

Juggling online gigs with offline jobs

How local labour markets are
driving the growth in internet
and platform work

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Working Paper 2023.02

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Abstract

Online labour platforms are redefining the world of work, but little is known even now about the drivers of worker engagement in this type of activity. Earlier studies focused on individual preferences and job characteristics such as flexibility or low entry barriers, but the relative role of such pull factors is limited given widespread worker discontent and generally precarious and unstable conditions, in many respects similar to the low-wage and informal sector. This working paper expands current frameworks by considering the role of the local economic and employment context in explaining the prevalence of internet and platform work. Our analysis uses the ETUI Internet and Platform Work Survey carried out in Spring and Autumn 2021 with representative cross-national data covering 14 European countries. The results show a higher likelihood of engaging in online work in regions with worse offline opportunities – that is, fewer jobs and of lower quality overall. As internet work is often a secondary source of income, this is likely to reflect a greater juggling of offline and online jobs, driven by increasing economic and job insecurity.

Keywords: gig economy, job quality, local labour market, online labour platforms.

Introduction

Platform work has reignited the debate on the future of work and is the subject of much discussion and calls for new regulation. This has generated a wealth of research into the work and employment conditions on offer as well as its potential impact on traditional labour markets. However, the prevalence of the platform economy and its drivers remain scantily researched, partly due to a lack of representative data (Piasna et al. 2022).

To understand the dynamics of participation in the platform economy, it is useful to consider it as a concentrated form of insecure work which is part of a general trend towards the de-standardisation of employment (Cingolani 2022; MacDonald and Giazitzoglu 2019). Despite the novelty of their technological features and some excitement about their innovation potential, platform work and online labour markets in fact share strong parallels with conventional forms of precarious work, as defined in the vast literature in this field (Goods et al. 2019; Kalleberg 2009; Kalleberg and Vallas 2017; Piasna 2022; Wood et al. 2019). Though platforms may provide new earning opportunities, they have also been criticised for heightening the fragmentation, uncertainty, commodification and casualisation of work (Berg 2016; Bergvall-Kåreborn and Howcroft 2014; Piasna and Drahoukoupil 2021; Scholz 2016). Workers bear the risks and costs, which would otherwise be shouldered by employers, and enjoy only very limited access to social and labour protection (De Stefano 2016; Prassl 2018). This push towards precarious employment and fragmentation could be seen as a general trend which would lead to a continuous growth of online gig work in progressively deregulated labour markets (Standing 2011: 201). However, just as non-standard work is not uniformly spread across all occupational classes and geographical areas in developed societies, so has the growth of the platform economy been uneven (Berg 2016).

Earlier studies predominately focused on individual motivations and the socio-economic characteristics of workers in explaining different propensities to engage in platform work (see Vallas and Schor 2020). Greater flexibility and autonomy with respect to working time and place, as well as low entry barriers and instant income, would be seen as driving people to online labour markets (see discussion in Ipeiritis 2010; Prassl 2018). However, the relative role of these pull factors has been put into question by numerous studies showing a general preference among gig workers for more regular, stable and, in many respects, traditional employment (Datta 2019; Kirchner and Schüßler 2020; Piasna and Drahoukoupil 2021). Workers thus take up platform work, but continue to challenge and contest its work and employment conditions, which

points to an inadequacy of this type of work in its current form to meet their needs (Tassinari and Maccarrone 2017; Vandaele et al. 2019).

Given this inconsistency between the stated motivations of flexibility alongside the demands for more regulation and protection made by platform workers, it is also important to consider other factors driving participation in the online gig economy. A lack of better alternatives in the traditional labour market may be one key factor pushing people towards online labour markets (Balaram et al. 2017; Banerjee and Duflo 2011; Pesole et al. 2018). This shows the need to expand current frameworks to include the role of the economic and employment context in the expansion of the platform economy.

Research on the geographies of platform work has thus far focused on the role of online labour platforms in enabling users to find work and hire workers across distance. Online markets have the potential to overcome geographical boundaries on an international scale (Kässi and Lehdonvirta 2018), contributing to the development of the cross-border contracting of labour, often linking service requesters located in advanced regions with workers in more remote and peripheral ones (Wood et al. 2019). This consideration has also resulted in an analysis of the ability of platforms to bridge the distance between urban and rural areas (Braesemann et al. 2022). However, these rather rudimentary categories of urban versus rural divide, or centre and periphery, do not address the issue of the effect on the economic geography of online labour markets held by particular characteristics of the local labour market context. Current knowledge on the relationship between local economic factors and the platform economy is thus severely limited. The scarce available studies are limited to the US labour market and only one type of platform work in the early stages of its development (Borchert et al. 2018; Burtch et al. 2018; Huang et al. 2020).

This working paper expands the scope of the literature, going beyond the notion of distance and focusing on specific characteristics of the local offline labour market context as a driver of worker engagement in the platform economy. We examine job quantity and job quality, as both these aspects have an impact on the career opportunities that workers can expect and be able to access. In doing so, we combine two types of data: on the one hand, recent comparative individual data drawn from the ETUI Internet and Platform Work Survey (IPWS) carried out in Spring and Autumn 2021 in 14 European countries; and, on the other, labour market statistics at detailed regional level drawn from the Labour Force Survey.

In analysing activity in online labour markets, we consider a broad range of tasks and activities, differentiating between a broader notion of internet work and a narrower type of platform work. Internet work is conceptualised as the provision of digitally-mediated services aimed at generating income through the use of online platforms, websites or mobile apps, including work delivered remotely at different skill levels; and work matched online yet performed on location (such as transport, delivery or handyperson work). In the analysis, we exclude e-commerce, the renting of assets and earning through social

media. The part of internet work that is carried out through online labour platforms is defined as platform work (see also Piasna et al. 2022).

The analysis reveals a higher likelihood of engaging in online work in regions with worse offline opportunities – i.e. where there are fewer jobs and lower quality overall. However, we find that this is not a simple replacement effect, with people moving from non-employment to online labour markets, but rather it reflects a juggling of offline and online jobs by the same workers. What is driving workers to seek earnings opportunities in online labour markets is thus the increasing economic and job insecurity experienced in the traditional employment context. Overall, the results indicate that deficits in offline job quality, such as a lack of adequate hours and income to meet the needs from work, are one of the motivating factors behind the growth in platform work as well as in online labour markets more broadly.

1. The relationship between online and offline labour markets

An important feature of internet work is that the matching of labour supply and demand is done online (hence referred to here as online labour markets), allowing a forging of cooperation across distance and radically reorganising the hiring of labour. While there are important differences between skill content and the degree to which jobs are location independent, which are addressed further in this section, a common feature of internet work is that it offers alternative income possibilities to local offline employment.

Internet work can be a plausible alternative when opportunities in the local labour market are scarcer, in particular in times of high unemployment or income shocks related to job loss and economic downturn (Farrell and Greig 2016), for two main reasons. First, online labour markets offer instant and simultaneous access to a broad range of jobs and tasks, which is especially the case for remote work. Second, internet work often has relatively low entry barriers, with little in terms of a recruitment process and usually a straightforward online registration. Platforms also provide tasks with predominantly low complexity and few specialised skills (Vallas and Schor 2020), thus accessible to a wider range of workers.

Data collected by Berg (2016) on the MTurk and Crowdfunder platforms indeed show that about one-third of crowdworkers were unemployed before entering the online labour market. Similarly, Manyika and co-authors (2016) noted that about a third of those deriving income from gig work in Europe and the US did so out of necessity and a lack of better employment options. This dynamic is confirmed in other studies investigating transport and delivery platform workers, who overwhelmingly viewed this type of work as their next-best alternative to unemployment and who planned on reverting to offline work once it became locally available (Huang et al. 2020; Newlands 2022). Similarly, a US study reveals an increase in individuals joining an online labour platform offering microtasks and bidding for these tasks as local unemployment increased (Borchert et al. 2018). However, as this was driven by an increase in new participants without an increase in work intensity for longer-term users, this suggests that these platforms do not provide a long run alternative. Another US study also finds a clear positive association between, on the one hand, the number of active workers and the number of bids for tasks on the online platform Freelancer and, on the other, the local unemployment rate (Huang et al. 2020). An additional push factor coming from the offline economy can be related to closures and restrictions on many business activities during the Covid-19 pandemic, a period when the data

used in this study were collected, with affected workers turning online in search of gainful activity.

This suggests that internet and platform work could be seen as a type of precarious work which lies lower on the job ladder than most offline options and becomes more attractive in times of downturn, especially for the least advantaged (see e.g. Buttner et al. 2010; Devereux 2002; Moscarini and Postel-Vinay 2018; Reder 1955; Zwysen 2016). In this way the processes are likely to be similar to those that push workers into informal work or into self-employment through a lack of alternatives (see e.g. Brynin et al. 2019). However, it remains an open question to what extent online labour markets resemble traditional non-standard and own account work in constituting a survival strategy for workers, especially those who are vulnerable and with low market power, in times of unemployment (Thörnquist 2015).

The relationship between online and offline labour market participation is further nuanced in that internet and platform workers tend to derive only supplemental or secondary income from online work (Manyika et al. 2016; Piasna et al. 2022). This is because earnings from platform work tend to be very low and thus do not suffice to cover basic needs, but also due to a strategy of some platforms of over hiring relative to the amount of available tasks, resulting in an insufficient availability of paid work for all registered workers (Hall and Krueger 2018; Ilsøe et al. 2021; Piasna and Drahokoupil 2021; Schor et al. 2020). Moreover, at least some platforms overtly rely on workers deriving social security from other, usually offline, income sources thus adopting a parasitic strategy towards traditional labour markets and welfare states (Schor 2020). This implicitly assumes there must be sufficient local labour market opportunities for platform workers to be able to stack them alongside online work to make a living. Moreover, when faced with a loss of primary income in the traditional labour market, workers would be expected to focus their time and efforts on a search for new offline employment rather than online gigs, leading to a decline in the online labour supply (Huang et al. 2020). Engagement in internet work among the unemployed might then also be tempered by an expectation that it sends a negative signal about skills and productivity to potential offline employers (Goods et al. 2019; Healy et al. 2017). A higher propensity of the unemployed to engage in online labour might thus be related more to their behaviour patterns, with more time spent online including on job search (Krueger and Mueller 2012), rather than to a substitution effect between online and offline jobs.

It therefore seems unlikely that online labour markets directly substitute for job loss in the offline labour market, but they may provide additional security of income where offline opportunities are scarcer and of lower quality, including a high prevalence of low paid work or underemployment. Multiple job holding, a dominant pattern of work among online workers, is indeed largely a compensatory strategy for job quality deficits in primary employment (Dickey et al. 2011; Piasna et al. 2021; Wu et al. 2009). Accordingly, studies in the US found that platform work mainly offered an alternative to low quality offline opportunities, as measured through low wage levels (Borchert

et al. 2018) or low quality local entrepreneurial activity (Burtch et al. 2018). Glasner (2022) explicitly shows this relationship in a US study on the association between higher minimum wages in the traditional labour market and increased engagement in activities exempt from these minimum wages, including platform work. This points to these jobs being taken when few better opportunities exist.

While previous studies have established a relationship between online and offline labour markets for a variety of types of work, notably microwork, remote professional work and transport, it can be reasonably expected to differ depending on the type of activities performed through platforms. For work that is remotely deliverable, whether as microwork or in the form of more complex IT or creative services provided by skilled professionals, the key feature of platform work is that it allows a forging of cooperation and contract work across distance (Braesemann et al. 2022). It thus breaks the geographical link between labour demand and supply, and has a greater potential to reorganise the geography of economic activity, allowing for the virtual migration of workers over long distances. The relationship with the local context can then be predominantly linked to the availability of alternative employment. However, for locally delivered platform work, such as transport or personal services, the local labour market context has a more complex relationship with online labour as it can also shape the demand for these services given that clients are based in geographical proximity to workers, essentially in the same region. More economically vibrant regions might generate greater demand for on-location platform work. It is an open question which of these influences will prevail, or whether they will rather cancel each other out, eliminating clear relationships between the local context and on-location online labour.

The precise nature of the relationship between online and offline labour markets thus remains largely an open empirical question. Drawing on the reviewed literature, the following hypotheses are proposed and tested in this working paper:

- H1: Internet and platform work is expected to be more prevalent where workers have fewer opportunities in the offline local labour market.
- H2: Internet and platform work is expected to be more prevalent where workers have lower quality work opportunities in the offline local labour market.
- H3: The relationship between job quantity and quality in the local labour market and the propensity to do internet and platform work is stronger for remote work and weaker for on-location work.

2. ETUI Internet and Platform Work Survey: data and definitions

The analysis presented in this working paper uses the Internet and Platform Work Survey (IPWS) of the European Trade Union Institute (ETUI), a cross-national study carried out in Spring and Autumn of 2021 in 14 European countries¹ to measure the extent of internet and platform work. The fieldwork was carried out by Ipsos. A simple random sample of the working age population was selected through random digit dialling, thus avoiding upward bias in the reporting of online gig work found in studies relying on internet panels (see Piasna et al. 2022). The results showing the overview of the prevalence of internet and platform work in the European Union (EU) are based on the full random sample of 36 124 individuals aged 18-65. Analyses taking into account worker characteristics encompass 35 180 respondents (97 per cent) due to the listwise deletion of observations with missing data. Post-stratification weights are used.

