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The European Collaborative Economy: A Research Agenda for Policy Support

Abstract

Collaborative Economy became the buzzword used to refer to all kinds of online platform based business models in the recent years. Yet there is no consensus on a working definition for these platforms and robust evidence is lacking on their costs and benefits to society – a precondition for good policy. To foster a clear and balanced regulatory environment and provide regulatory guidance to Member States on EU law application, the European Commission recently published the 'European Agenda for the Collaborative Economy' where the importance of further research and the need for monitoring the collaborative economy to identify obstacles and problems were stressed. This paper at hand takes stock of the existing knowledge on the Collaborative Economy in order to suggest a forward looking agenda to strengthen the scientific evidence base for the development of policies that maximise the benefits and minimise the costs for all the stakeholders involved. It emphasises the need for developing a clear, commonly agreed conceptualisation of the collaborative economy that would allow for better tailored policy interventions to the various facets of the concept. It presents knowledge gaps and research proposals, notably on the monitoring metrics and indicators; the online trust mechanisms and impact of digital labour market platforms on labour markets and social security systems.

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Foreword

The findings of this JRC Science for Policy Report stem from five recent JRC reports on the collaborative economy and online platforms. For more details and all the references in this report see:

Bock, A.K., Bontoux, L., Nascimento, S., Szczepanikova, A., *The future of the EU Collaborative Economy – Using Scenarios to Explore Future Implications for Employment*, JRC Science for Policy Report, Publications Office of the European Union Studies, Luxembourg, 2016 (*forthcoming*), JRC102766.

Codagnone, C., Abadie, F. and Biagi, F., *The Passions and the Interests: Unpacking the Sharing Economy*, JRC Science for Policy Report, Publications Office of the European Union Studies, Luxembourg, 2016, [JRC101279](#).

Codagnone, C., Biagi, F. and Abadie F., *The Future of Work in the 'Sharing Economy': Market Efficiency and Equitable Opportunities or Unfair Precarisation?*, JRC Science for Policy Report, Publications Office of the European Union Studies, Luxembourg, 2016, [JRC101280](#).

Codagnone, C, Martens, B., *Scoping the Sharing Economy: Origins, Definitions, Impact and Regulatory Issues*, JRC Technical Reports, Digital Economy Working Paper 2016/01, [JRC100369](#).

Martens, B., *An Economic Policy Perspective on Online Platforms*, JRC Technical Reports, Digital Economy Working Paper 2016/05, [JRC101501](#).

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Executive summary

Policy context

The collaborative economy has been growing rapidly in recent years, inspiring a debate on its scope and related terminology, potential benefits in terms of economic growth and labour markets as well as regulatory uncertainty and possible challenges for e.g. established business models and workers' rights. With the aim to support a clear and balanced regulatory environment for the collaborative economy, the European Commission in 2016, via The European agenda for the collaborative economy provided regulatory guidance to Member States on EU law application. This covered several aspects including market access and licencing, taxation, consumer protection, liability and employment. The Commission also stressed the importance of regular monitoring of the collaborative economy for early identification of obstacles and problems.

Related and future JRC work

To contribute to this policy agenda, the JRC performed an extensive review of available literature and analysed more than 100 collaborative platforms. The results of this review show that there is only limited evidence available on the collaborative economy, in particular for the EU. Furthermore, the results of a JRC foresight project indicate that there are a number of issues that need attention independent of how the EU will develop in the future. These findings translate into a research agenda, presented below, which aims to provide a deeper and broader understanding of what will make the collaborative economy deliver its promises in terms of generating growth and welfare in a society within which both individuals and firms can thrive. In line with the suggested research agenda in the last chapter of the report, the JRC has the capacity and the means that can be further used for the development of new tools as well as for the formulation of policy recommendations for this new domain of the EU economy.

Open issues to be addressed for the collaborative economy in the EU

- **The concept of 'collaborative economy' still means too many different things** to different people. The broad variety of different types of collaborative economy platforms with different policy and regulatory implications implies that a one-size-fits-all approach will not work.
- For an informed, evidence-based approach to policymaking and regulation, **relevant data are needed**. While, as shown by the JRC literature review, some data already exist, it is very insufficient and more effort is needed to remedy this situation.
- **Trust and transparency are essential to a healthy development of the collaborative economy**. Currently reputational ratings, often developed by the platforms themselves, are the main trust and quality assurance mechanisms for the collaborative economy. Only limited evidence on the trustworthiness of reputational ratings is available.
- **The impact of digital labour market platforms on labour markets is still largely unknown**. Evidence is non-existent or inconclusive. In addition, little is currently known about the profiles and motivations of platform workers and firms.
- **Platform workers are typically in 'non-standard' work situations** where the norm is a lack of social protection and benefits such as unemployment benefits, eligibility for work injury benefits, sickness and maternity benefits. Furthermore, platform workers are prone to face additional difficulties linked to the management of their online profiles (portability and privacy) and access to training.

1 Introduction

In recent years, the collaborative economy became a buzz word in public discourse as to the rapid pace of innovation and disruption digital collaborative economy platforms have introduced in many services markets.

