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**JOB QUALITY GAPS BETWEEN
MIGRANT AND NATIVE GIG
WORKERS:
EVIDENCE FROM POLAND**

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Job quality gaps between migrant and native gig workers: evidence from Poland[•]

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Abstract

The gig economy has grown worldwide, opening labour markets but raising concerns about precariousness. Using a tailored, quantitative survey in Poland, we study taxi and delivery platform drivers' working conditions and job quality. We focus on the gaps between natives and migrants, who constitute about a third of gig workers. Poland is a New Immigration Destination where networks and institutions to support migrants are weak. We find that migrants take up gig jobs due to a lack of income or other job opportunities much more often than natives, who mostly do it for autonomy. Migrants' job quality is noticeably lower in terms of contractual terms of employment, working hours, work-life balance, multidimensional deprivation, and job satisfaction. Migrants who started a gig job immediately after arriving in Poland are particularly deprived. They also cluster on taxi platforms which offer inferior working conditions. The gig economy can be an arrival infrastructure, but its poor working conditions may exacerbate the labour market vulnerabilities of migrants and hinder mobility to better jobs.

Keywords: gig jobs, platform economy, job quality, immigrant workers

JEL: J28, J61, J21

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1. Introduction

The last decade has seen a rapid development of the gig economy enhanced by the rise of online labour platforms. Gig (or 'platform') workers¹ who provide their on-demand services through apps often have non-standard forms of employment or are classified as independent contractors (Urzi et al., 2020). Usually, their working conditions and job quality² differ from those in open-ended, full-time employment (De Stefano, 2015). A growing body of qualitative research stresses the prevalence of job insecurity, algorithmic control, low wages, and unpredictable schedules (de Groen et al., 2018; Wood et al., 2018). At the same time, the gig economy increasingly employs migrants (Altenried, 2021; Lam & Triandafyllidou, 2022; van Doorn & Vijay, 2021), for whom the pros and cons of platform work may differ from those experienced by natives. Low entry barriers to platform work may facilitate labour market entry in destination countries. However, poor working conditions on platforms might exacerbate migrants' labour market vulnerabilities, especially in countries where migrants lack networks and institutional support. An important question arises whether the working conditions of native and migrant platform workers differ and what are the critical dimensions of these gaps. However, data on gig workers and their job quality remain scarce (Kässi & Lehdonvirta, 2018; Urzi et al., 2020).

In this paper, we study the gaps in job quality between native and migrant workers, using evidence from Poland. Poland experienced large-scale immigration inflows only recently and concurrently with the dynamic growth of the gig economy. We focus on transportation and delivery services, which form Poland's largest segment of the gig economy. These platforms constitute a critical arrival infrastructure for migrants in European cities (Meeus et al., 2019). To quantify the job quality of platform workers, we conducted a tailored survey ("Polish Platform Work Survey"). It included a battery of questions that capture key dimensions of contractual conditions, working conditions, and self-assessed job quality, comparable to established surveys such as the European Working Condition Survey. We study separate aspects and also create a multidimensional job quality measure.

Our first contribution is to fill the gap in the quantitative research on the gig economy. Traditional labour force surveys do not accurately capture platform work, as they often underestimate occasional and additional employment (Huws, Spencer, and Syrdal, 2018).³ Surveys aimed at measuring the incidence of platform work often have sample sizes that are way too small to study the characteristics of platform workers and the heterogeneities among them. Usually, migrants are underrepresented in these surveys. Our survey includes a substantially larger sample of platform workers than surveys aimed at measuring the incidence of platform work (Piasna et al., 2022; Piasna & Drahoukoupil, 2019). Moreover, we set quotas on the demographic structure of platform workers in Poland, including the shares of main migrant groups, based on existing data (Beręsewicz et al., 2021). As a result, migrants constitute about 1/3 of our sample. This allows us to credibly calculate the distribution of platform workers' socio-economic characteristics and working conditions and estimate the job quality gaps between migrant and native

1 In most studies focused on providing labour, the terms "gig economy/gig work" and "platform economy/platform work" are used interchangeably to describe both geographically tethered platforms and remote platforms. We follow their steps, with a preference for the "gig economy" when describing the phenomenon of the geographically tethered labour platforms.

2 We understand "working conditions" as the objective job characteristics (e.g. working time, earnings), and "job quality" as the combination of working conditions and more subjective but intrinsic domains (e.g. job satisfaction, work-life balance).

3 In particular, both the European Union Labour Force Survey – the main survey to measure labour market outcomes in the EU – and the European Working Condition Survey – the main survey of working conditions and job quality – lack questions to identify platform work.

workers. The method we propose – Computer Assisted Web Interview with participants recruited online – is universal and can be adapted to survey platform workers in other countries.

Our second contribution is to provide insights from the underresearched and unregulated Central and Eastern European (CEE) contexts (Friedrich Ebert Stiftung, 2022). In Poland, as in other CEE countries, there is no legal definition of online/digital labour platforms. No legislation nor policy framework indicates whether gig workers should be recognised as employees or self-employed. No court cases have challenged their status, there have been no examples of collective bargaining, and no important mass strikes that would attract the public's attention, such as in Latin America in the second half of 2020 (Howson et al., 2020). As a result, the rights and protections of platform workers derive only from general regulations that pertain to their contracts.

We find that almost 60% of platform workers have precarious contracts: project- and task-based contracts – and nearly 20% have no written contract.⁴ Additionally, migrant platform workers have substantially lower safety net coverage than Polish platform workers. They lack written contracts threefold more often than Poles and health insurance twice more often. Both migrant and native platform workers more often have precarious contracts and have lower access to the safety net than their peers in the general population.

Our third contribution is to document heterogeneity in job quality between migrant and native workers, as well as between migrants with different backgrounds, in the context of New Immigration Destinations (NID, Górny & Kaczmarczyk, 2020; McAreavey, 2017). Migrants face problems with labour market integration due to incomplete recognition of foreign credentials (Aydemir & Skuterud, 2005), education-occupation mismatch (Lu & Hou, 2020), and involuntary part-time work (Hira-Friesen, 2017). These vulnerabilities become especially pronounced in NIDs. First, NID countries are often relatively homogeneous in ethnic terms. Second, the reception base for incoming migrants is usually weak, as the ethnic economy that could absorb arriving workers tends to be marginal in NIDs. Third, immigration-related institutions are inadequate or non-existent in NIDs, resulting in a lack of pro-integration measures, poor labour market support, and underdeveloped skill assessment/ recognition systems. Poland is an emblematic NID: it experienced a massive inflow of foreigners only recently, it is still evolving into a net immigration country, and so far has failed to develop an integration framework (Górny et al., 2018).⁵

Our results show that the platform economy can act as an entry gate into the labour market for migrants without prior migration experience or network in a destination country. At the same time, the specific conditions offered by this sector exacerbate the risks related to substandard working conditions. They may limit opportunities for professional advancement and occupational mobility. We find that migrants work longer hours and are less satisfied with their jobs than otherwise similar native platform workers. They also endure more deprivations and a low multidimensional job quality significantly more often than native workers. There are also important heterogeneities within the migrant population – those who used platform work as an arrival infrastructure (Meeus et al., 2019) experience particularly precarious working conditions and low job quality. Almost $\frac{1}{3}$ of migrant platform workers lived abroad before starting platform work in Poland, often arriving with an expectation of starting

⁴ We use the term “precarious” following Prosser (2016) who define precarious work as employment involving contractual insecurity, weakened employment security for permanent workers and non-standard contractual forms such as temporary agency, fixed-term, zero-hour, and undeclared work.

⁵ In 2011, foreigners constituted less than 0,1% of Poland's population (according to the census data). However, between 2014 and 2020, Poland recorded the largest inflows of temporary labour migrants of all OECD countries (OECD, 2021) and became the European leader in terms of the first residence permits issued (Eurostat). Majority of these migrants were Ukrainian.

a gig job as they identified no other job opportunities. Their multidimensional job quality and job satisfaction are much worse than the outcomes of both native platform workers and other migrants who are more settled in Poland.

Our fourth contribution is to show heterogeneity in job quality between workers of seemingly similar platforms – transportation and delivery. Previous research has primarily studied the difference between offline and online gig work (Dunn, 2020). Mapping heterogeneities between offline gig jobs is critical for understanding the nature of work in the platform economy and designing regulations.

