Implications of ICT-based platforms on labor markets – the case of Uber

Henten, Anders; Windekilde, Iwona Maria

Published in:
Economic Problems of Services, Scientific Journal of the University of Szczecin

DOI (link to publication from Publisher):
10.18276/epu.2018.131/2-08

Publication date:
2018

Document Version
Publisher's PDF, also known as Version of record

Ekonomiczne Problemy Usług nr 2/2018 (131), t. 2

ISSN: 1896-382X | www.wnus.edu.pl/epu
DOI: 10.18276/epu.2018.131/2-08 | strony: 75–96

Anders Henten, Iwona Windekilde
Aalborg University,
Center for Communication, Media and Information Technologies
henten@cmi.aau.dk, iwona@cmi.aau.dk

Implications of ICT-based platforms on labor markets – the case of Uber[1]

JEL codes: L91, O31
Keywords: ICT platforms, Uber
Summary. ICT platforms mediating in the labor area build on labor markets with people being under-employed and/or part-time employed. The extent to which such platforms currently contribute to the general trends in part-time or self-employment can be difficult to assess, as the figures presently are relatively small in the large picture. But there can hardly be any doubt that these ICT platforms in the longer run will reinforce trends towards part-time employment and, at any rate, unstable work and work conditions.

Introduction

The paper aims at examining two major and interrelated trends in present economic developments, one being the emergence of multi-sided ICT-based platforms living on lowering transaction costs for providers and buyers of various goods and services, the other being the development in the number of individuals acting as independent or semi-independent economic agents in markets.

[1] This is the third paper in a trilogy of papers that we have written on ICT-based platforms and transaction costs. The first paper, published in the journal formerly entitled *info* (now *Digital Policy, Regulation and Governance) vol. 18, no. 1 (Henten & Windekilde, 2016), was on the basic economic mechanisms of ICT-based platforms; the second paper, published in Nordic and Baltic Journal of ICT vol. 2017, no. 1 (Windekilde & Henten, 2017), was on the Uber platform, its ramifications for the taxi business and social contracting between public authorities and new ICT-based platform businesses.*

During the past decade, we have witnessed the emergence of a great number of ICT-based platforms acting as intermediaries between buyers and sellers of goods and services, where Uber and Airbnb are among the most prominent examples. These platforms can be seen as not themselves selling the goods and services; they establish contacts between those wanting to sell something and those wanting to buy. The primary function of the platforms is to lower the transaction costs for buyers and sellers, and charging a fee for this contributes to how they make money.

The other important economic trend dealt with in the paper is concerned with the development in the number of individuals acting as independent or semi-independent economic agents in markets. Individuals have obviously always been economic agents in markets ever since the initial development of the capitalist mode of production. For most individuals, however, it has been a case of selling their labor power as employees to employers in the form of more or less stable jobs. However, an increasing number of individuals cannot find stable employment and some of them sell not their labor power to an employer but sell their services directly to those demanding such services. The background for this development clearly includes different elements, for instance that a growing number of professionals and other labor categories cannot find employment or do not wish to have stable jobs as employees, and if possible start working as independent consultants. But one of the reasons also has to do with the possibilities that improved communications facilitate, based on new ICTs.

The implications of ICTs for the development of labor markets, for instance productivity increases, substitution by automation and robotics, or new international divisions and distributions of labor, are obviously much broader than the implications of the specific case of ICT-based multi-sided platforms. However focusing on platforms, a company like Uber, where those driving the cars act as, at least, semi-independent contractors as opposed to employed taxi-drivers, contributes to the general development of individualized labor.

The paper investigates these two development trends and how they interrelate. First, there is a section on the economics of ICT platforms and their role in future social developments. This is followed by empirically oriented sections on labor market trends and on ICT-based platforms with a special focus on Uber. The last section is a discussion and conclusion.

1. ICT-based platforms

General public as well as academic discussions on ICT-based platforms are often related to the sharing economy concept (Sundararajan, 2016). The sharing economy stems from the collaborative economy and frequently those terms are used interchangeably (Budziewicz-Guźlecka, 2017). Indeed, sharing economy developments can be facilitated by ICT platforms. However, far from all or even most of ICT platforms have any altruistic sharing purposes. They are ‘in it for the money’, as ICT platforms have

become big business and an area for an enormously growing amount of entrepreneurial activities aiming at quickly establishing lucrative businesses. This has many similarities with the e-commerce rush at the end of the former century – or even the gold rush in California in the middle of the 19th century.

In a paper we wrote on the so-called sharing economy (Henten, Windekilde, 2016), we presented the basic economic mechanisms of the platform business model. The two most important mechanisms are transaction cost economics (Coase, 1937); (Williamson, 1989) and network economics (Shapiro, Varian, 1999; Economides, 1996). The economics of platform business models have been extensively explained by, e.g. (Gawer, Cusumano, 2002; Evans, Schmalensee, 2016).

The basic function of multi-sided (including two-sided) platforms is to lower the transaction costs for sellers and buyers of goods and services. Lowering transaction costs can, indeed, also be a function of other business models. Supermarkets, for instance, sell all kinds of food products (and other goods), and it would be extremely costly for consumers to find the many different producers of such items, were it not for general stores, where all or most of their nutritional needs can be met. And, the business models of supermarkets often also include platform elements in addition to the traditional value chain model, in the sense that supermarkets open their shelves to providers of food products without buying the products in advance from the producers. This model is seen in full-blown versions in the large malls and department stores, where businesses lease square meters to set up their shops to access customers. Such malls are a type of two-sided markets, facilitating transactions between shops and their customers.

The ICT-based two- or multi-sided platforms have opened this type of business model to all kinds of business areas. The platforms act as intermediaries enabling sellers and buyers of goods and services to get in contact with one another, where it formerly would have been far too costly in terms of transaction costs for buyers to finds the right goods and services at the right price and for sellers to expose their offerings to potential customers.

In addition, the ICT-based platforms enhance the network effects, as potentially everyone with an Internet connection can access the platforms. The more sellers offering their goods and services, the more buyers will visit the platform website or download the app and vice versa. We are dealing with cross-side network effects (Hagiu & Wright, 2015) that potentially can be extremely strong leading to platform companies growing very fast and almost winning the whole market or a vast share of it in their specific area.

With drastically lowered transaction cost, one could imagine that we eventually would be approaching the nirvana of neo-classical economics with no transaction costs. It is, however, not this 'weightless' state that we are approaching but a state where large ICT-based platform become new centers of gravity – so to say. These platforms live on transaction costs – or prey on transaction costs, as we called in the paper on 'Transaction costs and the sharing economy' (Henten, Windekilde, 2016).

