Emerging Platform Work in Europe: Hungary in Cross-country Comparison

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Abstract

In this paper, we assess the main characteristics of a growing form of precarious employment, namely platform work. These digitally enabled services cover a wide range of activities from personal low or semi-skilled services (e.g. personal transportation) to highly skilled online services such as software development. In our paper, we characterise the digital platform labour force by the content of the job, working conditions, employment status, and collective voice. The primary aim of the analysis was to give an overview of theoretical foundations and empirical evidence for an EU supported project on platform workers. Here we present an overview of the variety of terminology, definitions of platform work, and platform workers and examine the grey zone of labour law regulation in which many of them operate. We assessed the size of platform employment in Europe, indicating the knowledge inequalities within the EU countries and some methodological inconsistencies. As a case study to scrutinise the regulatory challenges accompanying diffusion of platform work, we look at the failed story of Uber in Hungary and the subsequent success of Bolt which took over the market share of the former. Our findings showed that while the size of the platform economy is growing in Europe, there is no consensus in the social scientific community either on the appropriate terminology or the most convenient methodology on how to measure its extent. This emerging form of employment represents a significant challenge not only for labour law jurisdictions, but for the softer forms of social regulation as well. To better understand the proper governance of digital labour markets and the issue of ”collective voice” through the transformation of the content of work, working conditions, and employment status of the Platform Work sector, it is necessary to focus on both the transformation of work/labour as well as its interplay with value creation, governance, management and labour in the platform-based economy.

Keywords: platform work, digitalisation, regulation, societal effect

Introduction

Capitalism today is coping with the following three mega-crises: the COVID-19 pandemic and its uncertain impact on the resulting economic downturn, the culminating climate challenges[1], and the so-called automation anxiety, which is a general fear from a mass unemployment conditioned by the technological development regularly emerging since the first industrial revolution. Woven into the fabric of this triple crisis (Mazzucato, 2020) are the social and economic actors, who are facing an unprecedented structural transformation of both economic and social regulation that is the result of trajectories set in motion by the technological revolution (Perez, 2010).

In the 21st century capitalism: variously labelled, digital capitalism, platform economy, sharing economy, collaborative economy, creative economy, gig economy, etc., the front-runner or pioneering firms (e.g. Uber, Amazon, Upwork, Google etc.) "… represent a new type of *platform-based business model* that builds on the development of the of 1980s and 1990s, but combines them with new features. Whereas the previous NOC (Network of Contract) model centred largely on 'price-based competition among producers of relatively similar products', today's platform firms represent a new way to create and capture value. They do so, above all, through their capacity to extract and harness an immense amount of data in ways that allow them to operate as critical intermediaries and market makers" (Rahman & Thelen, 2019:179).

Due to societal transformation brought by digitisation, platforms achieved breakthrough changes in a variety of markets: services (e.g., Uber), physical goods (e.g., eBay), video-based information (e.g. YouTube), finance (e.g. Prosper) and labour (Upwork). Uber, which "converts taxi company employees or former medallion owners into contractors, whose access to income is through the Uber platform, while removing government from the rate-setting equation" (Kenney & Zysman, 2016:9), offers a convenient example the spectacular growth of this sector. Established in 2009, after half a decade of existence Uber operates in hundreds of cities in 60 countries and its value in 2016 was around USD 60 billon (Christensen et al., 2015:5), and when it went public in 2019 it was valued at around USD 75 billion.[2] While opinions are divided on the "booming" or "declining" character of the platform economy, however, the latest essential statistics indicate the sector's high growth potential.

Due to the grey regulation zone in which the majority of these platform companies operates, it is difficult to compare the available data on the number of workers affected by platform economy. In the US, which usually acts as a front runner on such workforce trends, almost two fifths (36%) of workers participate in the platform economy, through either their primary

1 Almost a half century passed since the organisation of the first international gathering in Stockholm (1972) on sustainable development based on the three pillars of economy, society and environment. "Given the dismal outcome of international negotiations spanning over 47 years it is unlikely that the international declarations and agreements will be able to produce any concrete results in the foreseeable future." Gupta, 2020:215.
2 https://www.fool.com/investing/2020/02/25/if-you-invested-500-in-ubers-ipo-this-is-how-much.aspx

or secondary jobs, and for more than two fifths (44%) of them it is the primary source of income. In 2018, 3.3 millions of high-earning independent platform workers reported earning USD 100 000 or more and before the economic downturn caused by the coronavirus pandemic, it was anticipated that their share keeps growing (Duszynszki, 2020:9-10). Many such workers in the US and elsewhere may now in fact be unemployed and some, because of their independent contractor status, may not easily qualify for unemployment. Moreover, in the US, many had no health insurance through their work, and may now be both unemployed and without health care coverage.

The number of platform workers in the countries' studies varied substantially, with some unexpected findings. For example, Serbia and Romania were among the leading countries of platform workers per capita in both the world and Europe, according to a World Bank report. "Serbia has 3.52 digital workers per 1000 inhabitants, compared to 1.72 workers in the United States of America, the cradle of the gig economy" (Andjelkovic, Sapic & Skocajic, 2019:3). Even, within the EU, various surveys on the platform workers indicate substantial variations by country.

In our paper we characterise the *digital platform labour* force by content of job, working conditions, employment status and collective voice. In the digital network economy, the transformation of work and employment and their interest articulation are not driven exclusively by the technological (algorithmic) process. In this respect we are sharing the view of Grabher & Tuijl (2020:11): "... platform operators are not simply match-makers, but instead veritable market-makers. As market-makers, platform operators do not only enable individual transactions, but actually frame and co-develop the entire institutional and regulatory framework of the platform economy."

The primary aim of our analysis is to provide an overview on theoretical foundations and empirical evidences for an EU supported project on platform workers. The "CrowdWork21" project[3] aims to analyses strategies of traditional interest representative association (i.e. trade unions, employer organisations, etc.) and grassroots movements facing the challenges of finding a collective voice in the arena of the emerging new social-institutional regulations of the platform work.

The paper is structured in five sections, beginning with this introduction. The second section provides a short overview of the variety of terminology, definitions of platform work. The third assesses the size of the platform workforce in Europe, indicating the knowledge inequalities within the EU countries and some methodological inconsistencies. In the section four the regulatory challenges accompanying diffusion of platform work is illustrated by the failed story of Uber in Hungary, which reveals the common contradiction between the Labour versus Civil Code regulations of platform work, and debate in the labour law community in

[3] The members of the international research consortium are Germany, Hungary, Portugal and Spain. For further information, please visit: https://crowd-work.eu/

the country. Finally, in our conclusion, we summarise the core issues of the analysis, and raise some future research challenges.