The survey contains a battery of questions on the prevalence and intensity of different types of digitally-mediated work. In this paper, *internet workers* are those who self-report having done any of six digitally-mediated services in the past 12 months (see categories and questions from the IPWS in Table A1 in the appendix). These activities are grouped into four main types. There are two types of remote tasks which can be done completely online: clickwork – which is generally small and unskilled tasks; and higher-skilled projects carried out online such as IT tasks, copy editing or other creative types of tasks. Out of all internet workers doing remote work, close to two-thirds do clickwork, a quarter does creative remote work and 10 per cent of workers engage in both. As sample sizes are relatively small, these two tasks are partly analysed jointly since both connect workers to a larger, online, labour market. Third, there is work matched through apps or platforms but carried out on location, such as driving or delivery work (on-location transport); and fourth, work matched through apps or platforms carried out in the private sphere, usually in clients' homes, such as care, tutoring or handyperson work (on-location private). To validate these self-reports of internet work, respondents are also asked to

1. The Spring wave was collected between March and May 2021 in Austria, Bulgaria, Czechia, Estonia, France, Germany, Greece, Hungary, Ireland, Italy, Poland, Romania, Slovakia and Spain each with a target sample of 1750 respondents. The Autumn wave was collected between October and early December 2021 in 8 countries, with a target sample of 1750 in each of Czechia, Slovakia, Bulgaria and Estonia, and a target sample of 1250 in Germany, Italy, Spain and France.

provide the name of the website or app they use. When this name matches an actual online labour platform, algorithmically matching workers with clients, collecting client ratings and handling payments, respondents are classified as *platform workers*. Finally, those who worked at least 20 hours per week or earned at least 50 per cent of their annual income through labour platforms are classed as *main platform workers*.

3. Bringing in the local labour market context

Regional labour market conditions are captured through data from the European Labour Force Survey (LFS), either micro-data or those publicly available through the Eurostat website, merged with the IPWS at detailed regional level.² The quantity of employment opportunities is measured by two indicators. First, the regional unemployment rate for 2020,³ differentiated by level of education (at most lower secondary; upper secondary or post-secondary non-tertiary; and tertiary) and gender. Second, employability is estimated from the 2020 LFS micro-data as the probability of being employed rather than not working depending on the combination of gender, age (17-29; 30-49; and 50-64⁴) and education (low; middle; and high) within a region. The latter is likely to capture in most detail the employment opportunities available for respondents locally given their socio-demographic profile.

The quality of jobs within the local area is captured through four separate indicators. First, the share of workers at regional level that are under-employed; that is, working in part-time or temporary positions because they have been unable to find standard employment given their age, gender and qualifications. The second aspect is the share of own-account self-employed, a category of workers consistently linked to poorer job quality and well-being at work outcomes compared to standard dependent employment (Conen and Schippers 2019; Gevaert et al. 2021), measured within the region and by gender. Third, regional income levels are measured through country-specific income deciles drawn up with reference to the respondent's age, gender and qualifications. Here, a higher score corresponds to wages above the country average. These are multiplied by 10 so they can be interpreted as average percentile income, with 50 being the median. Finally, the local industrial make-up is captured through the share of manufacturing jobs as these generally provide better conditions and security in the European context. The decline of these relatively higher-skilled and more secure jobs, often under pressures of technological change and globalisation, may lead to a greater polarisation in employment and a rise of more precarious positions in the service sector (Autor et al. 2003; Eurofound 2013, 2022; Michaels et al. 2013).

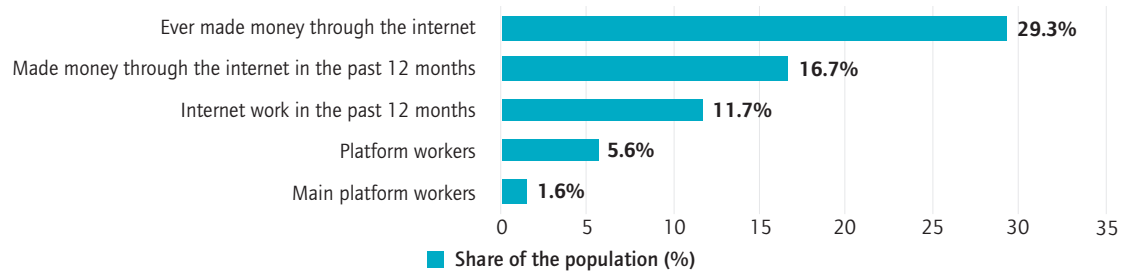
2. The regional level is generally NUTS-2, with the exception of Germany, Austria and Estonia where region is captured at NUTS-1 level.
3. For all indicators, where 2020 data were unavailable, 2019 data are used.
4. The LFS age cut-offs do not completely match the age range within the IPWS. Those aged 65 in the IPWS are given the same regional labour market situation as those aged 50-64 in the LFS. While the youngest members in the IPWS are 18, the youngest age category in the LFS starts at 17.

4. The prevalence of internet and platform work in the EU

The extent of internet and platform work across Europe, based on pooled data from the Spring and Autumn 2021 waves of the ETUI IPWS (Piasna et al. 2022), is shown in Figure 1. According to the estimates, 29.3 per cent of working age Europeans report having some experience with making money through the internet, including digitally-mediated services as well as the sale of goods (importantly, other than the second-hand sale of belongings by individuals) and the renting of assets online, while 70.7 per cent have never tried any such activities. Around 17 per cent had done any of these activities to earn money through the internet in the past 12 months. In this paper we exclude the broader activities of renting assets, selling goods and making money through social media; instead focusing on the smaller group of 11.7 per cent who had carried out more narrowly defined internet work in the past 12 months, namely providing digitally-mediated services such as clickwork or remote professional work, transport, delivery or other on-location services. About half of internet workers (5.6 per cent of all respondents) use an identified labour platform in their work and are thus called platform workers. Finally, a small minority (1.6 per cent of respondents) are main platform workers, working either more than 20 hours per week or earning more than 50 per cent of their annual income through platform work.

These numbers are very close to the findings from the Spring IPWS wave (Piasna et al. 2022), while the substantially higher number of respondents improves the robustness of the results. As discussed in more detail in Piasna et al. (2022) the estimates from ETUI IPWS are generally lower than those from non-probability studies, such as COLLEEM (Brancati et al. 2020), which tend to rely on convenience samples of internet and platform workers and thereby tend to over-estimate their numbers.

Figure 1 **Prevalence of internet and platform work in the EU; pooled data from Spring and Autumn 2021 IPWS**



Note: Data post-stratification weighted with the same weight for each country.
 Source: ETUI IPWS.

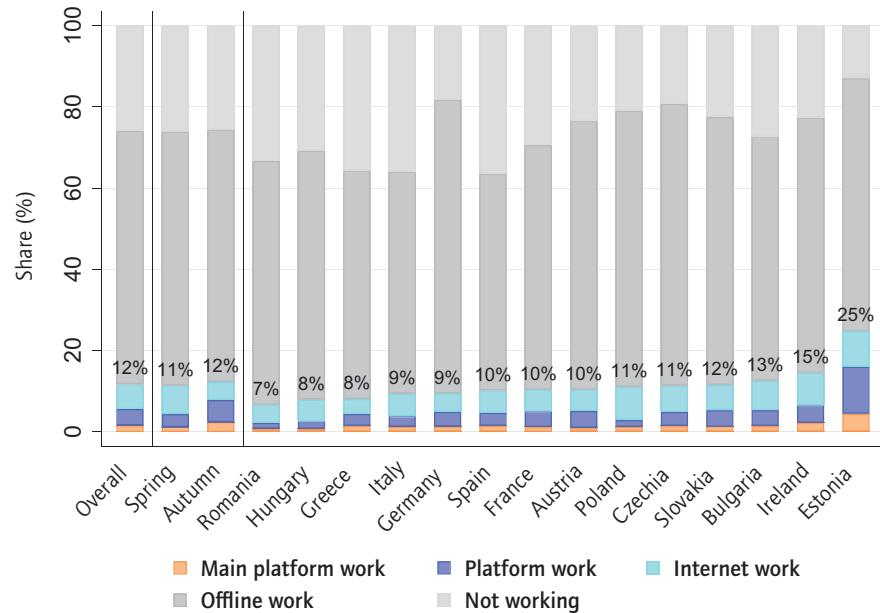
5. Online and offline work: main characteristics and intersections

This working paper aims at explaining individual decisions to engage in internet or platform work by reference to the characteristics of the local labour market context. In doing this, it is necessary to account for possible differences in socio-economic characteristics between individuals that may affect their employment patterns. The main analysis in this paper thus presents results for IPWS respondents where there is complete information on the key individual characteristics included in the analysis, namely gender, age, educational attainment, country of birth, place of residence and the presence in the household of a child under 12.

Figure 2 shows a breakdown of the sample into five groups: those who neither work offline nor do internet work; offline workers (employees and the self-employed); internet workers; platform workers as a subgroup of internet workers; and main platform workers as a subgroup of platform workers. On average, 16 per cent of working respondents did some form of internet work in the 12 months preceding the survey – 15 per cent in the Spring sample and 18 per cent in the Autumn sample. There is sizeable variation between countries with internet work being most likely in Estonia,⁵ Ireland, Bulgaria, Slovakia and Czechia; and least likely in Romania, Hungary and Greece. There is no clear pattern in this variation, which could reflect internet penetration but also disparities in the sense of which platforms are active and how heavily they recruit, or country-specific legislation or other differences. There is also a marked cross-country discrepancy in the extent to which internet and platform workers are active in the traditional, offline labour market. Figure 3 divides online workers into those who work in the offline economy and those who do not. In central and eastern European countries (Estonia, Poland, Hungary, Czechia and Slovakia), the vast majority of internet workers also have offline jobs. In contrast, in France and Greece less than 60 per cent of internet workers are employed in the offline economy. This shows a different degree of integration between online and offline labour markets across EU countries.

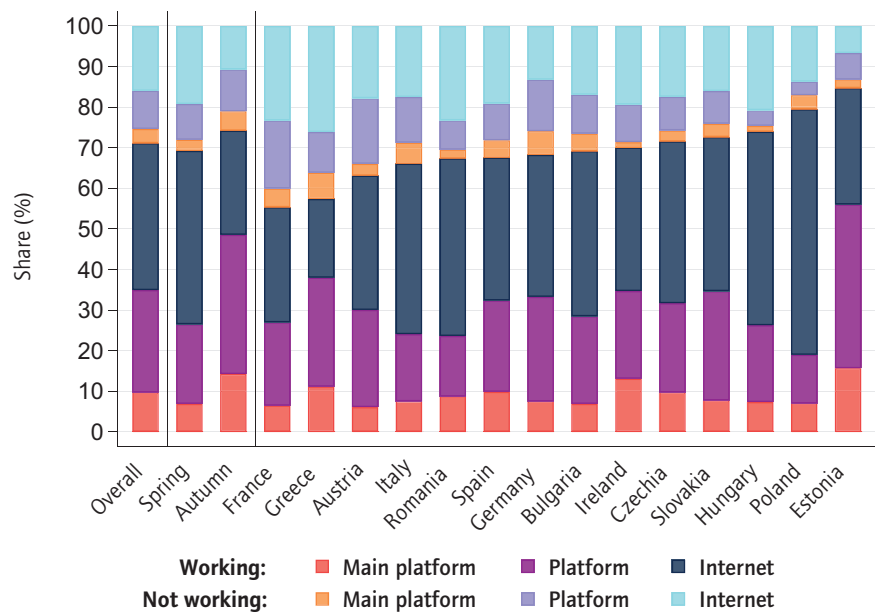
5. The high incidence of internet and platform work in Estonia stands out. These numbers have been reviewed in-depth to identify any irregularities in the sample, with nothing being found.

Figure 2 Prevalence of internet and platform work in the sample



Note: The figure shows the post-stratification weighted share of main platform workers, platform workers, internet workers, offline workers and those who did not work in the sample, separated by wave of the study and by country. The percentage indicates the share of internet workers out of all workers (internet and offline). Countries are ordered by share of internet workers. Source: ETUI IPWS.

Figure 3 Internet and platform work by employment status



Note: The figure shows the post-stratification weighted share of internet workers, categorised by self-reported employment status and type of internet work, separated by wave of the study and by country. Countries are sorted by the share of employed internet workers (total). Source: ETUI IPWS.

There is considerable heterogeneity between online workers, as well as some clear differences between online and offline workers, as shown in Table 1. Among internet workers the most common type of activity is clickwork, followed by creative work and on-location work. Delivery and transport are generally done more intensely than other types of task and are also most commonly performed by main platform workers. The majority of internet workers engage in this work on at least a monthly basis and on average for 10 hours per week, making up one-fifth of their annual earnings through the internet.