We find that delivery gig workers experience better working conditions than transportation gig workers: they work shorter hours, earn more per hour, and enjoy work-life balance and job satisfaction more often. Moreover, recent migrants strongly cluster into transportation platforms which contributes to their inferior working conditions. The recent increase in immigration inflows attracted a larger share of people with no social network in Poland (Górny, 2017; Górny et al., 2019). Our findings suggest that the gig economy may have played an increasing role as arrival infrastructure for such more vulnerable migrants. Still, it gave them low job quality and extremely long working hours. Unfortunately, our data do not allow assessing whether this disparity in job quality between transportation and delivery platforms stems from differences in platform characteristics (such as task allocation or pay algorithm) or worker selection.⁶

In the second section, we present key facts on platform work and immigration in Poland. In the third section, we introduce the data collection and analysis methodology. In the fourth section, we present the results. In the final section, we summarise our findings and outline policy implications.

2. Key facts and institutional context of platform work and immigration in Poland

In this section, we provide key context on the size and (the lack of) regulatory framework of platform work in Poland, as well as crucial facts on immigration and the role of the gig economy as arrival infrastructure.

Knowledge of the size of the gig economy and total employment in platform work in Poland is somewhat limited. Few analyses indicate that platform work is a relatively marginal but growing phenomenon. In 2019, 1.9% of working age population undertook platform work at least once, and 0.4% did it at least once a week, according to a survey measuring the gig economy's incidence. Transportation was the most common service provided (Piasna & Drahokoupil, 2019). In 2022, the second round of the same survey showed that the share of people providing services via online platforms rose to 2.9%, with platform work being the primary source of income for 1.2% (Piasna et al., 2022). A study based on the data on transportation and delivery apps estimated the share of platform workers in Poland's nine largest cities at 0.5-2.0% of the working population (Beręsewicz et al., 2021). Similarly to other EU countries (Piasna et al., 2022), platform work is still a marginal phenomenon, but its implications for the labour market increasingly gain importance.

⁶On the one hand, migrants who are more desperate to earn money may self-select into transportation as it allows working longer hours than in deliveries. Some may lack skills or knowledge of alternative job opportunities which could offer comparable earnings but with better working conditions. On the other hand, some food delivery workers, especially native, may enjoy riding bikes or bicycles for work and prefer it over driving in transportation services.

The gig economy in Poland is relatively unregulated, similar to other CEE countries and in contrast to some Western European countries. Uber was the first platform that entered the Polish market in 2014, and it has classified itself as a technological company which does not provide transportation services. Therefore, its operations were not regulated by the Law on Road Transport from 2001 (Mazur & Serafin, 2022). In 2016, Uber made it compulsory for platform workers to register as self-employed so that platforms and drivers could settle payments as business-to-business transactions. Soon other platforms followed its steps and many intermediaries (so-called 'fleet partners') entered the market (Mika & Polkowska, 2022). Fleet partners cooperate directly with platforms on a business-to-business basis and settle payments with platform workers they employ, primarily using short-term contracts excluded from the labour law. As a result, most platform workers in Poland are neither self-employed nor employed in the sense of the labour code. Qualitative research on Uber drivers in Poland indicates that gig work is precarious, as it involves long working hours, low income, a lack of social protection, and often a lack of written contract (Polkowska, 2019).

In Poland, precarious work and unfavourable working conditions of platform work fit in the broader trends of atypical employment and labour market deregulation that have been rising since the early 2000s (Lewandowski & Magda, 2018; Mrozowicki & Trappmann, 2021; Prosser, 2016). In 2016, Poland had the highest share of temporary contracts in the European Union; between 2016 and 2020, it was second to Spain (Eurostat, 2022). The widespread use of temporary contracts and poor enforcement of labour standards is considered a substantial driver of precarious work in CEE countries. In Poland, it is exemplified by the use of civil law contracts. Such contracts are not regulated under the labour code and are intended for fixed-term projects and tasks. However, they are often used in regular employment relationships, allowing employers to evade additional labour costs and dismissal protection (Prosser, 2016). In this sense, the problem of misclassification of workers has been present in Poland long before the emergence of the platform economy. Finally, union coverage is low in Poland and other CEE countries, and collective bargaining is fragmented (Magda, 2017). This might partially explain why no significant collective bargaining initiatives exist to represent platform workers in any of the CEE countries.

Poland is a fascinating case as the growth of the gig economy overlapped with the sudden shift in migration balance and a recent transition into a net immigration area (Górny & Kaczmarczyk, 2020). Historically, Poland had always been (and was presented as) an emigration country. This was particularly explicit after the EU enlargement that caused a massive wave of Polish migration to Western Europe. Consequently, in the early 2010s, the estimated stock of Polish citizens staying abroad stood at around 2.5 million. At the same time, the number of foreigners staying in Poland was marginal – according to the 2011 Census, it was only 110,000. This positioned Poland as a country with one of the lowest shares of immigrants in the total population in the EU (Glorius et al., 2013; Górny & Kaczmarczyk, 2019).

The situation changed drastically with the migration inflow from Ukraine after the outbreak of the war in Donbas in 2014. However, foreigners' sudden and massive inflow should not be interpreted solely in supply terms. War in Ukraine triggered a relatively large migration potential. It has been amplified by migration networks, dynamically evolving transportation channels, and mushrooming intermediaries (e.g. employment agencies) that facilitated the arrival of migrants (Górny & Śleszyński, 2019; Kindler et al., 2015; Wiatrów, 2021). Large-scale immigration was possible, however, mainly due to labour shortages and strong economic growth in Poland. It was facilitated by the ultra-liberal attitude of the Polish government to the influx of migrant workers from the post-Soviet countries, based on a minimum set of requirements and allowing entry even without a valid work permit (Górny, 2017; Górny et al., 2018; Szulecka et al., 2018).

Massive immigration to Poland, initiated in 2014, continued in the following years. According to Statistics Poland, the number of foreigners aged 18 and over staying in Poland was as high as 750,000 at the end of 2016 and reached around 2.2 million in 2019, i.e. directly before the COVID pandemic (GUS, 2018, 2020). Moreover, immigrants from Ukraine – the dominant group – successfully joined the labour market and filled labour shortages driven by the population ageing (Strzelecki et al., 2020). In 2021 they constituted around 5% of the labour supply (Mrugała & Tomczyk, 2022). More recently, the immigration inflows have increasingly involved other nations: in 2021, $\frac{1}{3}$ of foreigners who applied for a temporal or permanent stay in Poland (128,000) were not from Ukraine (GUS, 2022). Of approx. 500,000 work permits issued in 2021, noticeable numbers were obtained by citizens of India (35,000), Uzbekistan (15,000), Philippines (13,000) and Nepal (11,000).

Additionally, about even one-third of platform workers in Poland are of foreign origin (Beręsewicz et al., 2021). Since the rise of platforms and migration intertwine, Poland offers a unique spatio-temporal context for studying the development of platform work through a migration lens.

3. Methodology and the sample structure

The paper uses data collected in the "Polish Platform Work Survey" (PPWS). The survey's primary purpose was to assess the vital aspects of job quality of platform work and identify the differences between migrants and natives. We collected survey data on the following dimensions of working conditions and job quality: access to the safety net, earnings and working time, work-life balance, and job satisfaction. All these dimensions belong to the critical aspects of job quality identified in the literature (Cazes et al., 2015; Felstead et al., 2019; Burchell et al., 2014).⁷

3.1. Participants' recruitment and data collection

The PPWS survey was conducted using the Computer Assisted Web Interview (CAWI) in January and February 2022. It was available in four languages – Polish, English, Russian, and Ukrainian – used by the native population and dominant migrant groups. The survey content resulted from the collaboration between the Centre of Migration Research at the University of Warsaw and the Institute for Structural Research. It consisted of 52 questions, and 372 people completed it. This makes PPWS the largest survey of platform workers in Central Eastern Europe.

The primary method used to recruit respondents to complete the survey was Facebook advertising targeted at delivery and ride-hailing workers. Inviting respondents in such a way has several advantages. Firstly, Facebook allows targeting ads by age, gender, location/log-in and language used in the app by the ad recipient so that the survey invitation reaches a diverse group of people providing platform work. Secondly, it allows researchers to reach people with different opinions about their work. Thirdly, similar recruitment methods are used by platforms and intermediaries between platforms and workers, so-called "partners".

The ads were targeted to groups distinguished by age, gender, place of residence and the language used on Facebook (Table 1). We set quotas based on the abovementioned characteristics to guarantee that the sample was as diverse and representative as possible. We used data published by Beręsewicz et al. (2021). That study utilised

⁷ Of course, these aspects solely do not fulfil the comprehensive definition of job quality, which is a complex multidimensional concept. For instance, the European Foundation for the Improvement of Living and Working Conditions includes in their job quality definition also skills use, work intensity, the social environment and the physical setting (Eurofound, 2012).

log-in data provided by applications used by drivers and couriers to measure the number of people who work in taxi and delivery platforms in Poland.