The sheer size of some of these operations and their already realized and potential implications are huge. Airbnb has since its launch less than ten years ago grown to a market valuation of more than 30 billion USD in 2017 and Uber has likewise grown to a market valuation of app. 50 billion USD in 2017. These have become giant operations. And, though they live under uncertain conditions, as they clash with existing business models, social interests and regulations, and have to adapt somehow to these circumstances, but will battle and possibly overthrow others, they seem to thrive and grow. They make their money not on producing or even selling any goods or services other than delivering platforms for contacts between businesses and people; they live on lowering transaction costs. That is a stunning development even if enterprises making their money on lowering transaction costs have existed for long, such as real estate businesses and other kinds of brokers. It is the size and speed of these developments which are striking.

2. Changes in labor market

Temporary and unstable employment has always existed. However, the economic crisis that started in 2008 deepened this development. Laborers who lost their jobs had to make do with short term employment and employers could see their interest in not entering into more stable employment contracts. This has led to a situation where an increasingly large part of laborers, for shorter or long periods of time, live on unstable contracts – most of them in short term employments and some as independent contractors.

This phenomenon has been characterized in different ways – partly because there, in fact, are different work situations. Some have called it the 'gig economy' (Friedman, 2014) emphasizing work consisting of short term engagements. Another well-known concept is the 'precariat' (Standing, 2011), which is a portmanteau of the two words precarious and proletariat. This concept focuses on the uncertainty for those living under such conditions with continuous underemployment and periods of unremunerated work especially for young professionals who are trying to enter the labor market.

Yet another term is 'iPro' (Leighton, Brown, 2013), which is short for independent professional. Such professionals are often well educated but cannot find or do not want to enter into more stable employment contracts. With this term, we are close to the freelancing concept, which indicates that those performing work activities have their freedom to work for different institutions and companies but also are 'free' from having a stable job and income. Independent contractors is a similar term but is somewhat broader in its scope, as it includes not only well educated professionals but also people of all other educational categories, who are not dependent on one single employer for a longer period of time but have a more independent status.

There is thus a wide spectrum of work categories, ranging from those wanting to find stable employment but who cannot find jobs or only have very temporary engage-

ments, which includes people with none or very little professional training as well as highly educated university graduates, to the other end of the spectrum, where one finds those who are real independent professionals who have started their own one-person companies selling not their labor power but their professional services. Between these two poles, there is a whole range of combined work conditions.

In a Marxian context, there is a clear distinction between selling one's labor power and selling services or other products (goods), being the results of one's labor. The proletariat as it was defined by Marx sells not its labor (the products of its labor) but its labor power. This means that those employing laborers buy other people's labor power and use it for the purposes that they find fit (within the limits of laws and labor agreements), and that the employers own and can sell the products of the labor of these people. This is the basis for what Marx termed the exploitation of the proletariat and the value added acquired by capitalists.

As can be seen from this conception, there is a clear difference between the situation of selling one's labor power and selling the results of one's labor. In the latter case, the value of the results of the work performed entirely – or at least almost entirely – accrues to the person doing the work. This can, for instance, be seen in cases where independent consultants work for institutions or companies and charge a significantly higher fee than the payment they would have received as salaried employees doing similar kinds of work.

The different kinds of situations are now and then mixed up in discussions on independent contracting and temporary labor. And, there can be good reasons for it, because independent contracting and temporary labor may be mixed in practice, as people at instances may be working as independent contractors and at other times as temporary laborers. It may also be that those working have an independent status formally but in reality are working more or less as employees and, therefore, have a kind of semi-independent status.

The above mentioned developments are clearly much broader than anything having to do with ICT-based platforms. However, ICT-based platforms are a new branch on this kind of development. ICT-based platforms lower the transaction costs of exchanges not only for goods and services but also for labor power. The implication is that laborers more easily can be contacted and contracted for shorter assignments and that companies do not necessarily need to employ people on a more stable basis to get them to perform work. This can be done on an on-and-off basis.

In the seminal paper by Coase, entitled 'The nature of the firm' (Coase, 1937), where he first presented his ideas on transaction costs and the implications thereof, he discussed the reasons for the existence of firms. His claim was that if there were no transaction costs, there would be no large firms, as all economic agents in such a situation would act independently and would be individual producers and sell the results of their work to one another. This argument was obviously taken to the extreme in order to

emphasize the importance of transaction costs, which had hitherto not been considered in the dominant conception of economics (the neo-classical tradition).

However, Coase did not explicitly consider the buying and selling of labor power. He looked at goods and services. But considering labor power only emphasizes his point. To the extent that the transaction costs of finding and hiring laborers decrease, there will be a tendency to get work done on a more temporary basis. This could, for instance, be done by hiring independent or semi-independent contractors. This is what can be seen with Uber. Uber-drivers are not formally employees of Uber; they could be considered as independent contractors, or some of them would be semi-independent contractors, as they only work as Uber-drivers and have a ongoing engagement with Uber.

Fiverr could also be seen as an example, and there are numerous other such platforms. Freelance laborers and freelance bureaus have of course existed for long. However, ICT-platforms expand the possibilities of these kinds of arrangements, as the costs of finding and hiring laborers decrease.

4. Labor market developments

In addition to the concepts mentioned in section 3 – gig economy, precariat, iPros – a term often seen lately in connection with labor market developments is 'uberization', e.g. (Lobel, 2016). With 'uberization' is meant a development, where laborers do not have a stable employment including the labor and insurance rights that may follow but have a loser connection to the company or companies they work for and often work part time. More specifically, the term 'uberization' refers to labor market conditions, where ICT-based platforms like Uber organize the relationships between providers of work and those demanding work without considering those working as employees of the ICT-based platforms.

In Europe, there has since the economic crisis broke out in 2008 been a considerable increase in precarious work conditions. However, the question is whether these kinds of work conditions have much to do with the 'platform economy'. As will be shown in this section, the unstable work conditions are based on far deeper trends in the economy regarding unemployment as a result of the economic crisis and the insecurity hitting parts of the labor markets as a result of new trends in international labor divisions often entitled globalization. Unstable work conditions, furthermore, result from employers taking advantage of the economic developments to undermine the rights of employees. However, this does not mean that work relations being part of the 'platform economy' are not important to examine and that they may not increase in importance in the longer run. But it means that 'uberization', at the moment, only is a slight curl on a much more forceful development.

