

# Job Quality and Workers' Power in Logistics in the Context of the COVID-19 (post) Pandemic Crisis in Poland<sup>1</sup>

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## Abstract

*The paper explores the selected aspects of job quality (remuneration, working time/work pressure, collective interest representation) in the logistic industry in the context of the COVID-19 health and socio-economic crisis. It draws from the literature review, secondary data and expert interviews with trade union and employer organisations representatives carried out within the COV-WORK project funded by National Science Centre in Poland. The research adopts the power resources approach to explore the relevance of market, institutional, organisational and societal aspects of workers' collective resources in various sections of logistic services on the changes of their job quality and their collective responses to these changes during pandemic. The analysis is focused on three occupational groups: (1) logistics centres employees, (2) lorry drivers, and (3) parcel-delivery couriers. The analysis suggests that the increase in workers' structural power due to surge in demand on logistic services and their strategic importance during pandemic is*

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*insufficient for workers' counter-actions against the deterioration of job quality during pandemic, unless reinforced by collective labour organisations (associational power).*

**Keywords:** COVID-19, crisis, job quality, Polish labour market, logistics, precarisation.

**JEL Classification:** J21, J22, J28, J31, J52, J81, L81, L87, L90.

## Introduction

Job quality is a multidimensional, policy-inspired concept which concerns the range of factors connected with employment relation and the work activity itself having 'an impact on well-being of workers' [Muñoz de Bustillo et al. 2009: 150]. The policy-context of job quality reflects, inter alia, the goals of European Employment Strategy which has aimed to create more and better jobs and the International Labour Organisation decent work agenda. However, a commonly accepted definition of what high quality jobs is missing. The European Foundation for the Improvement of Working Conditions (Eurofound) proposed to focus on seven criteria: physical environment, work intensity, working time quality, social environment, skills and discretion, prospects and earnings [Eurofound and European Commission Joint Research Centre 2021: 4]. In the USA context, Arne L. Kalleberg [2011: 5] defined 'good jobs' in relation to economic compensation (pay and fringe benefits, such as health insurance and retirement benefits) and non-economic rewards (control of workers over their work activities, working time and termination of a job). Job quality is said to be largely dependent on legal and institutional context, including the levels of institutional protection of vulnerable workers against the effects of economic downturns [Gallie 2013b; Green et al. 2013].

This article follows the inspirations from the existing studies and explore the impact of the COVID-19 pandemic and subsequent socio-economic crisis on the job quality in one of the 'essential' industries, namely logistics, that provided vital services during the periods of lockdowns. The article explores the case of Poland as a country in which the expansion of logistic services was observed in pre-pandemic period [Czerniak 2017]. One of the reasons behind choosing the case of Poland for the paper are specific conditions of development of logistics in this country, namely the geographical location of the country on the cross-roads of supply chains and relatively low labour costs.

Similarly to earlier crises [Gallie 2013a], it could have been expected that the socio-economic turbulences caused by the pandemic contributed to the deterioration of job quality in the industry due to quite limited institutional protection of vulnerable and precarious groups of workers, such as bogusly self-employed couriers [Podawca 2011],

gig workers [Polkowska 2021] and temporary agency workers in large logistics centres [Owczarek, Chelstowska 2016]. Simultaneously, the dependency of a large segments of population on the services provided by logistic workers during lockdowns might have also increased their capacities to collectively resist the deterioration of their working conditions which has been observed even before the pandemic in some countries [Alimahomed-Wilson, Ness 2018a].

The article adopts the theoretical framework of power resources approach [Wright 2000; Silver 2009] to understand the impact of market, institutional, organisational and societal aspects of workers' collective resources in various sections of logistic services on the changes of their job quality and their collective responses to these changes during pandemic. It is asked what are the resources which workers can mobilise to counter-act the deterioration of their job quality during the pandemic-driven crisis?

The article is based on the review of 77 publications included in Scopus, Web of Science, Google Scholar, and Journal of Citation Reports databases, the information gathered through 5 expert interviews with trade unionists (3) and employers (2) as well as the available statistics included in industry reports, Statistics Poland and Eurostat databases. The paper focuses on three categories of workers: (1) logistics centres employees; (2) truck drivers; (3) parcel-delivery couriers. The paper explores the situation of the chosen groups both before and after March 2020, i.e. the time when the pandemic was announced. The paper is centred on the case of Poland with the context of additional data specified below in the paragraph. The analysis focuses on three dimensions of job quality for which rather scarce secondary data and information were available, namely remuneration; working time; work pressure and intensification of work as well as workers' collective representation. Where it was needed due to lack of other sources, we also made use of media reports as a supplementary source of information.

The article argues that the pandemic crisis contributed to the further deterioration of the job quality of logistic workers. The pandemic has worsened working conditions of those who in the pre-pandemic period occupied peripheral positions in the industry characterised by limited labour market resources (lower skilled) and low unionisation rates or no unions (understood in terms of a limited associational power). Despite notable exceptions, the collective responses to deteriorating job quality, including protest actions, were limited to logistic centres employees who had various types of worker power resources at their disposal, including, most notably some level of collective organisation in trade unions and the instruments of influencing the public opinion through social campaigns. In the paper we assert that the increase

in structural power alone – due to surge in demand on logistic services and their strategic importance during pandemic – is insufficient for workers' counter-actions against the deterioration of job quality during pandemic.

In the article, we first briefly present the theoretical approach chosen which links job quality and worker power resources. Next, we present the available data on job quality and working conditions of three occupational groups chosen in logistics in pre-pandemic period. Finally, we present the core findings of the literature review on workers' situation in logistics during the COVID-19 pandemic. The conclusions follow.

## Job Quality and Workers Power – Towards Conceptualization

Following earlier studies by Eurofound [Eurofound 2020a] and other authors [Gallie 2013b; Kubisa, Mendonca 2018], the point of departure for this research was the multidimensional definition of job quality. As already mentioned, it covered seven dimensions: physical environment, work intensity (quantitative, pace, emotional demands), working time quality (work duration, atypical working time, flexibility), social environment (adverse social behaviour, social support, management quality), skills and discretion (skills content of a job, organisational participation, training, decision latitude), prospects (employment status, career prospects, job security) and earnings. The indicators of job quality can be further systematised in line with the proposal by Muñoz de Bustillo et al. [2009] who distinguished between 'employment quality' and 'work quality' as two aspects of 'job quality':

*'Employment quality refers to those aspects of the employment relation itself that have a potential impact on the well-being of workers: these are all the aspects related to the employment contract, remuneration and working hours, and career development. Work quality, on the other hand, refers to the ways that the activity of work itself and the conditions under which it is undertaken can affect the well-being of workers: autonomy, intensity, social environment, physical environment, etc.'* [Muñoz de Bustillo et al. 2009: 150].

An important aspect of job quality that cuts across both employment and work quality is also the issue of worker participation and collective interests representation.

The latter is particularly strongly emphasised in the case of the European Trade Union Institute Job Quality Index (JQI) [Leschke et al. 2008] which includes the indicators such as wages, non-standard forms of employment, work-life balance and working time, working conditions and job security, access to training and career advancement, and collective interest representation and participation. Unsurprisingly, 'bad jobs' are quite often identified with precarious ones which are characterised by low wages and employment insecurity [Kalleberg 2009], even though poor job quality (e.g. in terms of irregular working time) can also be observed in the case of better-paid and secure employment contracts.

The issue of job quality has been discussed among social sciences' researchers in recent years for various reasons. In general, they can all be summed up as a results of a growing imbalance between capital and labour, with the latter losing their bargaining power, which widens the spectrum of possibilities for the former to reduce labour costs, and ultimately creates risks for general job quality deterioration [Gallie 2013a: 8]. Some tendencies emerged several years ago, in the years of growing economies; others are more recent; all have intensified with the outbreak of the 2008+ financial crisis and the introduction of austerity policies by the majority of EU member states [Maciejewska et al. 2016; Vaughan-Whitehead 2015].

At the beginning of the COVID-19 outbreak, it was suggested that pandemic and measures taken by national governments to combat the spread of the COVID-19 pandemic were likely to lead to changes in the way of working, functioning of workplaces, work organization, employment relations, together with job losses, reductions in working hours, and deteriorating situation of vulnerable workers [Eurofound 2020b]. According to the United Nations report issued in June 2020 [United Nations 2020: 2–4], in the initial phase of the development of the pandemic on a global scale significant deterioration of such factors as working time (drastic decrease in the number of hours), mass redundancies in some industries, reduction of salaries, increasing discrimination (e.g. on the basis of gender) could be observed in the workplace, as well as increased inequality and risk of redundancies in segments such as 'accommodation and food services', 'transport and storage and communication'. The Organization also reported the risk of worsening inequalities and threats of redundancies in the mentioned sectors.

Similarly to the results of 2008+ economic crisis, it was expected that the uneven, gendered, and classed decline of job quality following pandemic was likely to follow [Gallie 2013a; Harvey 2020]. These initial hypotheses were confirmed by subsequent studies in Europe and other parts of the globe. The occupants of the peripheral segments of the labour market were said to be most prone to suffer from the economic

breakdown, as the level of institutional social protection, including the availability of health care insurance, wage and employment guarantees they have is lower than those in the core [Rothwell, Crabtree 2021]. A greater resilience to economic downturn was observed in the case of those who were able to work remotely [Eurofound 2021: 71]. By contrast, those who had no choice but to work on-site, which included, *inter alia*, many logistic, retail, health care and social care workers, often observed the new dimensions of precarity, including the growth of health-related and psycho-social risks [Loustaunau et al. 2021].

The article aims at examining the actual outcomes of pandemic for job quality across the supply chain in logistic sector in Poland. In line with earlier studies, it can be assumed that job quality is conditioned by a range of factors. Classical economic theories assumed that workers in more affluent countries are more likely to enjoy better quality jobs. By contrast, socio-economic analyses focused on such determinants as the types of economic regimes (Fordist, post-Fordist, neo-Fordist), demand on skilled labour and skill-based technical changes, organisational changes (e.g. the rise of team work and high-performance work systems), the legal regulations of industrial relations and employment conditions the national and supranational (e.g. European Union) levels [Green et al. 2013: 755–759]. Other studies emphasized the 'institutional anchors' of job quality which are related to production regimes (specialisation patterns, ownership and product market regulations), the production – employment interface (industrial organisation, innovation and education training systems), employment regime (industrial relations system, labour market regulation), welfare regime (social protection and services) [Grimshaw, Lehndorff 2010: 36].