Table 1. Platform workers according to residence, gender, age, and nationality in Poland

	Estimated sample structure in Beręsewicz et al. (2021) (%)	PPWS sample structure (%)
Residence		
Warsaw	39.6	39.2
Cracow	20.6	17.7
Other cities ⁸	39.9	43.0
Gender		
Men	88.8	87.4
Women	11.2	9.9
Not disclosed	-	2.7
Age		
18–30	65.5	54.8
31–50	30.7	38.2
51–64	3.8	7.0

Note: The sample structure compared to the estimated size of the following groups in Beręsewicz et al. (2021).

Source: Own elaboration based on the “Polish Platform Work Survey” and Beręsewicz et al. (2021).

The sample's representativeness is high also on the characteristics not used to set quotas, in particular platform types. In our survey, the highest number of people reported working for Uber and Uber Eats (209 people), followed by Bolt (188 people) and FreeNow (107 people). The same platforms were the most popular according to Beręsewicz et al. (2021) estimates based on app usage data in 2020. Uber (and Uber Eats) and Bolt were the most popular platforms in both studies. Only 3.5% of respondents reported working for platforms other than taxis and food delivery (Table 2). Those platforms mainly coordinate grocery delivery services.⁹

Table 2. Surveyed platform workers according to nationality and the type of platform they usually work for (in %)

Type of platform	Polish	Migrant	Total
Taxi	32	18.3	50.3
Food	25.5	18.3	43.8
Other delivery	5.1	0.8	5.9
Total	64.2	35.8	100

Note: “Other delivery” includes mostly platforms that coordinate grocery deliveries.

Source: Own elaboration based on the “Polish Platform Work Survey”.

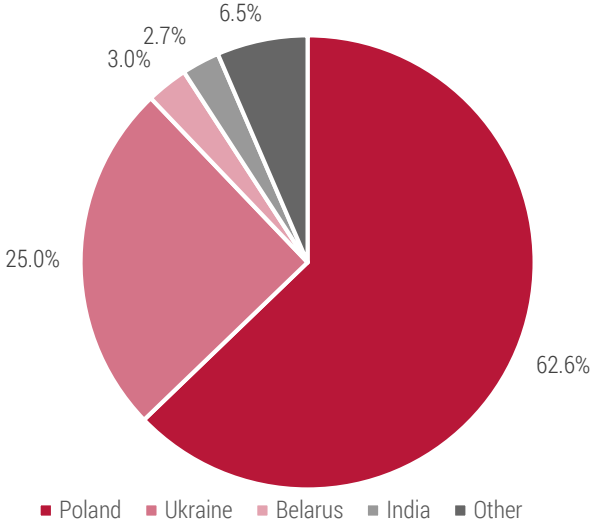
⁸ Białystok, Bydgoszcz, Gdańsk, Gdynia, Gorzów Wielkopolski, Katowice, Kielce, Łódź, Lublin, Olsztyn, Opole, Poznań, Rzeszów, Sopot, Szczecin, Toruń, Wrocław, Zielona Góra.

⁹ Other companies included Everli, Itaxi, Jokr, Jush, Lisek.app, Opti, Stuart, Stava, XpressDelivery and Pstryku.pl. Most of them were established relatively recently. Even though some of them coordinate food delivery as well, we decided to distinguish them from the biggest well-known players such as Uber Eats, Bolt Food, and Wolt.

3.2. Demographic characteristics

The surveyed platform workers are predominantly men aged 18-44 living in big cities, who made up 75% of the sample. In contrast, the share of women is only 10%. Among both male and female respondents, young people (aged under 30) dominate. Most respondents (63%) had only Polish citizenship, and 25% were Ukrainians. The sample included citizens of 17 countries, including Ukraine, Belarus, India, Chile, Zambia, and Azerbaijan (Figure 1).

Figure 1. Surveyed platform workers according to nationality



Note: Other countries include Turkey, Russia, Pakistan, Georgia, Bangladesh, Azerbaijan, Chile, Israel, Nepal, Romania, Uzbekistan, and Zambia.

Source: Own elaboration based on the “Polish Platform Work Survey.”

To compare demographic characteristics (education and age) and working conditions to those in the general population, we use the results of the 2020 Labour Force Survey, the 2020 Household Budget Survey, and the study of Ukrainian migrants living in Warsaw, conducted in 2019 by the Centre of Migration Research (which will call the CMR survey). The last study is the largest accessible Polish study on working conditions and the labour market status of a substantially large migrant population. Although it covers only Ukrainians, we use it as a reference group for the entire migrant population in our study. Ukrainians constitute a dominant migrant group in Poland, and there are no surveys of other groups.¹⁰ Regarding earnings and working hours, we compare our results to the subsample of Polish drivers¹¹ (LFS, HBS) or Ukrainians employed in transport (CMR survey). To provide intragroup comparisons, we limit our sample to male platform workers aged 18-44 living in cities with more than 100,000 people, who made up 68% of our survey sample.

The education structure of migrant platform workers is more polarised than that of native platform workers. On the one hand, the share of migrants with tertiary education (41.0%) is twice as high as that of Poles (19.5%, Table 3).

¹⁰ According to the Ministry of Family and Social Policy data, in 2018-2021 Ukrainians constituted 71% of work permit holders, 88% of persons employed based on employers’ declarations, and 98% of persons employed based on seasonal work permits.

¹¹ The sample in Labour Force Survey and Household Budget Surveys in Poland includes very few migrants due to the recruitment strategies used in both surveys.

On the other, the share of those with primary education is also twice as high (14.9% vs 7.9%). At the same time, both Polish and migrant platform workers are less educated than their peers in the general population.

Table 3. Educational attainment: platform workers and the general population (in %)

	Polish platform workers (PPWS)	Reference group: Poles (2020)	Migrant platform workers (PPWS)	Reference group: Ukrainians (2019)
Primary	7.0	7.8	14.9	4
Vocational	5.0	8.3	7.5	1.9
Secondary	68.5	34.8	36.2	51.6
Tertiary	19.5	49.1	41.5	42.5
N	159	13 995	94	396

Note: Reference groups for Poles: Labour Force Survey, 2020. Reference group for migrants: the Centre of Migration Research survey, 2019. Samples were restricted to men aged 18-44 living in cities with at least 100,000 inhabitants.

Source: Own elaboration based on the "Polish Platform Work Survey", LFS, and the CMR survey.

3.3. Reasons to start gig work and combining it with another job

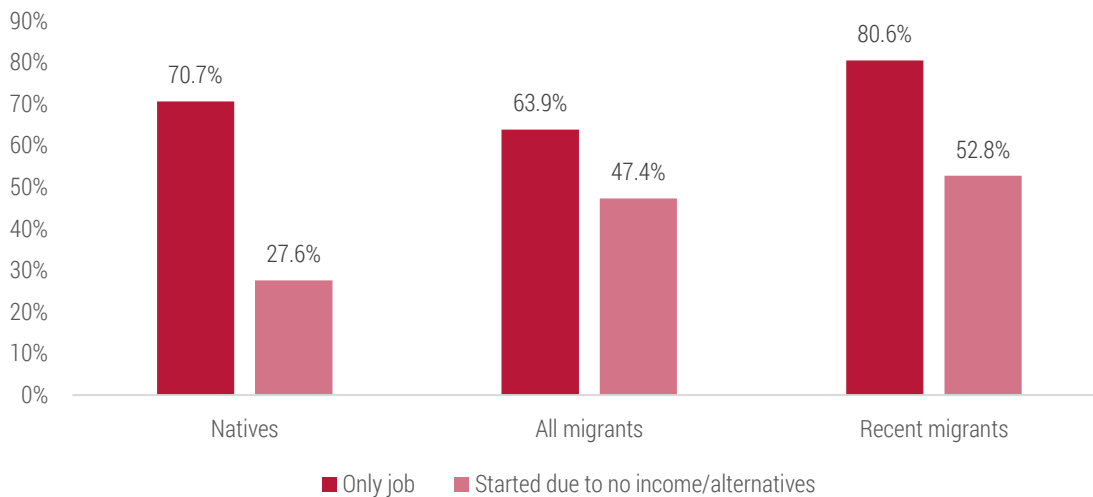
Most platform workers were not working just before starting platform work. Nearly ¼ of Poles declared to be in education or training, three times more the share than migrants (Table A1).

A noticeable share of migrants (27%) lived abroad before taking a gig job and have never had another job in Poland. From now on, we will call this group "recent migrants", as 65% of them arrived in 2020 or later (in comparison to 30% among migrants who have had another job before starting platform work). Recent migrants are less educated than other migrants and more often declared that they arrived in Poland intending to take up platform work (73% vs 30% among other migrants,

Table A). These differences may translate into differences in unobservable characteristics, such as access to social networks in Poland, skill level, or attitude towards platform work, and treating gig jobs as a stepping stone for finding other employment.