Platform Work: Theoretical Foundations

Discussion on Platform work terminology

While platform economy and related employment constitute a relatively new phenomenon, there is no shortage of definitions attempting to describe it with a plethora of terminology. Sedlakova (2018), for instance, identified the following terms most often used to describe platform work: crowdsourcing, sharing economy, collaborative economy, collaborative consumption, share economy, click-work, on demand economy, crowdworker, platform work, crowdwork, platform economy, gig work, platform labour. (Sedlakova, 2018:6)

In a similar vein, Heeks (2017) made a systematic analysis of the literature on digital labour and found nearly 30 different terms to describe the intersection between work, connectivity, and digital technologies. Based on a literature review, he suggested using the "prime terms" presented in Table 1.

Table 1. Terms used and the implied differences in their focus

Main focal point	**Prime terms to be used**
Work (labour)	online labour, crowd work, digital labour, microwork
Clients	online outsourcing, micro-sourcing
Overall domain	gig economy, platform economy

Source: Based on Heeks (2017:2)

In this relation, it is necessary to call attention on the following sector-characteristics of the platform firms: "… *service platforms* such as Uber or Upwork provide a link between requesters and providers of services; *goods platforms* like Amazon connect buyers and sellers of all kinds, and *information platforms* such as Google and Facebook connect end users to sources of information and media search, news feeds, and the like"[4].

Comparison of the results of various surveys on platform work is often hindered by the lack of harmonious terminology on digital labour and by the insufficiently systematic and uncoordinated data collection. This "knowledge deficiency" syndrome makes it difficult to undertake cross-country comparison of platform working, but it is also an impediment to developing concerted policy actions on both national and EU level public governance aimed at regulating the online labour market.

[4] Rahman, K. S. and Thelen, K. (2019) The Rise of the Platform Business Model and the Transformation of Twenty-First-Century Capitalism, *Politics & Society,* Vol. 47(2), p. 3

The terminological choices have far reaching consequences in terms employment and working conditions of the platform workers, the content of the job as well as the taxation and social charges they would have to pay. According to Pongratz (2018): "The term 'worker' emphasises the mere status of being employed and evokes associations of routine tasks and tough working conditions. 'Freelancer' on the other hand, stresses the independence and responsibility of self-employment, including prospect of demanding jobs and reasonable income. Thus, they refer deliberately to the established discourses of work and employment in order to arouse interest among target groups with suitable skills and ambitions" (Pongratz, 2018:64). Using such characteristics of work as job quality (JQ), wages, education and training, working conditions, employment quality, work - life balance, etc., we may avoid the oversimplification in such vague terminology as 'crowdworker' and the possible misinterpretation of the research outcomes. For example, a semiotic analysis of the 44 global English language platforms, calls attention to "... the diversity of the occupational groups involved... it impedes any attempt to find an overarching category for all online works as no one category is widely used across all types of platforms' (Pongratz, 2018:64).

Definition of platform work: The Eurofound terminology

Digital platforms are a new co-ordination form of economic activities where transactions between the partners involved are carried out through a digital platform. According to Mateescu and Nguyen (2019:3), its main features are the following: (1) exhaustive data collection and data mining (2) tracking workers' activities through digital technologies in order to (3) make good management decisions, (4) a large share of which are already automated or semi-automated. It is also important that (5) the performance evaluation and incentive systems are also based on this continuous monitoring of platform workers.

In this respect, it is worth citing the definition of *Eurofound* as the largest labour research supporting foundation in Europe, co-ordinating multiple European wide surveys and case study research in the field of work and employment.

Eurofound defines digital platform work: "... is a form of employment that uses an online platform to enable organisations or individual to access other organszations or individuals to solve problems or to provide services in exchange for payment." (Eurofound, 2018:9) It is important to highlight that this definition of platform work describes it as a form of employment in which a service provider is paid by the contractor.

Reflecting the multidimensional characteristic of platform work terminology, Eurofound further specifies six characteristics of platform work: (1) the work is organised via an online platform in which (2) three parties are involved: the platform provider, the clients and the workers. Furthermore, (3) the service consists of solving problems that (4) are divided into specific tasks, which (5) are then contracted out through the platform. Finally, (6) these services are provided on-demand. (De Groen, 2018:9).

Multidimensional Character of platform work

One of the most important features of platform work is its widely heterogeneous character. It covers different kind of works both in terms of job characteristics, skill requirements as well as the nature of service provided. Of this latter element, Codagnone, Abadie, and Biagi (2016) Pajarinen et al. (2018) distinguish between platforms that are about mediating physical services requiring personal presence (e.g. Uber, Babysitter.hu, AirBnB, Delivero, Bolt etc.) and platforms where digital services are fulfilled without personal presence (e.g. Upwork, Guru, Cloud Factory, Amazon Mechanical Turk etc.). To put this in a more formalised way, the authors classified two different types of platform workers: "(a) Online Labour Markets (OLMs), in which an outcome of a job task is electronically transmittable; and (b) Mobile Labour Markets (MLMs), in which the delivery of a service requires personal presence." (Pajarinen et al., 2018:5). Works on OLM and MLM can be further distinguished according to such characteristics as the duration and the skill requirements. On OLM microtasks are those that are relatively easy and quick to perform involving routine cognitive tasks, while the other type of work called project requires higher skill level and more time to execute. Similarly, MLM jobs can be split into two other categories: "physical services (i.e. performing low skilled manual work and errands such as in TaskRabbit); MLMs for interactive services (i.e. interactive services requiring high skills such) (Codagnone et al., 2016:7 cited by Pajarinen et al., 2018:5). This typology is summarised in Table 2.

Table 2. Types of labour markets and platform works

	Online Labour Market (OLM)		**Mobile Labour Market (MLM)**	
Service characteristics	Electronically transmittable tasks		Services requiring personal presence	
	Microtasks	(Mini) Projects	Physical services	Interactive services
Duration	Short	Long	Short	Long
Skill level	Low-to-Middle	Middle-to-High	Low	High
Dominant form of transactions	Peer-to-Business	Peer-to-Business	Peer-to-Peer	Peer-to-Peer
Examples	Amazon Mechanical Turk	Upwork	Uber	TakeLessons

Source: Codagnone et al. (2016:7) and Pajarinen et al. (2018:5)

Pongratz (2018) adds two additional analytical dimensions to this classification that are relevant from the perspective of the heterogeneity of platform work. The first dimension is the average payment level, and the other is the term used to describe workers, jobs, the platform itself and the clients. Analysing the content of 44 website operating platforms,

Pongratz (2018) found that different types of platform work involve clearly different "discursive constructions" and that these discursive constructions exercise a strong influence as to how the partners involved (clients, workers and the platforms) perceive themselves, the other partners and the work itself. The research results are summarised in Table 3.

Table 3. The main types and semantics of various platforms

	Microtask	**Freelance platforms**	**Specialised platforms**
Task complexity	Low	High	High
Payment	Low-paid	Higher wages	Higher
Workers are addressed	… as workers	… as freelancers	… as freelancers
Jobs are labelled	Task	Project	Varies according to the purpose (design, translation, etc.)
Platform designation	Platform or marketplace	Platform or marketplace	Platform or marketplace
Buyers are called	Customers, clients, buyers	Customers, clients, buyers	Customers, clients, buyers

Source: based on Pongratz (2018:63-64).

