

Mapping the diversity of the platform economy across Europe and North America

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Abstract

One of the salient questions in the debate about the platform economy is how national regulation and institutional environments influence the characteristics of digital platforms. Popular narratives of platform capitalism build on the assumption that large corporations spread their technology and business model worldwide, evading regulation and disrupting national markets. Such narratives ignore established approaches in political economy which suggest that national institutional frameworks shape economic activities within a country. We apply a capitalist diversity perspective to research on gigwork platforms and investigate the interrelations of platform models in the food delivery sector with national institutional frameworks. Our results show that platform models differ markedly between North America and Europe and also exhibit considerable diversity across economic regimes in Europe.

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1. Introduction

As a particular sub-section of the much larger platform economy debate, platform work has received much attention (Aloisi, 2015; Huws, Spencer, Syrdal, & Holts, 2017; Schor, Attwood-Charles, Cansoy, Ladegaard, & Wengronowitz, 2020). In the last decade, gigwork, i.e. location-based platform work, has become established all over the world in sectors like personal transport, delivery or domestic services. This diffusion has been accompanied by debates about the consequences of gigwork platforms for national economies (Rahman & Thelen, 2019) and about their regulation (Inglese, 2019; Uzunca & Borlenghi, 2019; Wolf, 2022). In these debates, researchers usually regard gigwork platforms as uniform phenomena and often assume that platform companies either ignore regulation wherever possible or evade it by operating only where institutional conditions are favourable (Collier, Dubal, & Carter, 2018; Kenney & Zysman, 2016; Punt, van Kollem, Hoekman, & Frenken, 2021). A third option, namely that gigwork platforms change their model to adapt to diverse institutional environments, is rarely discussed. We investigate this third option with a systematic cross-country comparison of platform models in the food delivery sector.

Research about gigwork platforms has been growing in the last 10 years. A first wave of “Uber studies” investigated the conditions and consequences of the radically new and highly disruptive business model that Uber introduced into many US cities in the early 2010s (Collier et al., 2018; Cramer & Krueger, 2016; J. V. Hall & Krueger, 2016; Rosenblat & Stark, 2016). The rapid expansion of Uber gave rise to popular narratives predicting that digital platforms would change economies fundamentally (Kenney & Zysman, 2016; Langley & Leyshon, 2017; Srnicek, 2017) and that the “Uber” model of service provision would replace traditional forms of organizing economic action (Davis, 2016b). A second wave of research on gigwork platforms also included studies on other countries and other sectors, like delivery (Cant, 2020; Drahokoupil & Piasna, 2019; Tassinari & Maccarrone, 2020) or care work (van Doorn, 2017). While these studies introduced new contexts, actors and topics into platform economy research, basic assumptions about the “nature” of digital platforms and their typical work arrangements remained unchallenged. In consequence, researchers often still interpret developments contingent on one specific historical situation (the first years of Uber’s expansion in the US) as indicative of general characteristics of the platform economy. This generalization ignores what “second wave” studies show about gigwork: Most investigated gigwork platforms adopt central characteristics of the model first popularized by Uber in the US, like GPS-based supervision of workers and automatic performance ratings (Griesbach, Reich, Elliott-Negri, & Milkman, 2019; Woodcock, 2020), but also deviate from it in various respects, for example by employing human supervisors for delivery workers (Ivanova, Bronowicka, Kocher, & Degner, 2018) or by partnering with cooperatives who employ gigworkers (Drahokoupil & Piasna, 2019). They also cast doubt on the popular narrative that all digital platforms are global corporations that follow a simple expansionist strategy. Detailed investigations of digital platforms in various countries show instead that national platform markets sprout successful local competitors (cf. Muszyński, Pulignano, & Marà, 2022) and that global corporations adapt the characteristics of their platforms to fit country-specific institutional pressures (Thelen 2018). Such results support a capitalist diversity perspective, suggesting that national institutional frameworks influence economic action (cf. Jackson & Deeg 2008) and with it also the characteristics of gigwork.

Capitalist diversity research on digital platforms could help to answer questions about the relevance of institutional influences on the platform economy. While research on gigwork platforms is plentiful, studies that focus on the relation of platforms and their institutional environments are scarce. To date, we know very little about if and how national institutional frameworks are relevant to the activities of gigwork platforms across different countries. Here, the ongoing debate lacks the data needed to compare digital platforms systematically across countries. Comparative studies about gigwork either investigate a small set of platforms in one (Ivanova et al., 2018; Schor et al., 2020; Veen, Barratt, & Goods, 2020) or across two countries (e.g. Ilsøe & Söderqvist, 2022; Muszyński et al., 2022; Tassinari & Maccarrone, 2017) or focus on the early international expansion of Uber (Kim & Suh, 2021; Punt et al., 2021; Thelen, 2018).

In this paper we report first results of a research project in which we compare the platform models of established gigwork providers systematically across countries in Europe and North America and investigate their interrelations with national institutional frameworks. We ask: (1) Are gigwork platforms a uniform type of organization, or do the providers of gigwork services use a variety of platform models? and (2) Are there systematic differences between gigwork platforms operating in different institutional frameworks? We analyse data on organizational models and working

conditions of the two to four most successful food delivery platforms in 30 European countries, 10 US states and 3 Canadian provinces. The project provides a comprehensive overview of gigwork platforms in different national settings and the first systematic comparison of gigwork platforms in Europe and North America.

2. Gigwork platforms and capitalist diversity

The provision of location-based services through websites and mobile apps forms a sub-section of a larger process that has gained currency under the broad heading “rise of the ‘platform economy’” (or ‘gig economy’) (Davis, 2016c; Huws et al., 2017; Kenney & Zysman, 2016, 2019; Langley & Leyshon, 2017; Srnicek, 2017). The platform economy comprises a growing and oftentimes confusing variety of forms where digital platform technology enables new business models. Within the platform economy debate, the *digital intermediation of paid work tasks by platforms* provides one of the most salient issues and serves as a key example of the expected radical consequences of the current digitalization. While some of these work tasks are performed completely online, others take place in the offline world and are only intermediated through digital platforms. We use the term “gigwork” to denote this latter form and define *gigwork as location-based service work intermediated and organized through mobile apps* (cf. Schmidt, 2017).