Focusing on the regulatory and organisational aspects of job quality is very important, but it might also contribute to overlooking the agency and power of workers in influencing labour institutions and counter-acting the power of employers. This observation might be particularly important in the industries such as logistics. As remarked by Alimahomed-Wilson and Ness [2018b: 2], the logistic workers workplaces are 'in the world's choke points – critical nodes in the global capitalist supply chain – which, if organized by workers and labour, provide a key challenge to capitalism's reliance on the 'smooth circulation' of capital. In other words, logistics remains a crucial site for increasing working-class power today'. The pandemic has further contributed to the increase of workers' bargaining power in the industry given its indispensable character during the closure and reduction of on-site operations of many retailers.

We make use of the worker-centred approach to the analysis of job quality and focus on workers' power resources. Power resources approach (PRA) has been linked

to the debates on the relevance of welfare and labour market inclusive institutions, employer and trade union strategies as well as worker solidarity for job quality [Gallie 2013a; Doellgast et al. 2018: 12–13]. In critical labour studies, the PRA 'is founded on the basic premise that organized labour can successfully defend its interests by collective mobilization of power resources' [Schmalz et al. 2018: 113]. The classical propositions distinguish among structural and associational power [Wright 2000; Silver 2009]. The structural power of workers is determined by their location in the economic system [Wright 2000: 962]. At the macrosocial level, structural power is related to 'the specific incorporation of a country into global capital accumulation' [Schmalz et al. 2018: 124]. At the industry level, Silver [2009: 35] asserts that there are two types of structural power which relate to labour market – 'market bargaining power' and 'workplace bargaining power'. The first type is generally characterized by the traits of the labour market and workers, i.e., their level of qualification, the demand for labour, the extent of social protection and labour mobility. The second type is characterized by the strategic positioning of workers in the industry and the positioning of an industry in the entire economy and global value chain. It translates into the structurally given possibilities of workers to disrupt the production and provision of services in order to pursue their claims.

While workers' structural power is largely external to trade unions, associational power is directly related to what and whose interests trade unions and other workers' organisations represent. It is defined by Wright [2000: 962] as 'the various forms of power that result from the formation of collective organizations of workers'. In this dimension, trade union power relies on both the number of members and the composition of their membership, as well as on the internal mechanisms of worker participation in decision-making structures [Levesque, Murray 2010]. The result of 'struggles and negotiation process based on structural power and associational power' is 'institutional power' [Schmalz et al. 2018: 121]. It can be seen as the outcome of specific class compromises between the capital and labour providing unions' ability to use institutions through lobbying', giving them some co-determination rights or securing their role in tri- or bi-partite institutions. Finally, there are 'societal power resources' defined as 'the latitudes for action arising from viable cooperation contexts with other social groups and organisations, and society's support for trade union demands' [ibidem: 122]. They can be broadly divided into coalitional power (developing cooperative relations between organised labour and other social and political forces) and discursive power, i.e. the ability of the trade unions and labour organisations to provide interpretation patterns and solutions to burning social problems [ibidem: 123].

The focus on workers' power resources in studying job quality does not mean that its other determinants are unimportant. However, it makes it possible to explore closely how the existing economic, structural and institutional conditions 'constrain power and shape actions, as well as the conditions under which labour can challenge these structures through developing and accessing new power resources' [Doellgast et al. 2018: 11]. As a result, it makes it possible to see job quality as the outcome of the specific configurations of the relationships between the capital, labour and the (national and supra-national) institutions. Due the limitation of available data at the industry level, the subsequent parts of the paper will focus on the selected aspects of job quality, including remuneration; working time; work pressure/intensification of work as well as collective interest representation. It will be examined how do they differ across there segments of workforce in the logistics studied and how can these differences be accounted for with the reference to variegated workers power resources.

## Methodology

There are threefold sources of data for this article: (1) the existing literature and reports, (2) databases documenting selected indicators of working conditions, including Statistics Poland and Eurostat Structural Business Statistics; (3) expert interviews with trade unions and employer organisations in the logistics. During the literature review, we used databases such as Scopus, Web of Science, Google Scholar, and Journal of Citation Reports. Since logistics is a concept denoting a very wide range of categories, processes, phenomena, we searched for literature, among others, in scientific journals focused on the topics of job quality and working conditions, labour market, industrial relations, employment, economy, but omitting those that focused on other areas of logistics. The most important of these were i. a.: 'Work, Employment, and Society', 'Economic and Industrial Democracy', and 'New Technology, Work and Employment'. We also made use of media coverage, though rather scarcely, especially when there were no available data in scientific studies. During the literature search we focused on the three occupational groups mentioned – truck drivers, parcel-delivery couriers, and logistics centre employees. In the initial phase of the literature search we used phrases such as *logistics*, *e-commerce*, *gig economy*, *platform economy*, *gig work*, *gig workers*, *food-delivery couriers*, *parcel-delivery couriers*, *lorry drivers*, *truck drivers*, *warehouse workers*, and phrases related to the dimensions of job quality mentioned earlier. For each search term mentioned we added the word: *COVID-19*



and/or *pandemic*. We then reduced this list to phrases related to key occupational groups (three phrases) and the pandemic (one phrase), and the dimensions of job quality (four phrases). The geographical scope in the first stage was global research, in the second phase we focused more on the European level. In the end, 77 publications were analysed, which constituted the main corpus of analysis, while the media articles were treated as an additional source of data.

In a first step, we conducted a systematic literature review (based on a search of the above-mentioned phrases), followed by a semi-systematic one – examining how the job quality in logistics changed during the pandemic and in the context of the occupational groups (research area) we analysed [Snyder 2019]. We paid particular attention to the dimensions of the job quality indicators we adopted in the article: wage, working time, work pressure, and collective interest representation. Importantly, given the limited number of academic publications concerning job quality in logistic in Poland, we had to rely to greater degree on the available statistical data derived from the industry reports, the Statistics Poland and Eurostat database and information from media reports. An important additional source of information were the observations from 4 expert interviews carried out with the representatives of trade unions. They included the leaders of All-Poland Trade Unions Workers' Initiative and the Independent Self-Governing Trade Union Solidarity in one of logistic centres, vice-chair of All-Poland Alliance of Trade Unions (OPZZ), and the chair of the Nationwide Transport Section of Independent Self-Governing Trade Union Solidarity, and two representatives of employer organisations: the Lewiatan Confederation in which logistic centres are organised and the International Road Carrier Association which organises the employers of lorry drivers. The choice of informants reflected their involvement and knowledge on the parts of the industry in which trade unions and employer organisations exists.

## Logistics in Poland: Employment Characteristics and Working Conditions

The logistics industry is considered by researchers as crucial to modern economies [Juskowiak 2018]. As noted by Bonacich and Wilson [2008: 3], logistics refers to 'the management of the entire supply chain, encompassing design and ordering, production, transportation and warehousing, sales, redesign and reordering'. A similar definition can be found in the industry reports which refer to logistics in

terms of 'all companies involved in transport (forwarding), warehousing, handling, and legal and formal support of sales of goods' [Czerniak 2017: 7]. This broad definition of logistics reflects the transformation of the relationships between manufactures and retail stores from 'push' to 'pull' system of production and distribution, or, in other words, from mass to lean production and management:

*'Under the "push" system, production was dominated by large consumer goods manufacturers. ... Manufacturers used deals and promotions to get retailers to make large advance purchases, while retail buyers increased the volume of purchase orders to take advantage of these discounts ... Under the "pull" system, consumer behavior is tracked by the retailers, who then transmit these preferences up the supply chain to the producers. Manufacturers try to coordinate production with actual sales, minimizing inventory buildup anywhere in the chain by collecting data from retailers at the point of sale (POS)' [Bonacich, Wilson 2008: 5].*

As observed in the existing literature, the organisational and structural changes in the logistic industry had profound implications for labour. They included increase in precarious employment due to outsourcing and subcontracting practices resulting in decrease of workers' structural power, decline in associational power as result of industry fragmentation and precarisation of employment as well as lowering of labour standards [Bonacich, Wilson 2008: 15]. Other implications for job quality include the decrease in worker autonomy in favour of technological control across the delivery chain and constant work intensification, in particular but not exclusively due to expansion of internet-based platforms as labour intermediaries [Newsome et. al 2018; Wood et al. 2019].

As noted by Alimahomed-Wilson and Ness (2018b: 3), the logistic workers remain divided along many lines, which also includes the jobs performed. The available evidence for logistics industry in Poland in pre-pandemic period confirms such an assertion and demonstrates the diversity of job quality in terms of remuneration, working time and collective interest representation<sup>2</sup>. In 2018, the transportation and storage sector employed over 10 million people in the European Union and 937 thousand in Poland. Approximately half of workers were employed in small

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<sup>2</sup> In the following considerations, we approach logistics based on the data available in Structural Business Statistics (SBS) of Eurostat, the category H ('Transportation and storage') of Nace Rev 2 classification. In case of lorry drivers, we use statistics for the section [H4941] Freight transport by road, in case of logistic centres – [H521] Warehousing and storage and for couriers – [H532] Other postal and courier activities.

enterprises and the other half in medium and large – yet it needs to be noted that large enterprises are mostly logistics centres and road transport – in addition, there is a special case of a former monopolists, the Polish Post [Eurostat SBS 2021].

**Table 1. Basic employment dimensions in logistics and selected subsections (2019)**

	Transportation and storage	Freight transport by road	Warehousing and storage	Other postal and courier activities
Employment (persons employed)(2019)*	937 595	478 689	28 082	18 863
Employment change (2010–2019)*	+28,0%	+76,0%	+ 73,0%	+ 164,0%
Share of employees in persons employed*	82,7%	80,8%	96,0%	75,0%
Estimated union density	9,7%**	Approx. 1%***	Approx. 5%***	No unions
Estimated employer organisation density	5,4%**	No data	No data	No data

Notes: Employment data includes only directly employed in the industry.

Source: \* Eurostat SBS 202 , 2) \*\* data for 2018 (GUS 2019b); \*\*\* information from expert interviews;

According to the report by Czerniak (2017) and the Structural Business Statistics of Eurostat<sup>3</sup>, the logistics industry noted almost continuous growth (except for 2008–2009) since the accession of Poland to the EU. The factors fostering the development of logistics included the geographical location of Poland on the cross-roads of supply chains, as well as relatively low labour costs. As documented in table 1, between 2010 and 2019 the number of employed grew by 28% in transportation and storage, 76% in freight transport by road, 72% in warehousing and storage and 164% in other postal and courier activities ['other' than Poczta Polska (the Polish Post) which carries out postal activities under universal service obligation]. This growth reflected a more general expansion of the industry in terms of the number of enterprises, turnover or gross premiums written and other structural business indicators.