The debate revolves around the meaning of the concept as well as its benefits and costs. Some perceive such platforms as a new source of economic growth and employment opportunities¹; others consider them as another internet-born attack on incumbent firms and decent employment conditions.

The booming of such platforms also poses new policy challenges at the EU and national/municipal levels. Policymakers and regulators find themselves in the challenging situation of having to ensure consumer protection, preserve labour rights, avoid the erosion of the tax base and regulate new activities without stifling innovation. Last year, the European Commission, notably through the Single Market Strategy as well as the related Digital Single Market (DSM) Strategy, acknowledged the opportunities and challenges that the collaborative economy brings and made a commitment to develop a European agenda with the aim to support a balanced and sustainable development of novel business models that the collaborative economy entails.

As a follow up, in spring 2016, the Commission presented its assessment of online platforms and consecutively released a Communication on *A European agenda for the collaborative economy*². The latter includes policy orientations and guidance for Member States on how to apply existing EU law to the regulatory challenges raised by collaborative economy platforms, classified under five main areas: market access and licencing; taxation; consumer protection; liability; and employment. Incorporating the findings from a public consultation carried out in 2015, it recommends that Member States should review existing national regulations and determine whether they are still pertinent or should be adapted to address ex-ante the potential market failures that new collaborative economy business models may generate. The Communication also underlines the importance of establishing a monitoring framework covering both the evolving regulatory environment and economic and business developments, given the dynamic nature of these business models.

Complementing this new policy agenda, we discuss in this report the challenges and opportunities raised by the collaborative economy and their implications from a scientific perspective as well as related research gaps. Specifically, following a brief historical perspective on how platforms have developed and their current status, we look into the potential benefits they offer and the regulatory issues that have started to emerge. We then take a closer look at the special case of labour market platforms and discuss how they may develop in the future. Finally, we propose a research agenda for the collaborative economy in order to develop the holistic, cross-cutting evidence for policymakers needed to ensure that the collaborative economy can deliver on its promises.

¹ See for instance European Political Strategy Center (EPSC), *The Future of Work – Skills and Resilience for a World of Change*, EPSC Strategic Notes, [Issue 13](#), 10 June 2016.

² COM(2016) 288/2; COM(2016) 356 final of 2 June 2016

2 The collaborative economy: a new phenomenon or old wine in new bottles?

As the collaborative economy phenomenon expands, different perspectives on its meaning, innovative capacity and other potential benefits abound. It is important to note that, to date, there is no commonly agreed definition of what the collaborative economy fully entails. There is a myriad of definitions depending on the viewpoint and the term 'sharing' is often used interchangeably with 'collaborative'.

We take a closer look into the recent history of digital platforms to shed some light onto the different concepts.

The shift from analogue to digital information entailed a dramatic drop in costs for information collection, storage and processing. The internet added an almost free communication tool to this package. Initially, the internet was mainly used by people to communicate data and exchange messages. Eventually, it became a commercial distribution channel as offline firms created an online presence to trade their goods, services and media content, which was rapidly taken up by many internet users (individuals, organisations and firms). This rapid adoption made it necessary to organise the information and, most importantly, to make it easier to find on the vastness of the internet. After several attempts at creating internet directories, page lists and content portals, universal search engines were born, that to date act as the gatekeepers of the internet. Without search engines, the advantages of having access to vast information would be offset by insurmountable search costs. Following the successful Google Search example, it became clear that trading information rather than content could be a profitable business model. This gave rise to a new type of firm on the internet, the 'platform', or 'multi-sided markets' in economics jargon, which paved the way to the growth of the collaborative economy.

However, unlike the common perception, while digital platforms are a new phenomenon, the activities that take place in the collaborative economy are not entirely new. Historically, the collaborative movement stems from a non-profit approach rooted in alternatives to the market economy, where collaborative usage of resources was part of anti-capitalist developments and the term 'sharing' emphasised the switch from ownership to access. Linked to this legacy, a more sustainable economy, richer social experiences, community revival and a strengthening of social capital are some of the benefits put forward today by proponents of the new sharing movement.

The recent Commission Communication makes an attempt to clear this fog around the concept by adopting a working definition. Accordingly, the term 'collaborative economy' refers to *'business models where activities are facilitated by online platforms that create an open marketplace for the temporary usage of goods or services often provided by private individuals. The collaborative economy involves three categories of actors: (i) service providers who share assets, resources, time and/or skills — these can be private individuals offering services on an occasional basis ('peers') or service providers acting in their professional capacity ("professional services providers"); (ii) users of these; and (iii) intermediaries that connect — via an online platform — providers with users and that facilitate transactions between them ('collaborative platforms'). Collaborative economy transactions generally do not involve a change of ownership and can be carried out for profit or not-for-profit.'* (COM(2016)356).

While the Commission's definition concentrates on pillars of the collaborative economy that currently seem to require regulatory attention, it has to be kept in mind that the

collaborative economy covers a broader range of for-profit and not-for-profit activities. Furthermore, a more detailed categorisation of the collaborative economy is indispensable as our analysis confirms that different categories of platforms raise different regulatory concerns and one-size-fits-all approaches should be avoided. Along these lines, the Commission in its Communication calls for a case-by-case approach.