In the following, we will look only at employment developments and Uber developments in the US and in Europe. Uber has, indeed, quickly become a global business

with activities all over the word. But hard evidence on the development of Uber around the globe is difficult to come by, and the cases of the US and Europe illustrate the main issues.

In the EU[2], unemployment differs much between the individual member countries. On average, unemployment in the EU was around 9% in the first part of the first decennium of the new millennium. The economy boomed in especially 2006 and 2007 with unemployment rates going down to 7% in late 2007 and early 2008. But then unemployment increased steeply in the second part of 2008 and went all the way up to 11% in mid-2013. Since then, unemployment rates have dropped to approximately 8% in average. In some EU countries, however, especially in southern Europe, unemployment rates have been considerably higher and remain much higher than the EU-average. Unemployment in Greece went all the way up to 27.5% in 2013 and was still at 25% in 2015. Spain went up to 26% in 2013 and was still at 22% in 2015. It should be added that, over the period from 2000 to 2015, youth unemployment has followed the trends in general unemployment in the EU – but at a double rate – meaning that youth unemployment in the EU in general was at 18–19% in the first years of the new millennium and went as high as 24% in 2013.

In absolute terms, part-time employment has actually increased in the EU since 2007, which means that it's full-time jobs that were lost during the economic crisis[3]. On average in the EU, part-time work has increased from 16.8% to 18.9% of those in work. In the EU publication referred to (EC, 2016), a differentiation between voluntary and involuntary part-time work is made – which is a reasonable differentiation, as it is far from all part-time work which is involuntary. Based on Eurostat figures, it is reported that involuntary part-time work increased from 23.1% of part-time workers in 2007 to 29.9% in 2015. In countries especially in southern Europe, involuntary part-time work constitutes a very high and increasing percentage of part-time work in total, going from 45.8% in 2007 to 72.9% in 2015 in Greece and from 33.6% in 2007 to 63.7% in 2015 in Spain.

Unemployment in the US is generally lower than the EU average. Furthermore, comparing the EU with the US, it seems that the economic crisis is more protracted in Europe, especially in southern Europe, than in the US as such. Before the economic crises starting in 2008, the official unemployment rate in the US was at 4-5% and then rose to approximately 10% in 2010 and 2011, but has dropped to about 5% in 2016 and now 2017[4]. In terms of part-time work, the US does not differ much from the EU. According to a publication from Bernhard (Bernhardt, 2014), cited in (Hall, Krueger,

---

[2] Figures on unemployment in the EU are taken from Eurostat unemployment statistics, Statistics Explained, http://epp.eurostat.ec.europa.eu/statisticsexplained/ (31.01.2017).

[3] Figures on part-time employment is taken from a European Commission news publication, Part-time work: A divided Europe – Employment, Social Affairs & Inclusion – European Commission (4.05.2016).

[4] These figures are from US Bureau of Labor Statistics, data extracted on 28.02.2017.

2015), the share of part-time workers has been rather stable during the past 20 years – going from 17.8% in 1995 to 16.8% in 2005, increasing to 19.8% in 2009 during the economic crises and going back to 18.3% in 2014. In contrast to EU countries, (Bernhardt, 2014) also reports that the percentage of involuntary part-time work has been 'largely flat, with the exception of cyclical increases during recessions' in the US.
In addition to the issue of part-time work, the paper by (Hall, Krueger, 2015) also discusses self-employment. The paper reports on data from the US Bureau of Labor Statistics showing that the percentage of all workers who are self-employed has been very stable during the past 15 years (2000–2015) in the US. In all these years, the percentage of self-employed has been around 11% with a slightly decreasing trend during the past decade. Hall & Krueger (2015) conclude the following on the basis of the information on part-time employment and self-employment: 'The United States surely has serious labor market challenges as a result of rising wage inequality and stagnant middle class wage growth, but these problems appear to be independent of the growth of contingent and alternative working relationships, as there has been little noticeable growth in those working relationships since the 1990s'.

5. ICT platforms

Currently, we have many large platforms operating around the world. In January 2016, the Center for Global Enterprise released a report, "The Rise of the Platform Enterprise, A Global Survey" (Evans, Gawer, 2016), valuing platform-based Companies at $4.3 Trillion. The project identified 176 platform companies including large publically traded companies (69) as well as privately held platforms (107). According to the report, the 69 public companies have a collective market value of $3.9 trillion, compared to 107 private companies that have an estimated market value of $300 billion. Also, nearly all the private companies are transaction platforms that act as intermediary facilitating exchanges or transactions between different users, buyers, or suppliers. The six largest companies, Apple, Google, Facebook, Amazon, Alibaba and XiaoMi have a market cap of $2 trillion. The report documents that the publicly traded platforms employ at least 1.3 million employees directly. The employment figures from privately owned platform companies are not available.

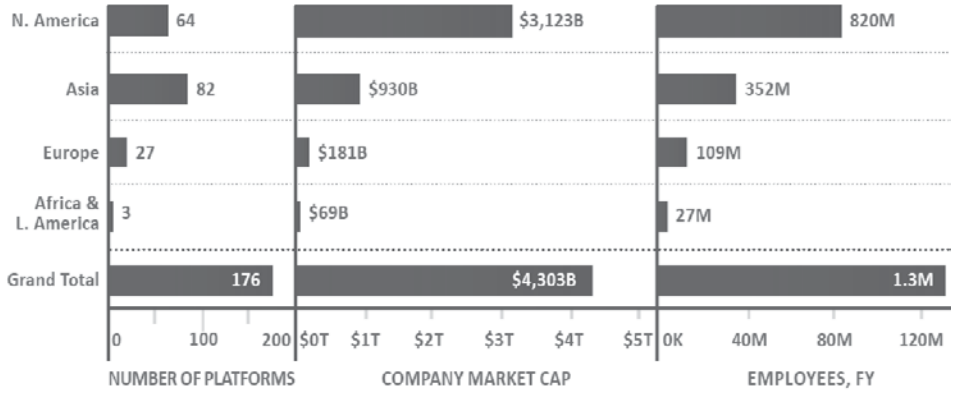


Figure 1. Platform companies by region

Source: Evans, Gawer (2016).