As we can see from the Table 3, the semantics of the platforms differ greatly, especially in the case of jobs description and the way the workers are addressed. For example, jobs that are relatively simple and require lower skill level are often described as tasks or even microtasks, while jobs involving medium or highly skilled workforce are labelled as either projects or directly refer to the content of the work to be done (e.g. design, translation, etc.). When it comes to workers, platforms that deploy primarily low-skilled, low-paid microtasks tend to call their service providers workers, while platforms dealing with higher skill level jobs mostly address their workers as freelancers. However, Pongratz (2018) did not report any differences as to how these platforms designate either themselves (platforms or marketplaces) or the clients (customers, clients, buyers). This illustrates the fact that platform workers are highly individualised and their quasi-employment relations do not ensure a minimum level of job or social security: they are either independent freelancers or workers without employers.

The variety of platform work can be demonstrated not only between multiple platforms but even within one. For example, within the framework of the CrowdWork21 EU project we analysed the data available on one of the most popular global online platform company website (Upwork) and found substantial variety in professional profile of the jobs. On the Upwork freelance platform the following professionals were represented:

1. Software developers, web designers
2. IT and networking professionals
3. Data scientists and analytics expert
4. Engineers
5. Designers and creative workers
6. Writing assistant
7. Translators
8. Legal experts

Table 4 illustrates the professional profiles of the Upwork platform in the four countries (Germany, Hungary, Portugal, and Spain) participating in the "CrowdWork21" EU Project. Among the countries, Germany has a leading role, following by Spain, Portugal and finally Hungary. The difference between the frontrunner Germany, Spain and the trailing edge Hungary is more than double regarding the aggregate number of the Upworkers. The most populated professions are as follow: translation, writing and software development & web design. These professions are the most populated in the leading-edge countries (Germany and Spain). However, in the trailing-edge countries (Portugal and Hungary), the differences are less sharp in the case of "IT and Networking" (Portugal: 355 – Hungary: 345) and "Data science and analytic" (Portugal: 255 – Hungary: 245).

Table 4. Upworkers by professional profiles in Hungary, Germany, Portugal, and Spain

Profiles	Hungary	Germany	Portugal	Spain
Software Development & web-design	1235	3206	1518	2150
IT and Networking	345	706	355	524
Data Science and Analytics	245	730	255	420
Engineers	332	594	425	574
Design and Creative	1304	3381	2111	3375
Writing	493	2214	1266	2075
Translation	1304	4307	3000	4447
Legal experts	17	45	27	58
Total	4891	13489	7565	12200

Source: Hungarian National Research Team. Calculation based on Upwork.com as of April 4, 2019

Empirical Foundation

The empirical foundation of this paper is the result of combining desk research: synthesising both academic and grey literature finding on platform workers, and empirical data analysis of the three most comprehensive European projects surveying various characteristics of platform workers. Focusing on Hungary: beside reviewing the results of the surveys, the paper is using deeper experiences of the other European initiatives based on case studies focusing

on the operation of various platforms (e.g., Uber aborted attempt to establish operation on Budapest). Finally, the debate in the labour lawyer community on the status of platform workers is briefly presented.

The three recent European wide comprehensive surveys reviewed were the following. The first is the Collaborative Economy (COLLEEM), a two-wave survey, carried out in 2017 and 2018 in 14 EU Member States in a sample UK, Spain, Germany, Netherlands, Portugal, Italy, Lithuania, Romania, France, Croatia, Sweden, Hungary, Slovakia, and Finland) among 38 878 internet users aged between 16 and 74 years. The core of this survey was to measure digital platform work as a form of employment. The second project composed by a set of surveys (Huws at.al. 2019) were conducted in 13 European countries (UK, Sweden, Netherlands, Germany, Austria, Italy, Switzerland, Estonia, Finland, Spain, France, Slovenia, and Czech Republic) mainly in the form of online. The samples composed by the age group of 16 to 75. The third survey of the European Trade Union Institute (ETUI) Internet and Platform Work Survey was carried out in 5 Central and Eastern European countries (Bulgaria, Hungary, Latvia, Poland, and Slovakia) in 2018 – 2019. The sample of 4 730 respondents covered the working age population aged between 18 and 64.

The qualitative data this paper draws mainly on the project entitled "Industrial Relations and Social Dialogue in the Age of Collaborative Economy (IRSDACE) (2017-2018) aimed to map involvement of the platform workers in social dialogue. Qualitative data was collected using the tool of the comparative country case studies. Countries participating in the project were the following: Belgium, France, Germany, Slovakia, Hungary, Spain, and Denmark. The core objective of the project was to identify the traditional social actors (i.e. trade unions, employers' associations etc.) involvement in the emerging digital labour market (Akgüc et al., 2018, and Meszmann, 2018). The Hungarian national case study covered several platforms (i.e. microwork, Airbnb, and Uber) (Meszman, 2018). This article intends to focus on the roles of the Hungarian labour relations actors in challenged the attempt of Uber to enter into the Budapest transport market in 2016. In this relation, a debate on the legal regulations of the employment status of platform workers is outlined through the legal document analysis.

Estimating Size of Platform Workers in Europe: Difficulties Created by Methodological Inconsistencies

There are three major surveys conducted in Europe on platform work. The COLLEEM survey was carried out in 2017 and 2018 in 16 EU Member States across 38,878 internet users aged 16-74 years. It aimed to measure regular platform work, which was defined as earning money through platforms at least once a month. In contrast, Huws et al. conducted a survey on platform work in 11 European countries between 2016 and 2019. The size of the samples was at least 2000 respondents in most of the countries participating in the survey. However, as Piasna and Drahokoupil (2019) rightly note: "(the results) are not directly comparable between the studies as the methodologies differed (in terms of questions asked and the weighting of the sample). Moreover, in the Huws et al. study, cross country comparisons are

limited because of the different age brackets used to define the adult population. The results reported in the two waves of COLLEEM are not directly comparable either, since the targeting of the sample was changed in the second wave." (Piasna & Drahokoupil, 2019:8)

However, it is worth highlighting their results, as these were the first attempts to measure the extent of platform work in Europe. Huws et al. found that this type of employment is most prevalent in the peripheral countries, while core countries, which are typically leading in other aspects of digital economy, are lagging. For example, 8.2 % of the adult population in the Czech Republic earn 50% or more of their income was coming from platform work. We find similarly high share of platform work in Spain (6.3%), Slovenia (5.7%) and Italy (4.9%). In contrast, the lowest share of "heavy-weight" platform workers can be found in the Netherlands, Austria, Germany, the UK, Sweden and Finland, where this ratio is below 3% (see Table 5). Similar patterns characterise the share of those platform workers who at least once a week generate income from platform work: their share is larger in less developed countries, while their presence is significantly weaker in the most developed EU Member States.