2.1 Research on gigwork platforms

Prominent gigwork providers like Uber and Deliveroo have ignited and fuelled a public debate on how the platform economy disrupts established work practices. Uber started as operator of a digital platform offering individual transport services by self-employed drivers, while Deliveroo belongs to a group of pioneers running digital platforms that assigned riders to deliver food from participating restaurants to customers. Especially *Uber* has received a lot of attention (Collier et al., 2018; Cramer & Krueger, 2016; Davis, 2016c; Peticca-Harris, deGama, & Ravishankar, 2020; Rosenblat & Stark, 2016; Wolf, 2022). On the one hand, Uber’s aggressive expansion strategy made it widely known. On the other hand, Uber’s success to swiftly disrupt the established taxi industry in the USA and other countries made Uber a poster child for the platform economy debate. For many, Uber and other pioneering platform companies exemplified how quickly incumbent industries and established work practices could change fundamentally when shifting to a digital format. The model of work conceived by Uber for its initial establishments was seen as prototypical for gigwork and its differences to predecessors organized in traditional ways. This model rests on a shift in the relations between the service providers, i.e. the companies that marketize and organize the service, the customers who use the service and the workers who execute it. By operating digital marketplaces (Ahrne, Aspers, & Brunsson, 2015; Kirchner, 2019b; Kirchner & Beyer, 2016) platform companies like Uber radically break away from established work practices (Davis, 2016c; De Stefano, 2015). While ideal-typical employees would have performed work in large firms that granted employees not just jobs but often careers, the platform companies disassemble jobs into work tasks that their digital platforms market directly to customers. As such, gigwork platforms abandon traditional work practices and apply a digital format to govern work (Kirchner, 2019a). In an ideal-typical marketplace model, digital platforms merely act as digital intermediaries connecting independent, self-employed sellers with buyers of a particular service. However, this intermediation usually exceeds a simple matchmaking function because digital platforms implement specific platforms

models governing who is eligible to perform work tasks and how work is performed, evaluated and paid for (Kirchner, 2019a; Kirchner & Schüßler, 2020).

Following the diffusion of gigwork platforms in the taxi industry, other gigwork platforms emerged that specialized in providing food-delivery services (Drahokoupil & Piasna, 2019; Jesnes & Oppegaard, 2020; Tassinari & Maccarrone, 2020; Vandaele, Piasna, & Drahokoupil, 2019) or care work (Ticona & Mateescu, 2018; van Doorn, 2017). These platforms, like Deliveroo, Foodora or GrubHub, underlined that the gigwork-model could be applied to other services. Research in the field of gigwork platforms quickly grew over the last years, reflecting the huge general interest in this development. Currently, micro-level studies dominate the research field, describing the personal work experience and motives of “riders” (Gregory, 2021; Heiland, 2021b; Timko & van Melik, 2021; Woodcock, 2020) and their reaction to the often adverse working conditions (Cant, 2020; Leonardi, Murgia, Briziarelli, & Armano, 2019; Tassinari & Maccarrone, 2020). These micro-level studies flesh out important cornerstones of the digital infrastructures and practices that govern work on gigwork platforms. In particular, customer-ratings and GPS-tracking provide important means to monitor and sanction the work performance of gigworkers. Even though food delivery platforms have thus become objects of in-depth studies in their own right, most of these studies focus on the similarities of working conditions on gigwork platforms. Differences between Uber and food delivery providers or between different platforms are mostly ignored (for an exception see Griesbach et al., 2019). This is most obvious with regard to the formal employment status. Researchers often equate gigwork with self-employed work (Schmidt, 2017; Schor et al., 2020; Shapiro, 2018) and criticize it by arguing that this status grants little protection to workers. This conflation mirrors prominent conflicts: Many food delivery providers like Deliveroo directly manage and monitor work efforts of formally self-employed persons, just like gigwork pioneer Uber (Kirchner, 2019a; Rosenblat & Stark, 2016). This arrangement has invited criticism and lawsuits (De Stefano, 2015; Prassl & Risak, 2016; Uzunca, Rigtering, & Ozcan, 2018) and also been defended as fundamental by some providers. For example, Uber acknowledged that an unfavourable regulation of the employee status would threaten its business model (Uber Technologies Inc., 2019). However, while self-employment is a regular feature of gigwork, exemplary studies show that other employment arrangements are possible (Drahokoupil & Piasna, 2019) and that gigworkers can be employed. But such examples have as yet not influenced the debate on platform work significantly.

The way to intermediate and govern work efforts that is ascribed to gigwork platforms is believed to undermine many forms of established regulation (Howcroft & Bergvall-Kåreborn, 2019; Kirchner & Schüßler, 2020; Schor, 2016). The radicalness of the gigwork platforms, hence, derives from the challenge they pose to established work practices, including regulatory principles (Davis, 2016c; Kenney & Zysman, 2016). In this perspective, gigwork platforms exemplify the opportunities and limits in reorganizing work efforts in a digital format.

2.2 Research on capitalist diversity

The well-established research field of capitalist diversity (for an overview see Jackson & Deeg, 2008; Schröder, 2019), provides theoretically-founded explanations as to why economic activities and work practices differing across countries endure even in the face of strong homogenizing global forces.

Although the capitalist diversity research branched out into various specialized approaches (e.g. Amable, 2003; Esping-Andersen, 1990; Fligstein, 2001; Gallie, 2007; P. A. Hall & Soskice, 2001; Whitley, 1999), there is a common underlying theme that unites this strain of literature. All these approaches agree that countries differ in their national institutional frameworks governing economic activities and work. Here, institutional frames comprise specific regulatory domains that tie together in a more or less coherent logic. Such regulatory domains include, e.g., labour market regulation, social welfare policies or corporate governance rules. The various approaches also agree that these institutional frameworks shape the economic activities, often including work practices in a given country. While some economic activities flourish in specific institutional frameworks, others perish, as institutional forces systematically impede them (Streeck, 1991). Finally, many approaches assume that these intertwined country differences reveal themselves in discernible modes that group into ideal-typical categories of distinct regimes.

Most generally, capitalist diversity approaches tend to distinguish between lightly and highly regulated regimes. While lightly regulated regimes favour a market logic as a guiding principle for economic activity, highly regulated regimes foster extensive regulation to fence in market mechanisms. For example, the national employment systems approach assumes differences between lightly regulated regimes, like the USA and the UK, as compared to highly regulated regimes, like Germany and Sweden (Fligstein, 2001; Gallie, 2007; Kirchner & Hauff, 2019). However, this approach would highlight a decisive difference between the inclusive Sweden and the dualist Germany, whereby the latter systematically separates labour market insiders from outsiders. Here, country-specific, institutionally-derived endowments, like qualification levels, labour market regulations, social security policies and labour rights, enable certain work practices and constrain other options.

An important difference between the various approaches derives from the perceived sources that bring about and reinforce the country differences. While some approaches argue that historically formed constraints to firms' transaction costs produce country patterns, others, such as the national employment systems approach, stress that political coalitions and their power struggles shape the outline of dominant logics (Fligstein, 2001; Gallie, 2007). This view builds on the power resource approach (Korpi, 2006) which assumes that particularly social protection, welfare policies and labour regulation reflect the relative influence that labour exerts on capital. That is, better organized labour interests should result in a more egalitarian distribution of economic risks and gains in a given country (see also Esping-Andersen, 1990). Here, successful struggles for national labour regulation and welfare policies constrain the reach of market mechanisms over work.