The existing reports document an optimistic vision of the further expansion of the industry regardless of constantly observed labour shortages which were visible even prior to pandemic in the case of lorry drivers [Maack et al. 2019], logistic centres employees [Owczarek, Chelstowska 2016] and parcel-delivery couriers [Gulc 2020]. Labour shortages might be considered as an indicator of growing market

<sup>3</sup> [http://www.politykainsight.pl/\\_resource/multimediuum/20125523](http://www.politykainsight.pl/_resource/multimediuum/20125523) [Access: April 15, 2021].

power of workers. However, it should be noted that the precarious nature of work, including the frequent use of TAWs, constrain such type of power. The share of employees in persons employed, which can be seen as an indicator of non-standard employment and self-employment, is relatively high in warehousing and storage and lower in the case of couriers. Yet, it is clear that it does not take into account a large number of employed by TAWs in this large logistics centres. For instance, in Amazon alone at the very beginning of its functioning in Poland in 2015 there were 4,000 permanent workers and up to 7,000 temporary agency workers who were seasonally employed without any guarantees of continued employment [Owczarek, Chełstowska 2016: 27]. Earlier studies on postal couriers noted the expansion of dependent self-employment, in particular in companies other than the Polish Post [Podawca 2011]. As for food-delivery couriers, and generally platform workers in logistics in Poland, their legal status is also not regulated by the Labour Code, which deprives them of the possibility to secure an employment contract. As a result, a minority of food couriers are self-employed, while the majority work under civil law contracts [Polkowska et. al 2022: 46]. As result of the expansion of precarious employment, labour market power of workers remains limited.

Taking into account that the median for the national economy was approximately 3150 PLN in 2019 (according to the Statistics Poland), the median of net salaries as reported in press reports differentiated workers in the industry studied. According to a representative study of the Polish Institute of the Road Transport, in 2019, the net median pay of lorry drivers (including basic wages and all bonuses and benefits) was 6,300 PLN. However, other studies carried out by Sedlak&Sedlak suggested much lower salary: a bit over 2,800 PLN net<sup>4</sup>. The differences reflect the variable components of pays of lorry drivers. Their salary consists of basic pay subject to social security contributions, which is usually paid at the level of a minimum wage, and a variable component – per diem allowances and the allowance for overnight stays – which are not subject to social security contributions in case of international drivers can be as high as 75% of the total wage [Maack et al. 2019: 58]. Press reports suggested that the Amazon workers at the beginning of their careers could earn approx. 2700 PLN net in<sup>5</sup> According to one of the largest courier companies, InPost,

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<sup>4</sup> <https://inpost.pl/aktualnosci-cala-prawda-jak-pracuja-kurierzy-w-inpost> [Access February 4, 2022].

<sup>5</sup> <https://www.money.pl/gospodarka/ile-zarabiaja-kierowcy-autobusow-i-ciezarowek-niezadowoleni-jedni-i-drudzy-6533510369171073a.html> [Access: February 5, 2022].

workers employed there earned between 2500 and 3500 PLN net (all information as of 2019)<sup>6</sup>.

As far as working time is considered, the Statistics Poland data collected in 2019 demonstrates that time pressure at work in the section 'transportation and storage' was the highest: 21.7% of employees worked 'very often' under time pressure [GUS 2019a]. Such an observation seems to be relevant for all three sections of the industry studied. In the case of logistic centres workers, according to the report on Amazon published by Owczarek and Chelstowska [2016: 86], the main aspects of work organization include just-in-time principles, high numerical flexibility guaranteed by the extensive use of temporary work agencies, long shifts (up to 10,5 – 11 hours) accompanied by long-distance commuting to work and a high level of indirect, technological control over workers forcing very high pace of work (which is quite often impossible to reconcile with the health and safety regulations). The working time of lorry drivers and parcel delivery couriers is, in turn, very flexible. As noted by Podawca [2011: 146], almost 80% of couriers studied in 2011 worked longer than 40 hours per week and 60% indicated that they had no influence on their working time arrangements. They were also characterized as highly exploited group of workers in terms of health deterioration; these unfavourable conditions are arranged by i. a. employers which use the image of masculinity, that is strength, self-reliance, initiative, etc. [Kubisa 2019]. In the case of lorry drivers, pay depends on the working time system: those working 3 or 4 weeks (with 1 weeks rest in-between) and doing international routes earn significantly more than those with regular working time (Monday to Friday) in Poland only [Wolak et al. 2021: 12]. In practice, even though working time of a professional driver is legally regulated, there are a lot of exceptions in the existing law and legal loopholes regarding the issues such as 'working time at unusual hours, availability time, resting time (and remuneration) as well as in relation to tasks such as loading/unloading' [Maack et al. 2019: 59].

In terms of collective labour relations, the transportation and storage are low unionized [GUS 2019b] – in 2019, trade union density in the industry was 9,7% which was lower than in the case of nationwide average (16,3%). Yet, even such a low number is overestimated for the sections of the industry studied due to high level of unionization of railway and air transport as well as the Polish Post. Sectoral trade union organisations exists only in the case of lorry drivers the minority of whom

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<sup>6</sup> <https://inpost.pl/aktualnosci-cala-prawda-jak-pracuja-kurierzy-w-inpost> [Access February 4, 2022].

(approx. 5000 people according to our trade union informants) are unionized in the National Section of Road Transport of NSZZ Solidarność and a Trade Union Forum affiliate, the Independent Trade Union of Drivers. As of 2021, there were no trade unions in the case of parcel-delivery couriers, as well as food-delivery couriers; in addition, the latter workers are not covered by multi-company collective agreements nor by company collective agreements. Given these facts, the couriers have so far very rarely organised protests nor formed any collective strategies to improve the working conditions and job quality<sup>7</sup>. This situation may be related to the fact that there is a high percentage of migrants among couriers whose goals are different from those of local workers [Polkowska et. al 2022: 47]. On the one hand, an interview conducted in the framework of COV-WORK with the vice-president of the OPZZ shows a readiness to organise couriers, but little interest in union activities on the part of the latter. On the other hand, interviews with the couriers themselves show – so far – rather little knowledge of trade union activities. Yet, it needs to be noted that an interview with one of the organisers of the food-delivery couriers strike in Gdańsk also shows that the establishment of courier trade unions is being considered, and that even before the pandemic there were spontaneous suspensions of, i. a., DHL couriers' activities<sup>8</sup>:

In the case of logistic centres workers, trade unions started to emerge in the case of larger employers in the mid-2010s, in particular in Amazon Poland where a radical All-Poland Trade Union Workers' Initiative was established in 2014 and soon after NSZZ Solidarność followed. Yet, trade union density is still rather limited: less than 5 per cent of Amazon workforce is unionised. In addition, there is a tendency to bypass trade unions by non-union forms of workers' organizations (such as Workers' Forum in Amazon which has no prerogatives of unions and can be seen as a way of substituting them).

Employer organisation density in logistic is low and the existing organisations do not engage in industry-level collective bargaining. The industry-level tripartite social dialogue is limited to the road transport where the tripartite sectoral committee was established by the Ministry of Infrastructure. Yet, according to the website of the Social Dialogue Council, the committee was rather inactive and did not held its meetings since 2017. All this indicates relatively low associational power of workers

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<sup>7</sup> <https://www.wiadomoscihandlowe.pl/artukul/strajk-kurierow-dhl-tuz-przed-samymi-svietami-bozego-narodzenia> [Access: February 10, 2022].

<sup>8</sup> *Occupier Insight – Rynek magazynowy i sytuacja gospodarcza w Polsce*: <https://cresa.pl/silna-dynamika-podazy-i-popytu-na-rynku-magazynowym-w-polsce> [Access: April 15, 2021].

studied and their very limited institutional power resources despite their rather strong strategic importance in national economy. Nevertheless, in case of Amazon workers, their demands made it way to media and press reports which was confirmed by our informants from both trade unions and employer organisations. Workers' Initiative organised in 2015 go-slow protests and strike ballot at Amazon distribution centres demanding pay increase and more favourable calculation of working-time breaks. The protests were well visible in media and even though strike could not take place due to less than 50% of workforce participating in the ballot, it contributed to wage increase (Amazon Workers and Supporters 2019). Subsequent collective dispute started in 2019 and continues until now.

## Job Quality in Logistics during the COVID-19 Pandemic: Selected Dimensions

The COVID-19 pandemic accelerated the earlier growth of logistics: for instance, in 2020, the increase of warehouse areas in Poland was by 39% higher than in 2015–2019 on average<sup>9</sup>. The main players were companies active in the e-commerce sector. According to the report 'e-Commerce in Crisis 2020' [IGE 2020], 38% of Poles who stocked up during the pandemic did so online. Another – this time global – report on the functioning of warehousing services (and logistics centres) shows significant gains in sales, but also in employment for companies such as Amazon – the largest global market player in this segment:

*'As the largest e-commerce retailer in the US, Amazon took advantage of the massive shift to online shopping during the COVID-19 pandemic and saw its US sales increase 39 percent during 2020. The company's size and influence has expanded at an extraordinary pace. In the ten years between 2010 and 2020, Amazon's workforce grew from 33,700 to nearly 1.3 million and its annual net income increased from \$ 1.1 billion to \$21.3 billion'* [Strategic Organizing Center 2021: 1].

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<sup>9</sup> <https://www.forbes.com/sites/edgarsten/2020/04/13/covid-19-poses-uneven-challenges-for-commercial-truckers/> [Access: April 8, 2021]; <https://www.trucking.org/news-insights/ata-truckonnageindexrose-18-290> february [Access: April 10, 2021].

Despite the initial fears of breaking supply chains, logistics has proven to be more 'immune' to the crisis than expected. The Statistics Poland data on the impact of COVID-19 pandemic on the situation in the transportation industry in Poland demonstrates relative optimism of employers, of which majority (63.5% in January 2022) assessed the impact on COVID-19 pandemic on the situation in transport and storage industry as limited (in January 2021, this share was 51.5% while 28.8% saw the impact as serious and 14.4% as threatening the survival of companies) (GUS 2021a). Changes in the work environment which were observed in other industries proved to be short-lived and limited, whereas in transportation and storage: in January 2022, remote work was performed by 10.1% of workers (whereas 15.6% in January 2021), unplanned absences concerned 4.9% (4.8% in January 2021) and the lack of workers due to quarantine or other factors caused by pandemic was 5.4% in January of 2022 (while in January 2021 it was 5.2%).