Similar findings have been published by Accenture (2016). According to Accenture, publically traded companies represent a much higher value in market capitalization than startups. The top 15 public platform companies (Alibaba, Alphabet, Amazon.com, Apple, Baidu, eBay, Facebook, JD.com, LinkedIn, Netflix, Priceline.com, Salesforce, Tencent, Twitter, Yahoo!) represent $2.6 trillion in market capitalization worldwide in comparison to 140 startup platform companies with a total valuation of app. $500 billion (Accenture, 2016).

In order to compare the biggest publicly traded companies with the private platform companies, it is useful to look at the enterprise value in addition to the market cap value. Figure 2 shows the 5 highest valued enterprises (publicly traded companies as of March 17, 2017 (The Modern Financial Data, 2017) versus privately held companies. Enterprise value as a valuation metric reflects the aggregate value of an entire business rather than just focusing on its current market capitalization.

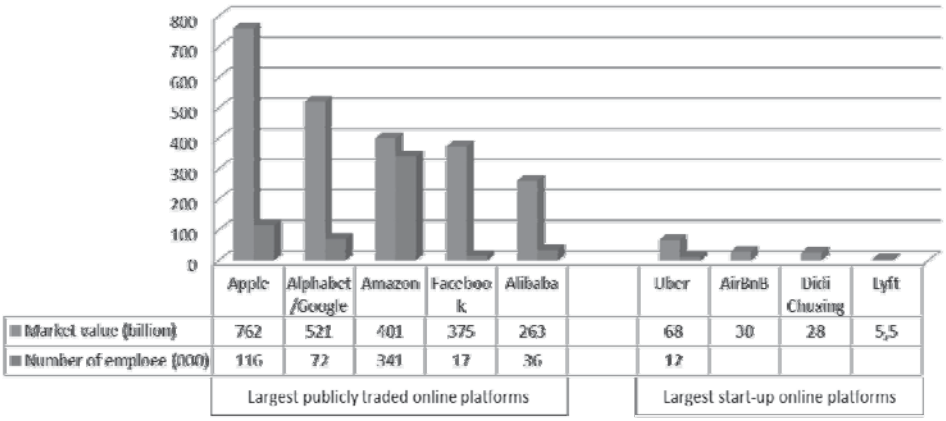


Figure 2. World largest companies by enterprise value

Source: Data compiled from The Modern Financial Data (2017).

A growing number of publications forecast that global revenue from the on-demand economy could increase from US$ 15 billion in 2015 to US$ 335 billion by 2025 (Groff, Callegari, & Madden, 2015). Statistics on the number of on-demand economy workers globally do not exist. According to forecast from Intuit Inc. and Emergent Research, 7.6 million Americans will be regularly working as providers in the on-demand economy by 2020 (Sharpe, 2015).

Presently, Uber Technologies Inc. is one of the fastest growing privately held platforms in the world. Uber operates in 78 countries (Uber, Country list, 2017), 561 cities worldwide (Uber, Cities, 2017) and is serving airports in over 400 cities worldwide with the transportation agreement in place with 216 airports (Uber, Airports, 2017).

It is very difficult to value companies growing at this speed and, therefore, different reports publish various values. For example, United States District Court Northern District of California in the instant class action against Uber published Uber's most recent valuation at 93 billion (Order Denying Plaintiffs' Motion for Preliminary Approval, 2016). Other sources value this company at $69 billion (Newcomer, 2017).

There are many publications which compare Uber to other peer-to-peer startups or large cap Internet companies or to vehicle manufacturing companies (Liyan, 2015), (La Monica, 2015), (Rosoff, 2015). But there are not many publications having information on the company profit as well as the number of drivers worldwide and their status of employment.

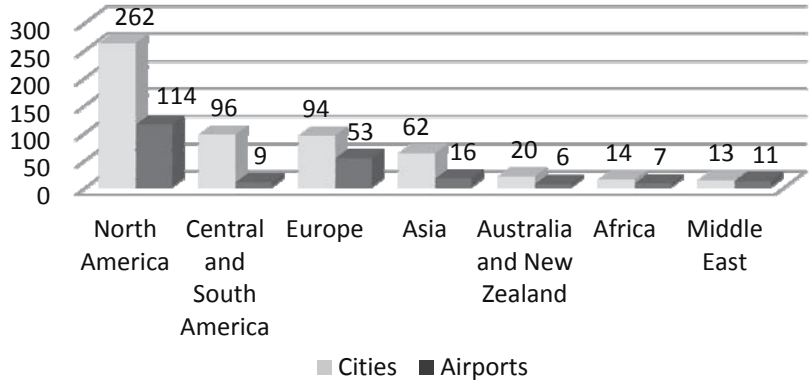
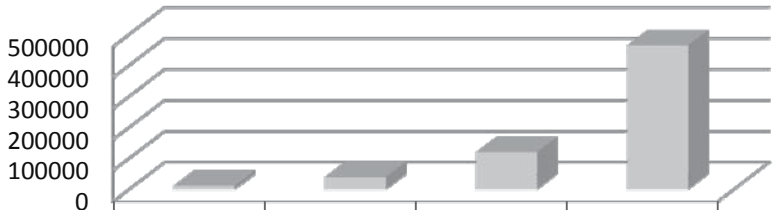


Figure 3. Uber operations worldwide

Source: Data compiled from Uber website: Uber, Country list (2017); Uber, Airports (2017); Uber, Cities (2017).

Figure 4 shows only the total number of Uber employees and drivers in the UK, EU, US. Data from remaining countries is not available. In 2016, 40,000 Uber drivers were operating in the UK and 30,000 in the London area (Employment Tribunals, 2016). In the US, a total of 464,681 drivers completed four or more trips using the Uber platform (Hall & Krueger, 2015). The Guardian has published data that shows that more than 120,000 drivers in the EU used the app in 2017 (Kollewe, 2017). As of 2017, the total number of Uber full-time employees had reached 12 thousand (not including Uber drivers).



	Uber full time employees	Drivers in UK	Driver-Partners in EU	Driver-Partners in US
Uber	12000	40000	120000	464681

Figure 4. Uber employees and drivers in the UK, EU, US.

Source: Data compiled from: Employment Tribunals (2016); Hall, Krueger (2015); Kollewe, (2017).

6. The Uber platform

The abovementioned paper by (Hall, Krueger, 2015) focuses primarily on the work conditions of the Uber drivers. I should be noted that Jonathan Hall is working for Uber Technologies and that Alan Krueger acknowledges working on their report under contract with Uber. The implication is that the report, at instances, seem biased, which for example is indicated in the fact that the report refers to Uber drivers as 'Uber's driver-partners' even if it is acknowledged in the report that a central controversy around Uber is whether Uber drivers are self-employed or employees. Nevertheless, the report contains empirical material on Uber, which cannot be found elsewhere, and there is also in the report a genuine attempt to report objectively on the material presented.