Table 5. Extent of platform work in Huws et al. and in the COLLEEM survey (% of adult population)

	Huws et al.				COLLEEM 2017 (1st) and 2018 (2nd) waves, 16-74 years				
	Ever	At least monthly	At least weekly	At least 50% of income	Ever (1st wave)	Ever (2nd wave)	Monthly or more (1st	20h+/week or 50% of income*	At least 50% income
Austria (2016 in Huws, 18-65)	18.9	12.7	9.5	2.2					
Croatia					8.1	10.7	5.2	1.1	1.0
Czechia (2019 in Huws, 18-55)	44.2	33.9	28.5	8.2		5.9		0.9	
Estonia (2018 in Huws, 18-65)	19.5	10.2	8.1	3.1					
Finland (2018 in Huws, 18-65)	15.0	9.5	8.2	2.8	6.0	6.7	4.1	0.6	0.6
France (2019 in Huws, 16-75)	15.4	10.2	7.7	3.0	7.0	7.8	5.9	0.9	1.8

Germany (2016 in Huws, 16-70)	11.9	7.8	6.2	2.5	10.4	11.9	8.1	1.5	2.5
Hungary					6.7	6.5	5.0	1.4	1.3
Ireland						13.0		2.0	
Italy (2017 in Huws, 16-70)	21.7	15.4	12.4	4.9	8.9	8.8	7.1	0.9	1.8
Lithuania					9.1	11.8	5.9	1.2	1.6
Netherlands (2016 in Huws, 16-70)	9.0	6.3	4.9	1.5	9.7	14.0	8.7	2.7	2.9
Portugal					10.6	13.0	7.1	1.5	1.6
Romania					8.1	10.5	6.4	1.4	0.8
Slovakia					6.9	6.1	5.1	0.9	0.9
Slovenia (2019 in Huws, 18-55)	36.3	23.6	18.5	5.7					
Spain (2018 in Huws, 16-65)	27.5	20.5	17.0	6.3	11.6	18.1	9.4	2.6	2.0
Sweden (2016 in Huws, 16-65)	9.5	6.2	4.9	2.6	7.2	10.2	5.3	0.9	1.6
Switzerland (2017 in Huws, 16-70)	18.2	12.7	10.0	3.5					
United Kingdom (2016 in Huws, 16-75)	9.3	5.7	4.7	2.5	12.0	12.8	9.9	1.6	4.3
United Kingdom (2019 in Huws, 16-75)	15.3	11.8	9.6	3.5					

Source: Piasna and Drahokoupil (2019:9)

Although the two surveys are not comparable, the results of the COLLEEM survey reveal different patterns than those of Huws et al. The share of heavy platform users is the highest in the UK (4.3%), the Netherlands (2.9%) and in Germany (2.5%). In contrast the lowest share

of platform workers whose income was mainly coming from platforms was found in Finland (0.6%), Romania (0.8%), Slovakia (0.9%) and Croatia (1.0%). The results of the second wave are even more contradictory. In this phase the "heavy" platform workers were defined as working 20 hours more per week or generated at least 50% of their income through platforms. Their share was the highest in the Netherlands (2.7%), Spain (2.6%) and in Ireland (2.0%). The lowest share was found in Finland (0.6%), the Czech Republic, France, Italy, Slovakia and Sweden (0.9% each).[5] Despite many differences both in their methodology and in their results, the two surveys show that a significant share of European employees regularly use platforms for generating income. The share of those who work at least once a month on platforms ranges between 4.1% and 9.9% in the first wave (2017) of the COLLEEM survey and between 5.7% and 33.9% according to the results of Huws et al.

According to the estimates of the COLLEEM project, a share of the Hungarian adult population (6.7%) makes some earnings from platform works. This ratio is well below of the rates of such countries as Spain (11.6%), Portugal (10.6%) or Germany (10.4%).

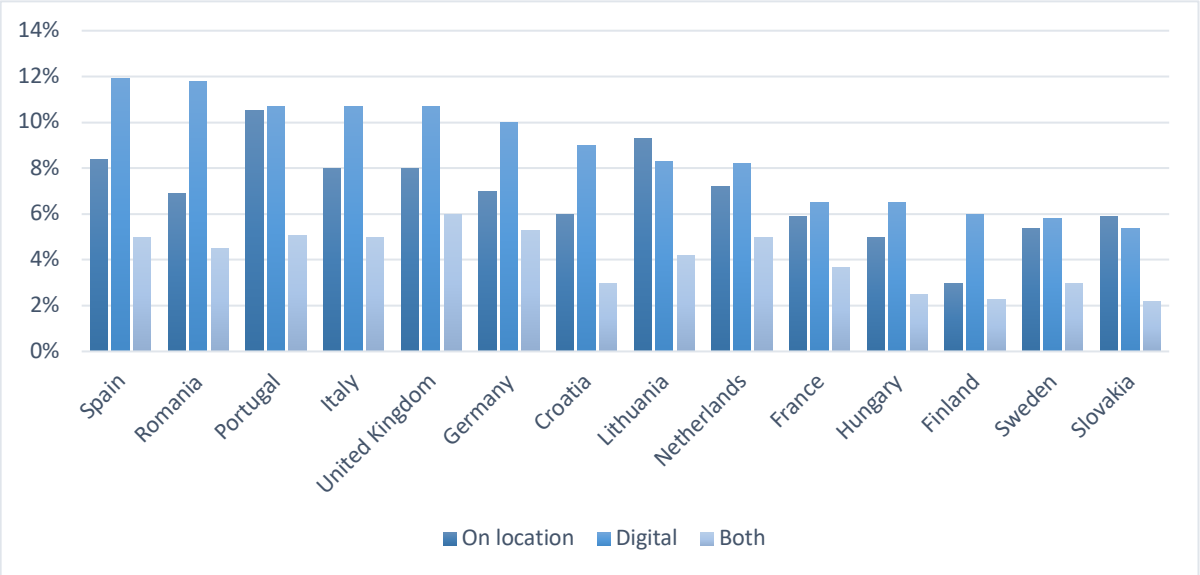

Figure 1: Types of provided service by country (2017)
Source: Pesole et al. (2019:35) (COLLEEM dataset)

In all the countries surveyed, the "digital service" sector (OLM) dominates other personal services provided on location (MLM), with the exception of Lithuania and Slovakia, but the ratio is closer in Portugal, the Netherlands, France and Sweden. In relation to the CrowdWork21 research consortium countries, it is necessary to call attention the leading roles of Spain, Portugal in comparison with Germany and especially with Hungary. Another counterintuitive result of the survey: Nordic countries with the highest level of "digital literacy" are among the "trailing edge" countries. As we mentioned earlier, the COLLEEM survey was the first attempt to map the quantitative and qualitative characteristics of platform workers in selected European countries.

5 It is worth repeating that the two waives of the COLLEEM are not directly comparable as different weightings were applied.

The third survey was conducted by the European Trade Union Institute (ETUI) in five central and eastern European countries: Bulgaria, Hungary, Latvia, Poland and Slovakia. The ETUI Internet and Platform Work Survey was more broadly focused than the other two, with the aim of mapping the extent of any work carried out through the Internet in general: "We were interested in broad range of paid activities that can be found or carried out online and that typically fall outside of a standard employment relationship." The survey distinguished two types of working activities:

1. Broader category of *Internet work* that "covers all activities aimed at generating income through the use of websites or mobile apps" but not necessarily through online platforms. Renting and selling activities belonged to this category as well as taxi driving, delivery work, blogging or running social media accounts, freelance work including short tasks and more creative longer projects, etc.6
2. *Platform work* including all paid activities carried out through online platforms but excluding renting apartments and the sale of products.