When considering the number of transport and storage workers during the pandemic, '... in Q1 and Q2 2020, the working population (employed persons by NACE sections of the main job) within transport and storage [in Poland – S.P.] remained at a similar level [1065 and 1069 thousands respectively – S.P.], increased in Q3 [1110 thousands – S.P.] and remained unchanged in the following period, but compared to 2019, an increase in this population was recorded in each quarter (by: 5.1%, 4.6%, 5.6%, 3.4% respectively) [GUS 2021b: 73]. This growing number of logistic workers during pandemic reflected the increase in demand on their services. Considering the number of hours worked during the reference week in the main job (transport and storage), in the beginning of the pandemic, the number of hours of work in Q1 was 40,6 per week, whereas in the following quarter (Q2) the numbers were 39,4; what is more, in Q3 the numbers grew to 41,9, and eventually dropped in fourth quarter, to 39,8 [ibidem: 81]. As suggested by expert interviews and literature review discussed in the next part of the article, the relative stability of an overall working time in the overall industry hides a lot of fluctuation depending on the types of jobs and employment contracts. With regards to remuneration, its increase was moderate during pandemic: by approx 6.5% between 2020 and 2021, slightly above the inflation rate for 2021 (5.1%) [GUS 2021c].

It may also be worth looking at the issue of job quality in logistics in times of pandemic from a technological stance. The authors of a report entitled 'The Amazonian Era. How algorithmic systems are eroding good work' [IFOW 2021] focus on the different dimensions of the perception of 'good work' and list the different dimensions of job quality that are key to our paper, such as remuneration,



working time and work pressure. The authors come to conclusions, whereby under the impact of the pandemic, the perception of job quality through the prism of algorithmisation and automation (and the associated control and monitoring), has deteriorated significantly in the industries of interest – transport and warehousing. In other words, workers in logistics generally perceive that their working hours are not only being extended, but that this is accompanied by increasing intensification of work, with worsening wage and contractual conditions. Regarding the technological aspect of the job quality in logistics and warehousing, it is also worth mentioning the progressing robotisation of workplaces. This is particularly evident in the case of Amazon, which already has centres dedicated exclusively to robot's 'workforce'. In the report by Manpower Group and Łukasiewicz [2021], 63% of interviewed logistics employers in Poland planned to invest in automation and robotisation of their warehouses in the next years to meet the increased demand.

The further exploration of job quality changes in the industry after March 2020 is difficult due to scarce statistical data and very limited literature on the quality of work in logistics in Poland during the COVID-19 pandemic except for platform work which is not analysed in this article [e.g. Polkowska 2021; Muszyński et al. 2021]. More attention to the analysed topic can be found in North American, Asian, and especially European (EU-28) countries. Perhaps this is related to the fact that these continents play a key role in creating and maintaining supply and value chains in logistics. Due to the scarcity of the literature on Poland, the analysis of the job quality dimensions takes into account also broader, international data and supplements them with the observations from expert interviews.

## Lorry Drivers

International research suggests that if the economic and social impact of the pandemic is not minimized, the risk of contagion is likely to reduce the resilience of supply chains in domestic but especially international transport [Lemke, Apostolopoulos 2020], which is one of its key components. However, looking at the conditions in road transport in 2021, the situation has improved in terms of the permeability of trade routes, securing supply chains and increasing trade volumes in this segment.

Regarding truck drivers, the international literature highlights themes related to the fact that the group under study is particularly vulnerable to virus infection and

further spread of it. The literature identifies issues related to the lack of COVID-19 protective procedures and policies implemented by employers, also highlighting the fact that during the initial phase of the pandemic there was an apparent lack of preparedness in the form of provision of protective equipment for employees<sup>10</sup> [Lemke et al. 2020; Qin et al. 2021]. In addition, there are the interrelated problems of poor workers health conditions and long working hours, which, combined with the fact that these workers are generally older (compared to other occupational groups) – creates the so-called 'COVID-19-based syndrome' ([Lemke et al. 2021; Lemke, Apostolopoulos 2020]. One of the studies carried out on lorry drivers indicates that they work (during the pandemic) an average of 46,6 hours per week in UK (Longman et al. 2021: 6), which, on general, appears to be a huge underestimate. Media reports about the situation of this professional group in the USA indicate that they work as many as 60/70 hours a week<sup>11</sup>, which seems to yield conflicting results.

As far as the remuneration of lorry drivers is concerned, the amount seems to be falling even further during the pandemic. Some data indicate that, even before the COVID-19 period, the guaranteed basic salary in some European countries ranged from € 100 to € 600 gross per month. The findings of the Report on European Road Transport show that during the pandemic there was (and still is) a great deal of abuse of the salary model, particularly in relation to employees from post-socialist or Far East states employed by European companies. For example, one of the interviewed Romanian drivers '... receives a € 350 per month salary and, if he is lucky, he receives the total sum of € 2,000 per month for his salary, travel costs and his daily allowance for food and subsistence' [ITF 2020: 5]. Whereas in Poland, the survey conducted on behalf of the Polish Institute of Road Transport among lorry drivers shows that 31,2% of respondents answered affirmatively to the question on the reduction of remuneration during the pandemic, which seems to be very unfavourable in terms of job quality. According to the respondents, the amount decreased on average by 1080 PLN gross (approx. € 240) [Wolak et. al 2021: 14]. Working time for Polish drivers, according to media reports, can be as much as 13 or 15 hours per day. The only break,

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<sup>10</sup> <https://www.forbes.com/sites/edgarsten/2020/04/13/covid-19-poses-uneven-challenges-for-commercial-truckers/> [Access: April 8, 2021]; <https://www.trucking.org/news-insights/ata-truckonnageindexrose-18-290> February [Access: April 10, 2021].

<sup>11</sup> <https://www.npr.org/sections/money/2021/05/25/999784202/is-there-really-a-truck-driver-shortage?t=1636826325491> [Access: November 1, 2021].

not always available, is during the unloading of goods – sometimes the driver's assistance is also required in such situations<sup>12</sup>.

The research commissioned by the European Transport Worker's Federation and conducted among truck drivers in 2021 proves the high level of work pressure, but also long working hours and stress. 60% of surveyed truck drivers indicated that they regularly felt fatigued while driving a truck; 52% of them admitted that they were so tired that they wanted to pull over to rest but were unable to do so; almost 27% of the drivers surveyed admitted that they had almost caused a major accident because of tiredness felt at the wheel<sup>13</sup>.

Despite pandemic, labour market bargaining power of truck drivers remains high, as they are crucial in sustaining the supply chains and functioning of society in general and there are constant labour shortages in the industry. The structural bargaining power of truck drivers is also relatively high (as was already evident before the pandemic), but this does not translate into strong associational power. A good example illustrating this trend is Poland, where, although there have been several local protests held by lorry drivers<sup>14</sup>, they have not been effective enough to improve the job quality in real terms in the long run. Perhaps this situation is related

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<sup>12</sup> <https://www.dw.com/pl/ci%C4%99%C5%BCKi-zaw%C3%B3d-polski-kierowca-tira-powiem-jak-jest/a-53884835> [Access: November 1, 2021].

<sup>13</sup> <https://www.etf-europe.org/etf-report-reveals-eliminating-fatigue-in-professional-drivers-is-critical-to-road-safety/> [Access: November 1, 2021]

<sup>14</sup> In December 2020, lorry drivers went on – non-coordinated by trade unions – strike against the Polish government's actions during the pandemic and 'ignoring their work'. The first situation took form of the strike that aimed at blocking one of the main motorways in the south-west of Poland. The second protest and following picket in October 2021 were organised by trade union (the National Road Transport Section of the Independent Self-Governing Trade Union) active in the road transport sector. The strike was directed against Polish government actions. The strikers' demands included the improvement of working conditions and salaries (the idea was to take away per diems and lump sums, which were one of the components of wages of lorry drivers) and the reduction of fines imposed on truck drivers who were directly involved in (but not necessarily caused) road accidents. The form of the protest was similar to drivers blocking a motorway a year before. In October 2021, the same trade union organised a picket in front of the headquarters of the Polish Ministry of Infrastructure, demanding, in addition to the improvement of working conditions and wages and a reduction in working hours, the improvement of social dialogue between the government, trade unions and employers in the sector. <https://www.solidarnosc.org.pl/kstd/index.php/prawo/29-z-kraju/346-drogie-kolezanki-i-koledzy-kierowcy-zawodowi.html> [Access: February 7, 2022]; <https://www.solidarnosc.org.pl/kstd/index.php/prawo/28-z-prac-sekcji/347-pikieta-pod-gmachem-ministra-infrastruktury.html> [Access: February 7, 2022].

to competition based on costs and working conditions, since there is many private SME's and self-employed drivers on the labour market, including migrants who are much lower paid than Polish employees. In addition, the national (domestic) labour market of drivers is relatively small comparing to the much larger segment focused on international freight, whereby it is profitable for drivers to be an employee in private sector firms.

There are few trade unions with relatively few unionists among lorry drivers in Poland. It is difficult for active trade unions to attract new members, which also translates into weak associational and institutional power. The greatest strength of labour organisations are (presumably) organisational resources in form of network with European trade unions in road transport, whereby they hold a political power to exert influence on UE level legislative (i. a. some new EU regulations in the context of job quality during a pandemic). On the national level, as one of the experts interviewed in the frame of COV-WORK has told us, trade unions in Poland in road transport face difficult situation considering social dialogue, though they managed to negotiate with employers on improving the health and safety and social aspect of job quality. Yet, there is no industry-level collective agreement as employers are reluctant to engage in any kind of collective bargaining with unions and they focus mostly on direct lobbying rather than tri-partite social dialogue in relations to government.

## Logistics Centres Workers

In line with the literature review, studies indicate that at the global level, supply chains (production, processing, distribution, demand) were initially disrupted by the pandemic due to inadequate safety measures and poor provision of protective equipment for logistics workers [Aday, Aday 2020; Barman et al. 2021], but the situation quickly improved under the influence of governments, the employers' and workers' side, as logistics proved crucial to the functioning of the global, regional and local economy. Other studies point to the further expansion of the e-commerce segment and the reconfiguration of global value chains [International Finance Corporation 2020] or the fact that trade in the post-pandemic period can be even more efficient [Rivera 2020].

