Varieties of platform capitalism?
How competition and regimes relate to the diversity of food delivery platforms across Europe and North America

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Abstract

This article challenges the idea of platform capitalism that digital platforms implement a uniform model based on a self-employed labor force. Expanding on empirical evidence of a diversity of platform models, we theorize expectations about platform diversity from competition and comparative capitalism research. Using a unique cross-national dataset of leading food delivery platforms in 32 countries across North America and Europe, we compare platform models and competitive relations across national institutional regimes. Our analyses uncover a considerable diversity of platform models across Europe, in contrast to a clear uniformity in North America. We also find that the use of self-employment varies across and within large multinational corporations and is most prevalent in countries of the lightly regulated regime type. Our results call for an economic sociology perspective on the platform economy that integrates a general concept of platforms but allows for diversity stemming from competition and different national regimes.

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1 Introduction

The rise of powerful internet companies in recent years has led to the prominent scholarly position that “platform capitalism” is fundamentally changing economies around the world (Langley and Leyshon, 2017; Srnicek, 2017). The platform capitalism position suggests that platforms thrive on venture capital investment and will gravitate toward monopolies because of strong network effects. With a chief focus on flagship pioneers from North America such as Uber, the platform capitalism position also assumes that powerful platforms will render regulation ineffective, leading to a convergent platform model characterized by self-employed workers. In contrast, established theories in economic sociology hold that competitive dynamics in markets foster diversity among firm models and that different national institutional frameworks allow some models to flourish while impeding others. Additionally, recent case studies describe employment forms that substantially deviate from the convergent model assumed by platform capitalism, especially across Europe. To date, little is understood about how the assumption of a uniform platform capitalism relates to patterns of diverse platform models across different countries.

The debates on digital platforms promote the idea that they comprise a novel, exceptional form of enterprise marking a new phase of capitalist development. According to a dominant position in these debates (Schüßler et al., 2021), digital platforms translate network effects into monopolies that enable those platforms to exercise exceptional political power and bypass regulators. Fueled by venture capital, platforms are often expected to implement a uniform model across countries
and sectors, ousting competitors and circumventing established forms of regulation to transform economies (Srnicek, 2017; Kenney et al., 2021; Wood and Lehdonvirta, 2021). This position builds on seminal research that extrapolates the future of capitalist economies from observations and empirical studies based on a few flagship pioneers, especially in the United States (Kenney and Zysman, 2016; Rosenblat and Stark, 2016; Langley and Leyshon, 2017; Collier et al., 2018). Central cases in these studies are gigwork platforms (e.g., Uber and Deliveroo) that utilize self-employed labor forces to provide location-based services\(^1\) (Davis, 2016; Kenney and Zysman, 2016; Frenken, 2017; Langley and Leyshon, 2017). By showcasing the destruction and deregulation of the taxi market in the United States (Collier et al., 2018; Adler, 2021), the Uber case in particular fueled the expectation that platforms will eventually become uniform monopolists (Rahman and Thelen, 2019; Seidl, 2020).

However, this narrow understanding of the platform as a monopolistic singularity disconnects the debates over platform capitalism from established theories about capitalist economies. Following basic economic sociology, economies encompass markets (Swedberg, 2005) that emerge from relationships firms establish with each other (White, 1981). In the contests that characterize these markets, firms compete for dominance through the models that define them and guide their actions. Fligstein (2001) termed these models competing conceptions of control. In a parallel strain, comparative capitalism research highlights that market activities depend on institutional frameworks that vary between countries (Streeck, 1991; Fligstein, 2001). These frameworks are understood to form national regimes that foster specific models while constraining others (Amable, 2000; Hall and Soskice, 2001), resulting in substantial cross-national diversity. Drawing on competition and comparative capitalism, positions grounded in economic sociology challenge the assumption of a uniform model, especially across countries.

Our challenge to the presupposition of a uniform model of platforms across countries finds support in several case studies that go beyond the usual settings of a few pioneering companies and North America. Although the empirical picture emerging in this research to date is fragmented, detailed case studies demonstrate that flagship pioneers (Drahokoupil and Piasna, 2019; Mika and Polkowska, 2022) as well as lesser-known platforms (Ivanova et al., 2018; Heiland, 2020; Lei, 2021; Johnston et al., 2023) deviate significantly from the uniform model rooted in self-employed workers. Alternative models with employees or subcontracting arrangements challenge the claims of singularity inspired by pioneering platforms. The few extant cross-national comparisons uncover that some platforms adapt their models to compete and alleviate political or regulatory pressures (Thelen, 2018; Ilsøe and Söderqvist, 2022; Muszyński et al., 2022; Koutsimpogiorgos et al., 2023). Overall, the rich case studies document that diverse platform models exist, but so far, no studies have established a comprehensive empirical overview. Currently, we do not know whether the cases in these studies are simply outliers or indicate systematic, large-scale patterns of diversity across countries. This points to a significant gap in the research: a broad overview is needed to reconcile platform capitalism’s general assumptions of a uniform model and the mounting empirical research that undercuts this idea.

