered labour market, with the decline accelerated between March and September of 2020. On average, nearly 9% of sheltered workshops disappeared from the labour market month in month out if compared to the same month of 2019. During the same period, the number of disabled employees working in sheltered conditions decreased even faster – by nearly 10%, when comparing the corresponding months of 2020 and 2019. Interestingly, the decline affected in equal measure those with slight or moderate / severe disabilities. So the disability itself (i.e. the degree of disability) was not the cause of layoffs at the sheltered labour market.

During the first two quarters of the pandemic, employers from the open labour market also reduced their employment of people with disabilities or stopped employing them altogether. At the same time, when comparing the data on the number of employers and their disabled personnel during the pandemic months of 2020 and the corresponding pre-pandemic months, what is noticeable is a slower rate of decline in the numbers of both the disabled employees and their employers of the open labour market as compared to the sheltered one. The authors would also like to draw attention to the fact that from September 2020 onwards, the number of enterprises employing disabled workers has been systematically increasing. It was particularly visible between January and May of 2021. Also, in April and May of the same year, the disabled employment at the open labour market increased for the first time in over a year, when comparing April and May '21 to April and May '20. Even if

employers from the open-labour market were laying off workers, these were usually those with only a slight degree of disability. They were replaced by moderately-to-severely disabled workers, whose employment attracts more PFRON funding. Thus, the disabled workers most sought-after at the open labour market were not those who had the lowest limitations at workplace (the least affected by disability), but those who brought along the largest subsidies. It should also be emphasized that the employers' obligation to have 6% of the disabled among their workforce or pay the fines for non-compliance did incentivize a significant number of open-labour market employers to meet this requirement. However, the decline in average employment during the pandemic in comparison to the pre-pandemic period suggests that in the wake of the COVID-19 crisis some open-labour market employers preferred to pay the fine rather than hire people with disabilities.

To sum up, during the pandemic the employment situation of disabled people in Poland deteriorated slightly but did so mainly at the sheltered labour market. While before the pandemic the process of sheltered jobs disappearance had already existed, during the period of pandemic it accelerated even more. The model of vocational rehabilitation which assumes the transition from the sheltered labour market to an open one was only partially successful in practice. The slightly disabled people were disappearing altogether from the disabled employment statistics instead of increasing their participation in the open labour market. In turn, those most severely disabled, who do require special working conditions and should work in sheltered environment adjusted to their health status, were more likely to enter the open market. In the authors' opinion, this trend will persist in the coming years, and thus sheltered workshops will play a marginal role in the process of disabled people rehabilitation, regardless of the course of this or the next pandemic.

Footnotes

- (i) For Poland, there are no more recent and comparable labour market data available.
- (ii) Occupational therapy workshops (WTZ) were established under the Law (1991).
- (iii) Real estate tax, agricultural tax, forest tax, tax on civil law transactions.

References

- Adams-Prassl A., Boneva T., Golin M., Rauh Ch. Inequality in the Impact of the Coronavirus Shock: Evidence from Real Time Surveys. IZA – Institute of Labor Economics. IZA DP No. 13183 April 2020.
- Bernstein J., Alexander W. Richter and Nathaniel A. Throckmorton (2020). COVID-19: A View from the Labor Market. Federal Reserve Bank of Dallas, April 2020, https://papers.ssrn.com/sol3/papers.cfm?Abstract_id=3587636
- Bonacini L, Gallo G, Patriarca F (2021) Identifying policy challenges of COVID-19 in hardly reliable data and judging the success of lockdown measures. *J Popul Econ* 34:275–301
- Botha, F., de New, J.P., de New, S.C. et al. (2021) Implications of COVID-19 labour market shocks for inequality in financial wellbeing. *J Popul Econ* 34, 655–689.
- Cheng W., Carlin P. Carroll J., Gupta S., Rojas R.F., Montenegro L., Nguyen T.D., Schmutte I., M., Scrivner O., Simon K.I., Wing C., Weinberg B. Back to business and (re)employing workers? Labor market activity during state Covid-19 reopenings. National Bureau of Economic Research 1050 Massachusetts Avenue Cambridge, Ma 02138 June 2020. https://www.nber.org/system/files/working_papers/w27419/w27419.pdf.
- Dias M.C., Joyce R., Postel-Vinay F., Xu X. The Challenges for Labour Market Policy during the COVID-19 Pandemic. *Fiscal Studies - The Journal of Applied Public Economics*, vol. 41, no. 2, pp. 371–382 (2020).
- Economic Outlook November 2020. New beginnings UK. <https://assets.kpmg/content/dam/kpmg/uk/pdf/2020/11/uk-economic-outlook-nov2020.pdf>.
- Fairlie R. (2020). The Impact of COVID-19 on Small Business Owners: Evidence of Early-Stage Losses from the April 2020 Current Population Survey, Discussion paper series, IZA – Institute of Labor Economics, Bonn, Germany May 2020. <http://ftp.iza.org/dp13311.pdf>.
- Gosling, S., Scott, D. and Hal, M. (2020) Pandemics, tourism and global change: a rapid assessment of COVID-19, *Journal of Sustainable Tourism*, 29 (1): 20-29.
- GUS (2021), Selected aspects of the labour market in Poland. Economic activity of the population before and during the COVID–19 pandemic period. Statistics Poland, Warsaw, October 2021.
- GUS (2021a) Data of Statistics Poland - BAEL Warsaw 2021. s.: <https://www.fxmag.pl/artukul/jak-wygladala-sytuacja-na-rynku-pracy-w-iii-kwartale-2021-roku-najnowsze-dane-gus>.
- Hassan, T.A. and Hollander, S., van Lent, L. Schwedeler, M., and Tahoun, A. (2020), Firm-level Exposure to Epidemic Diseases: Covid-19, SARS, and H1N1, National Bureau of Economic Research Working Paper Series, April.
- Jain R., Budlender J., Zizzamia R., Bassier I. (2020). The labor market and poverty impacts of covid-19 in South Africa. Working Paper Series Number 264, Version 1, Southern Africa Labour and Development Research Unit, UCT, 2020. http://www.opensaldru.uct.ac.za/bitstream/handle/11090/980/2020_264_Saldrup.pdf?sequence=1.