The intended advantage of the survey designers was to better distinguish between these two types of work and create less ambiguity in the respondents. Or at least this was the aim of the survey designers. Table 6 shortly summarises the main results of the survey, which was carried out in 2018 and 2019.

Table 6. The extent of internet and platform in five CEE countries (ETUI 2018-2019)

Internet work							
	Any	**Excluding selling belonging**	**Any**	**Excluding selling belonging**	**Any**	**Excluding selling belonging**	**in the past 12 months**
Bulgaria	19.2%	13.9%	2.8%	2.6%	1.3	1.2%	2.9%
Hungary	20.0%	13.1%	4.4%	3.7%	2.1	2.1%	2.5%
Latvia	17.6%	7.6%	3.9%	3.2%	2.0	1.8%	1.7%
Poland	33.3%	20.2%	7.3%	4.7%	3.6	3.0%	n.a.
Slovakia	32.1%	28.7%	5.4%	5.1%	2.3	2.3%	0.9%
	Ever tried		At least monthly		At least weekly		At least 50% of income the last time did this work
Bulgaria	4.4%		1.5%		0.8%		1.1%
Hungary	7.8%		3.0%		1.9%		3.4%
Latvia	4.0%		0.8%		0.5%		0.7%
Poland	1.9%		0.4%		0.4%		0.1%

[6] For a detailed description of the questions and the options for the answers, see Piasna and Drahokoupil, 2019:13-15.

Slovakia	7.1%	1.1%	0.4%	1.0%

Source: ETUI Internet and Platform Work Survey; Piasna and Drahokoupil (2019:16).

Note: Share among all respondents aged 18-64.

As is evident from the data in Table 6, more workers are involved in the broader category of Internet work than in the platform work. This is especially true for the occasional working activities as the differences between the two types of digital work is largest in the case of the category of "ever tried". In contrast, the differences are smaller in the case of those who participate on the digital labour market on a more regular basis (at least monthly, or weekly or those who generated at least 50% of their income by this type of work). It is also interesting to note that while Internet work is more prevalent in Poland, the share of platform workers is the highest in Hungary. Overall, we can see that a relatively large share of the adult population tried at least once to generate income via Internet, but their ratio dramatically drops when it comes to regular working activities. It remains to be seen whether this number will grow in time and how fast.

While the coronavirus and economic aftermath make projecting the workforce trends into the future, we can anticipate some growth, particularly since more work has moved online, not only because of the continuous technological development, but also because platform workers are typically younger than those who are not active on the digital labour market; in total the average age of an individual who did some platform work at least once a year is 37.5, while the average age for those who never did so was 41.8 (Piasna & Drahokoupil, 2019:20).

Platform work contributed the most to the workers' monthly income in Hungary, with nearly one in five (18.9%) reporting that it was their only source of income, and 44% indicating that they generated half of their monthly income through platforms. The same shares are much lower in the case of the other four countries. However, we must be cautious in interpreting these data as the respondent's opinion might be biased about the real extent of this contribution or simply did not want to tell the truth because of tax-avoidance concerns.

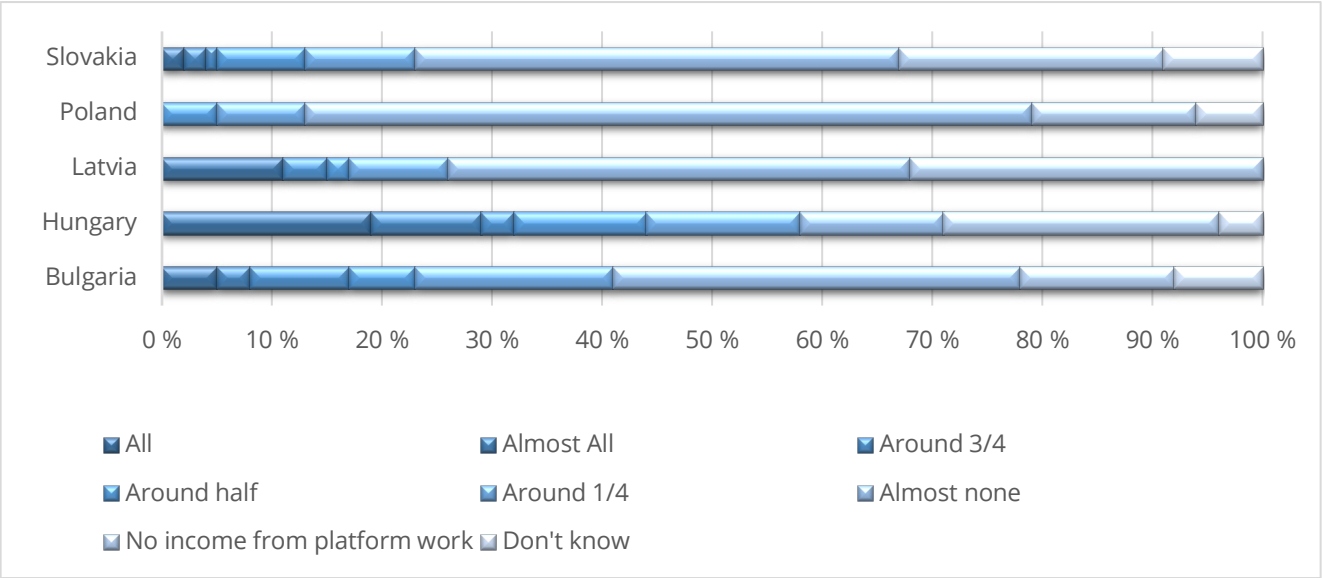

Figure 2. Contribution of platform work to monthly personal income by country among respondents who had ever tried platform work (%)
Source: ETUI Internet and Platform Work Survey; Piasna and Drahokoupil (2019:33).

If we compare the results of the ETUI Internet and Platform Work survey with previous two surveys, we can see that the results are closer to those of the COLLEEM survey, although in the latter case the sampling population was larger and included a wider range of people between 16-74 years of age, the results therefore are not directly comparable. Nevertheless, two countries represented in both surveys, namely Hungary and Slovakia, which were similar in both surveys: 6.7% vs 7.8% in the case of the former and 6.9% vs 7.1% in the case of the latter survey.

In addition, the ETUI Survey found that in Hungary more people generate at least 50% of their income via platform work than those who work for platforms on a monthly basis (3.4% vs 3.0%). In the case of Slovakia, people who earned at least half of their income is around 1% according to both surveys (see Table 7).