Hall and Krueger (2015) report on the number of Uber drivers in the US – being defined as drivers who have provided at least four rides in any month. The numbers show that from 2012, where there were very few Uber drivers, the number of drivers took off in 2014 increasing to more than 160,000 drivers by the end of 2014. A follow-up report was made by Hall and Krueger in 2016 showing that the number of Uber drivers kept on increasing exponentially in 2015 reaching approximately 475,000 Uber drivers by the end of 2015. The vast increase has been in the so-called uberX drivers, while drivers of UberBLACK have increased much more slowly. UberX is the service competing directly with traditional taxis, while UberBLACK is the premium service corresponding to limousine services.

As was discussed in our paper entitled 'Domesticating the monster – the case of Uber in a social contract perspective' (Henten, Windekilde, 2017), Uber has met a great deal of resistance from both taxi companies and drivers and from local and national governments because of a variety of issues concerning of protection of users, labor rights, protection of traditional taxi companies, and tax payment. The major judicial turning point in these controversies, the moment, is whether Uber drivers are self-employed or employees of Uber. If they are employees of Uber, they have labor right regarding possible minimum wages, holidays, insurance, etc. as other employees.

In the last few years, Uber has faced many employment misclassification suits and difficulties in policy and regulation decisions around the world. The outcomes of those lawsuits are yet to be fully resolved. Uber claims that Uber drivers are self-employed and that they are enjoying the freedom of deciding themselves when to work and how much to work. Cases brought to court by Uber drivers, on the other hand, claim that Uber drivers are employees of Uber and have labor right similar to other employees. In the US, lawsuits are in the courts, and in the UK, for instance, an employment court in October 2016 ruled that Uber drivers are employees of Uber and are entitled to 'holiday pay, pensions or other worker's right' – as was reported by The Guardian on 28 October 2016. The news article reports that there are approximately 40,000 Uber drivers in the UK, but that the issue of people classified as self-employed are much bigger than that. In the article, it is stated that 460.000 people is the 'number of people who are falsely classified as self-employed in the UK.

In Switzerland, Uber has suffered another setback by a decision made by the insurance company Suva, who decided that Uber drivers are employees and not self-employed. The major basis for these decisions by a UK court and by the insurance company is that the drivers cannot set the price for their services as they wish. It is Uber who sets the price, and it is not likely that many people would use the Uber service if they did not know the charge in advance. But when Uber sets the price, it cannot be considered as independent self-employment. This is basically the ruling and decision by the UK court and the insurance company. And, this seems to be the trend in different kinds of decision, at present, and it can potentially mean that Uber and other platforms putting labor power at the disposal of people needing work done will need to change their business model, as it is based on an intermediating brokerage between different kinds of users of the platforms.

Recently, the Court of justice of the EU (CURIA, 2017) has been working on the classification of Uber's activity in light of EU law. It needs to be decided whether Uber is a transportation company or an intermediary that connects providers with users via its online platform and facilitate transactions between them or a combination of both.

If the EU decides that Uber is providing transportation services, than Uber has to comply with labour and safety rules which are regulated by the laws of the Member States. Moreover, Uber will be required to obtain the necessary licences and authorization under national laws.

If the EU decides that Uber is a collaborative platform which provides an information society services then it will benefit from the principle of the freedom to provide services guaranteed by EU law for information society services, which means that the EU has the power to regulate those services across Member States .

A third option will lead to a situation where Uber can be considered as offering other services in addition to information society services – as a provider of the underlying services (e.g. transport) and be subject to the relevant sector-specific regulations (EC, 2016). According to the EU Commission, whether a collaborative platform belongs to the third group has to be established on a case by case basis with the main focus on the level of control, the contractual relationship, price and ownership of key assets.

The final decision of the EU Commission will have an impact not only Uber but also other platform companies. The EU Court of Justice applies three essential criteria to determine the existence of an employment relationship (EC, 2016B):

1. Whether they act under the direction of the platform (i.e. the platform determines the choice of activity and working conditions).
2. The nature of the work (e.g. is it genuine, effective and regular).
3. And, whether the work is remunerated.

Looking closely at Uber activities with regard to the criteria mentioned, we can notice that:

- the price of the ride is set by Uber and cannot be negotiated – Uber takes between 10–20% of the price,
- there is an in-depth control on how work is carried out – Uber logs drivers' trips and has a right to access their geolocation data,
- Uber is using users' evaluation to deactivate a driver's access to the platform if the evaluation is below the platform expectation (Aloisi, 2016) – Uber has admitted on the website that it is regularly reviewing user feedback and that drivers have been deactivated for consistently poor ratings (Uber, 2017),
- drivers can set their own schedule, but they should accept 80% of all the ride requests they receive, and they are encouraged to drive as much as possible (Hullinger, 2016),
- drivers need to use their own vehicle and pay for all expenses related to their car use (petrol, personal auto insurance that meets his/her state's minimum financial responsibility requirements, taxes) (Uber, 2017).

Based on those criteria, Uber has been classified as an employer in the following countries: UK, Australia, and Switzerland (Chirgwin, 2017). As a result, the employer (Uber) must pay the social security, accident and unemployment contributions, occupational pensions and family allowances.

Due to the fact that various platforms have implemented different business model and even within the same platform diverse rules apply in various geographical locations, the EU Commission suggested that Member States should decide who is to be considered a worker under their national rules and seek to differentiate between various collaborative platforms providing: intermediary services, the underlying services and private persons providing occasionally services.

In some respect, the EU guidelines will play a very important role in determining the existence of an employment relationship. On the other hand, there is a need for each Member State to adjust their national employment rules to the new 'collaborative economy'. The EU Commission has pointed out that EU labour law and social law are applicable only to people who are in an employment relationship.

In the US, Uber has been classified as a Transportation Network Company (TNC) which is separate from existing taxi and livery service company regulations. Under the bill, a TNC is a company that provides prearranged transportation services by connecting passengers to TNC drivers, who are not TNC employees, through a digital network or software application (app). Unlike most taxi drivers, TNC drivers use their personal vehicles to provide rides and do not accept street hails. The definition does not include a taxicab or for-hire vehicle owner (CGA, 2015). TNC legislation has been implemented in almost every US state. As of December 2016, 40 states regulate TNCs separately from taxi and livery services: 32 are comprehensive and regulate many aspects of TNC operations, while 8 impose only insurance requirements on TNCs. Research conducted by Moran and Goodin (2016), identified 31 specific policies in state-level TNC legislation within 7 main policy areas, including: permits and fees; insurance and financial

responsibility; driver and vehicle requirements; operational requirements; passenger protections; data reporting; regulatory and rule-making authority; conflicting classifications (Goodin, Moran, 2016).