The studies on the job quality of workers in logistics centres during the pandemic indicate a low sense of job security, fear of loss of health or life in the workplaces, the fictitiousness of procedures aimed at eliminating the risk of virus infection

at companies [Chi et al. 2020]. On the one hand, the two latter issues seems to be confirmed by the statements of two trade unionists with whom we talked in expert interviews within COV-WORK. They emphasized that logistics centres had introduced (1) protective masks and gloves for the general public, but devices measuring the temperature of workers were installed only at the entrance to the halls. Similarly, our interviewees commented on the (2) logistics centre workers appointed by the employers who were suppose to stand and safeguard the social distance at the entrances to canteens, changing rooms and toilets, but not in the halls where warehouse workers most often come into contact with each other. Another action taken by the employer, according to interviewed trade unionists, was to (3) monitor the actual distance between workers in some parts of the warehouse, who were supposed to keep a distance of two metres, though it was hard to verify in practice. On the other hand, an interview with a representative from an employers' organisation in the warehousing and storage industry showed that companies tried to (4) ensure the safety and protection of workers' lives and health by mandating the wearing of protective masks and visors. In addition, employers decided to use (5) extra guards and partitions in the storage halls to help maintain a two metre distance between workers, as well as use (6) AI and CCTV cameras to pinpoint the areas where distance violations are most common in order to implement additional measures to eliminate such situations. Both trade unions and employer organisations' representatives, thus, confirm that pandemic contributed to new ways of controlling workers' behaviours at the workplace. As result, we can expect that they autonomy could have further decreased.

In the case of logistics centres, studies also highlight that employee fear for their own health and therefore a higher rate of worker absenteeism was observed than even before the pandemic. One reason for this was the lack of the infection control equipment at the beginning of the pandemic. The situation improved in the later phases of it. Regarding safety, another important aspect appears to be accidents in the workplace. In the case of Amazon, one can even speak of higher accident rate than in other firms from logistics: 'in 2020, for every 100 Amazon warehouse workers there were 5.9 serious injuries requiring the worker to either miss work entirely (lost time) or be placed on light or restricted duty (light duty). This rate is nearly 80 percent higher than the serious injury rate for all other employers in the warehousing industry in 2020' [Strategic Organizing Center 2021: 3].

A high level of work pressure can also be observed in Amazon's logistics centres in Poland. As the pandemic accelerates the pace of work, employees are required to meet ever-higher targets, while employees who do not meet the high standards are

quickly dismissed and replaced. According to our respondents from Amazon Poland, the employer continues to apply disciplinary penalties to employees. He uses the 'time off tasks' system, which assumes penalizing workers, if the breaks between tasks are 4 minutes. This system is used to measure working time and free time spent at work. It (was and) is especially evident during periods of the so-called 'peaks' when the demand for goods is higher than usually<sup>15</sup>, especially during Christmas time or other periods of the year (i. a. 'Black Friday', summer holidays, Easter, etc.). The initial phase of the contagion was dubbed by our interviewees as 'constant peak'. In addition to that, the employer scrupulously monitored working time and the number of tasks performed, using the mentioned system, not only with cameras but also with scanners. According to our interviewees, during a pandemic, free time does not allow for adequate regeneration of the body. One works for 10.5 hours and the total break time is one hour. The standards are so high that people walk 40 km a day. The age structure of the workers is from 18 to almost 70 years, and they are expected to do the same. It is not clear how these standards are set by employer.

Work pressure increases also due to continuous labour shortages in the industry. According to the report of Manpower Group and Łukasiewicz [2021], 34% of the surveyed logistics employers (N=134) indicated the problems with finding workers, in particular in the jobs of warehousemen and forklift operators (!), and 66% made use of the temporary agency work (TAW). The fact that 61% of companies indicated 'high wage expectations' as the reason for problems with finding employees suggests a relatively high workers' labour market bargaining power during pandemic. Even though 41% of firms admitted to be ready to increase wages to solve labour shortages problems, the actual pay rises were rather limited. For instance, in the case of Amazon, the beginners' basic salary increased after the pandemic bonuses were added to 2900–3150 PLN net in 2021<sup>16</sup> from 2700 PLN in 2019; still below the median wage which in 2020 was approximately 3400 PLN net (no fresher data was made available yet by the Statistics Poland). Simultaneously, the trend to make use of temporary agency work in the magazines has continued. In 2021 Amazon Poland employed 23 000 people

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<sup>15</sup> <https://wyborcza.biz/biznes/7,177150,26650964,najmniej-wydajni-w-amazonie-wyberani-sa-po-pierwszej-godzinie.html> [Access: November 4, 2021].

<sup>16</sup> <https://strefabiznesu.pl/zarobki-w-amazonie-sprawdz-ile-zarobisz-bez-doswiadczenia-i-jako-lider-zespolu/ar/c10-15657522> [Access February 4, 2022].

and, in addition, 9 000 during Christmas peak as seasonal workers<sup>17</sup>. According to expert interviews, a great majority of those hired via temporary work agencies are foreigners, in particular the Ukrainian migrant workers; a trend that has not been stopped by pandemic.

An important theme appearing in the literature is the increased working time in logistics centres. This was a consequence of the increased (sometimes even by several hundred per cent) demand for goods and commodities, not only necessities, but also a whole range of other products during consecutive phases of the pandemic. Overtime work was the norm in the initial phase of the pandemic, but then, in following stages of the contagion, working hours slowly began to adjust to standards typical of the pre-pandemic period. In terms of earnings, studies show that some employers decided to increase hourly wages, as well as introduce bonuses and other incentives, but this was only for a short time as the idea was withdrawn in the later periods of the pandemic. This is particularly noticeable during periods of increased customer activity and higher volumes of orders for goods (so-called 'peaks'): '[f]or example, between March and May and between 8 November and 26 December, employees received a wage supplement of PLN 4 (approx. €0,9) gross per hour, which amounted to PLN24 (approx. €5,3) gross per hour. And all employees processing customer orders in Poland received a bonus of PLN 1,000 (approx. € 222) gross in July<sup>18</sup>. It is worth noting that at the same time, trade unions (especially visible in media coverages in Amazon Poland) continued various – more or less formal – protests on which we elaborate further in this fragment of the paper. In Amazon Poland, there has been introduced new working time system, whereby the employer has staggered times, rescheduled breaks, and extended their duration<sup>19</sup>, which presumably extended the working time, multiplied the number and expanded the scope of employees' tasks.

Similarly as in the case of truck drivers, the situation of logistics centres workers in Poland in this context seems to combine a potentially high structural power resources (due to labour shortages and the rise of the demand on delivery of good) with limited associational power resources. The pandemic has deepened the earlier trends of

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<sup>17</sup> <https://www.benchmark.pl/aktualnosci/amazon-zatrudni-ponad-9000-polakow-na-okres-przedswiateczny.html> [Access February 4, 2022].

<sup>18</sup> <https://www.benchmark.pl/aktualnosci/amazon-zatrudni-ponad-9000-polakow-na-okres-przedswiateczny.html> [Access February 4, 2022]

<sup>19</sup> <https://blog.aboutamazon.pl/operacje/jak-amazon-dba-o-bezpieczenstwo-w-trakcie-pandemii-covid-19> [Access: November 4, 2021]

polarisation and segmentation of labour force, including the use of temporary agency work to counter-act the fluctuation of customers' demands. However, unlike in the case of rather isolated jobs of couriers and lorry drivers, the pandemic situation created also a new opportunity structure for workers concentrated in large logistic centres, in particular in Amazon Poland, to exercise collective pressure on employers. Given relatively low unionisation rates of logistics centres and anti-union strategies adopted by employers such as Amazon (see: Amazon Workers and Supporters 2018), trade unions had to make use of their societal power resources and organised widely publicised campaigns to attract the public opinion attention to their demands.

In Amazon, trade unions in the Polish branches of the company, likewise those at the global level, modified their initial demands from the demand to close logistic centres due to the risks to workers' health and safety (in March–April 2020) to the demand of wage increase based on the discourse of Amazon workers as essential workers. Interestingly, the discourse of essential work has been taken over by Amazon which started to label its workforce as contemporary heroes. Trade union response to the pandemic situation was also based on increasing union solidarity, both nationally and transnationally, which involved the cooperation with Tech Workers in Seattle, with Amazon Workers' International and other union committees in Poland in the logistics sector and, finally, cooperation between two trade unions in the Polish sites: Workers' Initiative and Solidarity which itself gets radicalised.

The result of solidarity was also the emergence of the new forms of workers' protests during pandemic: (1) wearing high visibility vests with #MakeAmazonPay slogans on Black Friday in November 2020, in various locations; (2) organizing short rallies on the shopfloor; (3) blocking delivery of goods to logistic centres; (4) walk outs – justified by the regulations of the Polish Labour Code which allow to stop working in case of working conditions dangerous for health and life of workers; (5) writing letters to Jeff Bezos – by unionists and MPs from all around the world (as the part of action #MakeAmazonPay). Workers' Initiative also organised street protests (in November 2021, together with farmers' movement – AgroUnia) and media campaigns following the disciplinary dismissal of trade union activist and social labour inspector in Amazon in November 2021 which trade unions considered unlawful; a range of reports in core Polish newspapers and news portals, such as *Gazeta Wyborcza*, *Okopress*, followed and emphasised the rising work pressure



at Amazon as the reason for occupational hazards<sup>20</sup>. However, the trade unions at Amazon have not decided to organise workers across entire supply chain in Poland, involving lorry drivers and couriers, which demonstrates the limits of associational power in the case of increasingly complex logistics systems. Similarly to the case of road transport, employers in logistics centres, even though associated in employer organisations, are not interested in any kind of social dialogue at the industry level given the weakness of trade unions beyond single companies.

## Parcel-Delivery Couriers

Regarding the job quality of this group, studies indicate an increase in demand for the services of parcel-delivery couriers since the beginning of the pandemic [Dones, Young 2020], even by several hundred percent for some goods from the e-commerce segment [Gruenwald 2020]. It is also important to highlight the boosted demand for courier services (for delivery of meals and other necessities, but not only) within the gig economy, both in Poland [Beręśiewicz, Nikulin 2021] and globally [Batool et al. 2020; Raj et al. 2021]. Increased working hours and an increased risk of contracting a virus are also themes that appear in the literature [Marà, Pulignano 2020]. Research to date on the consequences of the pandemic in Poland concerns in particular the 'gig' part of the industry and yields conflicting results. Looking at Glovo couriers, Polkowska [2021] argued that workers in this area of the platform economy in Poland were not negatively affected by the pandemic. At least in the initial period, demand surged, allowing them to enjoy relatively good wages and increased prestige despite hazardous working conditions. On the other hand, other studies – both in Poland [Muszyński, et al. 2021] and internationally [Alvarez et al. 2020; Herrera et al. 2020; Fairwork 2020] have noted that precarity became even more apparent – workers were left to cope with the effects of not having sick pay and other sources of income in the face of quarantine constraints and the decline in demand for services caused by the pandemic.