Table 7. The results of the COLLEEM and the ETUI survey on platform workers

		Ever	**At least monthly**	**At least 50% of income**
Hungary	COLLEEM	6.7%	5.0%	1.3%
	ETUI	7.8%	3.0%	3.4%
Slovakia	COLLEEM	6.9%	5.1%	0.9%
	ETUI	7.1%	1.1%	1.0%

Source: COLLEEM survey and ETUI Internet and Platform Work Survey

Regulatory challenges of platform work: the Uber failure in Hungary

"*Don't ask permission, ask forgiveness*". This well-known Silicon Valley motto is quoted in a recent study written by Kathleen Thelen, who described a common approach used by many platform companies penetrating in different markets (Thelen, 2018:939). Platform companies are often operating on special two-sided markets when the rule of "winner-takes-all" applies, which means that first movers gain market leadership early on, and thus attract the vast majority of users from other platforms. The best case to illustrate this dynamic is Facebook: once it became the clear-cut market leader, users of other similar platforms joined, often quitting other platforms such as My Space, in the case of Facebook. This market dynamic represents a significant motivation for these companies to act quickly, sometimes breaching the rules by design, but more predominantly discovering and using regulatory holes. In many instances, the regulatory framework is new or in some cases non-existing, and regulators often find themselves struggling to catch up and keep pace with technological development and regulatory and tax avoidance by the companies.

A good case to illustrate this complex interplay between institutions, private market actors, soft and hard forms of regulation, and customers is to observe how Uber entered into the Hungarian market. Soon after its foundation in San Francisco (March 2009), Uber spread into many markets around the world, appearing in the Hungarian transport market in the early 2010s. Its business model became a hot topic immediately. There were two main concerns about their activities: first Uber paid its company tax outside Hungary. Second, their business model was based on unfair competitive advantages. Uber claimed that they are not a taxi company but only a high-tech firm and application developer through which they link customers and individual service providers who were (self-employed) entrepreneurs. Rival taxi companies began protesting against them for several reasons:

1. Uber did not pay the obligatory deposit to government regulators that every other taxi company had to pay;
2. Uber did not have to comply strict environmental requirements by claiming they did not operate a car fleet;
3. The company claimed it did not have any obligations towards their quasi-employees; and
4. The taxi drivers did not have to take the same exams and tests every other taxi driver had to.

Subsequently, the main root of all of these issues relates to the fact that Uber refused to be acknowledged as a taxi company. As with the great majority of platform operators, this transport platform intended to carry out his operation in the status of "… of neutral intermediary that solely matches supply of and demand for independent contractors … platform operator seek to avoid basic entitlements resulting from employment contracts – like social security, minimum wages as well as work time and security regulations" (Grabher & Tuijl, 2020 :9).

Taxi drivers represent a traditionally strong interest group in Hungary and in this case, they found a powerful ally in the Hungarian government because of the tax evasion.[7] The taxi drivers' trade unions organised demonstrations, petitions versus Uber and the owners of the taxi companies promoted their campaigns, too. The Hungarian Trade Union for Taxi Drivers (Magyar Taxisok Szakszervezete) blocked Budapest in January 2016 with a demonstration. Following this demonstration, the Hungarian Parliament adopted a new regulation, which virtually prohibited providing services in a similar way than Uber did. The taxi company lost Hungary and announced to leave the country on 13rd July 2016. However, it is worthy of note that the employment status and the working conditions of the taxi drivers working for traditional taxi companies are rather similar to those working for Uber, therefore the public debate around Uber focused mainly on unfair competition and tax avoidance, while deeper problems related to job quality, working conditions and employment status have been overshadowed.

From a broader perspective, Thelen examined the appearance of Uber in the US, Germany and Sweden, and found significant differences as to how the consumers, competitors and institutional actors (e.g. government) reacted to it (Thelen, 2018). According to her analysis, Uber was able to position itself as the "champion of free markets and consumer choice" (Thelen, 2019:999) in the US, and thus found a strong ally in the consumers. In contrast, existing German taxi companies, in alliance with public transport companies, were able to force institutional regulators to adopt a coordinated action against Uber in the "defense of consumers' interest". Sweden represents a third markedly different country where "taxes emerged as the central regulatory flashpoint and served as a common focal point for a broad coalition that included taxi companies, labour unions, and state actors in defense of the norms of fairness on which the Swedish social system rests" (Thelen, 2018:949).

Legal Regime: Labour vs. Civil Code Regulation[8]

In Hungarian labour law, platform workers are mostly independent contractors, as Hungary does not have the third labour law category. Independent contractors are self-employed workers (e.g. freelancers), whose work relationships are covered by the Civil Code (CC). The CC does not provide any employment protection in the framework of such contracts for service, contrary to the Labour Code (LC) provisions on employment relationships.

Hungarian labour law is unprepared to cope with the regulation of platform work. According to the labour lawyers, "The gig economy is immature in Hungary, platform work, as such, is neither defined nor regulated. Moreover, platform work (as a phenomenon) is immature,

[7] Illustrating the strong bargaining position of the Budapest (40 000) taxi drivers, it is worth remembering of the so-called *taxi-blodace* organised between 25th and 28th of October 1990 in protest to the gas price increase. It paralysed almost the transport of the whole country. Greenhouse, S. (1990) Evolution in Europe: Gas Price Protest Cripples Hungary, *The New York Time,* October 28, p. 14.

[8] This section is based on the contributions of Dr. Tamás Gyulavári (labour lawyer, Department of Labour Law, Péter Pázmány Catholic University, Budapest) and Dr. Bankó Zoltán (labour lawyer, University of Pécs, Faculty of Law). The authors are grateful to them.

hardly visible and marginal; it is not perceived (yet) as a separate regulatory / employment field and it also lacks specific policy (etc.) attention. Platform work is not discussed as an issue.[9] There are no planned policies or legal measures or developments that would specifically affect the working conditions and/or the social protection of platform workers in Hungary" (Kun & Rácz, 2019:10).

Platform work is presently characterised by a rigid "binary model" of employment regulation consisting of employment contracts and civil law contracts: "universal" versus "zero" legal protection. In the perspective of the binary regulation, platform workers have either an "employee status" entitled to complete labour law protection guaranteed by the LC, or have the status of "self-employed" working without any legal protection under the scope of the CC.

Hungarian LC does not regulate the third type of employment status: economically dependent worker or dependent contractor or worker. There is no special legal regulation on this third category of workers in the LC, because legal regulations covering the standard (typical) and non-standard (atypical) employment relationships in the LC do not apply to these workers. The major legislative issue is whether the regulation of the third employment status (economically dependent worker) would be an appropriate solution for the protection of platform (gig) workers. However, the third labour law status could only partly solve the specific challenges created by gig work. Certainly, there are various issues related to platform work, which require rather particular legal solutions due to its special characteristics.