In 2016, due to the difficulties to apply the definition of "sharing or collaborative economy" to companies as Uber, Airbnb, the US Department of Commerce's Economics and Statistics Administration (ESA) has proposed a new definition of "digital matching firms" that exhibit the following characteristics (ESA, 2016):

1. They use information technology (IT systems), typically available via web-based platforms, such as mobile apps on Internet- enabled devices, to facilitate peer-to-peer transactions.
2. They rely on user-based rating systems for quality control, ensuring a level of trust between consumers and service providers who have not previously met.
3. They offer the workers who provide services via digital matching platforms flexibility in deciding their typical working hours.
4. To the extent that tools and assets are necessary to provide a service, digital matching firms rely on the workers using their own.

The concept of "digital matching firms" includes entities that use Internet and smartphone enabled apps to match service providers with consumers, help ensure trust and quality assurance via peer-rating services and that rely on flexible service providers who, when necessary, use their own assets (ESA, 2016). There are approximately 123 examples of companies that meet the Commerce Department's definition of "digital matching firms" from art rental, car and bike sharing, ridesharing, taxi sharing, care, delivery, dinning, errands, fashion, funding, goods sharing, home sharing, personal services, professional and freelance, toy rental and unique experiences (The Wall Street Journal, 2017).

It is important to point out that existing platform companies differ in terms of autonomy, payment decision, pricing strategies, the skills required, complexity, working requirements, control over the quality of the services provided, etc. Moreover, the platforms are present in many sectors, such as transportation (Uber, Lyft, BlaBlaCar), accommodation (AirBnB, HomeAway), finance (Kickstarter – crowdfunding), labour platform (TaskRabit, Freelancer), etc. A great diversity of business models exists as well, even within the same sector, including for profit, non-profit or share costs activities, whether the platform facilitate C2C, C2B, B2B and B2C transactions. Some platforms focus their activities only on facilitating renting of assets, while others are combining the hiring of people together with assets (Czaplewski, 2016). Most of the platform businesses operate internationally and others function only within a specific geographic area. Therefore, it is very difficult to clearly define the relationships with workers and regulate the platform activities in different sectors and various countries.

Emanuele Dagnino (2016) argues that despite heterogeneity, it is possible to identify similar consequences for workers' conditions in the different platforms. Benjamin Means & Joseph A. Seiner (2016) have pointed out that "existing laws fail to provide

adequate guidance regarding the distinction between independent contractors and employees, especially when applied to the hybrid working arrangements common in a modern economy". Joseph V. Kennedy (2016) has proposed three possible paths forward in reforming labour law for Internet-based market platforms such as Uber, Airbnb, and TaskRabbit: first, to create a new category of workers, between full employee and independent contractor; second, to revisit each of the country's major labour laws and carefully tailor them to achieve their specific goals, and third, to create a special exemption from many of the labour laws specifically for gig platforms.

A number of politician and researchers argue that a new legal classification of people's participation in platforms businesses is needed in order to protect independent contractors from the precarious conditions. They propose a third or hybrid category called "dependent contractors" or "independent workers" situated between "independent contractors" and "employees" (Cherry, Aloisi, 2017; Krueger, Harris, 2015; Weber, 2015; OECD, 2016). They typically utilize digital platform of intermediaries to identify customers to deliver services and, therefore, do not fit to existing labour laws.

Due to diversity and the rapid growth of digital platforms, there are many debates over the application of labour law. Unfortunately, still in many cases, the answer to the question whether the platform provider acts as employer is based only on the control criteria.

Conclusions

The empirical evidence presented in this paper is concerned with 1) general trends of unemployment, part-time employment and self-employment in Europe and the US; 2) general information on some of the world's largest ICT platforms; 3) more specific information about Uber financially as well as with respect to labor, and finally; 4) accounts of policy and legal decisions regarding Uber.

The reason for putting information on labor market trends together with information on ICT platforms and more specifically Uber is that we wish to discuss the interrelationships between general trends in labor markets and ICT platforms mediating in the labor market area. In very general terms, unemployment and part-time employment fluctuates with the cyclical ups and downs of economic activity. With the economic crisis starting in 2008, unemployment and part-time employment went up – in some countries, especially in southern Europe, it went up very steeply. Self-employment, however, seems to be relatively stable. But these general trends partly cover over a tendency towards increasingly unstable work situations for a growing number of people. Guy Standing has strongly articulated this development in his writings on the precariat (Standing, 2011).

There can be no doubt that ICT platforms mediating in the labor area build on labor markets with people being under-employed and/or part-time employed (voluntarily or not). The extent to which such platforms currently in any significant manner con-

tribute to the general trends in part-time or self-employment can be difficult to assess, as the figures presently are relatively small in the large picture. But there can hardly be any doubt that these ICT platforms in the longer run will reinforce trends towards part-time employment and, at any rate, unstable work and work conditions. The so-called gig economy is a growing phenomenon with people competing globally for short term jobs under very unsecure and unstable conditions.

Policy and legal discussions included the issue as to whether the Uber drivers really are independent self-employed contractors or whether they should be considered as employees of Uber. The same issue can be raised with other labor platforms, but Uber has been the main case in point because of the size of the operation and the uniformity of the work performed by the drivers. If it were a more generalized labor platform mediating in many different kinds of work areas, it could be less obvious whether the laborers were employees or self-employed – even though the issue in fact is the same.

In the paper, we report on cases where it has been determined that Uber drivers are actually employees of Uber or at least something similar - or verdicts have been that Uber competes on unfair conditions as the Uber drivers do not have the same benefits as ordinary taxi drivers. This is and will increasingly be a problem for Uber (and similar operations) as they could end up having to live up to the same conditions as ordinary companies. This will bring down the profitability of the operation and it will also endanger or at least constrain the platform business model in the labor market area. The multi-sided (or just two-sided) ICT platform business model is currently probably the most successful business model in the ICT world. In the goods area and also in the service area with companies performing services for customers, the business models functions very successfully though it obviously meets competition from companies using other business models. But in the labor market area, the business model not only disrupts existing businesses, it also disrupts the labor and social rights of laborers. This raises the issue of disruption from the level of businesses and industries to a more general social level and, therefore, meets strong resistance and calls for reinforcement of existing rules and arrangement or for negotiations of new settlements.