Digital platforms in general bring two or more types of users together (buyers and sellers, advertisers, complementary service providers, etc.) in a single virtual location. The role of the platforms is to match users with each other at the lowest possible search cost. They collect data on users' behaviour and products offered, and process these data with algorithms that are designed to find the best matches. As opposed to earlier generations of internet firms whose strategy was to sell their own products online, platforms promote and facilitate the exchange of goods, services, ads and media content by matching users. They simply trade the information they have collected and analysed in return for an access fee or a commission on the sale.

Collaborative platforms have reduced search and market entry costs to such low levels that it becomes feasible for very small companies and even individuals to participate in a market. An early example is eBay, which moved the market for second-hand goods online with a price auction system — a pure consumer-to-consumer (C2C) or peer-to-peer (P2P) market. By moving away from price auctions to fixed prices and from second-hand goods to new goods, eBay has now become a global shop window for many products sold by small or micro firms and larger firms, more typical of a business-to-consumer (B2C) market. The borderline between C2C and B2C is getting more blurred as C2C types of transactions are now spilling over from second-hand goods to many sectors, including short-term accommodation for travellers (Airbnb), transport (Uber, SnappCar, BlaBlaCar) and small physical and digital tasks (CrowdFlower, Freelancer) for instance. Platforms allow for direct exchanges of all kinds of products (goods, services, media content, information) and production factors (capital and labour, machinery, real estate, etc.) between individuals, which is now referred to as a 'sharing' or 'collaborative' economy. However, most of these platforms, while referring to the values of the traditional community-based sharing movement mentioned earlier (e.g. sustainability) are organised and mediated by commercial firms, which takes them far away from the roots of the original anti-capitalist sharing movement.

Box 1. Examples of shifting boundaries between C2C and B2C platforms

Amazon, the online retail company behaves as a traditional online retailer for a large part of its sales of books, electronics and other consumer products. However, a substantial part of its turnover comes from Amazon Market Place where individual sellers and firms can put up their products for sale in Amazon's virtual shop window and book buyers can re-sell books on the second-hand market. If a client buys the product, the goods are delivered directly from the seller to the client with no direct involvement by Amazon. Amazon may still set the sales conditions and have some leverage over the price setting.

In contrast, **Airbnb** started out as a collaborative economy platform where individuals could offer their surplus real estate for short-term rent to clients. Today, however, Airbnb is increasingly being invaded by hotel chains and professional real estate rental services, which make it appear more like a traditional B2C marketplace.

Likewise, **Uber**, the taxi hailing service, which started out with ride services offered by non-professional individual drivers, is increasingly working with taxi companies and other transport services firms.

3 Potential benefits

From an economic perspective, collaborative platforms present several advantages.

First, they reduce transaction and market entry costs substantially and minimise the constraints on monetised and non-monetised exchanges thanks to significantly lower information costs. That allows users to make mutually beneficial transactions that were not feasible before because search and information costs were simply too high compared to the value of the transaction.

Second, they allow individuals to make a more productive use of spare capacity and capital such as spare real estate capacity, unused equipment and cars, second-hand goods and, last but not least, underemployed or unemployed labour, providing new opportunities for gainful use. Collaborative platforms could therefore lead to an increase in productivity through use of underutilised assets or capital, create new markets through disruptive innovations and spur further innovation among incumbent industries. A more efficient use of goods could also have a positive impact on the environment.

There is also some evidence showing that these activities generate social capital and generalised trust. Exploratory studies of local platforms found that while traditional relational and reciprocal exchange is highly valued, the weak ties of non-reciprocal exchange allow communities to tap into an important reservoir of distributed expertise.

In addition, the collaborative economy can potentially act as a catalyst for innovation in public services, fostering citizen engagement and community building. New technologies such as the blockchain, which enable peer-to-peer interactions without an intermediary, might further facilitate such developments in the future. Governments could make use of platforms' data, for instance to improve services and develop evidence-based policies. Governments might also have data that could be used by platforms to provide better solutions for the public good.

Box 2. A truly large phenomenon or simply overrated?

Though there are no systematic quantifications of the size of the collaborative economy in terms of either revenues or number of individuals directly involved, there are indications that it is gaining in significance. A survey in the UK found that 29 % of the British population had engaged at least once in a 'collaborative' transaction in 2013. A recent study by the French government estimates that in France the turnover of 'collaborative economy' activities is EUR 2.5 billion, they involve about 15 000 firms, and generate 13 000 permanent jobs. This is approximately 0.1 % of France's GDP generated by 0.5 % of French companies for 0.05 % of total employment. At the end of 2015 globally there were at least 20 platforms worth more than USD 1 billion. Uber is valued at USD 50 billion and is present in 230 cities covering 60 countries; Airbnb is worth USD 20 billion, is present in 34 000 cities covering 190 countries, and has had 35 million guests since its launch in 2008 with two million listings; BlaBlaCar has expanded beyond France's borders reaching 10 million members in 13 countries. In the US, it has been estimated that 1 % of the workforce works via labour platforms, whereas a recent survey indicates that in the UK 11 % of the population aged 15-75 (i.e. five million individuals) have found some kind of work at least once in labour platforms. Between 2013 and 2015 the net revenue of the EU's collaborative economy in five key sectors (accommodation, transport, online services, local services, and finance) grew by more than 70 %, from EUR 1 billion to EUR 3.6 billion. Collaborative platforms increasingly cover both factor (capital, labour) and product markets (goods and services), and therefore the entire economy.