Women are slightly under-represented among all online workers, in particular among main platform workers. Internet and platform workers tend to be younger than the workforce overall, with a fifth younger than 25 compared to 7 per cent of offline workers. However, the majority of internet and platform workers are 35 or older and do not fit into the common trope of young student workers. Internet workers have on average similar educational attainment to offline workers and are slightly more likely to be born outside of the country of residence. Internet and platform workers are more likely to live in urban areas than offline workers – based on respondents' own assessment of whether they live in a large city or its suburbs, a town or in a rural area. A crucial difference consists in their employment status. While 86 per cent of offline workers report being employees, this is only true for up to around half of internet and platform workers with the other half being self-employed (20-30 per cent) or not in employment, most commonly being students (10 per cent) or unemployed (10 per cent).

Table 1 Characteristics of respondents by online and offline work status

	Not working	Offline work	Internet work	Platform work	Main platform work
Count	7812	23716	4596	2180	597
Share in the sample	22%	66%	13%	6%	2%
Type of tasks in online work ^a					
Clickwork			50%	52%	42%
Professional, creative work			26%	24%	32%
On-location private			20%	23%	28%
Transport			8%	13%	17%
Delivery			14%	20%	27%
Other			5%	3%	3%
Online work at least monthly			68%	71%	79%
Hours/week in online work			11.7h	11.9h	27.6h
Share of total income from online work			22%	23%	49%
Share women	58%	47%	47%	46%	42%
Age: 18-24	20%	7%	20%	21%	23%
Age: 25-34	15%	21%	25%	25%	23%
Age: 35-44	14%	26%	22%	22%	21%
Age: 45-54	17%	27%	19%	18%	20%
Age: 55-65	34%	20%	14%	14%	13%
Educational attainment: low	32%	13%	11%	12%	13%
Educational attainment: middle	52%	53%	51%	50%	54%
Educational attainment: tertiary	16%	34%	38%	38%	33%
Country of birth: residence	87%	88%	86%	85%	84%
Country of birth: other EU	4%	4%	5%	4%	5%
Country of birth: third country	10%	8%	9%	11%	11%
Residence: large city or suburb	36%	43%	49%	52%	53%
Residence: town	34%	32%	29%	28%	27%
Residence: rural area	30%	26%	22%	20%	20%
Child under 12 in the household	29%	34%	32%	33%	32%
Employee		86%	51%	53%	45%
Self-employed		14%	21%	20%	28%
Unemployed	34%		11%	11%	12%
Retired	25%		3%	2%	1%
Student	18%		10%	10%	9%
Inactive	23%		5%	4%	4%
Spring wave	64%	64%	62%	49%	45%
Autumn wave	36%	36%	38%	51%	55%

Note: ^a Multiple responses possible. Weighted averages.

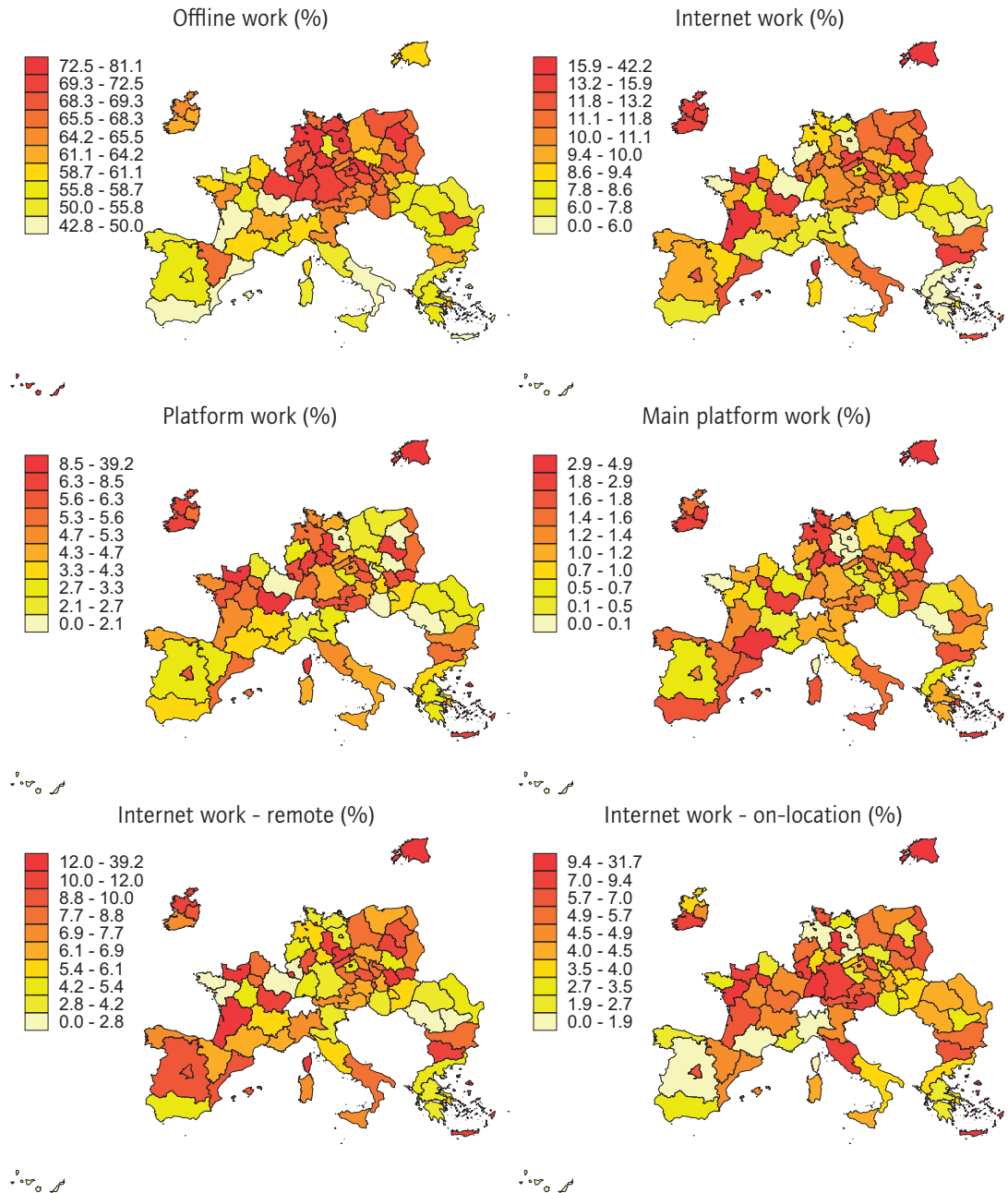
Source: ETUI IPWS.

6. Regional variation in online work and labour market context

There is considerable variation in the patterns of online work at regional level, markedly even within countries, as shown in Figure 4 based on IPWS data aggregated to an appropriate regional level. Information in the IPWS is generally given at NUTS-2 level classification of European regions but, to maintain sample size, we aggregate up to NUTS-1 in this figure, with the exception of Ireland, Czechia and Slovakia where NUTS-2 is shown since NUTS-1 for these smaller countries includes their whole territory. In Italy, for instance, internet work is more common in central and southern regions than in the north, while main platform work is most prevalent in Sicily and Sardegna (Isole). In Spain, online workers are most likely to be located in the east (5.7 per cent) and Madrid (6.3 per cent), while in Germany the pattern is more complex with the eastern regions being generally less penetrated by platform work compared to western ones. Interestingly, remote and on-location internet work do not necessarily follow the same regional pattern as evidenced, for instance, by Spain, Slovakia and France.

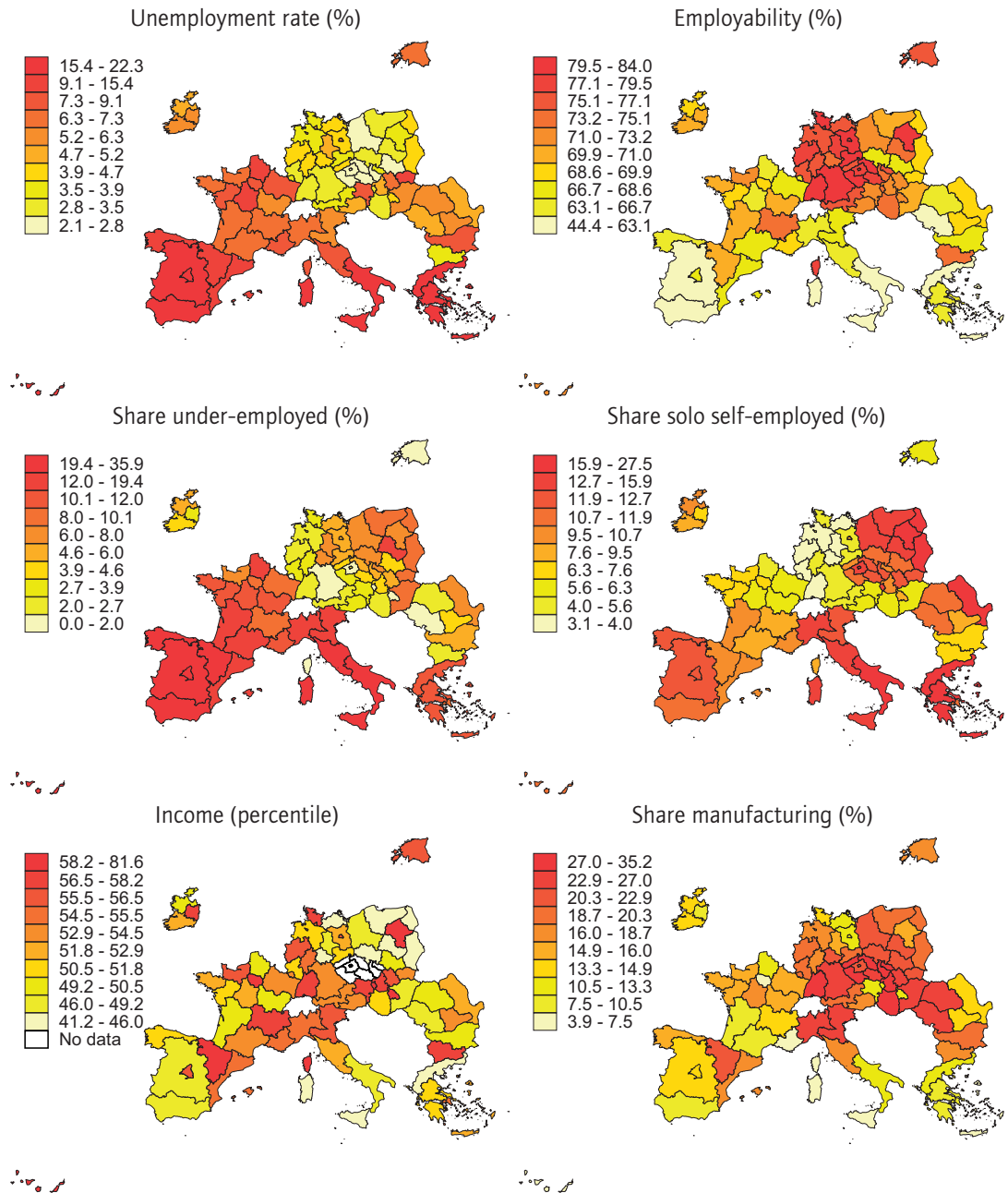
Figure 5 shows the distribution of regional labour market conditions. A granular, regional level of analysis and the use of multiple indicators paint a multidimensional picture of the offline context, offering greater nuance compared to a country level analysis. For instance, while southern and central and east European countries share some similarities in a higher prevalence of non-standard involuntary work, employment opportunities are relatively ample in the latter, placing them closer to Germany and Austria. Income differences play out predominantly across regions, rather than between countries, while manufacturing jobs are concentrated mainly in the central regions, including the south of Germany and the north of Italy. Tables A2 and A3 in the appendix provide figures for the regional variation in internet work and the labour market context.

Figure 4 Prevalence of different types of offline and online work, by region (%)



Source: ETUI IPWS.

Figure 5 Regional variation in labour market context (%)



Source: LFS 2019-2020.

7. The relationship between local labour market context and online work

While the previous section sketched considerable regional variation both in patterns of online work and in the local labour market context, Table 2 provides a summary of the relationships between them. Internet and platform workers live on average in regions where unemployment is slightly higher and employability for persons with similar characteristics is lower. There is no clear link between own account work and online work at regional level. The likelihood of engaging in internet and platform work is also higher in regions with greater under-employment and a smaller number of manufacturing jobs. This already indicates that, as expected, internet and platform work might constitute a better option if fewer opportunities are available in the local labour market, with some role also being played by the quality of the positions that are available. The unemployment rate and the share of workers who are under-employed are generally higher among the group of internet and platform workers than among offline workers, while the average employability, income and share of workers in manufacturing jobs is lower. This relationship seems to be generally stronger for main platform workers as they have the highest unemployment and under-employment rates and the lowest employability, incomes and manufacturing positions out of all those who do some work.

Table 2 Differences in regional context by type of work

	Not working	Offline work	Internet work	Platform work	Main platform work
Count	7812	23 716	4596	2180	597
Share of total (%)	22	66	13	6	2
Regional unemployment rate (%)	10.4	6.7	7.1	7.3	7.5
Regional employability (%)	59.3	75.2	71.3	71.8	71.1
Regional share of under-employment (%)	12.4	6.6	7.7	7.2	7.9
Regional share of solo self-employed (%)	10.0	9.8	9.3	9.0	9.5
Regional income (percentile)	46.8	56.4	55.1	55.2	53.8
Regional share of manufacturing (%)	17.5	18.5	17.8	17.5	16.9

Note: Weighted averages.
Source: ETUI IPWS and LFS.