In the paper, we refer to Coase (Coase, 1937) and his work on transaction costs. For goods and services delivered by companies, there is no doubt that multi-sided ICT platforms are lowering transaction costs between buyers and sellers and, consequently, facilitate trade in areas of social life that would otherwise not be possible or would be marginal on a larger scale. The same applies to the labor market, where Uber and other labor platforms facilitate contracts between buyers and sellers. And, we are here quite close to the topic that Coase was discussing in his paper (Coase, 1937). The issue in this paper was whether there would still be firms if there were no transaction costs or whether economic activity would be made up of individual and self-employed economic agents. The answer provided by ICT platforms today is that they certainly do lower

transaction costs, but that firms do not disappear and that there are new centers of gravity in the economy, namely the companies controlling the platforms.

This means that such companies, to a large extent, live on transaction costs. One could also say that they live on network externalities as the primary function, indeed, is to lower transaction costs, but the engine is network effects or externalities. The network externalities can potentially be internalized and thus contribute to the profitability of the platforms. However, the quantification of these mechanisms is almost impossible or at least very difficult to make.

With respect to labor platforms, there is an additional issue, and that is whether or – more correctly – how these platforms profit from the work that they initiate. In the paper, we refer to the differentiation that Marx made between labor power and labor. His claim was that employers (capitalists) do not buy labor from laborers, they buy labor power, and that it is the difference between the value (and derived price) of the product of the labor and the value (and price) of the labor power that is the source of value added (and profit). This differentiation seems appropriate in our context, as the question is whether laborers are selling their labor, being self-employed, or whether they are selling their labor power, being employed.

As with the questions regarding the value of the lowering of transaction costs and the internalization of network externalities, it can be very difficult to assess the real economic implications of this differentiation. But from the relatively low earnings that the Uber drivers make and from the criteria used, for instance, by the EU Court of Justice to determine the existence of an employment relationship (EC, 2016B), it would seem that Uber drivers should be considered as employees of Uber. At any rate, Uber and similar platforms contribute to more unstable and unsecure conditions for laborers, and they will do so even more if labor and social work conditions are not settled in labor and social agreements.

References

Accenture (2016). *Platform Economy: Technology-driven business model innovation from the outside in, Technology Vision*. Accenture Technology R&D.

Aloisi, A. (2016). Commoditized Workers: Case Study Research on Labor Law Issues Arising from a set of "On-Demand/Gig Economy" Platforms. *Comparative Labor Law & Policy Journal*, *37*, 653.

Bernhardt, A. (2014). *Labor Standards and the Reorganization of Work: Gaps in Data and Research*. UC Berkeley: Institute for Research on Labor and Employment.

Budziewicz-Guźlecka, A. (2017). Role of the Sharing Economy in the Contemporary Economy. *Ekonomiczne Problemy Usług, 1* (126), 27–36.

CGA (2015). *CGA, Connecticut General Assembly, OLR Bill Analysis, An Act Regulating Transportation Network Companies*. Retrieved from: https://www.cga.ct.gov/2015/ba/2015HB-06683-R000362-BA.htm.

Cherry, M.A., Aloisi, A. (2017). "Dependent Contractors" In the Gig Economy: A Comparative Approach. *American University Law Review*, *3* (66).

Chirgwin, R. (2017). Switzerland says Uber's an employer, sends social security bill, 6.01.2017. Retrieved from: https://www.theregister.co.uk/2017/01/06/switzerland_says_ubers_an_employer_sends_social_security_bill/.

Coase, R. (1937). The nature of the firm. *Economica*, *4* (16), 386–405.

CURIA, Advocate General's Opinion in Case C-434/15, Press Release No 50/17, Luxembourg, 11 May 2017 (Court of Justice of the European Union 2017).

Czaplewski, M. (2016). E-commerce in Poland and Denmark – comparative analysis and development trends. *The Business & Management Review*, 5 (7), 399–403.

Dagnino, E. (2016). Labour and Labour Law in the time of the on-demand economy. *Revista Derecho Social y Empresa*, *6*.

EC (2016). *Part-time work: A divided Europe, Employment, Social Affairs & Inclusion*. Retrieved from: European Commission's DG for Employment, Social Affairs & Inclusion: http://ec.europa.eu/social/main.jsp?langId=en&catId=1196&newsId=2535&furtherNews=yes.

EC (2016). European Commission. A European agenda for the collaborative economy {SWD (2016) 184 final}, Brussels, 2.6.2016 COM (2016) 356 final.

EC (2016B). European Commission – Fact Sheet. A European agenda for the collaborative economy. Retrieved from: http://europa.eu/rapid/press-release_MEMO-16-2002_en.htm.

Economides, N. (1996). The economics of networks. *International Journal of Industrial Organization*, *14*, 673–699.

Employment Tribunals (2016). Reasons for Reserved Judgment on Preliminary Hearing sent to the Parties on 28 October 2016, Case number 2202550/2015. Retrieved from: https://www.judiciary.gov.uk/wp-content/uploads/2016/10/aslam-and-farrar-v-uber-reasons-20161028.pdf.

ESA (2016). U.S. Department of Commerce Economics and Statistics Administration Office of the Chief Economist, Digital Matching Firms: A New Definition in the "Sharing Economy" Space.

Evans, D., Schmalensee, R. (2016). Matchmakers: The new economics of multisided platforms. Harvard Business Review.

Evans, P.C., Gawer, A. (2016). The Rise of the Platform Enterprise. A Global Survey. The Center for Global Enterprise.

Friedman, G. (2014). The rise of the American gig economy. *Dollars & Sense*, *March–April*, 28–29.

Gawer, A., Cusumano, M.A. (2002). *Platform leadership: How Intel, Microsoft and Cisco drive industry innovation*. Harvard Business Scholl Press.

Goodin, G.P., Moran, M. (2016). *Transportation Network Companies*. Texas A&M Transportation Institute. Retrieved from: https://static.tti.tamu.edu/tti.tamu.edu/documents/tti-prc-testimony-08302016.pdf.

Groff, A., Callegari, P., Madden, P. (2015). Platforms Like Uber and the Blurred Line Between Independent Contractors and Employees. *Computer Law Review International, 6* (December).

Hagiu, A., Wright, J. (2015). *Multi-sided platforms*. Working Paper 15-037, Harvard Business School.