Collaborative platforms are therefore seen by many as giving a substantial boost to growth, employment, consumer welfare and social and public sector innovation. The

promise of these new opportunities has led many people to embrace the collaborative economy — consumers and producers of services alike. Unfortunately, as yet, there is very little empirical evidence either to confirm or to reject these assumptions, especially in the EU where little research has been done so far. Most of the limited evidence available focuses on the US.

Likewise there is little evidence on the potential of the collaborative economy for public services and social innovation. A few initiatives could be identified (Box 3) albeit without impact evaluations as most of these are rather new.

Box 3. The collaborative economy as a catalyst for social and public services innovation

Beyond the usual actors such as businesses and consumers, there are examples of governmental institutions and public services that have embraced platforms for the public good:

- sharing/renting of goods and services such as space, special machinery or equipment, e.g. MuniRent, a US-based platform facilitating the exchange of equipment and personnel between member cities, and Cohealo, a US-based platform that facilitates the sharing of medical equipment across facilities;
- public services supported by platform-mediated services, e.g. the platform Refugees Welcome, a donation-based bottom-up initiative that complements public services in helping to find private accommodations for refugees, and the partnership between San Francisco and BayShare, an advocacy group funded by collaborative economy firms to provide services in city-wide crisis situations (e.g. during a natural disaster), such as accommodation, food sharing or transport;
- increased citizen engagement/involvement in municipal development, e.g. donation- or debt-based civic crowdfunding platforms collecting funds for urban projects (e.g. Spacehive and Eppela).

In addition, governments also actively support local collaborative economy initiatives such as 'Sharing Cities'. These include Barcelona, Amsterdam and Seoul.

Emphasising bottom-up and participatory aspects, and ultimately aiming to transform the current economic system, initiatives such as the Fab Lab community, the Commons Collaborative Economy initiative and the P2P Foundation build on open access and aim to strengthen the common good and sustainability.

4 Regulatory issues

4.1 Main concerns and controversy

Collaborative economy platforms pose a number of challenges, which put into question the adequacy of existing regulatory frameworks both at EU and national/municipal level as these were initially designed for traditional offline firms. Direct C2C transactions sometimes seem to circumvent existing regulations that are designed for firms and not for individuals or operate in a legal vacuum in the absence of clear regulatory regimes for these types of activities. Therefore established firms may perceive platforms as a source of unfair competition. Workers may be concerned that the spread of online labour market platforms push them into a more precarious situation as their jobs face the risk of being replaced with tasks performed by online workers that are ready to deliver the work through fragmented contracts with no social security.

Consumer protection is another area of concern in the collaborative economy. Over the last decade many changes have been introduced to existing frameworks to make them fit for purpose for online firms and transactions. However, on collaborative platforms goods and services are being supplied and traded by individuals, rather than firms, who may not even be registered as independent workers or service providers. The commercial platforms that act as intermediaries may argue that their role is reduced to that of an information facilitator and that they have no active involvement in the transaction. This may grant them 'safe haven' status under existing e-commerce legislation and exempt them from intermediary liabilities.

The debate on regulation is polarised between proponents of self-regulation and those who advocate extending the reach of formal regulation to platforms in order to correct market failures and protect workers.

Proponents of self-regulation argue that market access licensing would be burdensome for start-ups and stifle innovation and that one should let private certification schemes and reputation mechanisms evolve as the best possible solution. In this approach, workers working through platforms (commonly called 'on-demand' workers) should be considered self-employed contractors instead of employees of the platform, otherwise increased labour costs would put platforms out of business. Opponents favouring formal regulation argue that licensing should be applied to ensure equal conditions and guarantee safety and that, when clearly dependent on platforms, contractors should be classified as platform employees. More moderate approaches aim to introduce some forms of regulation without stifling innovation.

This said, there is always a risk that interventions produce regulatory failures that are more costly than the market failures they aim to address or that excessive legislation and regulation could absorb and neutralise the consumer and efficiency gains produced by technological innovation.

4.2 The risks involved

Generally speaking, we can distinguish between two types of risks for platform users.

First, there are *risks generated by asymmetric information* between the contracting parties that result in opportunistic behaviour. This is particularly relevant for collaborative platforms that facilitate direct interactions between individuals since individuals usually do not have a well-known brand name to start with. The introduction

of consumer review scores can provide a form of auto-regulation that can overcome this problem at least partially.

Reducing opportunistic behaviour in online exchanges has been a key challenge as well as a driver of success for many online platforms, both for B2C platforms like Amazon and eBay, and collaborative economy platforms like Airbnb and Uber. Platforms need reputational mechanisms that enable all sides of the market to provide feedback in order to attract more customers to the platform. For example, Airbnb's customers can make room reservations in private houses that are not formally registered and recognised as hotels. This generates new sources of ex-post uncertainty. While the quality of hotel star rating systems may vary, this is even more the case for the quality of accommodation offered in private houses. Consumer reviews can bring more transparency in that very heterogeneous market.