Moving beyond the Western European countries at the core of the debate, other types of regimes populate the European countries (Amable, 2003). Researchers have suggested grouping Southern and Eastern European countries as dependent-market economies (Nölke & Vliegenthart, 2009), mixed-market economies (Molina & Rhodes, 2007) or post-socialist economies (Bohle & Greskovits, 2012). According to such theoretical propositions, the institutional frameworks of these countries remain inconsistent or incomplete. Southern-European countries can be deemed inconsistent given they combine both highly and lightly regulated elements and lean towards a dualist logic (Gallie, 2007), whereas Eastern European institutional frameworks are still undergoing construction (Bohle & Greskovits, 2012). Again, however, even inconsistent or incomplete institutional frameworks shape economic activity and work practices.

In contrast, some researchers oppose the very idea of static and consistent patterns and regime types altogether. Some agree that institutional frameworks could shape economic activity, but maintain that national frameworks comprise diversity and dynamics, for example across industries or sectors (Bechter, Brandl, & Meardi, 2012; Crouch, 2009; Lane & Wood, 2012). Therefore, it seems possible that a given country harbours various logics and respective patterns at a single point in time (Fligstein, 2001; Kirchner, 2020). In particular, Streeck and Thelen (2005) highlight dynamics that gradually transform established institutional frameworks. This includes layering processes whereby novel economic practices proliferate alongside established ones. Such dynamics became especially visible in liberalization processes (Thelen, 2012) where key countries reacted differently to a common trend giving rise to a variety of liberalization patterns and locally implemented models. Facing challenges of changing economic activities, regulators devise, reform and enforce regulation, trying to govern economic activities and to act under newly emerging conditions. This could lead to various institutional dynamics (Streeck & Thelen, 2005), potentially reinforcing, shifting or undermining the established institutional framework. The establishment of digital platforms in sectors with formerly traditional work arrangements should instigate institutional dynamics, at least in the long run. In the short run, palpable consequences from such institutional dynamics may lag behind the rapid diffusion of gigwork platforms.

2.3 Work on gigwork-platforms in a capitalist diversity perspective

When considering the rise of work on gigwork platforms in a capitalist diversity perspective, one would above all expect patterns that reflect national institutional frameworks. The capitalist diversity perspective provides an approach for analysing and explaining cross-national diversity.

The capitalist diversity literature made strong claims that capabilities to implement and cope with technological innovation would differ across countries (e.g. P. A. Hall & Soskice, 2001; Streeck, 1991). For example, the liberal institutional framework of the U.K. would foster the quick proliferation of technological innovations, whereas Germany's coordinated framework would serve as a barrier. Research on information and communication technology usage in EU countries supports this assumption (Amable, 2003; Kirchner & Hauff, 2019; Kirchner & Wolf, 2015). This general assumption could also be applied to gigwork platforms. While lightly regulated regimes might welcome gigwork as a market-based, flexible business and employment opportunity, highly regulated regimes are likely to perceive gigwork as a threat to their well-regulated approach and an erosion of established standards.

The literature on the platform economy regularly hints towards a possible relation between institutional frameworks and gigwork platforms (Davis, 2016a; Kenney & Zysman, 2016; Mair & Reischauer, 2017; Wright, Wailes, Bamber, & Lansbury, 2017), indicating that the activities and success of gigwork platforms might depend on enabling and constraining national institutional forces. Many studies, however, also emphasize that gigwork platforms try to undermine established regulation, often rendering regulatory regimes ineffective (Howcroft & Bergvall-Kåreborn, 2019; Kirchner & Schüßler, 2020; Schor, 2016).

A large number of single-country studies investigated selected gigwork platforms in the USA (e.g. Collier et al., 2018; Rosenblat & Stark, 2016; Schor, 2017; Schor et al., 2020), Canada (Peticca-Harris et al., 2020) or Australia (Veen et al., 2020), but also in various EU countries (e.g. Cant, 2020; Drahokoupil & Piasna, 2019; Heiland, 2021a; Makó, Illéssy, & Nosratabadi, 2020). These

empirical studies remain focused on single cases, do not follow a unified theoretical approach and thus overall lack cross-national integration. The few large scale quantitative cross-national studies shed desperately needed light on the general distribution of platform work in Eu countries (European Commission, 2018; Huws et al., 2017; Joyce, Stuart, Forde, & Valizade, 2020), yet they suffer from major empirical limitations.

A smaller number of case studies investigated gigwork platforms in cross-country comparison, always across a small set of countries (e.g. Ilsøe & Söderqvist, 2022; Tassinari & Maccarrone, 2017; Thelen, 2018). Thelen (2018) for example analyses newspaper coverage of the regulatory issues that emerged with the advent of Uber in the USA, Germany and Sweden. The study shows the diverging responses of regulators facing a similar challenge. While the USA eventually embraced Uber as a digital challenger promoting competition, Germany initially banned Uber completely and Sweden adapted its regulatory policies to allow an adapted Uber model. In each of the three countries, the aggressive Uber strategy prompted different issues, including labour regulation, competition, taxation, and customer safety, each activating a diverse set of national actors. While the gigwork platform would strategically target legal loopholes and operate in grey zones, extant research highlights the intense political struggles among diverse actors engaged in the regulatory process (also Collier et al., 2018; Thelen, 2018).

Systematic cross-country comparisons of gigwork platforms are just emerging. Existing studies so far focus exclusively on the differences between institutional frameworks and investigate – again – Uber as sole example (Kim & Suh, 2021; Punt et al., 2021). Kim and Suh (2021) find that the prototypical gigwork platform prefers to expand to countries with stable legal institutions. The results of Punt et al. (2021) show that pro-market institutions foster the establishment of Uber in a new country, but also that the institutional influence eludes simplification. Institutions that imply weak labour regulation could not explain Uber's expansion. In spite of their focus on the location decisions of a single platform company, these studies provide strong arguments for the hypothesis that national institutional frameworks influence gigwork platforms.

Combining extant insights, we assume that activities of regulators and platform companies advance specific regulation and platform models that govern the activities on the gigwork platforms. Platform companies strategically aim to seize comfortable niches in oligopoly markets (Dolata 2019) with their marketplace models governed by platform rules (Kirchner & Schüßler 2019). Initially, platform companies often strategically transgress legal boundaries (Kenney & Zysman 2016) and lobby for favourable legislation (Collier et al. 2018). This prompts reactions from regulators to devise or refrain from regulation (Kirchner & Schüßler, 2020; see Thelen, 2018). Consequently, gigwork platforms might be able to operate their marketplace model for work tasks freely. In other cases, gigwork companies would need to adapt their platform models to adhere to regulation, effectively translating their model to a national institutional framework and editing it (Sahlin & Wedlin 2008). In a case of a strict ban, gigwork platforms might not be able to operate their core model at all.