In this relation, one of the unique features of platform work is the use of a rating system, whereby those providing a service, and in theory the customers, are rated, often using the five-star system popularised by Amazon. The lack of transparency and potential to "game" the rating system has substantial legal implications, and Hungarian regulation is totally missing on addressing the issues of "digital ratings", making it impossible to guarantee the transparency of online evaluation or to question its correctness (i.e. legal remedy). Beyond transparency, the transferability of ratings is also a fundamental issue without legal guarantees. Online rating has two consequences: disciplinary sanctions or termination of the legal relationship (inactivation). In the case of transport platform operator Bolt, passengers rate the taxi driver service on a 1-5-point scale. The driver does not know the factors assessed by their passengers therefore it is rather difficult to improve the rating. In addition, passengers are asked to evaluate the trip in general, and not more specifically the quality of the taxi driver. Consequently, if some problems occur (for example, the mobile application underestimates the waiting time or dislocates the geographical position of the passenger) the dissatisfaction of the clients appears in the evaluation of the driver and not in the evaluation of the company. The passengers have no option to communicate directly with the company (e.g. via customer relationship management department) and can provide feedback only indirectly through the different Appstores. If the rating of the taxi drivers falls below 4.76 calculated on 40-50 trips, he or she will be disconnected or inactivated automatically from

[9] See for further details: Tibor Meszmann (2018): Industrial Relations and Social Dialogue in the Age of Collaborative Economy (IRSDACE), National Report Hungary, CELSI Research report 27, 2018. https://celsi.sk/media/research_reports/RR_27.pdf

the platform, which adds to the pressure and stress on drivers, who may not be at fault for low ratings.

According to the LC, disciplinary sanctions may be levied if the collective agreement or the employment contract allows it. By contrast, according to the CC, the parties must agree on such legal consequences. In case of termination of employment (inactivation), platform workers usually lack any protection against termination due to the unilateral regulation of the employer (conditions of work on the website). It has become common practice for many Silicon Valley firms to rely on contractors who must cover their own health care insurance and other taxation requirements, and who can be fired or laid off for any or no reason, such as reorganisation, not meeting quarterly profit expectations, or an executive decision to abruptly terminate a project. Such contractors may or may not be eligible for unemployment compensation, allowing the companies to socialise their risk since they have avoided paying unemployment insurance, leaving it for the workers to fend for themselves.

Furthermore, platform workers are not fully entitled to seemingly universal social rights, such as prohibition of child work and discrimination. In relation to child work, in principle the LC provisions on the protection of young employees could be a satisfactory solution (i.e. in case of employees under 18, it is obligatory to apply the LC articles on the protection of young employees). Unfortunately, it is unclear, if the special rules on establishment of employment in relation to young employees (the age limit) shall be applied outside the employment contract. As for the equal treatment principle, the Equal Treatment Act (125 of 2003) applies in all legal relationships involving work, and therefore in this instance equal treatment provisions must be applied in all circumstances.

Collective rights, especially the right to conclude collective agreements, are not ensured outside the scope of the LC. In the Hungarian labour market, collective agreements exist almost exclusively at workplace level. Collective agreements may be concluded by a trade union or their federation if at least 10 % of the employees are union members. But, if workers are lacking the employee status, they cannot be covered by a collective agreement. Works Council agreements may provide an alternative or quasi collective agreement.

Sector level collective agreements would be the ideal solution covering legal relations beyond employment relationships, including platform work. For instance, if a sector level collective agreement were operational on the entire personal transport sector, it would be possible to extend it over digital platforms providing taxi services. However, sector level collective agreements hardly exist in Hungary (e.g. in the electric energy sector). Moreover, while Act 74 of 2009 on sector level social dialogue regulated the role of sector level dialogue committees and middle level social dialogue, however, the Act only covers interest representation of employees. In addition, the constraints of EU competition law regarding the conclusion of collective agreements by non-employees are present in Hungarian law as well.

Consequently, Hungarian LC presently hardly answers any questions related to the protection of platform workers. Therefore, it would be necessary to create a separate and detailed legal

regulation regarding workers outside the scope of employment relationships, with specific attention to platform workers. Comparing the employment regulation of the offline to the online labour markets may help to better understand the radical and far reaching shift in the characteristics of employment in the platform economy. In this relation, Grabher and Tuijl (2020:10) stress that "In terms of employment regimes, platforms accelerate the "vanishing of the corporation" and expedite the secular shift from (long-term) employment relations over (short-term) jobs to (discreet) gigs. This "taskification" of work transforms professional careers governed by (offline) accumulated human capital into contractual portfolios shaped by (online) reputation capital."

Conclusion and Future Research Challenges

Extensively examining the terminology-related issues is not a redundant theoretical exercise, as the terminology used has an important impact on how we study and develop socio-economic regulations of this type of work (Kenney & Zysman, 2016). In this paper, we have adopted a multidimensional definition of platform, covering such characteristics of platform work as task complexity (micro vs. project work), level of payment (high vs. low), and employment status (dependent contract worker vs. freelancer/entrepreneur). Illustrating the decidedly differentiated nature of platform work, it is necessary to call attention to the global platform "Upwork", which covers from seven to thirteen professional profiles. The visible inequalities in the nature of platform work (e.g. project work requiring creativity versus low skilled micro-task) predict the anticipated inequalities in bargaining power of the various strata of platform workers. (Its importance became extremely visible under the impact of COVID-19, when significant differences in the protection of those most vulnerable were identified not only in Europe but throughout the world).

Estimating the size of platform work in Europe is a difficult challenge, due to the diversity of types of work, and the evolving and sometimes abruptly changing dynamics of the economy writ large. During the last several years a number of comprehensive EU-level surveys were carried out (e.g. COLEEM, 2017-2018, Huws et al., 2016-2019, ETUI, 2018-2019) that provide an important if incomplete snapshot of recent conditions. Nevertheless, making reliable estimations on the number of platform workers is inherently fraught, due to the lack of harmonious methodology, terminology, and samples. In addition, the so-called "knowledge asymmetry phenomenon" between countries also adds to the complexity. In the last half decade, a more comprehensive knowledge base was established in the Nordic, Continental and Anglo-Saxon countries than in the Mediterranean and the Central and Eastern European (CEE) countries. Despite these shortcomings in data integration, we may with a high degree of confidence that currently only a minority of the European workforce, perhaps one in ten, is involved in the digital platform work, even if a dynamic increase with visible country differences characterises the growth pattern of platform work. However, there are some anomalies, such as Serbia and Romania, which have a high number per capita compared to other European countries (Andjelkovic et al., 2019:1).

As insightful as they are in providing a general context of platform work, the existing pan-European surveys on platform work do not inform us at a granular level about the complexities involved: the varieties in task structures, working conditions, regulations of employment status, or the role of collective voice supported by the incumbent trade unions, employer associations or emerging grassroot organisations of platform economy. Even fewer studies are able to identify the platform workers' complaints directed to the operating platforms. For instance, the "customer service" of Upwork imitates the role of mediation in the conflict between platform workers and clients, although the platform is prioritising the support of clients against the platform workers.