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<sup>20</sup> <https://wyborcza.biz/biznes/7,159911,27807311,amazon-zwolnil-za-rzekome-filmowanie-zwlok-mimo-sprzeciwu-zwiazku.html> [Access: February 5, 2022]

In the similar vein, international research on couriers pointed to a likely increase in demand for parcel-delivery services to deliver packages if people remain at home and the vaccination program is not fully implemented [Dones, Young 2020]. Early on in the pandemic, it was predicted that there would be a several percent increase in demand for online shopping after the pandemic period ends<sup>21</sup>. The global ILO report [ECE 2021] shows that the pandemic has triggered, or dynamized, pre-existing processes of precarisation of work and deterioration of job quality (decrease in remuneration, high pressure of work and long working hours) in the case of couriers:

*'While the COVID-19 pandemic has led to a 35% decrease of passenger transport services in 2020, experts reported a rapid increase in platform work in other sectors for all EU Member States. The increase affected, most notably, food and goods deliveries both for multinational and newly established local platforms, which have grown by 125% in 2020... . This trend is associated, first, with increasing demand for platform-delivered services, and second, with the loss of jobs in some traditional economic sectors, with displaced workers seeking employment opportunities in the platform economy. On the other hand, supply of online services through platforms exceeds demand, putting downward pressure on the income of people working through platforms'* [ECE 2021: 2].

What is more, in the case of couriers, employers often used (even in pre-pandemic times, cf. Newsome et. al 2019) new technological means of work-flow monitoring, which reduced labour costs and deepened labour market segmentation and polarization. Further deployment of new technological solutions is likely to take place after the pandemic, an example of which is already the use of drones (as a complementary 'workforce') to upgrade the delivery fleet during and after a pandemic [Patchou et al. 2021; Singh et al. 2021].

Considering job quality dimension studied, for couriers delivering parcels, one of the very few findings on wages during the pandemic could be surprising, as according to research conducted in Poland among members of this group, '... the salaries and other elements of couriers' work motivation have not changed. Whereas the risk of the work performance and generated infection of coronavirus has increased' [Zadros 2021: 229]. Though it is hard to find data about the exact amount of remuneration

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<sup>21</sup> <https://www.mckinsey.com/business-functions/marketing-and-sales/our-insights/the-great-consumer-shift-ten-charts-that-show-how-us-shopping-behavior-is-changing> [Access: February 8, 2022].

of parcel delivery couriers (in Poland and elsewhere) in times of the contagion, one can assume that it was not satisfactory as the mentioned conclusion points to. Media articles seem to prove that couriers in Poland could earn on average (in 2021) between PLN 2,200 – PLN 3,300 (approx. € 520–€ 790) net per month<sup>22</sup>, yet there are also reports on much higher earnings which can reach as much as PLN 7,000–8,000 (approx. € 1556–€ 1778) in case of some self-employed couriers<sup>23</sup>. In the case of the majority of those earning much less, it is necessary to make use of private resources to protect themselves against precarity in the context of changing demand during pandemic. They include family support, earlier savings, and additional income from other jobs (Muszyński et al. 2021).

Data on the working time of couriers in Poland is not readily available but given the institutional conditions of this segment of labour market in logistics, working time has been and continues to be very flexible. If one assumes that the number of orders and the demand for goods and commodities delivered by couriers has increased, one may conclude that working time has significantly increased, as it depended (and still depends) generally on the number of parcels to be delivered on a given day<sup>24</sup>. Given that the number of parcels increased during the pandemic, the work pressure in this profession in Poland is relatively high. Not only do couriers deliver packages to customers, but they are also often involved in loading, unloading and disinfecting shipments. Considering that during the pandemic the number of packages increased, work pressure was also very high, as was the level of stress related to optimising delivery times, or the possibility of losing a package or having it stolen<sup>25</sup>. A similar observation was also made in the case of South Korean couriers<sup>26</sup> and their counterparts in Malaysia, whose work conditions (working hours and salaries) seem extremely dire in the face of the ongoing pandemic crisis [Keet et al. 2021].

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<sup>22</sup> <https://wyborcza.biz/biznes/7,159911,27229242,aaa-kuriera-chetnie-zatrudnie-praca-w-tym-fachu-lezy-na.html> [Access: November 5, 2021].

<sup>23</sup> <https://wyborcza.biz/biznes/7,177150,27896440,praca-kurierow-przed-swietami-ludzie-tej-presji-nie-wytrzymuja.html> [Access: February 5, 2022].

<sup>24</sup> <https://www.pulshr.pl/zarzadzanie/jak-wyglada-praca-kuriera-i-ile-mozna-zarobic,76723.html> [Access: November 5, 2021].

<sup>25</sup> <https://innpoland.pl/163199,kurierzy-a-koronawirus-czy-beda-opoznienia-i-kiedy-kupowac-prezenty> [Access: November 5, 2021].

<sup>26</sup> <https://www.weforum.org/agenda/2020/12/south-korean-delivery-workers-coronavirus-covid-workers/> [Access: November 5, 2021].

The structural and labour market bargaining power of couriers are limited by highly contingent and precarious work arrangements, including the pre-dominance of dependent self-employment and employment with civil law contracts via intermediaries, as in the case of the majority of food delivery couriers [Muszyński et al. 2021; Polkowska 2021]. Couriers lack associational power, as trade unions in this segment are non-existent, except for the Polish Post. Unlike in other countries, in which couriers and food-delivery Internet platform workers have staged protests during pandemic demanding higher wages, the provision of health care and protective equipment through online platforms [Trappmann et al. 2020], far fewer protests have taken place in Poland. During the pandemic, the first ever, spontaneous protest of Glovo couriers took place in two cities (Gdańsk and Białystok) in Poland in Spring 2021 centred around the issue of unpaid working time on the way to restaurants from which food to be delivered was picked up. Despite media attention it attracted, it has not, however, contributed to significant changes in their working conditions. Thus, it can be concluded that out of the three segments of the logistics studied, couriers have the least power resources of any kind except for labour market bargaining power stemming from increasing demand on their services. Yet, this kind of power makes job quality highly dependent on quickly changing economic situation and subject to high, internal competition which results in increasing work pressure and semi-forced self-employment and work via civil-law contracts to decrease labour costs. The pandemic has not acted as a trigger for the improvement of job quality, but instead increased the segmentation of workforce in terms of skills, employment types and salaries which are additionally increased by the inflow of migrant workers to the industry.

## Conclusions

This article aimed at exploring the relationship between the selected aspects of job quality in logistics and worker power resources during the COVID-19 pandemic. It focused on three occupational groups in the industry: (1) logistics centres employees, (2) lorry drivers, and (3) parcel-delivery couriers. Contrary to initial expectations of the disruption of supply chains as result of lockdowns, logistic continued to operate during the entire period of pandemic with continuously increasing turnover and employment. Labour shortages continued to be present, but they were more often

related to the booming demand on delivery services than to unplanned absences and the lack of workers due to quarantine or other factors caused by pandemic.

Based on the analysis of the available secondary data, literature review and the information from expert interviews with trade unions and employer organisations, it can be concluded that despite the key relevance of logistic workers who had 'no choice to be essential' [Loustanou et al. 2021] during pandemic, no major improvements of their job quality was observed. Instead, an increase in work pressure was noted, with a corresponding decrease in the safety and health of workers in three categories explored (see table 2). Expert interviews and literature review suggest that the pandemic crisis contributed to further destabilisation of working time schedules and expansion of precarious, temporary employment due to the fluctuation of demand on delivery services.

**Table 2. Workers power, collective action and job quality during pandemic**

	Lorry drivers	Logistic centres workers	Couriers
Power resources			
Structural power	Moderate	Limited	Very limited
Associational power	Limited	Limited	Very limited
Institutional power	Limited	Very limited	Very limited
Societal power	Limited	Moderate	Limited
Job quality during pandemic			
Health risks	High	High	High
Wages	Stable or worse	Limited pay rises	Unstable, some pay rises
Working time/pressure	Stable/diverse	High	High
Collective action during pandemic			
The presence of workers protests	Very limited	Moderate (Amazon)	Very limited

Source: Own elaboration

Pay rises in the sector as a whole were just slightly above the levels of inflation. While in the case of lorry drivers, wages stagnated or declined, the couriers pays increased but remained very unstable. Rather moderate wage increases which were explicitly linked to pandemic situation were observed only in the case of Amazon in which workers mobilised and voiced their demands in the series of informal protests. Even though the company has never admitted the existence of the relationship between workers' mobilisation and pay rises, trade unionists whom we interviewed were convinced that it existed. In addition to collective pressure and social campaigns

staged by unions, an important factor behind salary improvements can be related to massive labour shortages which were also noted in industry reports [Manpower, Łukasiewicz 2021].

Existing research [EPTT 2021] suggests that a pandemic may dynamize trends associated with a shift towards nearshoring in logistics but increased structural bargaining power of workers may translate into associational power, which may prevent this trend. There is also an assumption that there may be a 'great resignation'<sup>27</sup> of workers in logistics resulting in an undersupply of labour, which will increase prices in the industry, though it is too early to draw any certain conclusions. The analysis so far can only confirm the observation that the structural resources of logistic workers alone which result from their strategic location in the global and national economies, growing demand on logistic services during the COVID-19 pandemic and labour shortages are insufficient to improve their working conditions. Simultaneously, their collective mobilisation, which could increase their associational resources, is continuously constrained by the nature of their work organisation, anti-union employer strategies and new ways of technological and algorithmic control over work adopted by employers [Bonacich, Wilson 2008; Alimahomed-Wilson, Ness 2018b]. Yet, as demonstrated by the case of Amazon in Poland (and more globally), the pandemic situation has also contributed to innovative forms of workers organization and growing international solidarity in the industry as well as nascent forms of solidarity across supply chain (e.g. between Amazon workers and lorry drivers delivering goods to centres of this company). It remains to be seen if these developments continue in the post-pandemic years.

## References

- Aday, S., Aday, M. (2020), 'Impact of COVID-19 on the food supply chain', *Food Quality and Safety*, 4(4): 167–180.
- Alimahomed-Wilson, J., Ness, I., (eds.) (2018a), *Choke Points: Logistics Workers Disrupting the Global Supply Chain*, London: Pluto Press.
- Alimahomed-Wilson, J., Ness, I. (2018b), 'Introduction: Forging Workers' Resistance Across the Global Supply Chain', in: *Choke Points: Logistics Workers Disrupting the Global Supply Chain*, eds. Alimahomed-Wilson, J., Ness, London: Pluto Press: 1–15.