However, evidence shows that review scores may be subject to bias. On the one hand, a user may not always leave a rating and the distribution of his/her evaluations may not accurately represent the outcomes of that agent's previous transactions. On the other hand, in two-sided review systems users may provide more positive ratings than their true evaluation to avoid retaliation. The review mechanism itself becomes an object of trust and repeated interaction between community members. Regardless of their origin, these types of bias may reduce market efficiency and, for example, lead users to engage in suboptimal transactions.

Many online collaborative platforms try to use the information they collect at the user level to improve the service quality and reduce the post-contractual risks and market failures caused by information asymmetry. However, the evidence on whether such an approach helps tackling such risks is inconclusive and varies considerably from platform to platform. This suggests that there might be a role for regulators to oversee the quality of sector-specific self-regulation e.g. by setting high-level standards for self-regulation without intervening directly in the self-regulation efforts.

Second, some risks relate to factors outside the control of the contracting parties. For instance, in online accommodation services, registered hotels offer some regulated guarantees with regard to consumer protection, such as those relating to fire escapes, accident insurance etc. For platforms like Airbnb this type of risk cannot be addressed by self-regulation, by providing additional information on the quality of the service in question, or through consumer review ratings. Platforms can only remedy this type of market failure, for example, by imposing insurance requirements on all accommodation service suppliers. Liability insurance can be imported from the offline economy or developed separately to match the specific circumstances of online transactions. Online taxi services and ride-hailing companies are trying to develop accident insurance policies adapted to collaborative economy platforms.

Regulators should carefully consider the effects of self-regulation on a particular online platform and assess remaining market failures that need to be addressed through public regulation in cases where the platforms have no means or no incentives to do it. A straightforward extension of existing regulation from the offline economy to online platforms, without considering the extent of self-regulation and its balance with public regulation, is not necessarily a good solution. Another justification for not adopting a one-size-fits-all approach is that the regulation to be introduced should not exacerbate but foster the growth of platform-enabled communities that effectively foster social innovation by e.g. addressing social and environmental challenges.

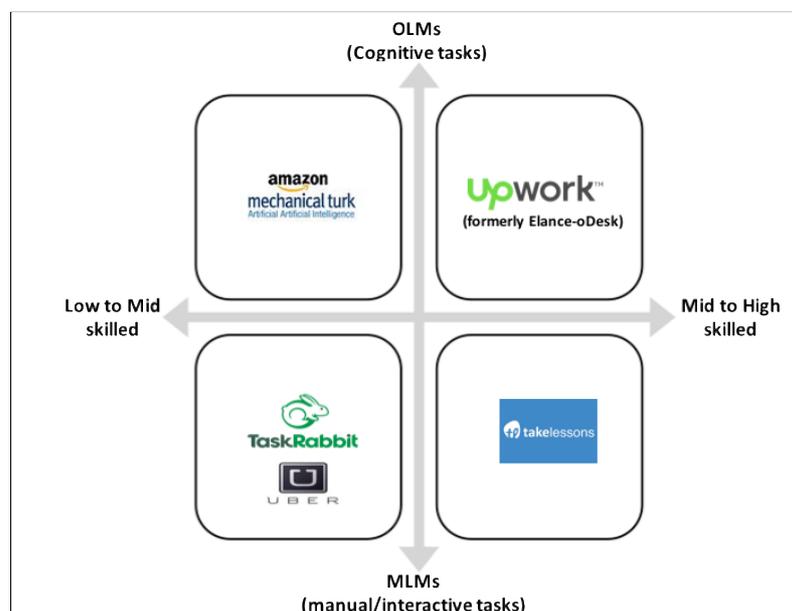
5 The special case of digital labour market platforms

5.1 Key characteristics

Digital labour market platforms are an important sector of the collaborative economy, both in terms of their growing importance and of their potential impact on labour markets. They may play a role in job creation, a pressing policy priority for the EU, but they also raise concerns about regulation, quality of work and workers' rights. Thus, they deserve closer attention especially as there is a lack of evidence on their actual impact.

Digital platforms connecting on-demand workers with employers or with consumers operate as two-sided labour markets for the delivery of different types of services. In all these platforms the matching, administration, and monitoring are entirely digitalized. In some of them, however, also the services produced by labour are delivered digitally and remotely (no face-to-face interaction is required). These are called Online Labour Markets (OLMs) and have a global reach. Platforms where the matching and administration processes are digital but the delivery of the services is physical and requires direct interaction can be referred to as Mobile Labour Markets (MLMs). By nature these types of activities are localised. It is also possible to associate OLMs mostly to cognitive tasks and MLMs to manual and/or interactive (i.e. teaching) tasks as depicted and illustrated by Figure 1. Further, platforms broker work that require different skills levels as shown on the horizontal axis of Figure 1 going from low to mid-level skills to mid/high-level skills.