Migrants differ from Poles regarding the reasons for taking up platform work (Figure 2). Nearly half of migrant platform workers (47.4%) did so for "negative" reasons: mainly due to difficulties with finding another job (25.6% of migrants) or having no alternatives (23.3%), followed by losing income (9.8%). Recent migrants declared such motivations slightly more often than settled migrants. On the contrary, Poles often took up a platform job for "positive" reasons, such as independence, ease of starting work, and flexibility. Moreover, migrants predominantly work only on platforms. At the same time, native workers usually combine gig jobs with other work: 63.9% of migrants declared that platform work is their only job. Among recent migrants, this share is even higher at 80.6%, while only 70.7% of native gig workers work exclusively on platforms (Figure 2).

Figure 2. Dependence on platform work: starting gig job due to no alternatives, and working only on platform



Source: Own elaboration based on the “Polish Platform Work Survey.”

3.4. Methodology

Measurement of job quality

We study differences in job quality between native and migrant platform workers. To this aim, we focus on three dimensions, each measured with specific indicators:

- contractual employment conditions, measured by having a contract and health insurance;
- working conditions, measured with working hours and earnings;
- self-assessed work-life balance.

Accounting for pay, hours, and contractual arrangements that proxy labour market security is in line with the OECD job quality framework (Cazes et al., 2015). Additionally, we account for subjective job quality. Workers' self-assessed job evaluations have been a dimension of job quality since at least the 1970s (Burchell et al., 2014; Seashore, 1974). The increasing centrality of work-life balance issues has been closely related to globalisation and technological progress. It led to the inclusion of this dimension in the ILO Decent Work Agenda (ILO, 1999).

We also use two overarching measures of job quality. First, we create a multidimensional job quality index that combines the five abovementioned indicators, using the methodology proposed by Alkire & Foster (2011) for poverty measurement.¹² Second, we analyse self-reported job satisfaction, which constitutes a crucial criterion for assessing the quality of work (Kalleberg & Vaisey, 2005; Krueger et al., 2002). This allows us to shed light on the confluence of job quality deprivations and understand their relationship with low job satisfaction.

To create the multidimensional index, we use the dual-cutoff approach.

First, for every worker i , we define a deprivation matrix assigning a value of one if they are deprived in a given dimension in the set of deprivations $d \in D$, and a value of zero otherwise. We use five indicators and the following

¹² Our approach is similar to Sehnbruch et al. (2020) and Bhorat et al. (2021), who applied the multidimensional approach to study job quality and labour law violation, respectively.

cutoffs: no contract, no health insurance, working 60 or more hours per week, earning below 60% of the median hourly earnings in the total economy, and no sense of work-life balance.

Second, for each individual, we sum up these scores, weighing each dimension equally, i.e. $w_d = 1/5$ for every $d \in D$, to obtain the weighted sum c_i is the deprivation score (worker's weighted share of deprivations). We think each dimension of deprivation is essential for job quality, so we treat each as equally important. Equal weights are standard when there is no conceptual argument to prioritise any dimension (Alkire & Apablaza, 2017).

We define a worker as affected by low multidimensional job quality if their weighted deprivation score c_i is equal to or higher than the poverty cutoff, $k = 0.4$. Thus, we assume that a worker with at least two out of five types of deprivation endures low job quality, while a worker with only one deprivation does not.

Finally, we calculate the headcount ratio (H) as the share of workers with low multidimensional job quality and the distribution of deprivations among workers. This allows comparing the multidimensional job quality among native and migrant workers.

Econometric methodology

To analyse the differences in working conditions between native and migrant workers, we estimate ordinary least squares regressions (1) for hourly earnings and working time, and logistic regressions (2) for lack of work-life balance, low multidimensional job quality, and lack of job satisfaction:

$$Y_{jcu} = \beta_0 + \beta_1 X_j + \beta_2 \lambda_c + \beta_3 \gamma_u + \varepsilon_{jcu} \quad (1)$$

$$\Pr(\omega_{jcu} = 1) = F(\beta_0 + \beta_1 X_j + \beta_2 \lambda_c + \beta_3 \gamma_u + \varepsilon_{jcu}) \quad (2)$$

where Y stands for continuous job quality outcomes (working time and hourly earnings) and ω for binary job quality outcomes (no work-life balance, low multidimensional job quality, no job satisfaction), $F(Z) = \frac{e^Z}{1+e^Z}$, j stands for an individual, X_j is a vector of demographic characteristics (sex, age, education, migrant status), λ_c is a vector of labour market status controls (having another job, starting platform work due to no alternatives, type of platform one works for), and γ_u is a vector of working conditions (health insurance, contract, hours worked, and hourly earnings).

We estimate three variants of each model. First, we control for demographic characteristics only. In the second model, we distinguish between recent and settled migrants. In the third model, we control for variables describing the labour market status: having another job, the type of platform one works for, starting platform work due to no income or alternatives, contractual employment conditions, hours worked, and hourly earnings (where applicable). For hours worked and hourly earnings, we use indicator variables for quantiles of their distribution. This allows us to flexibly capture potential nonlinearities in the relationship between these variables and job quality.

4. Results

We start with descriptive evidence on contractual employment conditions defining access to the safety net.¹³ Then, we present descriptive and econometric results on the other dimensions of job quality (working time, earnings, work-life balance), and overarching measures (job satisfaction, multidimensional job quality).

4.1. Contractual employment conditions

Migrant platform workers exhibit substantially worse coverage with the safety net than Polish platform workers. Migrants have no written contract threefold more often than Poles (Table 4) and lack health insurance twice more often (Table 5). The lack of a contract among migrant platform workers is even more prevalent than among Ukrainian migrants in our reference group (31.5% vs 12.5%). Similarly, migrant platform workers lack health insurance nearly four times more often than their peers in the general population (38.3% vs 9.6%). It is even more prevalent among recent migrants (51.8%). The lack of a contract for the work performed and the lack of adequate insurance affect migrants more often, exposing them to additional risks. Importantly, these deprivations are much more common among migrant platform workers than among the general population of migrants, showing the particular precariousness of gig work.

Still, most Polish platform workers (62.2%) are employed based on precarious contracts: project- and task-based contracts, and rental contracts (Table 4).¹⁴ Workers with project- and task-based contracts have no access to paid holidays or sickness insurance. However, retirement and health contributions are deducted from their earnings. None of these contracts rests on the labour code. They should be used primarily for specific tasks or short-term services. However, employers often violate these conditions. Those contracts are popular in Poland, but the official LFS statistics underestimate their number for methodological reasons.¹⁵

¹³ We do not estimate regressions for these variables as we treat them as essential controls in models for working conditions, self-assessed job quality, and multidimensional job quality.

¹⁴ The rental contract is common among platform workers in Poland, in a way that highlights the precariousness of platform work. The contract states – in most cases falsely – that a worker lends a bike or a car to an intermediary that operates between a worker and a platform, the so-called “platform partner”. Platform workers are reimbursed for the fictitious rental with money earned working for platforms. No deductions are made except for the platform partner commission and income tax of 8.5%.

¹⁵ Details are provided in the report based on the LFS survey “Economic Activity of Poland’s Population in Q1 2021”, the description of table 2.23: “The results obtained in the survey on those working under atypical forms of employment (i.e. other than an employment contract), reach lower values compared to the estimates conducted by the Central Statistical Office of Poland, which are based on data from enterprises and data administrative systems. The reason for this underestimation is the specificity of the LFS survey. It is based on a sample of households, while data from reporting and administrative sources contain information on a broader population. However, they do not provide the possibility of a deeper characterisation of this population. Questions on the type of contract in the LFS survey were answered only by those who declared that they were employees and had a written contract.”.

Table 4. Type of contract: platform workers and the general population (in %)

	Polish platform workers (PPWS)	Reference group: Poles	Migrant platform workers (PPWS)	Recent migrants (PPWS)	Reference group: Ukrainians in Warsaw
Employment contract	2.6	97.7	7.6	7.4	
Task-based contracts	52.6	2.3	28.2	25.9	81.3
Rental contract	9.6	-	21.7	25.9	-
Self-employed	23.7	19.3	6.5	7.4	1.9
No written contract	10.3	-	31.5	33.3	12.5
Other	1.3	-	4.3	0	4.3
N	156		92	27	389

Note: Reference group Poles: Labour Force Survey, 2020. Reference group migrants: the Centre of Migration Research study, 2019. Samples were restricted to men aged 18-44 living in cities with at least 100,000 inhabitants. The share of the employed in the second column refers to total employment. The share of the self-employed refers to economically active population.

Source: Own elaboration based on the "Polish Platform Work Survey", LFS, and the CMR survey.