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<sup>27</sup> <https://www.washingtonpost.com/world/2021/10/18/labor-great-resignation-global/> [Access: October 24, 2021].

- Alvarez de la Vega, J.C., Cecchinato, M.E., Rooksby, J. (2020), 'The Gig Economy in the Times of Covid-19: Designing for Gig Workers', Available at: <https://www.microsoft.com/enus/research/uploads/prod/2020/07/NFW-Alvarez-de-laVegaet-al.pdf> [Access: April 20, 2021].
- Amazon Workers and Supporters, (2018), '"Stop Treating Us Like Dogs!" Workers Organizing Resistance at Amazon in Poland', in: *Choke Points: Logistics Workers Disrupting the Global Supply Chain*, eds. Alimohamed-Wilson, J., Ness, I., London: Pluto Press: 96–109.
- Barman, A., Das, R., De, P. (2021), 'Impact of COVID-19 in food supply chain: Disruptions and recovery strategy', *Current Research in Behavioral Sciences*, 2, <https://doi.org/10.1016/j.crbeha.2021.100017>.
- Batool, M., Ghulam, H., Hayat, M.A., Naeem, M.Z., Ejaz, A., Imran, Z.A., Spulbar, C., Birau, R., Gorun, T.H. (2020), 'How has COVID-19 shaken the sharing economy? An analysis using Google trends data', *Economic Research-Ekonomska Istraživanja*: 1–13.
- Beręsiewicz, M., Nikulin, D. (2021), 'COVID-19 and the gig economy in Poland', arXiv:2107.11124. Available at: <https://arxiv.org/abs/2107.11124> [Access: September 14, 2021].
- Bonacich, E., Wilson, J. (2008), *Getting the Goods: Ports, Labor, and the Logistics Revolution*, Ithaca: Cornell University Press.
- Chi, H, Vu, TV, Vo-Thanh, T., Nguyen, NP, Van Nguyen, D. (2020), 'Workplace health and safety training, employees' risk perceptions, behavioral safety compliance, and perceived job insecurity during COVID-19: Data of Vietnam', DOI:10.1016/j.dib.2020.106346.
- Czerniak, A. (2017), 'Branża logistyczna. Wpływ zakazu handlu w niedziele', *Polityka Insight* Available at: [http://www.politykainsight.pl/\\_resource/multimedium/20125523](http://www.politykainsight.pl/_resource/multimedium/20125523) [Access: March 31, 2021].
- Dones, R., Young, M. (2020), 'Demand on the of Courier Services during COVID-19 Pandemic in the Philippines', *7<sup>th</sup> International Conference on Frontiers of Industrial Engineering (ICFIE)*: 131–134, DOI: 10.1109/ICFIE50845.2020.9266722.
- Doellgast, V., Lillie, N., Pulignano, V. (2018), *Reconstructing solidarity: Labour unions, precarious work, and the politics of institutional change in Europe*, London: Oxford University Press.
- ECE. (2021), 'European Centre of Expertise in the field of labour law, employment, and labour market policies'. Available at: <https://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=8419&furtherPub=yes> [Access: September 25, 2021].
- Eurofound. (2020a), 'Job quality', Dublin Available at: <https://www.eurofound.europa.eu/topic/jobquality>.

- Eurofound. (2020b), 'Living, working and COVID-19: First findings – April 2020', Dublin. Available at: <https://www.eurofound.europa.eu/data/covid-19/working-teleworking> [Access: March 28, 2021].
- Eurofound. (2020c), 'Representativeness of the European social partner organisations: Road transport and logistics sector'. Available at: [https://www.eurofound.europa.eu/sites/default/files/ef\\_publication/field\\_ef\\_documenef506en.pdf](https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_documenef506en.pdf) [Access: March 29, 2021].
- Eurofound. (2021), 'Working conditions and sustainable work: An analysis using the job quality framework', Available at: <https://www.eurofound.europa.eu/publications/flagship-report/2021/working-conditions-and-sustainable-work-an-analysis-using-the-job-quality-framework> [Access: February 7, 2022].
- Eurofound and European Commission Joint Research Centre (2021), 'What just happened? COVID-19 lockdowns and change in the labour market', Available at: <https://www.eurofound.europa.eu/publications/report/2021/what-just-happened-covid-19lockdowns-and-change-in-the-labour-market> [Access: February 7, 2022].
- Eurostat. (2017), 'Transportation and storage statistics'. Available at: [https://ec.europa.eu/aborCe/statisticsexplained/index.php?title=Transportation\\_and\\_storage\\_statistics\\_NACE\\_Rev.\\_2#Structural\\_profile](https://ec.europa.eu/aborCe/statisticsexplained/index.php?title=Transportation_and_storage_statistics_NACE_Rev._2#Structural_profile) [Access: March 27, 2021].
- Eurostat SBS. (2021), 'Transportation and storage statistics – NACE Rev. 2', Available at: [https://ec.europa.eu/aborCe/statisticsexplained/index.php?title=Transportation\\_and\\_storage\\_statistics\\_-\\_NACE\\_Rev.\\_2](https://ec.europa.eu/aborCe/statisticsexplained/index.php?title=Transportation_and_storage_statistics_-_NACE_Rev._2) [Access: February 7, 2022].
- Fairwork. (2020), 'The Gig Economy and Covid-19: Looking Ahead', Available at: <https://fair.work/en/fw/publications/the-gig-economy-and-covid-19-looking-ahead/#continue> [Access: February 7, 2022].
- Gallie, D. (2013a), 'Economic Crisis, Quality of Work and Social Integration: Topline Results from Rounds 2 and 5 of the European Social Survey', Available at: <https://www.esri.ie/publications/economic-crisis-quality-of-work-and-social-integrationtopline-results-from-rounds-2-and-5-of-the-european-social-survey> [Access: February 7 2022].
- Gallie, D. (2013b), *Economic Crisis, Quality of Work, and Social Integration*, Oxford: Oxford University Press.
- GSI (2020), 'Rynek KEP w Polsce. W obliczu trendów i nowych wyzwań'. Available at: <https://www.gslpl.org/archiwum/798-raport-na-temat-branzy-kurierskiej-2> [Access: November 5, 2021].
- Green, F, Mostafa, T., Parent-Thirion, A. (2013), 'Is Job Quality Becoming More Unequal?' *ILR Review*, 66(4): 753–784, doi:10.1177/001979391306600402.
- Grimshaw, D., Lehdorff, S. (2010), 'Anchors for job quality : Sectoral systems of employment in the European context', *Work Organisation, Labour and Globalisation*, 4(1): 24–40.
- Gruenwald, H. (2020), 'Covid-19 and the New Normal compared to the Past', DOI:10.13140/RG.2.2.23256.52489. Available at: <https://www.researchgate.net/>



- publication/344723681\_Covid19\_and\_the\_New\_Norm \_compared\_to\_the\_Past [Access: April 3, 2021].
- Gulc, A. (2020), *Relacyjny model systemu kształtowania jakości usług kurierskich w branży e-commerce*, Białystok: Wydawnictwo Politechniki Białostockiej.
- GUS (2019a), 'Badanie organizacji i rozkładu czasu pracy w 2019 roku', Available at: <https://stat.gov.pl/obszary-tematyczne/rynek-pracy/pracujacy-bezrobotni-bierni-zawodowo-wg-bael/badanie-organizacji-i-rozkladu-czasu-pracy-w-2019-roku,20,2.html> [Access: February 7, 2022].
- GUS (2019b), 'Partnerzy dialogu społecznego – związki zawodowe i organizacje pracodawców wyniki wstępne'. Available at: <https://stat.gov.pl/obszary-tematyczne/gospodarka-spolesznawolontariat/gospodarka-spoleszna-trzeci-sektor/partnerzy-dialogu-spolesznego-zwiazki-zawodowe-i-organizacje-pracodawcow-wyniki-wstepne,16,1.html> [Access: February 2, 2022].
- GUS (2021a), 'Wpływ pandemii COVID-19 na koniunkturę gospodarczą – oceny i oczekiwania (dane szczegółowe oraz szeregi czasowe). Aneks do publikacji (styczeń 2022)', Available at: <https://stat.gov.pl/obszary-tematyczne/koniunktura/koniunktura/wplyw-pandemii-covid-19-nakoniunkturze-gospodarcza-oceny-i-oczekiwania-dane-szczegolowe-oraz-szeregi-czasowe-aneks-do-publicacji-styczen-2022,6,16.html> [Access: February 7, 2022].
- GUS (2021b), *Wybrane aspekty rynku pracy w Polsce. Aktywność ekonomiczna ludności przed i w czasie pandemii COVID-19*. Available at: <https://stat.gov.pl/obszarytematyczne/rynekpracy/zasady-metodyczne-rocznik-pracy/wybrane-aspekty-rynku-pracy-w-polsce-aktywnoscekonomiczna-ludnosci-przed-i-w-czasie-pandemii-covid19,11,1.html> [Access: October 30, 2021].
- GUS (2021c), *Zatrudnienie i wynagrodzenia w gospodarce narodowej w I-III kwartale 2021 roku*, Available at: <https://stat.gov.pl/obszary-tematyczne/rynek-pracy/pracujacy-zatrudnieni-wynagrodzenia-koszty-pracy/zatrudnienie-i-wynagrodzenia-w-gospodarce-narodowej-w-i-iii-kwartale-2021-roku,1,44.html> [Access: February 7, 2022].
- Harvey, D. (2020), 'Anti-Capitalist Politics in the Time of COVID-19', *Jacobin*. Available at: <https://jacobinmag.com/2020/03/abor-harvey-coronavirus-political-economydisruptions> [Access: April 2, 2021].
- Herrera, L., Justie, B., Koonse, T., Waheed, S. (2020), *Worker Ownership, COVID-19, and the Future of the Gig Economy*, Los Angeles: UCLA.
- International Finance Corporation (2020), 'The Impact of COVID-19 on Logistics' Available at: [https://www.ifc.org/wps/wcm/connect/2d6ec419-41df-46c98b7b96384cd36ab3/IFCCovid19\\_Logisticsfinal\\_web.pdf?MOD=AJPERES&CVID=naqOED5](https://www.ifc.org/wps/wcm/connect/2d6ec419-41df-46c98b7b96384cd36ab3/IFCCovid19_Logisticsfinal_web.pdf?MOD=AJPERES&CVID=naqOED5) [Access: April 7, 2021].