Figure 6 provides a more detailed illustration of these associations, with the average shares of internet, platform and main platform work plotted against the characteristics of the regional labour market in all the sampled regions. The share of online work in total is shown on the left-hand side panel and the share among workers (including only those with offline jobs, internet work or both) on the right. Regions are ranked from lowest to highest values on each of the six regional indicators, which are rescaled to range from 0 to 100. The figure also indicates the size of the correlations.

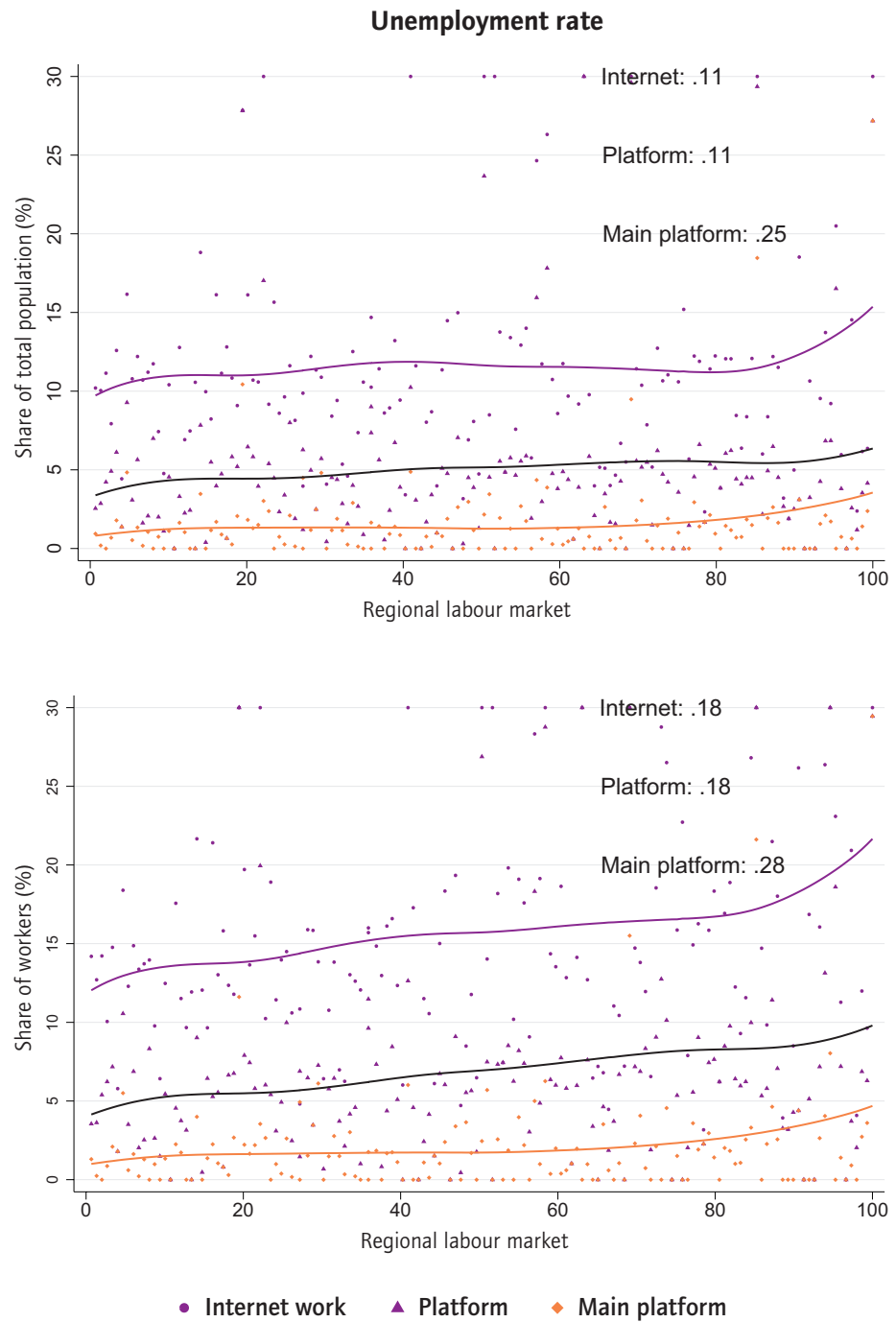
First, the role of the regional context in the propensity to work online is generally stronger among workers, as revealed by a comparison between the left and right panels of Figure 6. It suggests that regional conditions are related to a trade-off between offline and online work rather than transitions between non-employment and online labour markets.

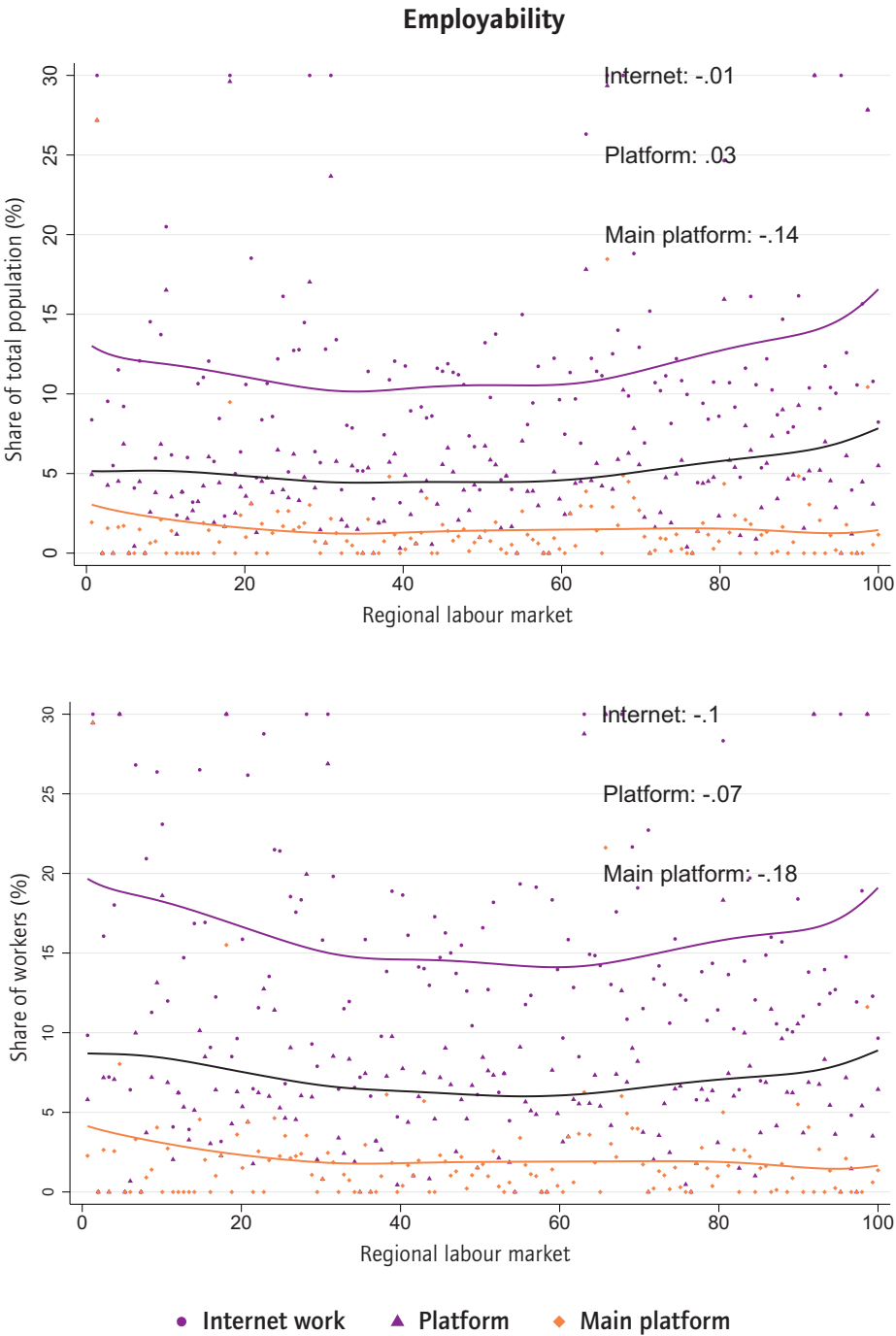
Second, Figure 6 confirms some of the positive associations between less favourable regional labour markets – particularly a lower availability of jobs and, to some extent, them being of poorer quality – and a higher propensity to work online. Internet work, and particularly platform and main platform work, are more likely in regions with a higher unemployment rate and relatively lower employability. Moreover, in regions with a greater degree of under-employment – meaning more workers working on an involuntary part-time or temporary basis – the rates of doing internet and especially main platform work are higher. This is also the case in regions with a lower share of manufacturing jobs that traditionally provide better and more secure jobs. While there is no real link between the share of solo self-employment and online work, internet work is most common in regions with the lowest income levels.

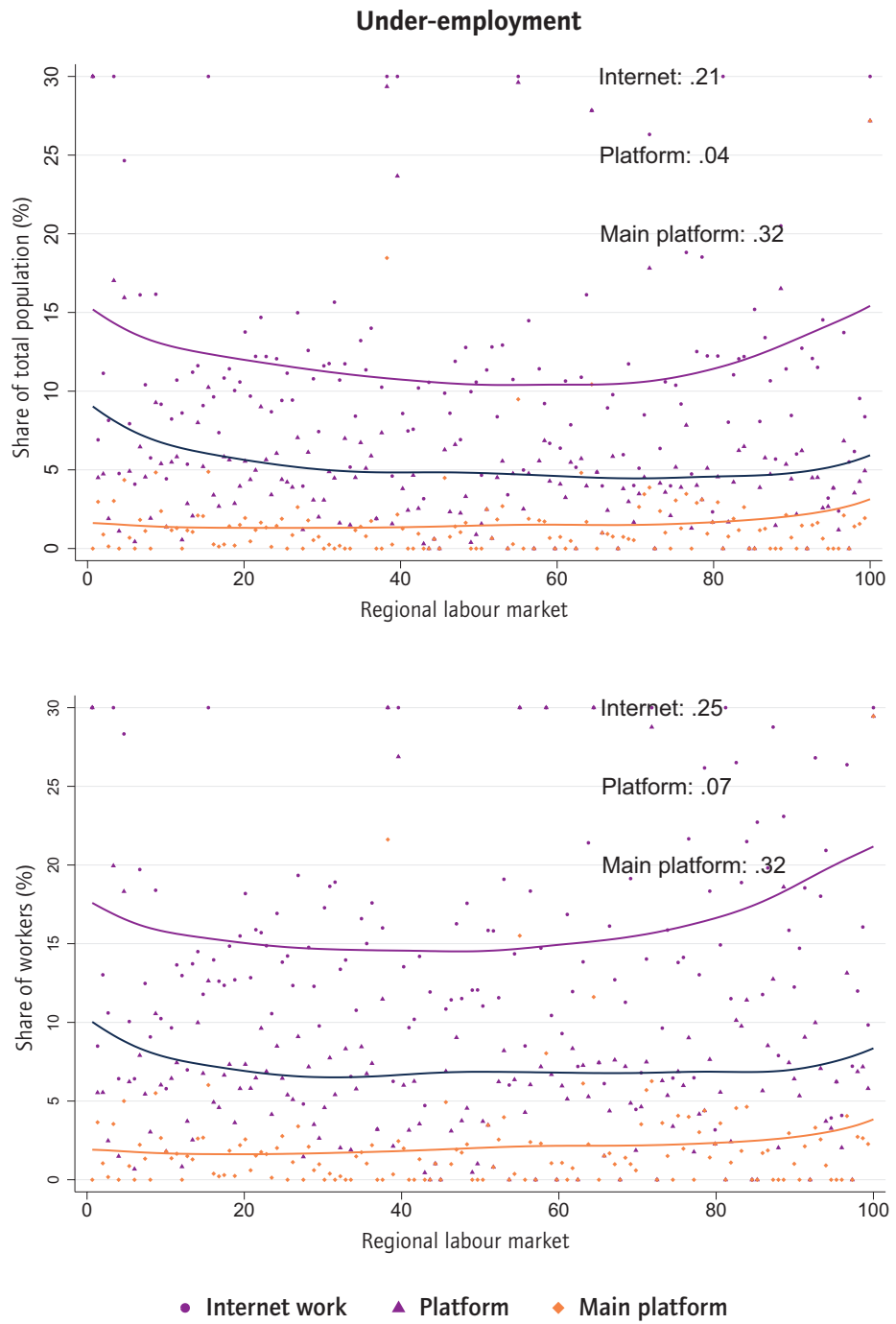
What might be more important than absolute differences in the labour market context at EU level is the relative situation when compared to other regions within the same country. Figure 7 divides all respondents into five groups of equal size (quintiles) depending on the local conditions relative to their country average, ranked from lowest to highest values. This means everyone is ranked in five groups of equal size from those facing the relatively lowest rates of different regional conditions (for example unemployment or share of manufacturing jobs) within their country, to those facing the relatively highest. As in the previous figure, online workers are shown as a percentage of all respondents as well as of those who are in work.