As a case study of the disruptive nature of platform companies, Uber's attempt to capture the Hungarian transportation market offers a cautionary tale. Uber's penetration into the traditional market of the transportation sector (taxi services) attracted the worldwide attention both among the academics and policy makers. But in the Hungarian capital, Budapest, the company was confronted in January 2016 by the demonstration by taxi drivers who held a strike in the centre of the city, which in turn resulted in taxi drivers' being granted a friendly decision of the Parliament. This forced Uber to conform to the existing regulation of personal transportation service, which proved to be daunting for the company to contend with. Due to this new law, Uber ceased his operation in Budapest in July 2016. In Hungary, similarly to Germany, the social actors" ... framed Uber as a threat to the public interest and themselves as defender of the rule of law. The debates therefore moved quickly away from the public to the judicial arena" (Thelen, 2019:3). But in the aftermath, the Uber-like company BOLT filled the vacuum and their drivers, like traditional taxi drives, still have limited rights.

Due the extremely weak position of the Hungarian trade unions on the offline labour market as well as the traditional weak affinity of trade unions towards the employment and working conditions of the "precariat", workers who are unable or unwilling to attain full time employment, the regulatory role of the legal framework of platform work is of particular importance.[10] Therefore, as a recommendation for protecting vulnerable workers, it is necessary to create separate and detailed legal regulations regarding workers outside the scope of standard employment relationships, with particular attention to platform workers. The community of labour lawyers is aware of the new challenges of the digital labour market. However, to solve the dilemmas of the Labour Code versus Civil Code regulations, more systematically collected empirical evidence and social dialogue are required between the social actors involved: employees and employers and their respective associations, new grass-root movements and organising, as well as engagement with other civic organisations and the academic community.

[10] For example, according to the latest comprehensive survey on Hungarian trade unions (2010), largest the share of trade unions leaders (78-98 %) did not pay attention to the various forms of precariat active on the offline labour market (e.g. part time workers, fixed-term contract workers and leased workers; Neumann, 2018:81). The trade unions' role and position in relation with the new "digital precariat" (e.g. platform workers) are even less visible.

Some future research challenges:

In reviewing the various theoretical strands and available European empirical experiences on platform economy, we observe that the higher value-added future research should put more emphasis on *the similarities and differences between offline and online labour market in the content of work, working conditions and interest representation ("collective voice").* In this respect, we found extremely creative the theoretical conceptualisation of platform economy by Grabher and Tuijl, (2020: 4-10). The authors compared and evaluated the main features of the global production network (GPN) to the network of digital network economy. The key dimensions of the comparison were as follows:

1. Value: from owning assets to granting access,
2. Governance: from make-or-buy to employ-or-enable,
3. Management: from back-end to front-end,
4. Labour: from jobs to gigs.

In order to better understand the governance of the digital labour market and the issues of interest representation ("collective voice") through transformation of content of work, working conditions, and employment status it would be necessary *to focus not exclusively on the transformation of work/labour, but also its interplay with value creation, governance, management and labour in the platform-based economy.*

The core aim of our project (CrowdWork21) is to map the existing and new forms of *interest representation* ("collective voice") of platform workers. But identification of new trajectories of interest articulation requires an unorthodox and innovative approach towards labour relations. For example, in the basis of our preliminary experiences on the platform workers carrying out "high-end" project tasks (e.g., developing artificial intelligence software), we found the particularly important role of the "Customer Service" portfolio of the platform ("Upwork"). *"Complaint management"* in the traditional offline economy firms represents the process by which companies handle customers' complaints. If managed effectively, complaints can help your business grow and improve its operations. Furthermore, in the case of the platform firms: which usually regard themselves as neutral platform operators matching supply and demand, it would be important to "enlarge" with mediatory responsibility of the present narrow role of "customer service". Creating this system of disputes treatment services between clients of platforms could birth to a new interest reconciliation institution. Similar *"role enrichment"* practices and protocols for solving workers' grievances to avoid trade unionization at workplaces took place in the early 20th century by the Human Relations Departments at the large U.S. companies[11].

In relation with the theoretical and methodological challenges of the platform work related research, it is worth noting that there is a substantial increase in the empirical research (especially surveys) both globally and in Europe during the last decade. Despite these efforts,

[11] Grievance handling is the management of employee dissatisfaction or complaints (e.g. favouritism, workplace harassment, or wage cuts). By establishing formal grievance handling procedures, you provide a safe environment for your employees to raise their concerns. (Lewin, D. and Golan, P. J. (2018), Lewin, D. (2005)

within Europe we still cope with the *"knowledge asymmetry"* syndrome between the EU-15 and the New Member States (NMS), and between North and Mediterranean countries, with a clear advantage of the first country clusters. Moreover, in the case of the few recent surveys covering some of the Central and Eastern European (CEE) countries, the data are not comparable due to the diverging terminology of digital labour, different survey methods, sampling problems, etc., which inhibits using reliable empirical evidence. Such as the number of platform workers, the range of incomes, the vulnerabilities of this novel from of precariat[12].

However, even if methodological inconsistencies of the European surveys were eliminated, it would be difficult to explain the existing country differences in the working and employment conditions of platform workers in the EU. In order to better understand both converging features and national diversities in the development of the online labour market, it would be advisable to combine the survey methods with the use of case study techniques in the future. In designing the future projects, we recommend the combination of the quantitative and qualitative empirical methods the theoretical conception of the so-called "*societal effect" (SE) approach*[13]. The SE approach offers a theoretical framework, through which one can better understand dynamic embeddedness of platform work into the national social and economic regulation system, and to identify the interplay between collective actors and institutions (system). In this perspective it would be possible to "compare the incomparable" (Maurice, 2000; Maurice, Sellier & Silvestre, 1986; Crozier & Friedberg, 1977, 2014).

In our view, the SE perspective not only helps us to better understand the continuous reproduction of national diversities in the generic diffusion of the digital platform-based capitalism, but also helps to illuminate the origins of the varieties in the national social-economic regulation (or the lack thereof). Due to the multiple impacts: work, working conditions and employment status, and the dynamic nature of the platform work, it is difficult to anticipate its future socio-economic outcomes, particularly in these turbulent and uncertain times. However, the SE approach, as a cognitive tool for applying more complex measuring kits (i.e. combining survey, case study methods with the exploitation of secondary sources on the operation of the platforms) may help produce more reliable theoretical and empirical knowledge, which is the precondition of the evidence-based collective learning and intervention of the social actors.

[12] Plasna, A. and Drahokoupil, J. (2019) Digital labour in central and eastern Europe: evidence from the ETUI Internet and Platform Work Survey, Brussels: European Trade Union Institute, November, Available at: https://www.researchgate.net/publication/337276245, Huws, U., Spence, N., Coates, M. et. al. (2019) The platformisation of work in Europe: Results from research in 13 European countries, Brussels: FEPS – Foundation for European Progressive Studies, UNI Europa & University of Hertfordshire. Available at: https://www.feps-europe.eu/attachments/publications/the%20platformisation%20of%20work%20in%20europe%20-%20final%20corrected.pdf., Pesole, A., Urzi Brancati M.C., Fernandez-Macias, E. et. al. (2018) Platform Workers in Europe Evidence from the COLLEEM Survey, Brussels: Joint Research Centre (European Commission), Available at: https://doi.org/10.2760/742789

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