Figure 1. Typology of digital labour markets



Legend: OLMs = Online Labour Markets; MLMs = Mobile Labour Markets

The top left quadrant represents the case of platforms trading electronically transmittable cognitive micro-tasks paid per piece for a low remuneration (e.g. Amazon Mechanical Turk).

The top right quadrant is about electronically transmittable tasks paid via a fixed contract per deliverable or per hour (e.g. Upwork, Freelancer etc.). Typical work includes software development, engineering and data science, graphic design, clerical and secretarial work. Some tasks require middle-level skills and are fairly routine, while

others demand flexibility, creativity, problem-solving and complex communications (i.e. high-level) skills. It is reasonable to assume that some contractors are truly highly skilled freelancers.

The bottom left quadrant refers to tasks requiring physical delivery (mostly manual services) requiring low to medium-level skills, paid via a fixed contract per task or per hour (e.g. TaskRabbit, Gigwalk...).

Finally local digital markets for high-skilled services (bottom right quadrant) seem to be so far limited to the localised matching between students and teachers providing lessons in person (e.g. TakeLessons).

5.2 Impact on labour markets

So far, little is known about the significance of platform-mediated work for labour markets in general and for the EU labour market in particular. The growth experienced by some of these platforms, such as Upwork (former Elance-oDesk), has been spectacular (1 000 % per quarter between 2009 and 2013). The current numbers of registered contractors (e.g. more than 10 million for Upwork and 18 million for Freelancer) also reflect a considerable demand. However, the share of the working age population regularly performing work in platform-mediated labour markets in the EU is still relatively small. For example, in the UK and Sweden 4 % of adults aged 16-65³ are performing platform-mediated work at least once a month. Despite advertising thousands of registered service providers and posted tasks, not all platforms are efficient intermediaries. A recent study of a Belgian platform for local services showed that between 2013 and 2015, 95 % of registered providers did not carry out any task via the platform⁴.

In principle, labour platforms are a powerful tool for matching labour supply and demand, facilitating entry into the labour market of individuals typically not permanently attached to the labour market (e.g. individuals belonging to disadvantaged groups), and improving work-life balance through higher flexibility. While it is clear that in some cases those positive aspects are realised, it is much less clear whether this conclusion can be generalised when we look at the EU, given the scant existing evidence. Moreover, there is little knowledge on the working conditions (including wages, safety, health and social security coverage) of labour platform workers in the EU as summarised in Box 4. There is a risk that people working through labour platforms, while possibly benefiting from higher chances of getting a job through the platform, may also face increased precarisation and worse conditions than in traditional labour markets.

The picture about on-demand workers' profiles that emerges from the limited and fragmented evidence available suggests that on-demand workers tend to be relatively younger and more highly educated compared to the general population of reference, with an overrepresentation of women (but not on all platforms); they earn below or just above minimum wage and have no forms of social protection and insurance. Therefore, on the one hand, such non-standard work can offer flexibility for workers and employers, but on the other hand can also give rise to disadvantages for workers, in terms of greater job insecurity, potentially lower earnings and less work-related benefits including employer-sponsored training.

³ Huws, U., & Joyce, S., *Size of Sweden's "Gig Economy" revealed for the first time*, 2016a; Huws, U., & Joyce, S., *Size of the UK's "Gig Economy" revealed for the first time*, 2016b. Retrieved from <http://www.feps-europe.eu/assets/a82bcd12-fb97-43a6-9346-24242695a183/crowd-working-survey.pdf>

⁴ Groen, W. P., Maselli, I., & Fabo, B., *The digital market for local services: a one-night stand for workers? An example from the on-demand economy*. Brussels. 2016. Retrieved from <http://publications.jrc.ec.europa.eu/repository/handle/JRC100678>

Box 4. A Beauty or a Beast for on-demand workers?

On-demand workers are often associated with the status of independent contractors, i.e. self-employed, micro- or solo-entrepreneurs. They work on a task or project basis for many different and changing customers. As such, it is expected that they benefit from more diversity and also more flexibility in their work patterns and commitments. On the flip side, they face several challenges in relation to career and skill development (which do not apply equally to all forms of platform work):

- traditional career development with a longer-term perspective is more difficult for them;
- the responsibility for skill development and training is typically on the platform worker;
- working conditions such as income insecurity, increased level of competition, performance rating, performance of tasks out of comprehensive context and with unknown objective, varying quality of tasks, and working outside a team all require resilience and stress management capacity;
- self-marketing as well as entrepreneurial skills will be indispensable for platform workers to generate sufficient income and to be successful in this new labour market;
- the work via labour platforms requires advanced competences in managing data (e.g. related to one's profile or reputation) and in managing privacy;
- the organisation of work for different platforms with different tasks and an increasing blurring of work life and private life require a certain level of self-management.

There are various forms of information asymmetries to the advantage of the platforms, including digitalised and algorithm-enabled control: an 'algocracy' as a substitute market and hierarchies as a form of governance and discipline. In addition, it is not uncommon that workers work long hours via several platforms, which overall means that flexibility and work-life balance might be more a myth than a reality.