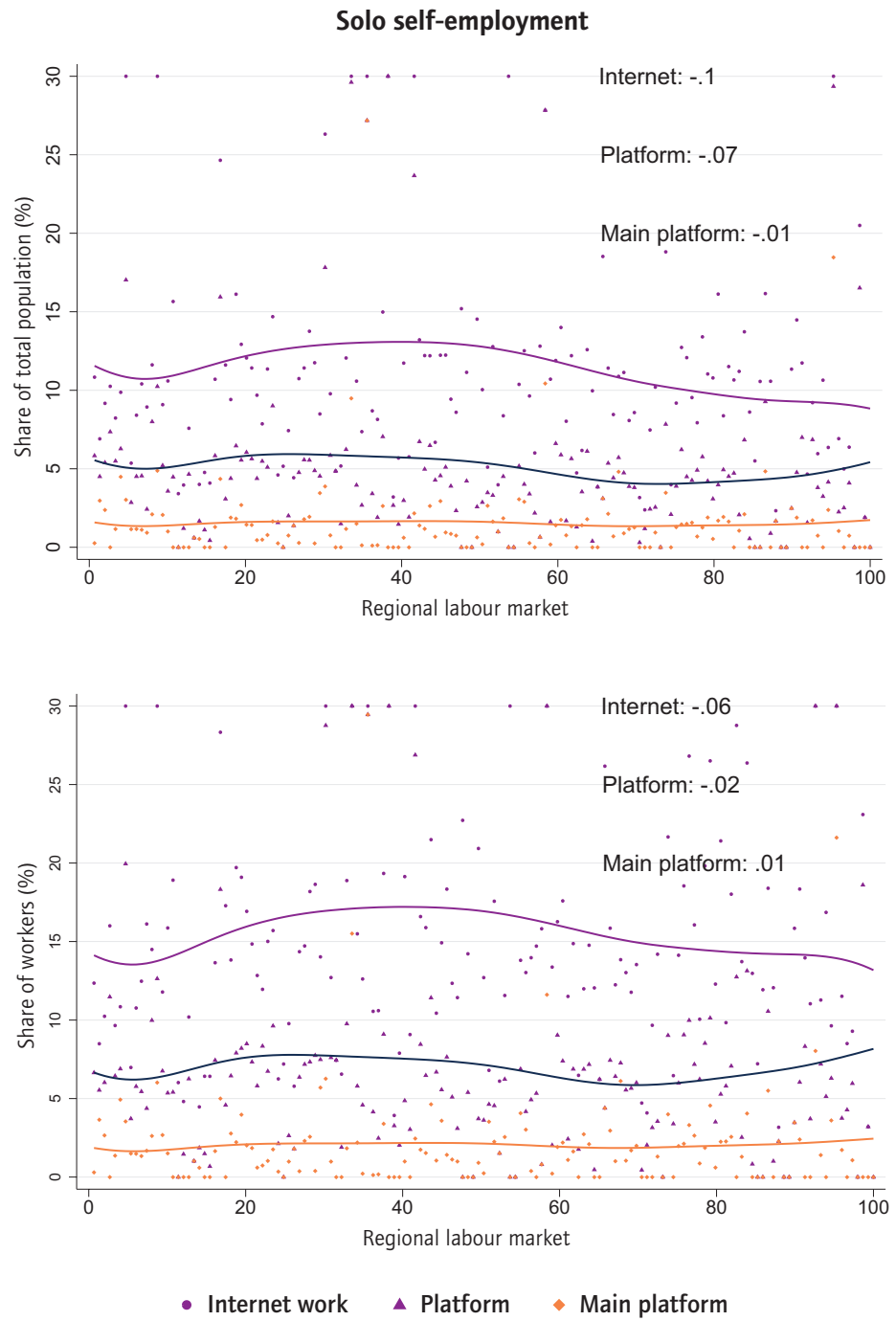
Overall, the directions of the relationships between the local context and propensity to work online are confirmed, yet they are more pronounced at country level than at EU level. This points to the important role being played by local conditions in relative terms; thus, compared to the national average rather than the EU average, in respect of individual choices to engage in internet labour. Moreover, within-country analysis confirms a stronger relationship between the regional context and online work among workers than among the whole population. This indicates that the labour market context particularly affects the trade-off between types of work rather than moves people out of non-employment to internet work.

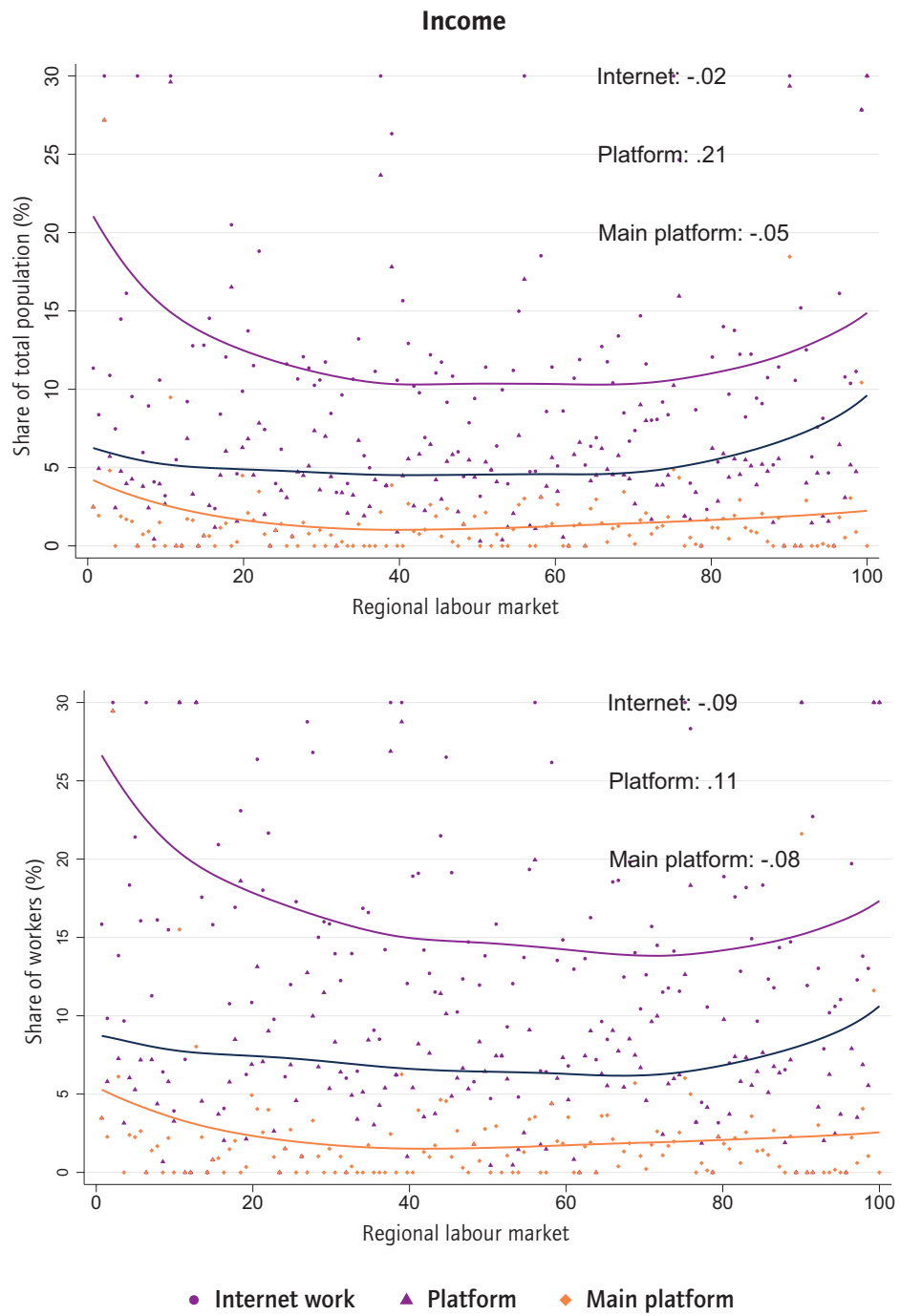
Figure 6 Relationship and correlation coefficient between regional economic conditions and types of internet work in the total population (top) and among workers (bottom)

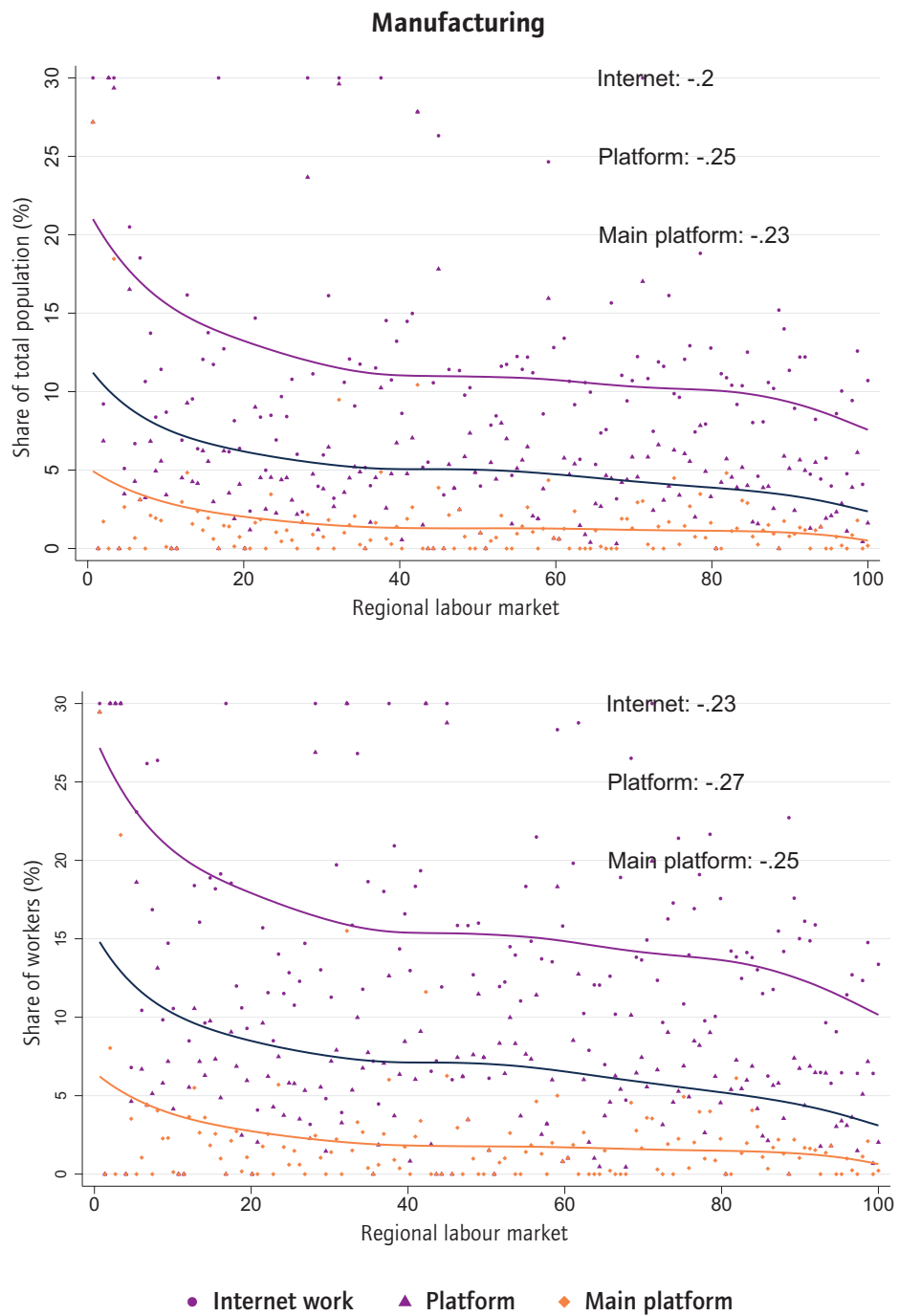






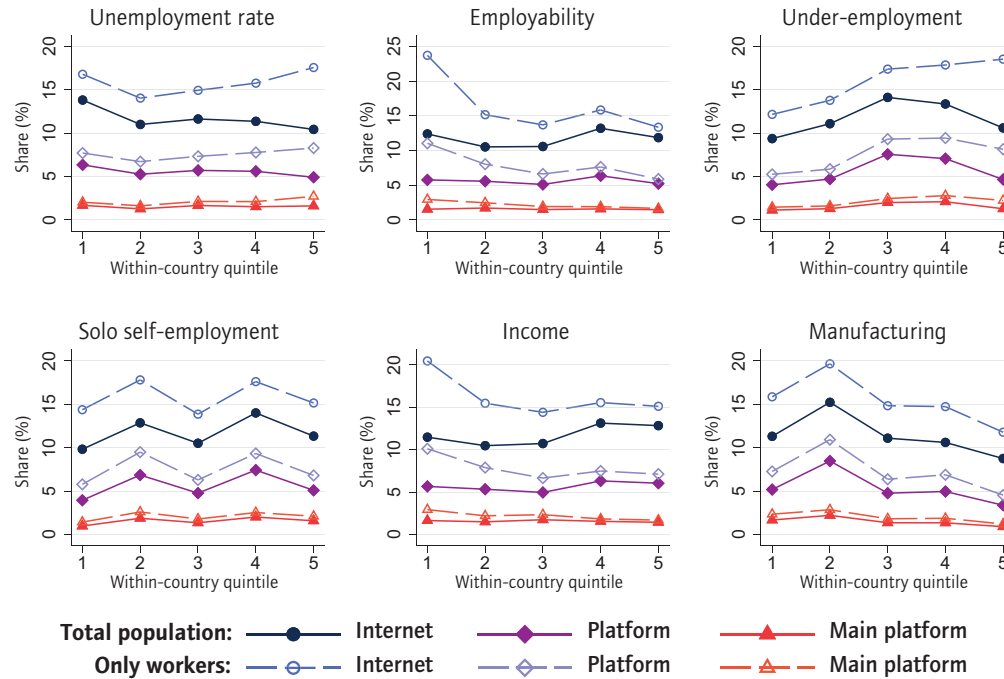






Note: The figure shows the average share doing internet work, platform work or main platform work among all respondents (left hand side panels) and among those who do any type of work (right hand side panels), averaged over all regions (NUTS-1 or NUTS-2) ranked by each of the six regional indicators and rescaled 0-100. Regions with fewer than five sampled workers are excluded. Shares over 30 per cent are capped at that point on the scatter (but not on the lines or correlations). It also shows the correlation between the regional indicator and average internet work.
 Source: ETUI IPWS and LFS 2019-2020.