2.4 Research approach: Platform models and regulation

We understand the relation between national institutional frameworks and gigwork platforms to be advanced by activities of regulators devising regulations (laws and policies) and platform companies governing work by their platform models.

Platform models comprise routine procedures and guidelines by the gigwork platform that define the conditions for the work task, e.g. the employment status, basic work rules and processes, payment procedures, and as other preconditions (e.g., registration, licensing), as well as technical options of the user interfaces. We expect that models differ across gigwork platforms as well as across countries reflecting underlying conceptions of work (Fligstein, 2001). We also assume that platform companies initially follow a general model that conceptualizes work tasks on gigwork platforms as commodity on a digital marketplace (Kirchner, 2019a; Kirchner & Schüßler, 2019). However, empirical evidence suggests diversity. For example, a German platform company, competitor to Deliveroo, switched to a traditional model with formal employment contracts (Schmidt, 2017), Deliveroo entered into partnership with the a Belgian cooperative that employed delivery riders (Drahokoupil & Piasna, 2019), and app-based ridehailing companies in Germany work with subcontractors who employ drivers (Kirchner, Dittmar, & Ziegler, 2022). Also, available case studies indicate that Uber was not able to apply its radical marketplace model, called “UberPop,” in every country (Thelen, 2018). Thus, we expect a diversity of gigwork platforms within and across countries, each building on distinct platform models and distinguished along key characteristics.

Regarding platform companies, we assume that platform models will (more or less) mirror the key **regulations** imposed on them. Platform companies might operate freely, be banned, or eventually adapt their platform models to the regulation, by translating and editing their initial models (Sahlin & Wedlin, 2008). However, platform companies will strategically target legal loopholes and grey zones to advance their business and evade regulatory reach (Kenney & Zysman, 2016). They will also try to influence regulation by lobbying regulators (Collier et al., 2018) or building coalitions with competitors, customers or workers (Cherry, 2021; Thelen, 2018). The outcome of such strategies depends on how much power platform companies can exert in battles about regulation (Valdez, 2022) and thus on their positioning within the regulatory field (Kirchner & Schüßler, 2020). Platform companies often operate platforms in different countries. We expect to see similarities between the models of these country subsidiaries but no uniformity, due to the influence of regulations. From the perspective of the national institutional frameworks, we would broadly expect regulations to vary across regime types, for example, across lightly and strongly regulated regimes. Due to fundamental differences in the general approach to labour regulation (Deakin, 2006; Fisher, Putnam, & Al Hassani, 2016), we expect that this basic distinction (lightly / strongly regulated) will result in marked differences between the two large economic regions Europe and North America.

3. Data, variables, and methods

3.1 Data

Our sample consists of the up to four most popular providers of app-based food delivery services in 30 European countries (EU-27, UK, Norway and Switzerland) and 13 metropolitan areas in North America. For each of the selected providers, we collected information on the platform company via desk research and combined this with data about the organization of the service provision and working conditions collected by crowdsourcing and surveys among gigworkers. The sample was designed to provide a systematic overview of gigwork platform models established in Europe and

enable comparison between Europe and North America. Sampling was done in February 2022 and data was collected from March – October 2022.

3.1.1 Sampling

Overview of European Gigwork platforms. With the European cases, we connect to a substantial research corpus about the platform economy in Europe. This research contains case studies of gigwork providers and their regulation, but currently lacks a systematic overview of established platform models, work types, and their interrelations with national institutional frameworks. The countries of the EU-27 single economic area exhibit diverse national institutional frameworks with a shared institutional history and joint principles in relevant regulatory fields (e.g. competition, market access, privacy). Although not members of the EU, the economies and economic institutions of the three additional countries are closely aligned with those of their biggest neighbour, the EU. To identify the most popular service providers in each country, we first used desk research (overview studies, industry analyses, regulatory information and national news) to create an overview of all service providers active on the national level in each country and then used app download rankings¹ for the period of 1.1.2018 – 11.2.2022 to select the two to four most popular service providers per country. The number of selected cases depended on the relative popularity of providers in their respective national markets.

Comparison of Europe and North America. Our dataset allows for a systematic comparison of the platform economy in two separate economic regions, Europe and North America. There is as yet no such systematic comparison of these two regions, even though there is much empirical research on the platform economy about each of these regions. To approximate the potential diversity of institutional frameworks in the European subset, we chose 13 regions in the United States and Canada. We consider the institutional frameworks of these two countries to be similar enough to combine them into one economic area, but contain enough diversity at the intermediate level to be comparable to the EU and its nation states. On this intermediate level, we selected the 10 states with the largest metropolitan areas in the US² and the three provinces with the largest metropolitan areas in Canada³. To identify the largest service providers, we generated a market overview through desk research as in Europe. As reliable download data was not available on sub-national level, we had to use a different sampling strategy for the North American cases. While the European market overview showed a long list of equally popular providers in both sectors, the sectoral markets in both the US and Canada are clearly dominated by three food delivery providers⁴. For the United States, credit card data showed that these three providers jointly also dominated each of our 10 US metropolitan areas in 2021, albeit in different positions (Statista, 2021). To maintain

¹ Download Rankings are generated daily by the app stores and made available for a fee, directly or through intermediaries (data brokers). We used the data broker SensorTower for raw data and visuals of download rankings of the most relevant providers.

² In the US, many metropolitan areas encompass several states (U.S. Census 2020). Where this was the case, we selected the state in which the principal city of the largest metropolitan area is located. The resulting state set comprises New York (MA New York City), California (MA Los Angeles), Illinois (MA Chicago), Texas (MA Houston), District of Columbia (MA Washington), Florida (MA Miami), Pennsylvania (MA Philadelphia), Georgia (MA Atlanta), Arizona (MA Phoenix) and Massachusetts (MA Boston).

³ Ontario (MA Toronto), Québec (MA Montreal) and British Columbia (MA Vancouver).

⁴ The fourth relevant provider of food delivery services in the US, Postmates, has been bought by Uber in 2020. As the Postmates platform was in the process of being integrated into Uber Eats when we started sampling, we decided to treat it as part of Uber Eats.

comparability across North America and due to a lack of other data sources to judge the situation in Canada, we decided to select the nationally dominant providers in all US states and Canadian provinces. The final sample contains 125 cases: 86 food delivery providers in Europe and 39 in North America.