5.3 The Outlook for labour platforms

According to results of a foresight project carried out by the JRC, platform-mediated work is expected to increase in the future regardless of the evolution of the EU. This will require addressing the challenges faced by platform workers. The tension between new types of occupation and business models on the one hand, and traditional employment relationships and related social security systems on the other, is likely to grow and the definition of workers' status might need to evolve to react to the new conditions. In this blurred landscape, the workers using digital labour market platforms find themselves in 'a legal no-man's land'⁵.

They may have the flexibility to choose their working hours and decide about the kinds of jobs they want to pursue but they are not entirely independent because the platforms have control over many aspects of their work, such as pricing, and review or timing of their response to a service request. Besides, the deactivation of service providers working through platforms has similar effects to a dismissal, but workers have no recourse in such a situation.

Furthermore, while some use platforms to earn additional income alongside a more standard job, it is becoming more common that some people try to earn a living this way. In light of the expected increase of platform-mediated work, it becomes important

⁵ O'Connor, S., 'What the small print tells us about Uber, Task Rabbit and Upwork', *Financial Times*, 12 January 2016. Retrieved from <http://www.ft.com/intl/cms/s/0/86cca5c8-b87b-11e5-bf7e-8a339b6f2164.html#axzz45mgPulz6>

to better prepare individuals for the requirements of this new way of working through formal education and lifelong learning. Service providers or workers will also increasingly depend on and use multiple platforms simultaneously to offer their services and look for jobs. They will be faced with the challenge of building-up and maintaining many separate profiles. Such profiles are mostly based on reputational ratings as the main mechanisms to establish trust with others requesting the services and to endorse the quality of the services previously provided. They will stand as key elements in workers' profiles, much like check records, references or previous employment history, replacing, for example, traditional CVs and proofs of income.

However, already today profiles and reputation are being linked to individual platforms and are not transferable to others. This makes it difficult for a worker to leave a platform, since investments and reputation gained so far would be lost. If platforms continue to control and manage their workers' profiles, then this may have a significant impact on working conditions, income and employability, and may expose workers to exclusion and a discontinuation of their accounts. Mechanisms protecting workers in cases of erroneous and malicious ratings are not yet well developed. In contrast to this, a common framework for the portability of workers' profiles and reputations could increase workers' autonomy and empowerment, while allowing them to own and develop a portfolio of work and references that could be used, for instance, to apply for and be granted a loan. The facilitation of workers' multi-homing may also foster competition among platforms, avoiding lock-ins and scaling-up to monopolistic dominance.

The use of algorithms to build workers' reputational ratings and match service requests with delivery is likely to gain in complexity, in pace with the expected growth of platforms. These could create extensive workers' profiles by collecting and processing an increasing amount of data through automatic and dynamic processes handled by complex algorithms. Algorithmic processing as the basis of workers' profiles may undermine trust in the platforms' services in case it becomes non-transparent. Complex and dynamic algorithms would be hard to explain in lay terms to workers or users, and can become very difficult to verify. Understanding the logic of such algorithms would also be restricted in case most of the algorithms would be commercially protected by patents or other copyright rules, and thus difficult to obtain. This may give rise to inaccuracies or implicit prejudices based for instance on gender, age or ethnicity. It also opens the door to the surveillance of workers and their patterns of behaviour, health, preferences or reliability, unless strong safeguards, or checks and balances are not put in place to counter such practices. There may well be a need for Member States to closely monitor possible discrimination against racial, ethnic, religious or other minorities, or possible societal inequality and unfair treatment towards users with low technical competences or skills.

With a greater involvement in labour platforms workers may increasingly need to be able to react to past evaluations or even erase personal data. Although the 'right to be forgotten' (apart from reasonable exceptions) is laid down in the *General Data Protection Regulation* (GDPR), there is a need for clear guidelines, supported by further research, for its implementation.

Box 5. Workers' rights in the collaborative economy

An issue to be considered within the broader umbrella of workers' rights in the collaborative economy is the proper classification of such workers, especially for those performing low- to mid-skilled tasks. Available evidence pinpoints to the fact that the individuals involved as providers could be workers who are misclassified as contractors. Various lawsuits about the (mis)classification of workers (i.e. as contractors vs. employees) and minimum wages have affected these platforms in the US. Uber and Lyft are at the centre of such classification disputes. After some preliminary ruling unfavourable to these two platforms, a settlement was reached recently in both cases. As a result there is no court ruling as yet that provides employee status to drivers and could, thus, change the regulatory framework for the entire world of OLMs and MLMs. Nevertheless, the issue of classification remains open in the US. A possibility currently discussed in the US and the EU is the creation, through regulation, of an intermediary status for dependent self-employed workers, which would grant them some level of social security and health insurance.

6 Conclusions: A research agenda for the European collaborative economy

The collaborative economy promises benefits for individuals, organisations and the economy at large. At the same time, it challenges traditional market operators, existing regulatory frameworks and fiscal models and workers' rights. Some of these challenges have created tensions and led to legal disputes. In its *European agenda for the collaborative economy* the European Commission provides guidance to Member States on how existing EU law should be applied to this dynamic and fast evolving sector, clarifying key issues faced by market operators and public authorities. Furthermore, the Commission underlined the importance of monitoring, which would enable the identification of possible future problems and obstacles.