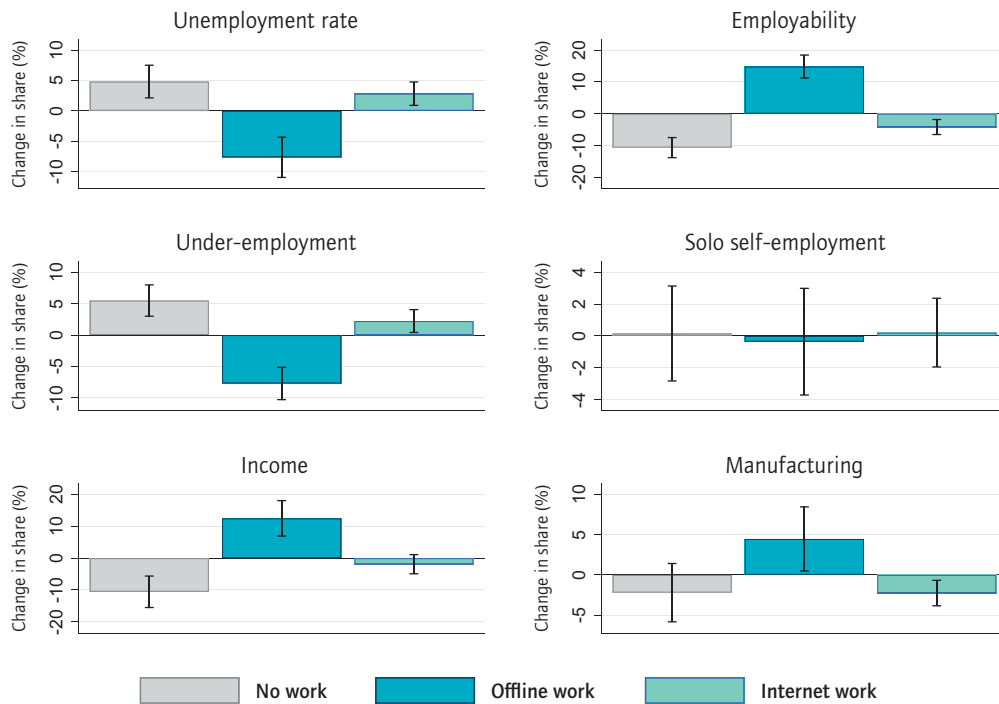
Figure 7 Average shares of internet workers in terms of the relative, within-country, regional context



Note: The figure shows the share of all respondents and among all those who do any type of work who engage in internet, platform or main platform work, based on regional context quintiles in terms of the deviation from the national average, ranked from the 20 per cent of workers in regions with the lowest rates nationally to the 20 per cent of workers in regions with nationally the highest rates. Source: ETUI IPWS.

The results so far indicate that there is indeed a link between local labour market opportunities and engagement in online work, and especially so among those who are already in some type of work. In the last step of our analysis, we aim to account for the possible role of any compositional differences between regions, notably differences in workforce composition, to arrive at the net effect of the local labour market context. We thus estimate the probability of working offline and online (Figure 8), different types of internet work (Figure 9) and different activities within internet work (Figure 10) through a multinomial logistic regression accounting for workers' age, gender, educational attainment, area of residence and presence in the household of a child under 12, as well as for country differences. These analyses, to some extent, account for why those living in areas with worse labour market conditions may also differ from those in better areas in terms of other characteristics and opportunities that themselves can affect the decision to do internet or platform work. Figure 8 compares the predicted probabilities between regions where the regional indicator is very low (10th percentile) and very high (90th). It thus shows a comparison between the hypothetical situation where the regional indicator is among the lowest of all regions – the 10th when ranking them from 1 (lowest) to 100 (highest) – and that where the regional indicator is among the highest – the 90th.

Figure 8 Probability of working offline and online; difference between regions with low (10th) and high (90th) percentile values for regional labour market conditions



Note: The figure shows the difference in predicted probabilities for each type of outcome (no work, offline work, internet work) between low (10th percentile) and high (90th percentile) levels of the regional indicator, with 95 per cent C.I. estimated from a weighted multinomial logistic regression model. Each regional indicator is modelled separately, controlling for gender, age in categories, gender by age, educational attainment, country of birth, area of residence, presence in the household of a child under 12, wave of survey and country fixed effects, with standard errors clustered by region (NUTS-2).
Source: ETUI IPWS and LFS.

The results clearly indicate that, once the compositional differences between regions are accounted for, internet and platform work are more likely in regions with fewer or worse offline opportunities. The relationship between internet work and job quality in the region is also in line with expectations: regions where the available jobs are of lower quality have a higher prevalence of internet work, although this is statistically significant ($p < 0.05$) only for the share of under-employment and manufacturing jobs. Specifically, this means that, in regions with a very high unemployment rate compared to those where it is very low (13 per cent vs 2 per cent), otherwise similar people were eight percentage points less likely to work exclusively offline, three percentage points more likely to make money through internet work (including as supplemental income) and a further five percentage points more likely not to work. Similarly, those who had relatively high employability (93 per cent vs 49 per cent) were 14 percentage points more likely to work offline and four percentage points less likely to do internet work. A high share of workers being under-employed (18 per cent vs 0.5 per cent) is associated with a higher share of respondents not working (five percentage points) and doing internet work (two percentage points) rather than working only offline. In regions with

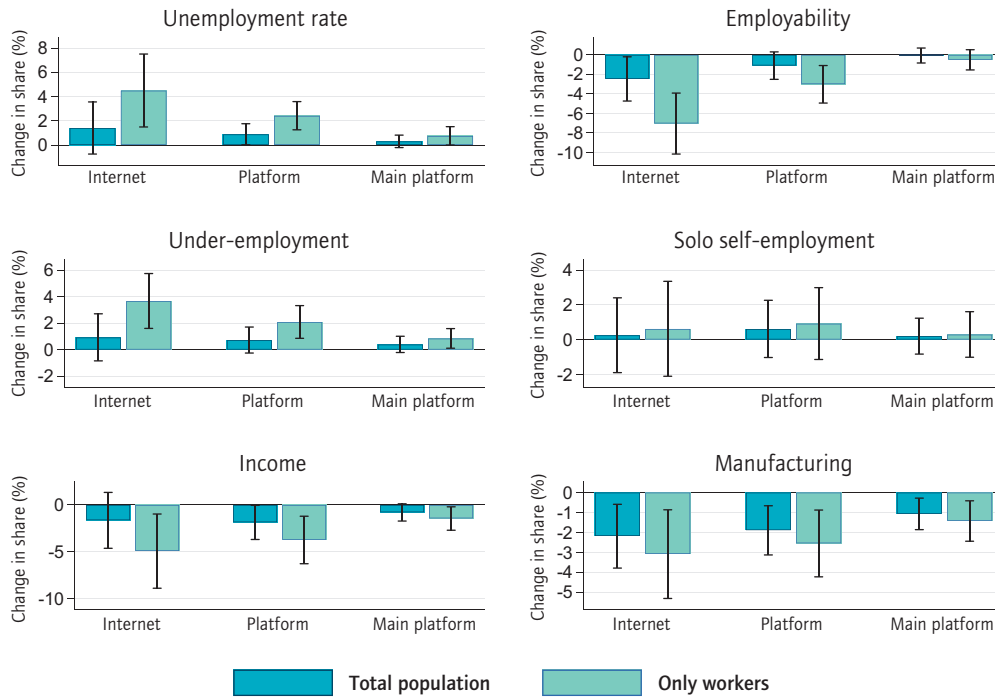
a higher overall income (average incomes in the 8th decile rather than the 4th), respondents were 12 percentage points more likely to be working only offline, and less likely not to work, with no real change in internet work. The regional share of solo self-employed is not really related to the type of activity being carried out. Regions that have a very high share of jobs in manufacturing (28 per cent) do not differ significantly from those with a low share (8 per cent) in the share of people not working but have, on average, a four percentage points higher share of people working only offline and a two percentage points lower rate of internet workers.

Figure 9 disentangles this relationship by looking at three, increasingly narrowly defined, types of internet work: all internet workers; all platform workers; and all main platform workers. It shows that the availability of jobs in the region is most relevant for levels of internet work, while income and the share of manufacturing jobs seem to link predominantly to platform work. In regions with a very high unemployment rate, respondents are, on average, one percentage point more likely to work on platforms overall than in regions with more employment opportunities.

When comparing those who do some type of work there is a more striking relationship, with internet work being five points more likely and platform work two points more likely in regions with relatively higher unemployment. An unemployment rate that is around 10 percentage points higher is associated with a five point shift to (also) doing internet work. Respondents with very high employability are 2.5 points less likely to do internet work. However, among those who work, this difference increases to seven points. In regions with a high share of under-employed workers, those who work are four points more likely to do internet work, two points more likely to do platform work and one point more likely to do main platform work. In contrast, higher incomes are associated with a lower share of workers also doing internet, platform or main platform work (respectively five, four and one point less likely). In regions with a high share of manufacturing jobs, online work is, in general, less common, with internet work 2.2 points, platform work 1.9 points and main platform work 1.1 points less likely.

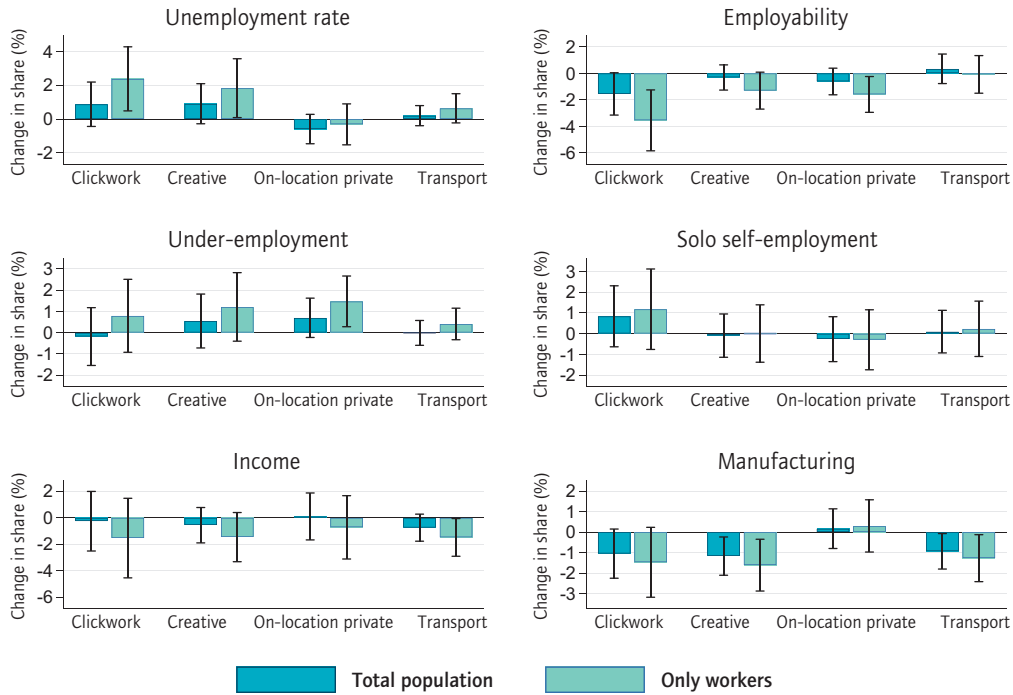
Figure 10 explores how the relationship with the local labour market context differs by the type of tasks performed in internet work. App-based transport services, including taxi and delivery, are more common in regions with relatively lower income levels and lower shares of manufacturing jobs, but do not seem to be more available in regions with fewer available jobs. They thus expand in regions which are relatively vibrant economically, yet where income insecurity and a low wage service sector are more prevalent. In contrast, on-location services delivered in the private sphere, such as handyperson work or childminding, are more widespread in conditions of greater under-employment and lower employability. Remote internet work, the most location independent type of online work, is the most responsive to both job quantity and job quality deficits in local labour markets. While they behave similarly, the relationship with employability and especially solo self-employment is generally higher for clickwork than for other creative work.