3.1.2 Data collection

For data collection, we designed an information catalogue with closed questions that captured exclusively factual information about the platform organizer, the rules of service provision and the work relations as well as working conditions on the platform (more see chapter on variables). We categorized these questions according to the estimated amount of research time and type of knowledge necessary to answer them and divided the information catalogue into three overlapping groups: survey, crowdsourcing and internal. Questions relying on insider knowledge about working conditions were assigned to the survey group, questions relying on knowledge about local regulation were assigned to the crowdsourcing group and questions with high estimated research time or complexity were assigned to the internal group. For the survey questions, gigworkers for the sampled platforms were recruited through Prolific, a digital platform for online research with a special focus on academic surveys⁵. The number of respondents varied by country and platform and the survey produced valid results for 75 of the 86 cases and 35 of the 43 locations. Crowdsourcing questions were passed on for research to freelancers in the countries under investigation via the crowdsourcing platform freelancer.com. Two freelancers answered the questions for each country (with the exception of Luxembourg) and platform. The research team answered the questions in the internal group via desk research. Answers from the last group were discussed in the research team in case of ambivalences. Answers from the other two groups were transferred into the final dataset only where several sources existed and a clear majority (> 66%) of valid answers agreed.

3.2 Variables

The dataset contains information on the platform model of each provider, as well as its location of operations (i.e. country or state/province), region (Europe or North America) and capitalist regime. Platform models were operationalized along two dimensions: organizer model and work type.

Organizer model. This dimension collects salient characteristics of the platform organizer, i.e. the formal organization that provides the technical and organizational infrastructure that makes the app-based service provision possible. We distinguish platform organizers that are part of a multi-national corporation from those that are standalone companies that operate only in one country (corporation). The variable contains the name of the parent company or “independent” for standalone providers.

Work type. This dimension holds information about the formal employment relations between workers and service providers. We distinguished between three status options: Self-employed, employed, or other legal employment status, the latter denoting a special employment status which is formally distinguished from both employment and self-employment in the labour laws of the

⁵ <https://www.prolific.co/>

respective country. An example for such a special employment status is the “worker” status in the UK (Mason, 2019)⁶. We also asked if workers hold formal employment relations with the service provider (direct employment) or another organization (indirect employment), e.g. a car rental provider or restaurant using the service to find customers, or a temporary employment agency or cooperative that acts as an intermediary between service provider and workers. Preliminary research showed that service providers often offer more than one type of employment relation to workers, so status options were not mutually exclusive. Studies also showed that service providers sometimes avoided contractual relations with individual workers and offered access to customers only to formally established companies (LIT). In such constructions, the platform remains the visible point of access for the service but the platform organizer effectively outsources employment relations and the related responsibilities to a third party. We combined the answers to assign one of four work types to each provider:

- Entrepreneur: All workers for the provider are self-employed
- Subcontractor: Workers for the provider are self-employed or have employed by a third party, but not employed directly by the service provider
- Mixed: Some of the workers are self-employed, others are employed directly by the service provider
- Employee: All workers are employed, either directly by the service provider or by a third party

Region We use the differentiation between the economic regions North America and Europe as a first approximation to the potential influence of institutional frameworks on platform models. This distinction is based on the assumption that European countries share a tradition of extensive employment regulation that influences the institutional environments of all European countries to some degree (cf. Deakin, 2006). This European model of employment regulation is expressed in recommendations for labour regulation on the EU level (cf. Fisher et al., 2016). As the non-EU countries in our dataset (Switzerland, Norway, UK) have exceedingly strong economic ties with their largest neighbour, we expect that these, too, are at least influenced by the regulatory framework defined by the EU.

Regime In addition to the expected fundamental differences in the approach to labour regulation between the two economic regions, we also expect to see more nuanced differences between national institutional frameworks more generally. To capture these, we assign countries to institutional regimes. The assumption behind our research is that platform companies adapt their general strategy and especially their employment arrangements to the requirements of diverse institutional frameworks and thus produce a diversity of platform models. To be able to map such potential diversity accurately, we categorize the 32 countries in our dataset into 7 regimes (Table 1). This categorization builds on the extended model of capitalist regimes described in Amable (2003). He defines five institutional areas and distinguishes five types of capitalism based on typical complementarities between these areas which can be found in advanced industrial economies. Potential values for our regime variable include Amable’s types of market-based (here:

⁶ Such special status exist only in a minority of the investigated locations. We included this option as the application of such special status to platform work has been a recurrent topic in policy debates on the platform economy. We asked respondents to name this “other” status and corrected the selection in cases where their interpretation of “other status” diverged from the one defined in the research project. A typical example were cases where respondents choose “other” status for part-time employment contracts, an option that we categorize as “employed”.

Liberal), Continental European, Mediterranean and social-democratic capitalism, excluding the Asian type. As our sample also contains the post-Sowjet countries that are members of the European Union, we extend this categorization with the three regimes defined by Bohle and Greskovits (2012). Those researchers investigated the development of new economic and political systems in Eastern Europe since the 1990s and argue that different institutional dynamics in led to the emergence of three additional regimes: (Eastern-Baltic, Eastern-Central and Eastern-Southern).

Regime	Countries
Continental	Austria, Belgium, France, Germany, Luxembourg, Netherlands, Switzerland
Eastern-Baltic	Estonia, Latvia, Lithuania
Eastern-Central	Czechia, Hungary, Poland, Slovakia, Slovenia
Eastern-Southern	Bulgaria, Croatia, Romania
Liberal	Canada, Ireland, United Kingdom, United States
Mediterranean	Cyprus, Greece, Italy, Malta, Portugal, Spain
Nordic	Denmark, Finland, Norway, Sweden

Table 1: Countries and regimes

3.3 Methods

In this paper we present an overview of our data using descriptive methods of analysis. We inspected frequencies of the different employment status and work types overall and compared them with respect to the economic regions North America and Europe, European countries, and corporations. For Europe, we created maps to visualize the spatial distribution of platform models and their relation to regimes.

4. Results

Our data shows that gigworkers in the food delivery sector work in a variety of employment arrangements. It also reveals two interesting patterns: Work types differ prominently between Europe and North America, but also between European countries. Across Europe, we find differences in the distribution of work types between Northern and Mid-to-South-Western countries. Regarding platform companies, international corporations dominate the national markets in Europe, with some independent food delivery providers remaining. Our data indicates corporate strategies with regard to work types.

Variety of employment arrangements. We find diverse arrangements of gigwork in our dataset (Table 2): Across our sample, there are service providers offering only on form of employment relation to their gigworkers as well as others who combine several forms. We also can identify all of the four work types defined in chapter 3.2.

Most of the service providers in our sample (86%) cooperate with self-employed gigworkers. This fits with the established debate about work in the platform economy where the basic premise is

often that gigworkers are not formally employed. However, our data shows that gigwork does not equal formal self-employment: 29% of service providers also employ at least some of their gigworkers directly, 47% have food delivered by workers that are employed somewhere else (for example at a restaurant) and in 6% of cases the formal employment relation between service provider and gigworker is regulated by a country-specific employment status distinct from both traditional employment and self-employment. Additionally, only 50% of service providers offer one and the same formal employment relation to all of their gigworkers. Where this is the case, the unique employment status is predominantly self-employment (43%), but we also find a few cases where all gigworkers are employed by the service provider (6%) or a third party (1%).