While these are important steps forward, the issues addressed in this document show that there are still a number of knowledge gaps that, unless filled, might compromise finding optimal policy and regulatory solutions for a balanced approach to the collaborative economy. Substantial research efforts are needed to build a robust evidence base for several aspects of the collaborative economy, as summarised below.

6.1 Agreed conceptualisation of the collaborative economy

The broad variety of different types of collaborative economy platforms with different policy and regulatory implications requires a clear, commonly agreed conceptualisation of the collaborative economy. This would allow better and tailored interventions as a one-size-fits-all approach will most probably not give the intended results. Also, the mapping of different policy interventions and impact assessments would be facilitated. For instance, a growing number of collaborative economy initiatives aim to address social and environmental challenges with an untapped potential for generating social innovation and new ways of delivering public services. Adjusting the current legal framework to make it suitable for the growth and sustainability of such platforms as well as introducing monitoring tools to identify and share 'best practices' would be a win-win for all stakeholders involved.

6.2 Monitoring metrics and indicators

For an informed, evidence-based approach to policymaking and regulation, relevant data are needed. So far, in particular for the European market, there is only fragmented, anecdotal evidence available. Furthermore, as announced in the Commission's Communication, a monitoring of future developments will be needed. Apart from developing appropriate monitoring metrics and indicators to provide useful data for further analysis with the necessary continuity, having access to some basic data from platforms would be an important element for the analyses. This would complement other data sources such as web scraping, surveys and interviews. A more comprehensive data base and empirical research would enable an answer to the important question on what are the net welfare effects of the collaborative economy in the European context.

6.3 Online trust mechanisms and cognitive biases

The Communication calls for expanding the use of online trust mechanisms to encourage a more confident participation in the collaborative economy. Reputational ratings are the main trust and quality mechanism upon which platforms rely. However, some researchers have already pointed out that ratings can be biased and inflated and that it is possible that platforms present the results of searches in a way that is more convenient to them than to the users. Furthermore, platforms' offerings and terms of agreement contribute to information overload and consumers are prone to various biases as documented by behavioural scientists. This may increase the chances of consumers making poor decisions when faced with an overwhelming range of choices, while the application of existing regulation and avenues for problem resolution and recourse might be unclear. Even when users have access to relevant information, their assessment of

risk may be impaired by cognitive biases, which may lead them to make irrational decisions.

Nudging interventions may be desirable in such cases as users or service providers may be unable to properly assess the risks and may thus fail to take appropriate precautions. This calls for the design and implementation of behavioural experiments to assess the reliability of ratings, identify possible cognitive biases and test appropriate nudging interventions that would help consumer consider all relevant risks and make informed decisions.

6.4 Impact of digital labour market platforms

Currently, the net effects of labour platforms on employment and income inequality are ambiguous since empirical evidence so far is insufficient and inconclusive. It is not yet possible to determine whether these platforms create jobs for the non-active and unemployed, whether they have equalising or polarising effects on income, and whether overall they produce positive aggregate social welfare effects (increased labour market and production efficiency).

Using a combined analysis of platforms' data and of surveys with platform workers and customers the following research questions are worth exploring to complete the scattered picture:

- What is the direct employment effect of platforms?
- How do digital labour market platforms modify the nature of self-employment, for instance in terms of new risks and opportunities?
- Who are the workers in terms of employment history and status, age, education, place of residence?
- What are their preferences, i.e. why do they choose platform vs. regular work, and their opinions about platforms and platforms' employment conditions?
- What kind of tasks do firms outsource to platforms (core or non-core tasks)?
- Which type of firms uses platforms (by size and sectors) and what are firms' main drivers for using such platforms?

6.5 Social protection of platform workers

Only a few empirical studies have dealt with the economic conditions and social protection of platform workers. In terms of earnings the scarce evidence to date (e.g. surveys in the UK and Sweden) indicates that, for the majority of platform workers, average earnings are limited. Furthermore, people deriving their main income from platforms have no access to social security coverage. According to a US study the most desired benefits of the self-employed are health insurance; retirement benefits; paid sick leave and vacation days. The social protection conditions of workers in digital labour markets can be indirectly deduced from the situation of people in traditional non-standard work situations, where the norm is a lack of social protection and benefits such as unemployment benefits, eligibility for work injury benefits, as well as for sickness and maternity benefits. Furthermore, platform workers are prone to face additional difficulties linked to the management of their online profiles (portability and privacy) and access to training.

Analysis on the points below would contribute to an informed discussion and provide necessary input for policy making:

- What are the conditions for building up social rights over the life span for different categories of non-standard workers?
- How can labour and welfare policies be adapted to reflect new economic developments such as the collaborative economy?

- How can the best practices of trade unions, co-operatives and other initiatives for the inclusion of platform workers be identified and systematically monitored and awareness be raised among Member States?
- What could be the new ways of addressing social and economic risks for those who experience unemployment or underemployment in current precarious labour markets (e.g. universal basic income)?
- How can the availability and accessibility of lifelong learning opportunities for platform workers be ensured? How can labour platforms be involved in training provision?
- How can data privacy be ensured and the portability of profiles across labour platforms for such workers be enabled?

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