Table 5. Health insurance: platform workers and the general population (in %)

	Polish platform workers (PPWS)	Migrant platform workers (PPWS)	Recent migrants	Reference group: Ukrainians in Warsaw
Yes, based on platform work	27.0	18.0	18.5	
Yes, based on other work	10.0	24.5	7.4	67.4
Yes, I bought health insurance by myself	28.3	14.9	18.5	44.0
Yes, I am entitled to insurance in other way (including student status)	8.8	1.0	0	3.0
I don't have health insurance	15.7	38.3	51.8	9.6
I don't know	10	3.2	3.7	-
N	159	94	27	389

Note: Reference group migrants: the Centre of Migration Research study, 2019. Samples were restricted to men aged 18-44 living in cities with at least 100,000 inhabitants. As health insurance in Poland is bound with the employment contract, the share of the total working population deprived of it is negligible.

Source: Own elaboration based on the "Polish Platform Work Survey", and the CMR survey.

4.2. Dimensions of job quality – working hours, earnings, work-life balance

On average, migrants work longer than Poles, but there is no difference in earnings. Polish platform workers declare about 42 hours of work per week, while migrants work on average 49 hours (Table 6). Both groups earn on average PLN 27 (Table 7). Earnings and working time also differ between workers of different types of platforms. Those working for transportation platforms work the longest, up to 52 hours on average. For migrants, this time extends to 59 hours, and for recent migrants – even to 68 hours. At the same time, workers who primarily work on food delivery platforms declared higher net earnings per hour (median PLN 24, Table 8) than those who work on passenger transport platforms (median PLN 20). Working conditions of recent migrants seem to be particularly concerning, as they work 28% longer and earn 37% less than Poles.

Compared to the general population, the working time of Polish platform workers is slightly shorter than the working time of drivers in the reference group (44 hours per week, Table A5 in Appendix). The median hourly rate is higher than among demographically similar drivers in the reference groups: Polish drivers (PLN 19) and Ukrainians employed in transport (PLN 17, Table A6). However, platform workers usually incur additional costs of car rental, fuel, and partner commissions. After deducting those non-tax expenses, the hourly rate of platform workers might be lower than the minimum wage in Poland (PLN 20 before taxes¹⁶).

Table 6. Working hours on different platforms: Polish and migrant platform workers (usual weekly hours)

Type of platform	Polish	Migrant			Total
		Recent	Settled	All migrants	
Taxi	48	68	52	59	52
Food	33	50	38	40	36
Other delivery	41	80	10	45	42
Total	42	64	43	49	44
N	233	36	97	133	366

Source: Own elaboration based on the “Polish Platform Work Survey.”

Table 7. Median and mean net hourly wage: Polish and migrant platform workers (in PLN)

	Nationality	Nationality			
		Polish	Recent migrant	Settled migrant	All migrants
Median hourly wage	20	22	12.5	20	20
Mean hourly wage	28	27	17	30	27

Source: Own elaboration based on the “Polish Platform Work Survey.”

Table 8. Median and mean net hourly wage according to the type of platform (in PLN)

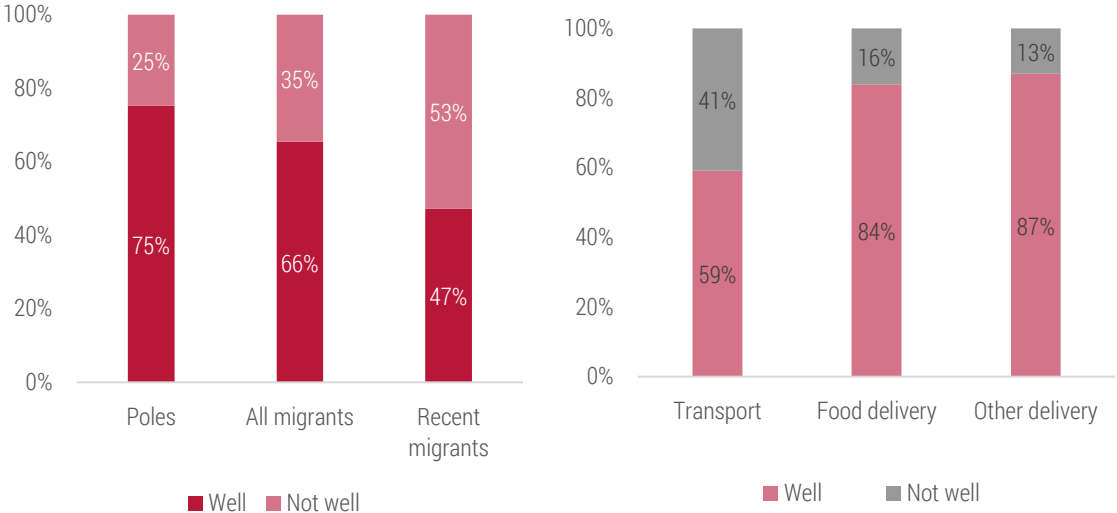
	Platform type	Platform type		
		Transport	Food delivery	Other delivery
Median hourly wage	20	20	24	25
Mean hourly wage	28	23	31	31

Source: Own elaboration based on the “Polish Platform Work Survey.”

¹⁶ In 2022, the minimum gross wage per hour in Poland is PLN 19.70/EUR 4.12. The wage after taxes and social security contributions amounts to PLN 13.91/EUR 2.91 (for non-students).

Migrants, on average, enjoy work-life balance less often than Polish workers. 75.2% of Polish platform workers state that their work hours fit well with their family/social commitments, compared to 65.5% of migrants and only 47.2% of recent migrants (Figure 3). Transportation platform workers report work-life balance less often (59.1%) than food delivery workers (83.9%), and other delivery workers – 87.0%.

Figure 3. Work-life balance by nationality (left panel) and platform type (right panel)



*Note: Based on the survey question: “How well do your platform work hours fit with your family/social commitments”.
Source: Own elaboration based on the “Polish Platform Work Survey.”*

Our regression results show that migrant gig workers are deprived in several dimensions compared to otherwise similar native gig workers. Migrants work significantly more weekly hours (7.0, column 1 of Table 9) than identical native platform workers. They are by 8.8 pp less likely to enjoy work-life balance (column 7 of Table 9), though they do not earn significantly less per hour than native gig workers (column 4 of Table 9). The subpopulation of recent migrants drives these effects. The second model, which includes a binary variable denoting recent migrants, shows that recent migrants work 17.2 hours per week more than native workers or more settled migrants (column 2 of Table 8). Recent migrants also earn significantly less per hour (column 5 of Table 9) and are by 17.9 pp less likely to enjoy work-life balance (column 8 of Table 9).¹⁷

The large gap in hours worked between recent migrants and other gig workers relates to differences in work patterns. Recent migrants more often started gig jobs due to no income or lack of alternatives and more often work solely on platforms (Figure 2). Moreover, they also work on taxi platforms more often (77%) than other migrants (40%). Taxi platforms exhibit longer working times and a lower share of workers with work-life balance (Figure 3). Indeed, controlling for the type of platform, position in the distribution of hourly earnings, and access to a safety net (health insurance, having a contract), reduces the effect of being a recent migrant to 7.0 hours. Still, it remains highly significant (column 3 of Table 9). However, the differences between migrants and natives in hourly earnings and the likelihood of work-life balance become insignificant when we control for work patterns (columns 6 and 9 of Table 9, respectively). In other words, recent migrants earn less per hour and experience work-life balance less

¹⁷ Findings on the role of the recent vs settled migrant status are not driven by ethnicity. We verified this by controlling for ethnicity (Ukrainians vs other migrants) rather than for this status. Those results are available upon request.

often primarily due to their extremely long working time – in transportation, this likely results from working more often in times of day and week with relatively lower demand.

We also find substantial working time differences related to the platform type, reasons to take up platform work, and earnings. Workers of food delivery platforms work 8.5 hours less per week and are 15.9 pp more likely to declare work-life balance than transportation workers (columns 3 and 9 of Table 8).¹⁸ Other delivery workers also work shorter hours and are more likely to display work-life balance than taxi drivers (by 3.1 hours and 13.3 pp, respectively) though these estimates are noisy. Once we control for hours worked, there are no significant differences between hourly earnings on different types of platforms (column 6 of Table 8).

Moreover, we find a non-linear relationship between hours worked and hourly earnings. There is a trade-off between hours and hourly earnings at the top end of hours worked. Workers in the top quintile of hours (i.e., who work over 65 hours) earn 60% less per hour than workers in the third quantile of hours who work between 40 and 50 hours (column 6 of Table 9). Workers in the bottom quantile of hourly earnings (i.e., those who earn less than PLN 12.5) work 10.3 hours per week more than workers in the third quantile of hourly earnings who earn between PLN 20-25 (column 3 of Table 9). However, there are no significant differences between workers in the bottom quantiles and those in the middle of either distribution. Platforms' dynamic pricing system is probably behind this trade-off at the top end of hours' distribution. People working the longest longer hours may, to a larger extent, work during a time of lower demand. Consequently, workers with the longest hours and workers with the lowest earnings are significantly less likely to experience work-life balance than those in the middle of either distribution (by almost 30 pp, in either case, column 9 of Table 8). At the same time, there are no significant differences between workers with short or medium hours nor between those with high and medium hourly earnings.