- Kikuchi S., Kitao S., Mikoshiba M. (2021). Who suffers from the COVID-19 shocks? Labor market heterogeneity and welfare consequences in Japan. *Journal of the Japanese and International Economies* Volume 59, March 2021. <https://www.sciencedirect.com/science/article/pii/S088915832030054X>.
- Koza A. Zakłady pracy chronionej jako główni pracodawcy osób niepełnosprawnych. *Zeszyty Naukowe Uniwersytetu Szczecińskiego* Nr 752. *Ekonomiczne Problemy Usług* Nr 102,
- Labour market overview (2021) Estimates of employment, unemployment, economic inactivity and other employment-related statistics for the UK. UK: October 2021. <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/uklabourmarket/december2021>
- Law (1991) Act dated 9 August 1997 Employment and Vocational Rehabilitation of the Disabled (*Journal of Laws* 1991, No. 46, item 201 as subsequently amended).
- Law (1997) Act dated 27 August 1997 on professional and social rehabilitation and employment of people with disabilities, (*Journal of Laws* 1997 No. 123 item 776)
- Martin T. (2001). *Sheltered employment. A review of the literature*. Dublin (Ireland): Martin & Associates.
- Migliore Ph.D. *Sheltered Workshops*, JH Stone, M Blouin, (eds.). *International Encyclopedia of Rehabilitation* 2010, s. <http://cirrie.buffalo.edu/encyclopedia/en/article/136/>.
- Milani F (2021) COVID-19 outbreak, social response, and early economic effects: a global VAR analysis of cross-country interdependencies. *J Popul Econ* 34:223–252.
- Myhill W. N, Blanck P. (2009). Forthcoming 2009. Disability and aging: historical and contemporary challenges. *Marquette Elder's Advisor* 10.
- ODEP (2020) Office of Disability Employment Policy. *Employment for Persons with a Disability: Analysis of Trends During the COVID-19 Pandemic* Office of Disability Employment Policy November 2020, https://www.dol.gov/sites/dolgov/files/OASP/evaluation/pdf/ODEP_Employment-for-PWD-AnalysisofTrendsDuringCOVID_Feb-Sept.pdf
- OECD Economic Outlook December 2020, <https://www.oecd.org/economic-outlook/december-2020/>
- PFRON (2021) State Fund for Rehabilitation of Disabled People (PFRON) - SODIR system database as of 2021, <https://www.pfron.org.pl/en.html>
- Politaj A. (2015). Changes in grants to employment of handicapped persons and their implications for employment in sheltered workshops and vocational rehabilitation, *Financial Sciences*, 2015, Nr 1 (22), Wrocław University of Economics, pp. 31-46.
- Politaj A. (2016). Vocational development centres and sheltered workshops as employers of handicapped persons in Poland. *Research Papers of Wrocław University of Economics* 450 (2016), 446-457.
- Priestley M., Roulstone A., Targeting and mainstreaming disability in the 2008-2010 National Reform Programmes for Growth and Jobs, *Academic Network of European Disability Experts*, University Of Leeds– 2009.
- Qiu Y, Chen X, Shi W (2020) Impacts of social and economic factors on the transmission of coronavirus disease 2019 (COVID-19) in China. *J Popul Econ* 33(4):1127–1172.
- Regulation of the Minister of Economy, Labour and Social Policy on occupational therapy workshops of 25 March 2004 (*Journal of Laws* of 2004, No. 63, item 587).
- Schur L, Kruse, Blasi J., Blanck P.,(2009) Is Disability Disabling in All Workplaces? *Workplace Disparities and Corporate Culture*, *Journal Of Economy And Society*, Volume48, Issue3, July 2009.
- Shima I., Zolyomi E., Zaidi A. (2008) *The Labour Market Situation of People with Disabilities in EU25*. European Centre of Social Welfare Policy and Research. Policy Brief February (I) 2008.
- Sulewski J.S. (2007), *Shifting resources away from sheltered workshops in Vermont*. Institute for Community Inclusion, University Massachusetts Boston 2007
- Vapiwala F. The Battle of Unemployment in India–Fighting Beyond the Pandemic. *International Journal of Research in Engineering, Science and Management* Volume 4, Issue 6, June2021, <https://www.ijresm.com> | ISSN (Online): 2581-5792.
- Yeganeh H. Emerging social and business trends associated with the Covid-19 pandemic. *Critical perspectives on international business* Vol. 17 No. 2, 2021, <https://www.emerald.com/insight/content/doi/10.1108/cpoib-05-2020-0066/full/pdf?title=emerging-social-and-business-trends-associated-with-the-covid-19-pandemic>