Figure 9 Probability of internet and (main) platform work; difference between regions with low (10th) and high (90th) percentile values for regional labour market conditions



Note: The figure shows the difference in predicted probabilities for each type of outcome (internet work, platform work and main platform work) between low (10th percentile) and high (90th percentile) levels of the regional indicator, with 95 per cent C.I. estimated from a weighted multinomial logistic regression model. Each regional indicator and each outcome variable are modelled separately, controlling for gender, age in categories, gender by age, educational attainment, country of birth, area of residence, presence in the household of a child under 12, wave of survey and country fixed effects, with standard errors clustered by region (NUTS-2). Source: ETUI IPWS and LFS.

Figure 10 Probability of internet work by type of task; difference between regions with low (10th) and high (90th) percentile values for regional labour market conditions



Note: The figure shows the difference in predicted probabilities for each type of outcome (clickwork, remote professional or creative work, on-location private, on-location transport) between low (10th) and high (90th) percentile levels of the regional indicator, with 95 per cent C.I. estimated from a weighted multinomial logistic regression model. Each regional indicator and each outcome variable is modelled separately, controlling for gender, age in categories, gender by age, educational attainment, country of birth, area of residence, presence in the household of a child under 12, wave of survey and country fixed effects, with standard errors clustered by region (NUTS-2).
Source: ETUI IPWS and LFS.

8. Discussion and limitations

Earlier studies on the platform economy and online labour markets showed these emerging forms of work to have a substantial disruptive capacity for traditional employment and workers' livelihoods, although the mechanisms of their expansion remain poorly understood. On the one hand, various studies point to the distinctiveness of this type of work in the scope for flexibility, novelty or low entry barriers as factors potentially attracting workers (Pesole et al. 2018; Schor et al. 2020; Wood et al. 2019). However, a large amount of worker protest (Bessa et al. 2022), ongoing litigation against platform companies and evidence on preferences for regular work and protected employment amongst not only platform workers but also non-standard ones more broadly (Datta 2019; Piasna and Drahoukoupil 2021; Tassinari and Maccarrone 2017) suggest that other explanations for the growth of platform work should be sought.

This working paper has addressed this gap by exploring the role of the local labour market context in terms of both job quantity and quality for the expansion of the online gig economy. The analysis uses data from the Internet and Platform Work Survey (IPWS) carried out in 2021 which allows, for the first time, to match information on engagement in online labour markets with local labour market characteristics at a granular regional level and to account for differences in individual socio-demographic characteristics. We defined internet work as encompassing self-reported income generation by finding work and connecting with clients online, through platforms, websites or apps, including remote work (such as clickwork and professional or creative work), on-location work performed in private spaces (such as care, tutoring and handyperson work) and on-location work in the transport sector (such as delivery and taxi services). Platform work was more narrowly defined as a subset of internet workers who named an actual online labour platform when asked to specify the website they used.

Internet and platform work were expected to be more prevalent in regions with fewer offline job opportunities or where those available are of lower quality. Indeed, in line with hypothesis H1, respondents were more likely to report making money online in regions with fewer job opportunities in the traditional economy. There were more internet workers in regions with a higher unemployment rate and with a lower employability rate; that is, the probability of being employed for persons with a similar socio-demographic profile to the respondent. For instance, a shift upwards in the unemployment rate of five percentage points is associated with a 0.5 percentage point higher

probability of doing internet work and a two percentage point increase in the probability of doing (some) internet work rather than working only offline.

However, the relationship between job quality within the region and online work was less clear cut and hypothesis H2 is supported only partially. In particular, a higher share of under-employed people was indeed, in line with expectations, associated with a higher incidence of different types of internet work and platform work. A reverse relationship was found for the share of manufacturing jobs and relative income, as regions with a larger manufacturing sector and higher income levels were characterised by a weaker expansion of internet and platform work. Yet this seems to apply mainly to transport services and remote work, and is thus likely to indicate that better offline opportunities in terms of quality of jobs also prevent more widespread use of on-location platforms. Even so, a higher share of solo self-employed in a region was only weakly linked to a higher prevalence of remote platform work, suggesting some overlap between own-account workers in more precarious positions and location independent online gig work.

Overall, job quantity and quality at regional level were more consistently and strongly related to remote work than to any type of on-location internet work which supports the final hypothesis, H3.

The results are in line with the literature that situates platform work as the next-best alternative to unemployment taken up out of necessity, with online workers expressing a preference for offline opportunities once they become locally available (e.g. Huang et al. 2020; Newlands 2022; Manyika et al. 2016). However, the findings also reveal that there is no simple substitution effect between offline and online work in which online labour markets absorb people unable to find work in conventional offline settings. Moreover, it is already well-established that platform work mainly provides a supplementary income (Manyika et al. 2016; Ilsøe et al. 2021; Piasna and Drahoukoupil 2021; Schor et al. 2020) and the majority of analysed internet workers also had jobs in the offline economy. Thus, the findings of internet work being taken up in harsher local employment conditions instead largely point to a juggling of offline and online jobs by the same workers. Given that such a juggling is more prevalent when offline alternatives are scarcer, it is presumably driven by increasing economic and job insecurity as well as weaker market power among workers. This is also supported by the positive link revealed between greater under-employment – that is, an inability to find work with a sufficient number of hours or with a stable contract – and more workers turning to internet work, which is likely to be a means of compensating for shorter hours or inadequate incomes. It thus points to the role of job quality in traditional labour markets, with adequate hours and income to meet workers' needs, in assessing the growth of platform work.

Further research is needed to shed more light on the relationship between job quality in the traditional economy and the prevalence of internet and platform work. While this study finds an association between online work,

at least when compared to working only offline, and several measures of job quality as well as employability, an investigation of job quality at an individual level would provide better suited evidence. While the IPWS data allow for a detailed analysis of the drivers of worker engagement in internet or platform work, they do not provide any information on what might drive the market expansion and recruitment decisions of specific platforms. Platforms may differ in their strategies and approaches, as well as in the working conditions they offer, but this consideration is out of the scope of this paper.

Conclusions

Internet and platform work are profoundly affecting the labour market through the expansion of precarious forms of employment and the development of technological tools for organising work and controlling labour which are increasingly being used beyond the narrow segment of the platform economy. Despite growing research on this issue, little is still known as to what is driving workers to these often precarious and low-paid jobs. Using results from a unique representative dataset on the prevalence of internet and platform work in 14 European countries in 2021, this paper highlights the importance of not only considering the characteristics of these jobs that might represent pull factors – such as time and place flexibility or low barriers of entry – but also of considering whether the local labour market and offline opportunities may be pushing workers to take up these jobs.

The study shows that, in regions with fewer employment opportunities and where the jobs on offer are generally of lower quality, there is a greater prevalence of internet and platform work. It suggests that individuals are supplementing their income in times of greater uncertainty or fewer other options through working on remote labour markets that are not suffering the same downturn. Importantly then, the rise of online gig work does not appear an inevitable and generalisable trend, but it does depend on the dynamics of the traditional labour market, in particular at its margins.

Our findings indicate that internet work can be seen as a type of precarious and less valued work which is more likely when fewer other options are available locally, exerting pressure on perceived job and economic security. That points to the important issue of considering the options open to workers in the platform economy who may be relatively disadvantaged and vulnerable. Due to the precarious state of this work it becomes all the more important not to leave these workers open to possible exploitation but to provide a suitable regulatory framework that protects all workers. Of course, this also highlights the importance of ensuring good job opportunities in the traditional labour market.

In December 2021 the European Commission proposed a directive to improve the working conditions of people engaged on digital labour platforms. This is in itself already important as it acknowledges the need to streamline the regulatory framework regarding platform and internet work and the risk of exploitation these workers face. The proposed directive would mainly have an impact in that it attempts to clarify the employment status of workers. It

sets forth a presumption of employment rather than independent contracting, with a rebuttal based on checklists regarding the control platforms have over their workers. This would then extend employee benefits and labour rights, including insurance and minimum wages where relevant, to these vulnerable workers. Our research indicates that internet and platform work seems to be a last resort pointing to sometimes problematic conditions of work which could be partly alleviated through this proposal. It also opens up possibilities to address other vulnerabilities such as unpaid hours, lack of control over or knowledge about the work schedule, and generally low pay (Piasna and Zwysen 2022).

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All links were checked on 21.12.2022.

Appendix

Table A1 Construction of key variables: offline work, internet gig work and platform work, with weighted shares

1. Question	Internet work in the last 12 months	Platform work in the last 12 months
<p><i>Some people earn money by using online platforms, websites, or mobile applications. [...] Please tell me if you have ever tried to earn money by finding work or connecting with clients through online platforms, apps or websites in any of the following ways:</i></p>	<p><i>Have you done this activity in the past 12 months?</i></p> <p>If Yes → Internet work</p>	<ul style="list-style-type: none"> - <i>Please give the name of the online platform, app or website you mainly use for this activity.</i> - <i>Did you use any other online platforms, apps, or websites for this activity?</i> <p>Follow-up question if respondent does not know</p> <p><i>Could you tell us in what way you used the internet for this activity. Did you:</i></p> <ol style="list-style-type: none"> 1. <i>Put an ad online or respond to an online ad</i> 2. <i>Work through an online platform that matches you with clients and co-ordinates payment (think for instance of Fiverr, Upwork, Uber...)</i> <p>If the named platform is a true platform, or the respondent responded 2 → Platform work</p>
<p>1. <i>Remote clickwork (doing short tasks on your computer or other online device on a freelance basis, for instance 'clickwork', data entry or sorting, transcriptions, paid online surveys)</i></p> <p>2. <i>Remote professional work (creative, IT or professional work on a freelance basis through an online platform, app or website)</i></p>	Internet work: remote	Platform work: remote
<p>3. <i>Transport (transporting people – as a taxi or other driving service – where you find the passenger through an app, online platform or website)</i></p> <p>4. <i>Delivery work (delivering food or other goods where you get the order through an app, online platform or website)</i></p>	Internet work: on-location – transport	Platform work: on-location – transport
<p>5. <i>On-location work (work found through an online platform, app or website done at a client's home or another location away from your home, for instance handyperson work, cleaning, beauty treatment or childminding)</i></p> <p>6. <i>Other freelance services or tasks (any other types of freelance work not mentioned, through an online platform, app or website).</i></p>	Internet work: on-location – private	Platform work: on-location – private
	7. Did not do any of these activities in the last 12 months and report being employed: Offline worker	

Source: ETUI IPWS.

Table A2 Description of regions in the sample – online and offline work

Country	Region	Name	Number of people in sample	Work offline	Internet work	Platform work	Main platform work
Germany	DE1	Baden-Württemberg	386	71.6%	8.3%	5.2%	1.1%
Germany	DE2	Bayern	472	72.4%	10.3%	4.5%	1.1%
Germany	DE3	Berlin	139	72.2%	9.1%	3.5%	0.1%
Germany	DE4	Brandenburg	91	78.5%	4.1%	1.4%	0.0%
Germany	DE5	Bremen	30	44.3%	33.4%	11.5%	5.7%
Germany	DE6	Hamburg	73	70.8%	15.1%	9.1%	1.9%
Germany	DE7	Hessen	227	68.7%	11.7%	7.9%	1.9%
Germany	DE8	Mecklenburg-Vorpommern	58	71.3%	8.5%	4.2%	1.0%
Germany	DE9	Niedersachsen	270	80.3%	9.2%	5.4%	2.4%
Germany	DEA	Nordrhein-Westfalen	622	68.7%	5.6%	2.9%	1.1%
Germany	DEB	Rheinland-Pfalz	137	76.8%	11.1%	5.6%	0.3%
Germany	DEC	Saarland	28	43.3%	42.0%	16.6%	3.5%
Germany	DED	Sachsen	127	67.3%	15.3%	4.6%	0.0%
Germany	DEE	Sachsen-Anhalt	76	54.0%	9.9%	6.5%	0.0%
Germany	DEF	Schleswig-Holstein	105	68.7%	8.8%	4.6%	1.7%
Germany	DEG	Thüringen	65	80.6%	10.5%	6.3%	4.2%
Greece	EL3	Attiki	633	63.8%	8.4%	4.5%	1.8%
Greece	EL4	Nisia Aigaiou, Kriti	198	42.8%	13.2%	6.8%	3.2%
Greece	EL5	Voreia Ellada	498	50.3%	5.5%	3.5%	0.5%
Greece	EL6	Kentriki Ellada	397	56.2%	4.6%	3.2%	1.0%
Spain	ES1	Noroeste (ES)	311	55.8%	9.9%	4.7%	1.6%
Spain	ES2	Noreste (ES)	247	66.7%	9.7%	3.2%	1.4%
Spain	ES3	Comunidad de Madrid	494	51.6%	12.3%	6.3%	1.2%
Spain	ES4	Centro (ES)	358	57.9%	9.5%	3.2%	0.6%
Spain	ES5	Este (ES)	884	50.1%	12.8%	5.7%	1.7%
Spain	ES6	Sur (ES)	689	49.0%	7.6%	3.8%	1.6%
Spain	ES7	Canarias	10	74.2%	0.0%	0.0%	0.0%
France	FR1	Île de France	634	64.8%	11.6%	5.7%	2.0%
France	FRB	Centre – Val de Loire	154	57.4%	8.3%	5.9%	0.4%
France	FRC	Bourgogne – Franche-Comté	126	42.9%	17.0%	10.4%	2.4%
France	FRD	Normandie	122	53.6%	27.1%	14.3%	1.3%
France	FRE	Hauts-de-France	294	58.3%	9.1%	2.5%	0.8%
France	FRF	Grand Est	253	69.1%	2.7%	1.1%	0.5%
France	FRG	Pays-de-la-Loire	160	65.5%	9.7%	6.1%	0.7%
France	FRH	Bretagne	121	60.4%	5.0%	5.0%	0.0%
France	FRI	Nouvelle-Aquitaine	305	44.6%	16.1%	4.9%	1.3%
France	FRJ	Occitanie	224	58.6%	7.4%	4.1%	3.0%
France	FRK	Auvergne – Rhône-Alpes	377	63.2%	9.6%	4.1%	0.3%
France	FRL	Provence-Alpes-Côte d'Azur	194	56.9%	6.7%	4.4%	0.7%
France	FRM	Corse	3	60.8%	39.2%	39.2%	0.0%
France	FRY	RUP FR – Régions ultrapériphériques françaises	18	83.9%	6.6%	3.3%	0.0%
Ireland	IE04	Northern and Western	296	65.2%	13.2%	6.7%	1.4%
Ireland	IE05	Southern	873	63.4%	15.0%	7.0%	2.6%