Finally, workers who started working on platforms because they had no other source of income tend to work significantly longer (by 4.6 hours per week, column 3 of Table 9) than otherwise similar workers who engaged with platforms for positive reasons (e.g., flexibility). People who work only on platforms work substantially longer weekly hours (14.3, column 3 of Table 9) than those who combine it with other jobs. When we control for hours worked, there are no significant effects of reasons to start a gig or working only on platforms on hourly earnings or work-life balance (columns 6 and 9 of Table 9, respectively).

In all models, we control for demographic characteristics: gender, age, and education. Table A7 in the Appendix presents the estimation results for these variables. Some differences are associated with demographic characteristics: prime-aged platform workers (age 30-44) work the longest hours, and men work significantly longer than women (6.6 hours). Platform workers with primary and basic vocational education earn less per hour than those with at least secondary education. There are no differences in the likelihood of work-life balance between demographic groups, which suggests that work-life balance results from work experiences rather than intrinsic perceptions of particular socio-demographic groups.

¹⁸ Differences in working time between food delivery and taxi platforms may reflect the fact that restaurants in Poland usually close around 9-10 pm.

Table 9. Correlates of working conditions: weekly hours worked (OLS coefficients), hourly earnings (OLS coefficients) and work-life balance (marginal effects from a logit model)

	Weekly hours worked			Hourly earnings			Work-life balance		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Migrant	6.980*** (2.357)	2.435 (2.498)	1.740 (2.210)	-0.138 (0.110)	-0.006 (0.124)	0.061 (0.093)	-0.088* (0.049)	-0.035 (0.056)	0.004 (0.060)
Recent migrant		17.193*** (4.248)	6.990** (3.189)		-0.498*** (0.173)	-0.105 (0.120)		-0.179** (0.076)	0.010 (0.083)
Food delivery			-8.536*** (2.081)			0.127 (0.079)			0.159*** (0.052)
Other delivery			-3.117 (4.103)			0.135 (0.159)			0.135 (0.098)
Only job			14.316*** (2.144)			-0.009 (0.078)			-0.056 (0.053)
No income/alternatives			4.624** (1.918)			-0.056 (0.080)			-0.059 (0.045)
No health insurance			6.532*** (2.386)			-0.029 (0.092)			-0.033 (0.056)
Having a contract			-0.706 (2.310)			0.110 (0.100)			0.074 (0.063)
1 st quantile of hourly earnings			10.287*** (3.204)						-0.294*** (0.082)
2 nd quantile of hourly earnings			-4.620 (3.140)						-0.176*** (0.067)
4 th quantile of hourly earnings			-4.679 (3.175)						-0.103 (0.075)
5 th quantile of hourly earnings			-2.844 (3.304)						-0.003 (0.073)
1 st quantile of hours worked						0.018 (0.112)			-0.067 (0.077)
2 nd quantile of hours worked						-0.123 (0.106)			-0.139* (0.073)
4 th quantile of hours worked						-0.202* (0.121)			-0.120 (0.079)
5 th quantile of hours worked						-0.599*** (0.118)			-0.298*** (0.086)
Observations	355	355	347	352	352	347	365	365	345
R-squared	0.142	0.187	0.457	0.068	0.088	0.205			

Note: All models include controls for gender, age, education (see Table A7 in the Appendix for the estimation results). Reference groups: men, aged 18-24, with secondary education, working on taxi platforms, combining gig job with other work, started gig job due to positive reasons, has a contract, has health insurance, 3rd quantile of hourly earnings, 3rd quantile of hours worked. Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$
Source: Own estimations based on the "Polish Platform Work Survey."

4.3. Overall job quality: multidimensional index and job satisfaction

In this subsection, we study the overall measures: a multidimensional job quality index that combines five deprivations, and self-reported job satisfaction. First, we show the cross-correlations and the redundancy analysis of particular deprivations. Second, we argue that exposure to more than one factor constitutes a “deep deprivation”. Then, we present distributions of the deprivation depth depending on the migrant status. Finally, we run logit regressions to find correlates of deep deprivation and job satisfaction.

We use five indicators to construct the multidimensional index: low pay (earning below 60% of the median hourly earnings in the total economy), long hours (working 60 or more hours per week), no contract, no health insurance, and no sense of work-life balance. These indicators capture complementary information, as the correlations between are low and redundancy measures are moderate (Table 10).

Table 10. Cross-correlations and redundancy measures (%) of single dimensions of job quality in platform work

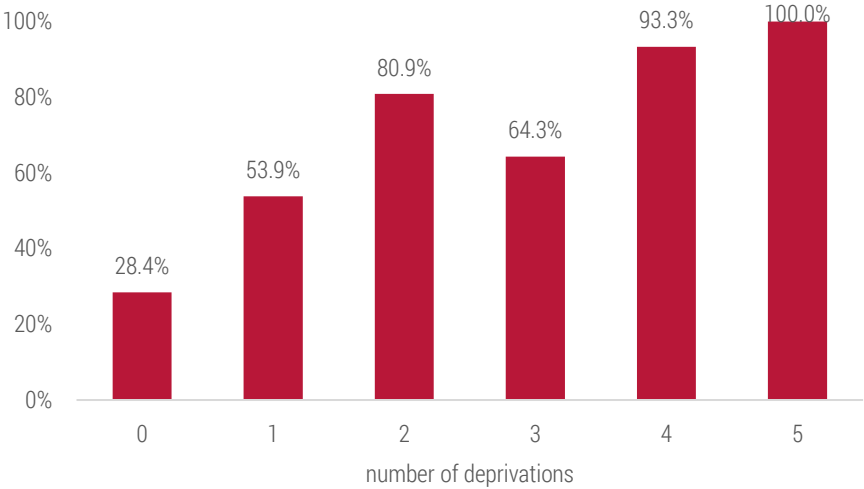
	Low pay	Excessive hours	No contract	No health insurance	No work-life balance
Cross-correlations					
Low pay	1.00				
Long hours	0.35	1.00			
No contract	0.29	0.25	1.00		
No health insurance	0.26	0.33	0.45	1.00	
No work-life balance	0.26	0.37	0.24	0.24	1.00
Redundancy measures (%)					
Low pay	n/a	0.58	0.44	0.47	0.56
Long hours		n/a	0.45	0.49	0.58
No contract			n/a	0.62	0.52
No health insurance				n/a	0.49
No work-life balance					n/a

Note: The redundancy measure between a pair of indicators is defined as the share of workers who experience deprivation in both indicators, divided by the share of workers who experience deprivation to the less common indicator (Alkire et al. 2015). Source: Own elaboration based on the “Polish Platform Work Survey.”

The number of experienced deprivations is also strongly correlated with self-reported job satisfaction. Among workers not deprived in any dimension, 28.4% declared unsatisfied with their gig job (Figure 4). However, among workers who experience at least two deprivations, the share of those not satisfied with their jobs is about 80%. No platform workers deprived in five job quality dimensions declared job satisfaction.¹⁹

¹⁹ The strong relationship between the number of experienced deprivations and perceived job satisfaction is also the reason for not including job satisfaction in the multidimensional index.

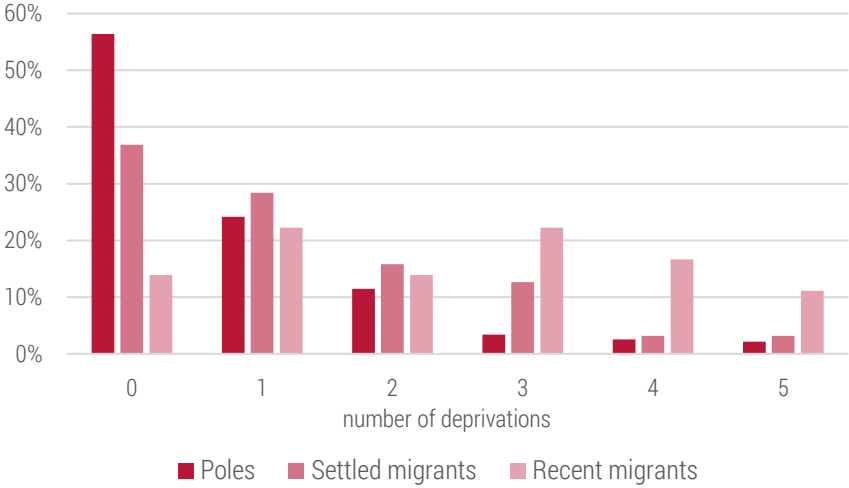
Figure 4. The share of workers not satisfied with their job by the number of deprivations experienced



Source: Own elaboration based on the “Polish Platform Work Survey.”