Formal employment relation	Number of providers (total)	Percent (total)	Number of providers (unique)	Percent (unique)
Self-employed	108	86%	54	43%
Employed by 3rd party	59	47%	1	1%
Employed by service provider	36	29%	7	6%
Other status	8	6%	0	0%
Total	125		62	50%

Table 2: Formal employment relations for food delivery providers

Half of our service providers have different employment relations to different gigworkers. With the exception of the work type “entrepreneur” (that contains all service providers working exclusively with self-employed gigworkers), the variable “work type” captures typical combinations (Table 3). While the entrepreneur type is most common (43%), it captures not even half of the service providers. A large group (28%) of service providers have no direct employees for delivery, but at least some of their workforce is employed by another company (type “subcontractor”). 16% of providers employ some of their workers directly and have others who are self-employed (type “mixed”). And 13% of service providers have no self-employed workers at all, but employ their personnel directly or through a third party (type “employee”).

Employment Model	Number of providers	Percent
Entrepreneur	54	43%
Subcontractor	35	28%
Mixed	20	16%
Employee	16	13%
Total	125	100%

Table 3: Types of employment relation for food delivery providers

This overview shows that there is significant variety across Europe and North America when it comes to employment. However, self-employment, even as a unique option, is clearly the dominant employment arrangement. This clear dominance changes when we differentiate between Europe and North America.

Differences in employment arrangements between Europe and North America. When we include regional information for service providers in our analysis, we see that the variety of employment arrangements is almost exclusively a European phenomenon. 36 of the 39 North American service providers in the sample (92%) operate exclusively with self-employed gigworkers, only 3 (8%) also have gigworkers employed by a third party and no service provider employs its workers directly or uses some other employment status (Table 4). While the idea that gigwork equals self-employment does not fit our general results, it describes the situation in North America rather neatly.

Formal employment relation	Number of providers (total)	Percent (total)	Number of providers (unique)	Percent (unique)
North America				
Self-employed	39	100%	36	92%
Employed by 3rd party	3	8%	0	0%
Employed by service provider	0	0%	0	0%
Other status	0	0%	0	0%
Total			36	92%
Europe				
Self-employed	69	80%	18	21 %
Employed by 3rd party	56	65%	1	1%
Employed by service provider	36	42%	7	8%
Other status	8	9%	0	0%
Total			26	30%

Table 4: Formal employment arrangements for food delivery providers, by region

The variety across Europe, in contrast, becomes more prominent without the North American cases: While self-employment remains the most prevalent employment status (80%), 65% of European service providers have their food delivered by gigworkers employed by other companies and 42% use their own employees. Gigworkers for eight European service providers (9%) work with a country-specific status. Only 30% of European service providers offer only one employment status, predominantly self-employment (26% of 30%).

Employment Model	Number of providers (Europe)	Percent (Europe)	Number of providers (North America)	Percent (North America)
Entrepreneur	18	21%	36	92%
Subcontractor	32	37%	3	2%
Mixed	20	23%	0	0%
Employee	16	19%	0	0%
Total	86	100%	39	100%

Table 5: Types of employment relation for food delivery providers

Moving from singular employment status to work types (Table 5), the arrangement where all gigworkers are self-employed dominates in North America, but not in Europe. Here, the majority of food delivery providers are categorized with work type “subcontractor” (37%). This combination of self-employed gigworkers and workers employed by a third party is by far the most common employment arrangement, with the other three forms almost evenly distributed across the sample (mixed 23%, entrepreneur 21%, employee 19%).

Diversity of work types within and across European countries.

The spatial distribution of work types across Europe is less even: In 12 of the 30 European countries, all food delivery providers have the same work type. Only in 6 countries does every food delivery provider in the sample have a different work type (Figure 1).

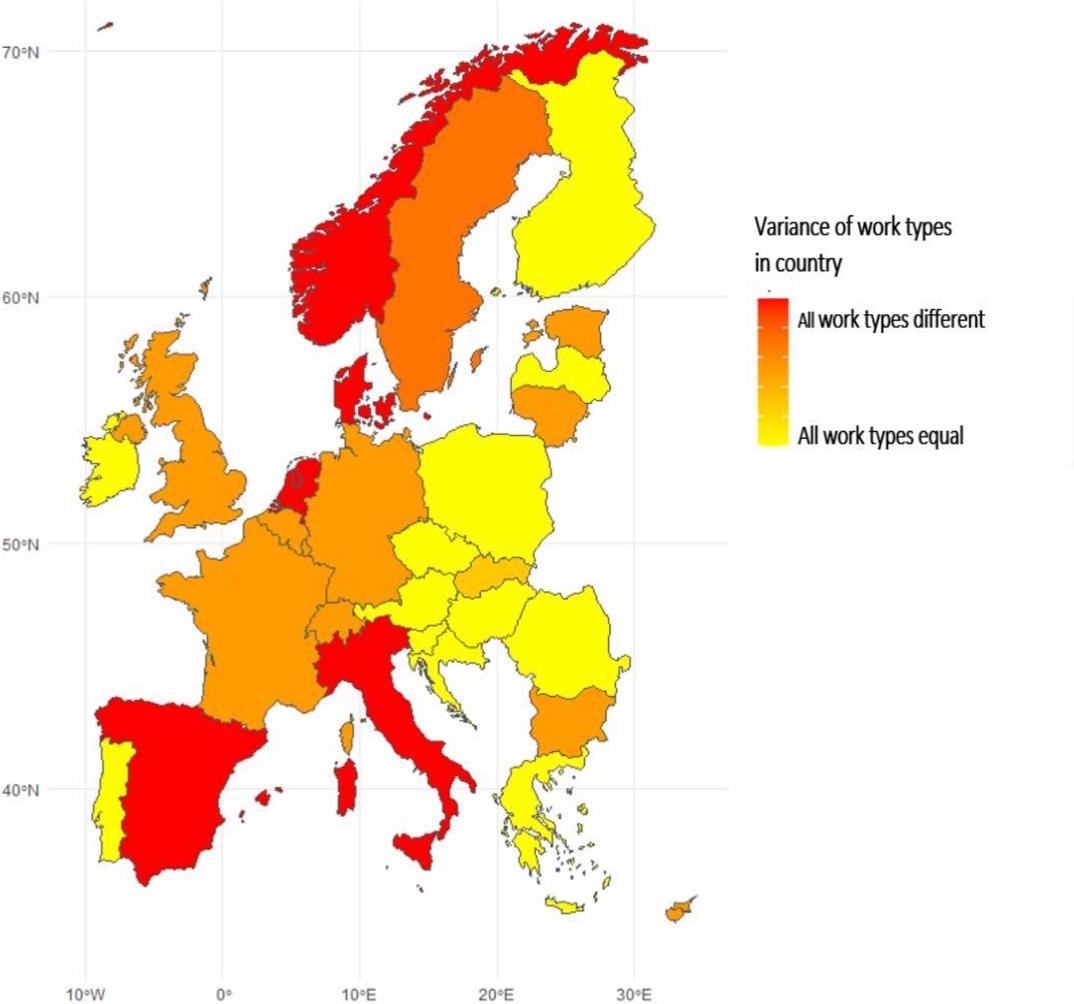


Figure 1: Variance of employment arrangements for food delivery providers in Europe, per country

A direct comparison of the distribution of each work type in the European countries suggests some regional influence. Especially the two types “entrepreneur” and “subcontractor” are most prominent in the countries of Northern and North-Eastern Europe (entrepreneur) and Mid-Southern Europe

(subcontractor) respectively, with each type largely absent from the countries where the other dominates (Figure 2).