Country	Region	Name	Number of people in sample	Work offline	Internet work	Platform work	Main platform work
Ireland	IE06	Eastern and Midland	562	61.6%	13.8%	5.5%	1.9%
Italy	ITC	Nord-Ovest	781	60.0%	7.8%	2.3%	1.0%
Italy	ITF	Sud	666	42.9%	11.6%	4.6%	1.6%
Italy	ITG	Isole	381	51.8%	9.5%	4.3%	1.6%
Italy	ITH	Nord-Est	529	65.2%	7.5%	3.3%	1.1%
Italy	ITI	Centro (IT)	634	50.5%	11.1%	5.0%	0.9%
Austria	AT1	Ostösterreich	766	65.0%	9.7%	4.4%	0.5%
Austria	AT2	Südösterreich	350	64.8%	11.4%	5.6%	1.4%
Austria	AT3	Westösterreich	625	66.6%	10.7%	5.8%	1.3%
Bulgaria	BG3	Severna i yugoiztochna Bulgaria	1718	57.8%	11.1%	5.0%	1.1%
Bulgaria	BG4	Yugozapadna i yuzhna tsentralna Bulgaria	1742	61.7%	14.0%	5.5%	1.7%
Czech Republic	CZ1	Praha	420	70.8%	15.9%	9.3%	4.9%
Czech Republic	CZ2	Strední Cechy	423	70.4%	7.8%	4.9%	0.7%
Czech Republic	CZ3	Jihozápad	379	68.9%	9.9%	2.9%	0.2%
Czech Republic	CZ4	Severozápad	347	65.2%	12.0%	5.0%	1.3%
Czech Republic	CZ5	Severovýchod	463	72.8%	12.5%	6.2%	1.9%
Czech Republic	CZ6	Jihovýchod	519	69.2%	11.9%	5.6%	1.4%
Czech Republic	CZ7	Strední Morava	369	69.4%	10.3%	1.6%	0.2%
Czech Republic	CZ8	Moravskoslezsko	372	65.8%	8.3%	2.3%	0.7%
Estonia	EE0	Eesti	3497	61.0%	24.7%	16.0%	4.4%
Hungary	HU1	Közép-Magyarország	580	61.2%	7.8%	2.2%	0.1%
Hungary	HU2	Dunántúl	537	66.2%	6.8%	1.8%	0.5%
Hungary	HU3	Alföld és Észak	635	57.0%	9.1%	3.4%	1.4%
Poland	PL2	Makroregion Poludniowy	376	69.1%	9.0%	2.0%	0.9%
Poland	PL4	Makroregion Pólnocno-Zachodni	274	63.6%	11.1%	2.2%	0.7%
Poland	PL5	Makroregion Poludniowo-Zachodni	198	60.4%	9.4%	2.4%	1.2%
Poland	PL6	Makroregion Pólnocny	280	68.5%	11.5%	2.1%	0.6%
Poland	PL7	Makroregion centralny	153	64.3%	16.7%	6.4%	3.2%
Poland	PL8	Makroregion Wschodni	205	67.6%	12.5%	5.6%	2.7%
Poland	PL9	Makroregion Województwo Mazowieckie	259	76.6%	10.7%	1.8%	0.2%
Romania	RO1	Macroregiunea unu	442	58.6%	7.8%	2.7%	0.1%
Romania	RO2	Macroregiunea doi	490	53.9%	7.6%	2.9%	1.1%
Romania	RO3	Macroregiunea trei	481	69.2%	4.9%	2.2%	1.4%
Romania	RO4	Macroregiunea patru	339	58.6%	6.4%	0.5%	0.0%
Slovakia	SK01	Bratislavský kraj	425	73.3%	10.8%	4.8%	0.9%
Slovakia	SK02	Západné Slovensko	1082	67.2%	9.0%	3.8%	0.8%
Slovakia	SK03	Stredné Slovensko	804	64.8%	13.4%	5.9%	1.8%
Slovakia	SK04	Východné Slovensko	913	60.7%	11.7%	6.6%	1.5%

Source: ETUI IPWS.

Table A3 Description of regions in the sample - regional characteristics

Region	Number of people in sample	Unemployment rate (%)	Employability (%)	Under-employment (%)	Solo self-employment (%)	Income percentile (percentile)	Share manufacturing (%)
Baden-Württemberg	386	3.17	84.04	2.28	3.55	57.78	28.10
Bayern	472	2.88	79.82	1.67	4.03	54.50	23.86
Berlin	139	5.62	78.14	4.11	9.05	55.96	6.94
Brandenburg	91	4.20	81.34	4.56	5.08	52.71	12.03
Bremen	30	5.10	73.74	2.93	4.51	55.61	13.92
Hamburg	73	4.80	78.23	4.02	6.38	55.38	9.88
Hessen	227	3.99	76.79	2.68	4.38	55.00	16.73
Mecklenburg-Vorpommern	58	4.50	76.04	5.40	3.97	45.68	11.03
Niedersachsen	270	3.81	76.73	2.09	3.41	51.44	18.67
Nordrhein-Westfalen	622	4.63	77.15	2.46	3.96	56.24	19.11
Rheinland-Pfalz	137	3.49	75.29	3.06	3.06	51.43	20.22
Saarland	28	3.67	65.71	0.89	3.87	53.16	19.99
Sachsen	127	3.87	82.15	5.03	4.82	50.46	19.27
Sachsen-Anhalt	76	4.80	77.50	6.13	3.51	48.52	15.97
Schleswig-Holstein	105	3.50	79.67	2.70	4.65	58.23	13.39
Thüringen	65	4.20	73.60	7.54	3.70	46.11	21.75
Attiki	633	14.77	63.06	8.86	11.07	55.37	9.94
Nisia Aigaiou, Kriti	198	18.78	57.11	10.82	23.24	52.62	4.94
Voreia Ellada	498	19.82	55.72	11.88	23.78	44.97	11.19
Kentriki Ellada	397	17.02	65.22	10.58	27.53	51.45	9.10
Noroeste (ES)	311	12.72	64.24	23.16	12.36	51.60	14.95
Noreste (ES)	247	10.44	70.68	19.48	10.15	61.19	20.33
Comunidad de Madrid	494	13.34	67.45	19.33	7.67	55.91	7.67
Centro (ES)	358	18.08	57.39	25.36	12.19	47.22	14.35
Este (ES)	884	14.64	68.24	18.32	10.48	54.82	16.83
Sur (ES)	689	22.32	55.13	31.62	11.81	47.14	9.10
Canarias	10	18.29	71.39	24.05	10.80	59.06	4.12
Île de France	634	8.97	68.62	10.08	7.20	58.54	6.39
Centre – Val de Loire	154	9.18	66.50	10.60	6.28	51.34	16.19
Bourgogne – Franche-Comté	126	6.26	69.98	12.14	6.28	49.64	15.33
Normandie	122	6.35	72.28	6.84	7.48	56.62	15.45
Hauts-de-France	294	9.78	62.96	14.28	5.18	49.88	13.19
Grand Est	253	8.42	68.23	9.13	5.61	52.77	15.86
Pays-de-la-Loire	160	8.18	69.64	11.70	7.51	50.98	15.77
Bretagne	121	6.56	70.05	11.25	7.47	52.08	16.00
Nouvelle-Aquitaine	305	7.25	70.72	12.19	9.64	50.36	8.79
Occitanie	224	6.88	67.43	13.42	8.77	54.45	8.26
Auvergne – Rhône-Alpes	377	6.99	74.80	9.64	7.84	56.56	14.64
Provence-Alpes-Côte d'Azur	194	8.62	69.05	10.31	10.30	54.77	5.55
Corse	3	8.10	79.29	0.00	9.39	81.58	3.93
RUP FR – Régions ultrapériphériques françaises	18	23.20	35.11	37.24	10.44	36.38	4.63
Northern and Western	296	4.95	69.49	5.81	9.94	49.96	14.42
Southern	873	5.81	70.89	4.58	9.18	52.78	14.79

Region	Number of people in sample	Unemployment rate (%)	Employability (%)	Under-employment (%)	Solo self-employment (%)	Income percentile (percentile)	Share manufacturing (%)
Eastern and Midland	562	6.33	69.95	3.76	7.22	57.33	8.34
Nord-Ovest	781	6.71	66.43	17.85	13.43	55.40	22.97
Sud	666	16.17	53.32	24.73	16.09	47.92	13.24
Isole	381	18.73	44.48	35.92	15.48	41.27	7.34
Nord-Est	529	5.66	67.66	18.46	12.63	55.64	25.14
Centro (IT)	634	8.42	65.44	21.13	15.43	52.90	16.12
Ostösterreich	766	7.56	72.19	3.85	6.24	56.51	11.01
Südösterreich	350	4.89	72.79	3.12	5.93	53.33	17.38
Westösterreich	625	3.61	76.64	2.35	5.59	53.84	19.86
Severna i yugoiztochna Bulgaria	1718	7.39	68.50	4.89	6.37	50.50	20.01
Yugozapadna i yuzhna tsentralna Bulgaria	1742	3.59	73.89	2.39	6.74	57.63	17.52
Praha	420	2.49	78.85	2.08	17.56		7.22
Strední Čechy	423	2.30	78.67	1.33	15.62		22.88
Jihozápad	379	2.10	80.22	3.49	10.89		31.63
Severozápad	347	4.20	75.32	3.98	10.28		27.01
Severovýchod	463	2.33	81.05	4.63	12.32		33.42
Jihovýchod	519	2.62	77.16	4.06	12.17		26.97
Strední Morava	369	2.63	74.76	5.15	11.93		35.23
Moravskoslezsko	372	3.85	76.16	7.97	10.58		30.80
Eesti	3497	7.04	76.59	1.24	5.64	55.58	18.07
Közép-Magyarország	580	4.35	72.60	1.67	8.72	59.50	13.19
Dunántúl	537	3.42	73.93	2.66	6.07	50.95	27.12
Alföld és Észak	635	5.60	70.87	8.86	5.62	47.13	24.22
Makroregion Południowy	376	2.76	67.97	3.95	10.76	49.41	20.45
Makroregion Północno-Zachodni	274	2.34	72.14	7.33	12.85	49.22	22.93
Makroregion Południowo-Zachodni	198	3.02	66.78	7.95	11.06	45.00	22.90
Makroregion Północny	280	3.17	70.95	8.69	14.00	45.80	20.00
Makroregion centralny	153	3.42	73.41	14.56	15.73	44.40	20.71
Makroregion Wschodni	205	4.63	68.93	9.21	17.09	41.60	18.83
Makroregion Województwo Mazowieckie	259	3.56	80.72	6.58	17.02	59.33	15.23
Macroregiunea unu	442	5.32	66.41	2.42	10.80	49.89	24.91
Macroregiunea doi	490	4.87	69.60	7.51	20.25	51.93	13.70
Macroregiunea trei	481	5.85	69.79	4.01	8.94	53.13	13.84
Macroregiunea patru	339	4.71	61.46	1.93	11.29	48.88	24.18
Bratislavský kraj	425	3.31	75.02	0.55	12.77	72.73	12.02
Západné Slovensko	1082	4.97	71.16	4.57	10.48	58.09	33.02
Stredné Slovensko	804	6.80	73.27	5.79	11.96	56.41	25.85
Východné Slovensko	913	10.85	68.66	8.00	11.91	54.33	20.66

Source: Eurostat.

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