In general, migrants, especially recent migrants, experience multidimensionally poor job quality more often than native platform workers. 56.1% of native workers do not experience any deprivation, compared to 38.1% of migrants and only 13.9% of recent migrants (Figure 5). At the same time, 42.1% of migrant platform workers experience at least two deprivations (63.9% of recent migrants and 34.0% of settled migrants), noticeably above the share among native workers (20.0%). As many as 27.8% of recent migrants endure four or all five deprivations. We define being deprived in at least two dimensions as deep deprivation.

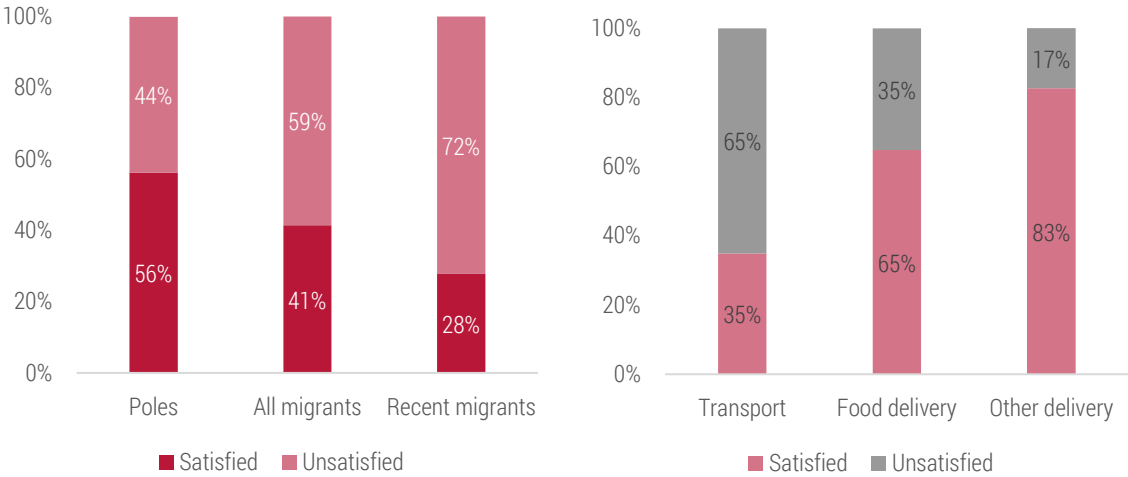
Figure 5. The share of workers according to the number of deprivations and migrant status



Source: Own elaboration based on the “Polish Platform Work Survey.”

Similarly, migrants are satisfied with their job less often than Polish workers. 56.2% of Polish workers are satisfied with platform work, compared with 41.4% of migrants and only 28.0% of recent migrants. Job satisfaction is also less common among transportation workers (34.9%) than among delivery workers – 64.8% of food delivery workers and 82.6% of other delivery workers are satisfied with their job (Figure 6).

Figure 6. Job satisfaction by nationality (left panel) and platform type (right panel)



*Note: based on the survey question: "How satisfied are you with the platform working conditions".
 Source: Own elaboration based on the "Polish Platform Work Survey."*

Next, we estimate logit models to understand factors associated with the likelihood of deep deprivation and of self-reported job satisfaction.

Migrants are significantly more likely to experience deep deprivation (20.9 pp, column 1 of Table 11) and significantly less likely to be satisfied with gig work (11.5 pp, column 4 of Table 11) than otherwise similar native workers. Again, these effects are particularly pronounced for recent migrants, who are 18.1 pp more likely to endure deep deprivation than settled migrants and 33.5 more likely than native workers (column 2 of Table 11). They are also significantly less likely to be satisfied with their job (column 5 of Table 11).

The effect of being a migrant on deep deprivation is robust to controlling for platform type, starting gig work due to no alternatives, and working only on platforms. Migrants are 15.8 more likely to endure deep deprivation (column 3 of Table 10). However, the migrant effect in the likelihood of job satisfaction is no longer significant, suggesting that differences in platform type and work patterns between migrant and native gig workers drive the average difference in job satisfaction (column 6 of Table 11). In other words, migrants are less satisfied with platform work because they have inferior working conditions and endure more deprivations than native workers, not because they are intrinsically less satisfied with gig jobs.

Additionally, working on food delivery platforms is associated with a 20.6 pp lower likelihood of deep deprivation and a 22.0 higher likelihood of job satisfaction than working on a taxi platform (columns 3 and 6 of Table 11, respectively). People who started gig jobs because they saw no alternatives are 9.0 pp more likely to experience deep deprivation and 9.0 pp less likely to be satisfied with it than those who took it up for positive reasons such as flexibility. Those who work only in gig economy have an 18.7 pp higher likelihood of deep deprivation than those who combine gig jobs with other work. Our results suggest that for workers forced to take up platform work, the gig economy may be a trap of inferior job quality and low job satisfaction. Finally, workers the lowest hourly earnings are significantly less likely to experience job satisfaction than those with medium earnings, while workers with high earnings are not different from those in the middle (column 6 of Table 11).

Table 11. The correlates of deep deprivation in multidimensional job quality and self-reported job satisfaction (marginal effects from logit models)

	Deep deprivation			Job satisfaction		
	(1)	(2)	(3)	(4)	(5)	(6)
Migrant	0.209*** (0.042)	0.154*** (0.049)	0.158*** (0.047)	-0.115** (0.055)	-0.070 (0.061)	-0.008 (0.065)
Recent migrant		0.181** (0.073)	0.081 (0.082)		-0.178* (0.104)	0.019 (0.096)
Food delivery			-0.204*** (0.048)			0.220*** (0.058)
Other delivery			-0.320*** (0.066)			0.371*** (0.101)
Only job			0.187*** (0.050)			-0.052 (0.057)
No income/alternatives			0.090** (0.043)			-0.090* (0.050)
No health insurance						-0.013 (0.072)
Having a contract						0.155** (0.075)
1 st quantile of hourly earnings						-0.343*** (0.088)
2 nd quantile of hourly earnings						-0.144* (0.079)
4 th quantile of hourly earnings						-0.073 (0.090)
5 th quantile of hourly earnings						0.075 (0.088)
1 st quantile of hours worked						-0.035 (0.086)
2 nd quantile of hours worked						0.006 (0.075)
4 th quantile of hours worked						-0.052 (0.089)
5 th quantile of hours worked						-0.056 (0.088)
Observations	367	367	367	366	366	347

*Note: All models include controls for gender, age, education (see Table A8 in the Appendix for the estimation results). Reference groups: men, aged 18-24, with secondary education, working on taxi platforms, combining gig job with other work, started gig job due to positive reasons, and in column 6 also: has a contract, has health insurance, 3rd quantile of hourly earnings, 3rd quantile of hours worked. Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.*

Source: Own estimations based on the "Polish Platform Work Survey."

5. Conclusions and policy implications

In this paper, we have studied the job quality of gig economy workers in Poland, focusing on its largest segment – taxi and delivery platforms. We have paid particular attention to gaps between native and migrant workers. The gig economy's growth has overlapped with a shift in the migration balance – from a net emigration country to a net immigration country. However, Poland is a New Immigration Destination with weak networks and institutions supporting the labour market integration of migrants, who constitute about a third of gig economy workers. Similarly to other Central Eastern European countries, Poland enforces labour market regulations weakly and lags behind Western European countries in attempts to regulate or even set standards for platform work. We have collected quantitative data using an online survey – the Polish Platform Work Survey – which can be adapted to measure the job quality of platform workers in other countries.

We have found substantial and multipronged gaps between native and migrant workers. First, migrants take up gig jobs primarily for negative reasons, such as a lack of income or other job opportunities. Recent migrants – those who used platform work as an arrival infrastructure – are strongly driven by a lack of alternatives and work solely on platforms. At the same time, natives do it more often for positive reasons such as autonomy and flexibility. Second, while precarious, temporary contracts dominate in the Polish gig economy, migrants work without any contract or health insurance almost three times more often than natives. Third, migrants' usual weekly hours worked are much higher, and their work-life balance is much worse than that of similar native workers. This translates into migrants' significantly higher risk of multidimensional job quality deprivation and considerably lower chances of job satisfaction. Again, recent migrants stand out, particularly with extremely long working hours that vastly exceed the EU norm of 48 hours per week, and with a high incidence of multidimensionally low job quality. Fourth, we find job quality differences between seemingly similar gig jobs. Taxi platforms exhibit lower job quality than delivery platforms. Recent migrants work taxi gig jobs much more often than other groups. Our study does not allow disentangling to what extent the inferior working conditions of recent migrants result from characteristics of taxi platforms, and to what extent they reflect a selection of more desperate migrants into this segment. This question can be a topic of further research.