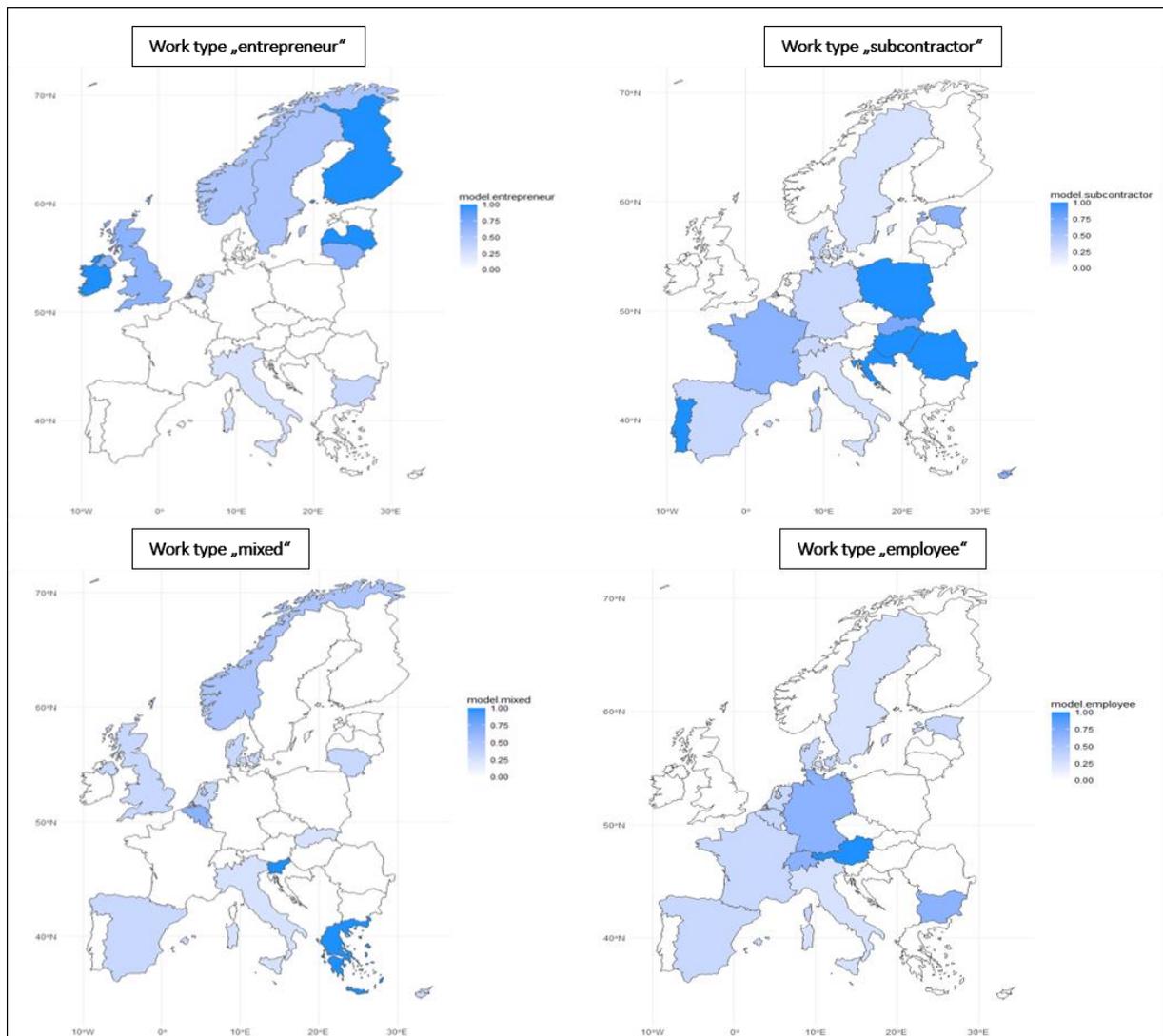


Figure 2: Types of employment relations for food delivery providers in Europe

The differentiation becomes more obvious when we regard the relation of work types and regimes in European countries (Table 6).

Employment Model Regime	Number of providers	Entrepreneur	Subcontractor	Mixed	Employee
Liberal	6	83%	0%	17%	0%
Eastern-Baltic	8	50%	25%	13%	13%
Nordic	11	45%	18%	18%	18%
Mediterranean	17	12%	41%	35%	12%
Eastern-Southern	9	11%	67%	0%	22%
Continental	20	5%	30%	20%	45%
Eastern-Central	15	0%	60%	40%	0%

Table 6: Employment models of food delivery providers in Europe, by regimes

The distribution of work types differs considerably between the regimes: While “entrepreneur” is the preferred work type in Liberal (83%), Eastern-Baltic (50%) and Nordic (45%) countries, providers in countries with Eastern-Southern (67%), Eastern-Central (60%) and Mediterranean (41%) prefer the “subcontractor” employment arrangement or, in case of the latter two regimes, the combination of self-employment and direct employed we defined as work type “mixed” (Eastern Central 40%, Mediterranean 35%). The providers in Continental countries comprise the largest group of platforms with work type “employee” (45%). Continental providers also regularly use “subcontractor” (30%) or “mixed” (20%) arrangements, but rarely ever (5%) have only self-employed workers.

5. Summary and Discussion

With this paper we introduced two research questions: (1) Are gigwork platforms a uniform type of organizing service delivery, or do the providers of gigwork services use a variety of platform models? and (2) are there systematic differences between gigwork platforms operating in different institutional frameworks? We focused on gigwork in the food delivery sector in Europe and North America. Based on existing case studies of gigwork platforms and capitalist diversity, we expected to find a diversity of platform models within and across countries, differences between the economic regions Europe and North America and between countries belonging to different economic regimes. We characterized the platform model of a food delivery provider by the organizational affiliation of the platform company (standalone / subsidiary of international corporation) and by the typical form in which workers are connected to the provider (self-employment, employment by provider or subcontractor, or combinations of these arrangements).