Hall, J.V., Krueger, A.B. (2015). An Analysis of the Labor Market for Uber's Driver-Partners in the United States. Working paper 22843. National Bureau of Economic Research.

Henten, A., Windekilde, I. (2016). Transaction costs and the sharing economy. *Journal Info* (Bingley).

Henten, A., Windekilde, I. (2017). Domesticating the monster – the case of Uber in a social contract perspective. *Nordic and Baltic Journal of ICT, 1*, 1–16.

Hullinger, J. (2016). *Things you might not know about uber and its drivers*. Retrieved from: http://mentalfloss.com/article/67010/16-things-you-might-not-know-about-uber-and-its-drivers.

Kennedy, J.V. (2016). *Three Paths to Update Labor Law for the Gig Economy*. Information Technology & Innovation Foundation.

Kollewe, J. (11.05.2017). New Uber blow as European legal adviser says service should be licensed like taxis,. Retrieved from: https://www.theguardian.com/technology/2017/may/11/uber-cabs-taxis-us-app-ecj.

Krueger, A.B., Harris, S.D. (2015). A proposal for modernizing Labor Laws for twenty-first-century work: the "independent worker". Retrieved from The Hamilton Project: http://www.hamiltonproject.org/assets/files/modernizing_labor_laws_for_twenty_first_century_work_krueger_harris.pdf.

La Monica, P.R. (2015). Is Uber really worth more than Ford and GM? Retrieved from CNN Money: http://money.cnn.com/2015/10/27/investing/uber-ford-gm-70-billion-valuation/index.html.

Leighton, P., Brown, D. (2013). *Future working: The rise of Europe's independent professionals* (iPros). EFIP.

Liyan, C. (2015). *At $68 Billion Valuation, Uber Will Be Bigger Than GM, Ford, and Honda*. Retrieved from Forbes: https://www.forbes.com/sites/liyanchen/2015/12/04/at-68-billion-valuation-uber-will-be-bigger-than-gm-ford-and-honda/#537b718832e3.

Lobel, O. (2016). The Law of the Platform. *Minnesota Law Review, San Diego Legal Studies Paper, 16*, 212.

Means, B., Seiner, J.A. (2016). Essay, Navigating the Uber Economy. *UC Davis Law Review, 49*, 1511.

Newcomer, E. (2017). *Uber, Lifting Financial Veil*. Retrieved from Bloomberg: https://www.bloomberg.com/news/articles/2017-04-14/embattled-uber-reports-strong-sales-growth-as-losses-continue.

OECD (2016). *New forms of work in the digital economy*. Retrieved from Directorate for Science, Technology and Innovation Committee on Digital Economy Policy:

http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DSTI/ICCP/IIS(2015)13/FINAL&docLanguage=En.

Order Denying Plaintiffs' Motion for Preliminary Approval, Case 3:13-cv-03826-EMC Document 748 (United State District Court 2016). Retrieved from: https://www.documentcloud.org/documents/3031645-Uber-Settlement-Denied.html#document/p2.

Rosoff, M. (2015). *Uber is now more valuable than Ford, GM, and a bunch of huge public companies*. Retrieved from: http://www.businessinsider.com/uber-valuation-vs-market-cap-of-publicly-traded-stocks-2015-12?r=US&IR=T&IR=T.

Shapiro, C., Varian, H.R. (1999). *Information rules: A strategic guide to the network economy*. Harvard Business Press.

Sharpe, S. (2015). *Intuit Forecast: 7.6 Million People in On-Demand Economy by 2020*. Retrieved from Business Wire: http://www.businesswire.com/news/home/20150813005317/en/Intuit-Forecast-7.6-Million-People-On-Demand-Economy#.VedGWE3bJon.

Standing, G. (2011). *The precariat – the new dangerous class*. Bloomsbury Academic.

Sundararajan, A. (2016). *The sharing economy – the end of employment and the rise of crowd-based capitalism*. The MIT Press.

The Modern Financial Data (2017). Retrieved from: https://ycharts.com/.

The Wall Street Journal (2017). Digital Matching Firms. Retrieved from http://graphics.wsj.com/table/DigMatching_0621.

Uber (2017). Airports. Retrieved from https://www.uber.com/en-DK/airports/#airport-list.

Uber (2017). Cities. Retrieved from https://www.uber.com/en-DK/cities/.

Uber (2017). Country list. Retrieved from https://www.uber.com/en-DK/country-list/.

Uber (2017). Driver jobs. Retrieved from https://www.uber.com/driver-jobs./

Uber (2017). Feedback is a 2 way street,. Retrieved from https://newsroom.uber.com/feedback-is-a-2-way-street/.

Uber B.V. (2017). Retrieved from terms and conditions: https://www.uber.com/en-IN/legal/terms/in/ (16.03.2017).

Weber, L. (2015). *What if There Were a New Type of Worker? Dependent Contractor*. Retrieved from The Wall Street Journal: https://www.wsj.com/articles/what-if-there-were-a-new-type-of-worker-dependent-contractor-1422405831.

Williamson, O.E. (1989). Transaction cost economics. In: R. Schmalensee, R. Willing (eds.), *Handbook of industrial organization* (pp. 135–182), vol. 1. Elsevier.

WPŁYW PLATFORM OPARTYCH NA ICT NA RYNKI PRACY – PRZYKŁAD UBERA

Słowa kluczowe: platformy ICT, Uber

Streszczenie. Platformy ICT pośredniczące w obszarze zatrudnienia budują rynki pracy dla osób, które nie są zatrudnione na odpowiednich dla siebie stanowiskach i/lub pracują w niepełnym wymiarze godzin. Stopień, w jakim tego typu platformy obecnie przyczyniają się do ogólnych trendów w zakresie zatrudnienia w niepełnym wymiarze godzin lub samozatrudnienia, są trudne do oszacowania, ponieważ obecnie dostępna ilość danych jest stosunkowo niewielka. Nie można jednak mieć wątpliwości, że platformy ICT w dłuższej perspektywie wzmocnią tendencje w kierunku zatrudnienia w niepełnym wymiarze godzin, a w każdym razie na zwiększenie niestabilności warunków pracy.

Tłumaczenie Maciej Czaplewski

Cytowanie

Henten, A., Windekilde, I. Implications of ICT-based platforms on labor markets – the case of Uber, *Ekonomiczne Problemy Usług*, *2* (131/2), 75–96. DOI: 10.18276/epu.2018.131/2-08.