Our research adds to the discussion on regulating the platform economy, showing the areas of particular concern that the forthcoming EU directive should address. The emergence of the gig economy contributes to the long-standing growth of non-standard forms of employment. Lack of minimum wage, paid holidays, sick leave, or collective bargaining is well documented. However, in New Immigration Destinations, such as Poland, the gig economy operates in the void created by weak networks and underdeveloped institutional support for integrating migrants. Its low entry barriers may turn it into a widely used arrival infrastructure. However, it may also become a trap, if the poor working conditions on platforms exacerbate the vulnerabilities of migrant workers. At the same time, high work intensity may hinder their ability to search for better jobs. Indeed, there is evidence that gig experience helps native workers in their future job search but brings no such benefits for minority workers (Adermon & Hensvik, 2022). For migrants, the opportunities and challenges that platform work brings might widely differ from those experienced by natives. Taking up a platform job, while also having the advantages of flexibility, is more often driven by a lack of other opportunities, and a gig may become a dead-end. Therefore, setting the gig economy's labour standards should complement strengthening institutions aimed at labour market integration of migrants, recognition of education and skills, and job intermediation.

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Appendix

Table A1. Labour market status before starting platform work (%)

	Polish platform workers	Migrant platform workers	Total
Employed	39.0	31.8	36.4
Unemployed	14.0	21.2	16.6
Unemployed because of COVID	13.1	7.6	11.1
In education/training	24.2	7.6	18.2
Not employed due to different reasons	5.9	3.8	5.2
Retired	1.3	0.8	1.1
Lived abroad	2.5	27.3	11.4
Total	236	132	368

Source: Own elaboration based on the "Polish Platform Work Survey."

Table A1. Comparison of the selected characteristics of recent migrants and other migrants

	Arrived with the intent to work on platforms (%)	Works on a taxi platform (%)	Has another job (%)	Works on platforms due to no income /alternatives (%)	Has health insurance (%)
Recent migrant	73	77	19	53	50
Settled migrant	30	40	33	45	72
	Hours worked weekly (hours)	Hourly wage (median, PLN)	Declares job satisfaction (%)	Declares work-life balance (%)	Hours worked weekly (hours)
Recent migrant	64	12.5	27	47	64
Settled migrant	43	20.0	46	72	43

Source: Own elaboration based on the "Polish Platform Work Survey."

Table A3. Intent to work on platforms according to the migrant status (%)

	Arrived with the intent to work on platforms
Recent migrant	73
Settled migrant	30

Source: Own elaboration based on the "Polish Platform Work Survey."

Table A4. Reasons to start platform work according to the migrant status (%)

	Polish	Migrant		
		Recent	Settled	All migrants
„Negative” reasons	27.6	52.3	45.4	47.4
„Positive” reasons	72.4	47.2	54.6	52.6
N	239	36	97	133

Source: Own elaboration based on the “Polish Platform Work Survey.”

Table A5. Working time: platform workers and the general population (hours weekly)

	Polish platform workers	Reference group: Polish drivers	Migrant platform workers	Reference group: Ukrainians employed in transport
Mean working time	42	44	51	58
Median working time	40	40	50	60
N	159	684	94	40

Note: Reference group Poles: Labour Force Survey, 2020. Reference group migrants: the Centre for Migration Research study, 2019. Samples restricted to men aged 18-44 living in cities over 100.000.

Source: Own elaboration based on the “Polish Platform Work Survey”, Labour Force Survey and the CMR study.

Table A6. Median net hourly wage: platform workers and drives in the general population (in Polish zloty)

	Polish platform workers (PPWS)	Reference group: Polish drivers	Migrant platform workers	Reference group: Ukrainians employed in transport
Median hourly wage	24	19	20	17
Mean hourly wage	29	21	30	20
N	159	203	94	40

Note: Reference group Poles: Household Budget Study, 2020. Reference group migrants: the Centre for Migration Research study, 2019. Samples restricted to men aged 18-44 living in cities over 100.000.

Source: Own elaboration based on the “Polish Platform Work Survey”, Household Budget Survey, and the CMR study.

Table A7. Estimation results for demographic controls in models of working conditions: weekly hours worked (OLS coefficients), hourly earnings (OLS coefficients) and work-life balance (marginal effects from a logit model)

	Weekly hours worked			Hourly earnings			Work-life balance		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Aged 25-29	7.695** (2.998)	7.431** (2.939)	8.275*** (2.339)	0.062 (0.141)	0.070 (0.140)	0.121 (0.095)	-0.095 (0.067)	-0.093 (0.066)	-0.041 (0.068)
Aged 30-44	12.61*** (2.595)	11.830*** (2.519)	11.930*** (2.161)	-0.130 (0.121)	-0.108 (0.120)	0.030 (0.093)	-0.046 (0.060)	-0.036 (0.060)	0.045 (0.062)
Aged 45+	11.40*** (3.506)	10.942*** (3.414)	8.805*** (3.106)	-0.075 (0.159)	-0.061 (0.155)	0.086 (0.110)	-0.077 (0.072)	-0.072 (0.071)	0.036 (0.067)
Primary education	6.224* (3.480)	3.865 (3.348)	0.023 (2.799)	-0.463*** (0.149)	-0.394*** (0.148)	-0.205* (0.107)	-0.099 (0.083)	-0.069 (0.078)	0.014 (0.073)
Basic vocational education	11.10*** (3.856)	10.217*** (3.828)	1.453 (2.602)	-0.615*** (0.201)	-0.590*** (0.199)	-0.328** (0.133)	-0.124 (0.093)	-0.113 (0.094)	0.030 (0.087)
Tertiary education	-3.318 (2.576)	-2.699 (2.514)	-0.779 (2.183)	0.047 (0.113)	0.029 (0.112)	-0.039 (0.080)	0.029 (0.054)	0.023 (0.055)	-0.030 (0.054)
Woman	-8.611*** (2.893)	-7.406*** (2.816)	-6.620*** (2.336)	0.044 (0.153)	0.010 (0.158)	-0.081 (0.120)	0.081 (0.084)	0.064 (0.083)	0.020 (0.071)
Constant	34.66*** (2.087)	34.993*** (2.043)	29.041*** (3.867)	0.157 (0.101)	0.147 (0.100)	3.129*** (0.164)			
Observations	355	355	347	352	352	347	365	365	346
R-squared	0.142	0.187	0.482	0.068	0.088	0.217			

Note: Estimates for gender, age, education from the same regressions as shown in Table 9. Reference groups: men, aged 18-24, with secondary education, working on taxi platforms, combining gig job with other work, started gig job due to positive reasons, has a contract, has health insurance, 3rd quantile of hourly earnings, 3rd quantile of hours worked. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Source: Own estimations based on the "Polish Platform Work Survey."

Table A8. Estimates for demographic controls in models of deep deprivation in multidimensional job quality and self-reported job satisfaction (marginal effects from logit models)

	Deep deprivation			Job satisfaction		
	(1)	(2)	(3)	(4)	(5)	(6)
Aged 25-29	0.031 (0.061)	0.027 (0.060)	0.027 (0.055)	-0.172** (0.073)	-0.168** (0.072)	-0.134* (0.070)
Aged 30-44	0.127** (0.059)	0.116** (0.058)	0.111* (0.058)	-0.123* (0.068)	-0.115* (0.068)	-0.051 (0.067)
Aged 45+	0.069 (0.069)	0.064 (0.068)	0.012 (0.063)	-0.196** (0.080)	-0.192** (0.080)	-0.072 (0.076)
Primary education	0.074 (0.072)	0.041 (0.070)	0.020 (0.069)	-0.119 (0.089)	-0.096 (0.091)	-0.059 (0.099)
Basic Vocational education	0.188** (0.090)	0.178** (0.090)	0.065 (0.073)	-0.113 (0.096)	-0.103 (0.096)	0.033 (0.091)
Tertiary education	-0.062 (0.051)	-0.057 (0.051)	-0.043 (0.050)	-0.022 (0.062)	-0.025 (0.062)	-0.057 (0.058)
Woman	-0.112 (0.080)	-0.090 (0.077)	-0.091 (0.070)	-0.048 (0.085)	-0.060 (0.085)	-0.060 (0.080)
Observations	367	367	367	366	366	347

Note: Estimates for gender, age, education from the same regressions as shown in Table 11. Reference groups: men, aged 18-24, with secondary education, working on taxi platforms, combining gig job with other work, started gig job due to positive reasons, and in column 6 also: has a contract, has health insurance, 3rd quantile of hourly earnings, 3rd quantile of hours worked. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Source: Own estimations based on the "Polish Platform Work Survey."



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