- IFOW (2021), 'The Amazonian Era: How algorithmic systems are eroding good work' Available at: <https://www.ifow.org/publications/the-amazonian-era-how-algorithmic-systems-are-eroding-good-work> [Access: October 10, 2021].
- IGE (2020), 'E-Commerce w czasie kryzysu 2020' Available at: <https://eizba.pl/wpcontent/uploads/2020/03/E-commerce-w-czasie-kryzysu-2020.pdf> [Access: March 25, 2021].
- ITF (2020), 'Pandemic of exploitation in European trucking' Available at: <https://www.itfglobal.org/en/reports-publications/pandemic-exploitation-in-european-trucking-vnb-itf-iuf-report> [Access: September 1, 2021].
- Juskowiak, P. (2018), 'O twórczej destrukcji przestrzeni – Marks i sieci logistyczne', *Praktyka Teoretyczna*, 26(4): 250–289.
- Kalleberg, A. (2009), 'Precarious Work, Insecure Workers: Employment Relations in Transition', *American Sociological Review*, 74(1): 1–22, doi:10.1177/000312240907400101.
- Kalleberg, A. (2011), *Good Jobs, Bad Jobs: The Rise of Polarized and Precarious Employment Systems in the United States, 1970s–2000s*, New York: Sage.
- Kee, D., Nasser, S., Sany, N., Azhar, T., Roslan, Z., Amlı, N. (2021), 'The Strategy, Impact, and Challenges Faced by Pos Malaysia Berhad during the COVID-19 Crisis', *Journal of The Community Development in Asia* 4(2): 13–25.
- Kubisa, J., Mendonca, P. (2018), 'Job quality in an era of flexibility', in: *Job Quality in an Era of Flexibility: Experiences in a European Context*, eds. T. Isidorsson, J. Kubisa, Abingdon: utledge: 1–19.
- Kubisa, J. (2019), 'Trzy światy męskiej pracy – stałość i zmiana wzorów wzmaskulinizowanych zawodach', *Studia Socjologiczne*, 234(3): 171–196.
- Leschke, J., Watt, A., Finn, M. (2008), 'Putting a number on job quality? Constructing a European job quality index', Available at: <https://www.etui.org/publications/working-papers/putting-a-number-on-job-quality> [Access: February 7, 2022].
- Levesque, Ch., Murray, G. (2010), 'Understanding Union Power: Resources and Capabilities for Renewing Union Capacity', *Transfer: European Review of Labour and Research* 16: 333–50.
- Lemke, M., Apostolopoulos, Y. (2020), 'A novel COVID-19 based truck driver syndemic? Implications for public health, safety, and vital supply chains', *American Journal of Industrial Medicine* 63(8): 659–662.
- Lemke, M., Apostolopoulos, Y., Sönmez, S. (2020), 'Syndemic frameworks to understand the effects of COVID-19 on commercial driver stress, health, and safety', *Journal of Transport and Health*, DOI: 10.1016/j.jth.2020.100877.
- Lemke, M., Hege, A., Apostolopoulos, Y., Sönmez, S. (2021), 'Hours-of-service compliance and safety outcomes among long-haul truck drivers', *Transportation Research Part F: Traffic Psychology and Behaviour* 76: 297–308.
- Longman, D.P., Shaw, C.N. Varela-Mato, V. Sherry, A., P., Ruettger, K., Sayyah, M., Guest, A., Chen, Y.-L., Paine, N.J., King, J.A., (2021), 'Time in Nature Associated with Decreased

- Fatigue in UK Truck Drivers', *International Journal of Environmental Research and Public Health* 18: 31–58.
- Loustaunau, L., Stepick, L., Scott, E., Petrucci, L., Henifin, M. (2021), 'No Choice but to Be Essential: Expanding Dimensions of Precarity During COVID-19', *Sociological Perspectives*. DOI:10.1177/07311214211005491.
- Maack, W., Vitols, K., Voss, E. (2019), 'Social Conditions in Logistics in Europe: Focus on Road Transport', Available at: <https://www.wilkemaack.de/inhalt/social-conditions-in-logistics-ineurope-focus-on-road-transport/> [Access: February 7, 2022].
- Maciejewska, M., Mrozowicki, A., Piasna, A. (2016), 'The silent and crawling crisis: international competition, labour market reforms and precarious jobs in Poland', in: *Unemployment, internal devaluation and labour market deregulation in Europe*, eds. M. Myant, S. Theodoropoulou, A. Piasna, Brussels: ETUI: 229–254.
- Manpower Group and Łukasiewicz (2021), 'Logistyka w Polsce', Available at: <https://ilim.lukasiewicz.gov.pl/raport-logistyka-w-polsce-pobierz-nasz-najnowszy-raport-i-dowiedz-sie-wiecej-o-logistyce-w-polsce/> [Access: February 7, 2022].
- Marà, C., Pulignano, V. (2020), 'Working – Work Disruption in a Context of Pandemics: Social Bonds and the 'Crisis Society'', *European Sociologist*, 45(1). Available at: <https://www.europeansociologist.org/issue-45-pandemic-impossibilities-vol-1/> [Access: March 3, 2021].
- Muñoz de Bustillo, R., Fernández-Macías, E., Antón, J., Esteve, F. (2009), 'Indicators of Job Quality in the European Union'. Available at: [https://www.europarl.europa.eu/thinktank/pl/document/IPOL-EMPL\\_ET\(2009\)429972](https://www.europarl.europa.eu/thinktank/pl/document/IPOL-EMPL_ET(2009)429972) [Access: February 7, 2022].
- Muszyński, K., Pulignano, V., Domecka, M., Mrozowicki, A. (2021), 'Coping with precarity during COVID-19: A study of platform work in Poland', *International Labour Review*, <https://doi.org/10.1111/ilr.12224>.
- Newsome, K.J., Moore, S., Ross, C. (2018), 'Supply chain capitalism': exploring job quality for delivery workers in the UK', in: *Job Quality in an Era of Flexibility: Experiences in a European Context*, Isidorsson, T., Kubisa, J., eds., London: Routledge: 81–98.
- Owczarek, D., Chełstowska, A. (2016), 'Amazon po polsku. Warunki pracy i stosunki z pracownikami', *Instytut Spraw Publicznych*. Available at: <https://www.isp.org.pl/pl/publikacje/amazon-popolsku-warunki-pracy-i-stosunki-z-pracownikami> [Access: March 25, 2021].
- Patchou, M., Sliwa, B., Wietfeld, C. (2021), 'Flying Robots for Safe and Efficient Parcel Delivery Within the COVID-19 Pandemic', *Networking and Internet Architecture*. Available at: <https://arxiv.org/abs/2101.07877> [Access: March 3, 2021].
- Podawca, D. (2011), 'Kurierzy w sektorze pocztowym w Polsce – praca na własny rachunek jako wymuszenie, czy jako wybór?', in: *Gra o jutro usług publicznych w Polsce*, ed. W. Kozek, Warszawa: Wydawnictwo Uniwersytetu Warszawskiego.

- Polkowska, D. (2021), 'Platform work during the COVID-19 pandemic: a case study of Glovo couriers in Poland', *European Societies* 23(1): 321–331.
- Polkowska, D., Podgórska, K., Kolasa-Nowak, A., Nowakowski, M., Dyczewski, B., Filipek, K. (2022), 'Bargaining for working conditions and social rights of migrant workers in CEE Countries', Available at: [http://barmig.umcs.eu/?page\\_id=174](http://barmig.umcs.eu/?page_id=174) [Access: February 9, 2022].
- Qin, X., Godil, D.I., Khan, M.K., (2021), 'Investigating the effects of COVID-19 and public health expenditure on global supply chain operations: an empirical study', *Operations Management Research*, <https://doi.org/10.1007/s12063-020-00177-6>.
- Raj, M., Sundararajan, A., You, C. (2021), 'COVID-19 and Digital Resilience: Evidence from Uber Eats'. Available at: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3625638](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3625638) [Access: October 10, 2021].
- Rivera, A. (2020), 'The impact of COVID-19 on transport and logistics connectivity in the landlocked countries of South America', Available at: <https://www.cepal.org/en/publications/46528-impact-covid-19-transport-and-logistics-connectivity-landlocked-countries-south> [Access: February 7, 2022].
- Rothwell, J., Crabtree, S. (2021), *How COVID-19 Affected the Quality of Work*, Available at: <https://www.luminafoundation.org/resource/2020-great-jobs-survey/> [Access: February 7, 2022].
- Schmalz, S., Ludwig, C., Webster, E. (2018), 'The Power Resources Approach: Developments and Challenges', *Global Labour Journal*, 9(2): 113–134.
- Silver B., (2009), *Globalny proletariat. Ruchy pracownicze i globalizacja po 1870 r.*, Warszawa: Instytut Wydawniczy Książka i Prasa.
- Singh, S., Kumar, R., Panchal R., Tiwari, M. (2021), 'Impact of COVID-19 on logistics systems and disruptions in food supply chain', *International Journal of Production Research* 59: 7, 1993 2008.
- Snyder, H. (2019), 'Literature review as a research methodology: An overview and guidelines', *Journal of Business Research* 104: 333–339.
- Strategic Organizing Center (2021), 'Primed for Pain: Amazon's Epidemic of Workplace Injuries'. Available at: <https://thesoc.org/amazon-primed-for-pain/> [Access: August 1, 2021].
- Trappmann, V., Bessa, I., Joyce, S., Neumann, D., Stuart, M., Umney, C. (2020), *Global labour unrest on platforms*, Brussels: ETUI. Available at: <http://library.fes.de/pdffiles/iez/16880.pdf> [Access: April 15, 2021].
- United Nations (2020), 'Policy Brief: The World of Work and COVID-19', Available at: <https://unsdg.un.org/resources/policy-brief-world-work-and-covid-19> [Access: October 1, 2021].
- Vaughan-Whitehead, D. (2015), *The European Social Model in Crisis: Is Europe Losing Its Soul?* Cheltenham: Edward Elgar.

- Wolak, M., Świeboda, J., Kushta, Y. (2021), 'Zarobki kierowców zawodowych w Polsce', Available at: <https://pitd.org.pl/news/zarobki-kierowcow-w-polsce/> [Access: February 7, 2022].
- Wood, AJ., Graham, M., Lehdonvirta, V., (2019), 'Good Gig, Bad Gig: Autonomy and Algorithmic Control in the Global Gig Economy', *Work, Employment and Society* 33(1): 56–75.
- Wright, E.O. (2000), 'Working-Class Power, Capitalist-Class Interests, and Class Compromise', *American Journal of Sociology* 105(4): 957–1002.
- Zadros, K. (2021), 'Employee satisfaction with the employer's health safety activities during the sars cov-2 pandemic', *System Safety: Human – Technical Facility – Environment* 3(1): 228–238.