Our results allow for a definite answer to the first research question: Gigwork platforms are not uniform. International corporations clearly dominate all investigated markets, but a small set of independent national providers are well-established enough to be successful among the large players. However, the non-corporate platform companies are hardly more than exceptions in a fairly homogenous set of corporate subsidiaries. The diversity among gigwork platforms stems from their employment arrangements. In contrast to a platform economy debate in which researchers as well as activists often equate gigwork with self-employed work, almost half of the national champions offer some form of employment to workers. Some providers even operate exclusively with employed

workers. This result is highly relevant for scientific as well as policy debates about platform work. As gigworkers already work in a variety of employment arrangements, forcing service providers to employ their personnel may not solve problems of low work quality automatically.

We also answer the second question in the affirmative. However, the answer is more nuanced than in case of the first question. Our data shows systematic differences between gigwork platforms in Europe and North America. We chose to compare these two economic regions because they have different historical approaches to labour regulation resulting in institutional frameworks with traditionally high (Europe) respectively low (North America) protections for dependent workers. These differences are obvious in the data: Almost all North American cases operate the same employment arrangement with only self-employed workers. In contrast, most European food delivery providers in our sample work at least partially with employed personnel. The differences between the two regions are no simple dichotomy: Most food delivery providers in Europe have self-employed gigworkers alongside their employed delivery personnel. Also, platform companies often do not employ gigworkers directly but cooperate with third parties who offer employment contracts to the workers. All in all, employment arrangements among European food delivery providers are diverse whereas those in North America are mostly uniform. In addition to the platform models themselves, this difference between diversity and uniformity also distinguishes platform models in the two regions from each other. Our results suggest that the common conflation of gigwork with self-employed work results more from the dominance of North American examples in the platform economy debate than from a fundamental characteristic of platform labour in general.

Besides the distinction between the economic regions, we also find patterns in the diversity of platform models across Europe. These patterns align broadly with three clusters of institutional regimes: Self-employment as sole arrangement dominates in countries with Liberal, Nordic, and Eastern-Baltic countries (Cluster 1), employment by the platform company is most common in Continental countries (Cluster 2) and employment by subcontractor or a mixture of employment and self-employment characterises the Mediterranean, Eastern-Central and Eastern-Southern countries (Cluster 3). This result partly conforms to common expectations in capitalist diversity research: The dominance of self-employment in the liberal regime and employment by platform company in countries of the continental type mirrors the basic dichotomy between liberal and coordinated market economies that lies at the heart of Varieties of Capitalism approaches. It also fits in with extensions to the basic typology which define a third type of economic regime besides LME and CME: Whether researchers define Southern European countries like Italy and Spain as “mixed-market economies” (Molina & Rhodes, 2007) or mark the post-Soviet countries of Eastern Europe as “dependent market economies” (Nölke & Vliegenthart, 2009), many extensions underline that the institutional frameworks of Southern and Eastern Europe differ from those in the large countries in Middle and Northern Europe in some fundamental way. The fact that varied employment arrangements (subcontractor and mixed) dominate in the economies of Southern and Eastern Europe in our dataset aligns with such conceptions of the variety of national institutional frameworks and their similarities.

However, not all of our results fit a simple reading of capitalist diversity typologies. The most significant difference lies in the composition of Cluster 1. Self-employed gigwork dominates not only in liberal countries, but also in those that we categorized as Nordic and Eastern-Baltic. The similarities between Eastern-Baltic and Liberal countries conform to the analysis of Bohle and

Greskovits (2012) who categorize the Baltic economies as capitalisms of neoliberal type. But the dominance of self-employment in the Nordic states contradicts the traditional distinctions of capitalist diversity research. According to these, the countries of Scandinavia with their strong welfare states belong with the coordinated market economies and should show similar results as their Mid-European neighbours. Thelen's (2018) comparison of the political conflicts surrounding the establishment of Uber in the USA, Germany and Sweden provides a possible interpretation. Her study shows that the Swedish public debate marked Uber mostly as a threat to fair taxation, in contrast to the other two countries, where public debate focused more on competition and drivers' employment status. Thelen attributes this in part to the different forms in which social protections are financed in the three economies: While social benefits are closely tied to formal employment in both the USA and Germany, they are mostly financed through taxes in Sweden. The same holds for the other Nordic countries in our dataset: In all of them, self-employed workers have full access to healthcare, pensions and maternity / paternity benefits and at least partial access to sickness protection and (with the exception of Norway) to benefits in case of unemployment (Jesnes & Oppegaard, 2020). This partial decoupling of social benefits from formal employment might explain why the platform models in Nordic and Continental countries differ so significantly in our dataset: The institutional frameworks in both groups of countries should foster regulation that grants a basic standard of social protections for gigworkers. However, such regulation contradicts the widespread use of self-employed gigworkers only where social protections are based on direct contributions by employers and employees. Our results imply that platform companies can use the same employment arrangements in the highly regulated institutional regimes of the Nordic countries with their tax-funded welfare states as in the lightly regulated institutional environments of the Liberal and Eastern-Baltic countries. However, the consequences for gigworkers will probably differ significantly between Nordic, Eastern-Baltic and Liberal countries. While the other results showed that the same form of work is organized in a variety of formal arrangements across Europe, this last result suggests that the same formal arrangement can have a variety of consequences for workers.

6. Conclusion

In this paper we provide a comprehensive overview of the platform models of the 86 most popular food delivery platforms in 30 European countries and 13 sub-national territories in North America. We used desk research, crowdsourcing and worker surveys to collect data on the organizational characteristics of the platform companies and the employment arrangements of gigworkers. As a result, we show that there is considerable diversity among successful food delivery platforms across countries. This result runs counter to a common trend in the platform economy debate according to which gigwork is collated with self-employed work and gigwork platforms are regarded as copies of Uber. Our results furthermore show that employment arrangements differ markedly between Europe and North America. While both regions show some internal uniformity, only the latter is truly uniform. Gigwork in North America truly is self-employed work, with some sporadic examples. Across Europe, employment arrangements range from pure self-employment to full traditional employment, with "outsourcing" employment of gigworkers to third parties as a frequently used option. Lastly, we identified three clusters of capitalist regimes in Europe where gigwork platforms prefer similar employment arrangements. Exclusive self-employment is both dominant in Nordic (social-democratic) as well as Liberal (market-based) economies. This result

implies that institutional environments in which labour institutions are highly divergent may lead to similar decisions on the level of platform companies. Our mapping is in line with existing capitalist diversity research on gigwork platforms as it indicates that national institutional frameworks are interrelated with platform models. We see strong inducement for further research on these interrelations and also on other aspects of platform models besides formal employment arrangements.

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