\(^1\) We follow a categorization of digital platforms presented by Schmidt (2017) and use the term “gigwork” to denote location-based service work intermediated and organized through mobile apps.
We address this shortcoming in the existing literature by contrasting the platform capitalism position with alternative views grounded in economic sociology to test whether competition and comparative capitalism are relevant approaches for conceptualizing a diversity of platform models. Based on this contrast, we formulate expectations about the patterns of diversity that will emerge across countries and put them to an empirical test by investigating food delivery platforms in Europe and North America, two focal regions of the current debate. Based on unique cross-national data collected to compare dominant food delivery platforms in 32 countries, we ask: How diverse are platform models in the food delivery sector across Europe and North America? What competitive patterns exist and how do they relate to the diversity of platform models? How do the diversity of platform models and competitive patterns relate to national institutional regimes?

Our comprehensive results uncover a considerable diversity of platform models across Europe, in contrast to the clear uniformity across North America. We also find a discernible relation between diverse platform models and patterns of cross-national competition among multinational platform corporations. Additionally, our empirical findings indicate that platform models systematically differ across broad types of national regimes. Overall, we propose an integrated perspective on the platform economy that accounts for the empirical diversity of platform models across countries and reconnects the observed rise of powerful internet companies to established theories in the field of economic sociology.

2 Theory and research assumptions

For our argument on the potential diversity of platform models, we rely on three major positions. The following sections introduce the arguments of platform capitalism, competition, and comparative capitalism and formulate expectations for our empirical investigation of food delivery platforms across Europe and North America.

2.1 Platform capitalism

The rise of platforms in capitalist economies is accompanied by a dominant narrative that informs the position often referred to as “platform capitalism” (Schüßler et al., 2021). Research adopting this narrative portrays platforms mainly as instruments of domination and analyzes the origins, conditions, or consequences of platform power (Vallas and Schor, 2020). According to the position of platform capitalism, digital platforms across countries and sectors exert exceptional power over their markets as they implement an underlying uniform model in which platforms serve as intermediaries in market transactions based on digital technologies (Kenney and Zysman, 2016). This view holds that platforms need almost no employees since their digital infrastructures automatically coordinate production and service processes and enable customers to hire and pay self-employed workers on demand (Davis, 2016). Because they are lightweight, with a small staff and few physical assets, digital platforms are expected to scale exponentially. Platforms thrive on network effects that can quickly elevate them to monopolists, bringing them in line with the logic of huge venture capital investments (Langley and Leyshon, 2017) in search of monopoly profits. For this reason, platform companies often promise to generate vast returns only after they have managed to crowd out all competitors (Rahman and Thelen, 2019).
Building on strong network effects, groundbreaking technology, and powerful monopoly positions, digital platforms constitute a generally new form of enterprise that heralds fundamental changes to economies and societies, as Davis argues (Davis, 2016; Davis and Shibulal, 2018). Their market dominance and capacity to mobilize consumers and workers for their causes potentially position platform companies to influence their own regulation (Culpepper and Thelen, 2020; Valdez, 2022). Once they enter a new market, platform companies are expected to strive to first grow quickly by ignoring rules and then use the resulting power base to pressure political decision makers to adapt regulations to their model (Collier et al., 2018).

Consolidating these contributions to what we call the platform capitalism position, we can now posit general assumptions about the diversity of platforms across countries. According to the platform capitalism position, platform models across countries exhibit homogeneity and converge to the Uber model, in which companies running a digital marketplace with self-employed workers are financed by investors who follow a venture capital logic. Markets comprise only a few flagship companies as the pioneers from North America expand their digital infrastructure globally and seize monopoly positions. The dominant market positioning renders local regulation ineffective, allowing platform companies to implement their model freely. Accordingly, the platform capitalism position holds that findings on a few dominant flagship platforms can be fully generalized across countries as they capture the essence of the emergent patterns of the platform economy and its model.

2.2 Competition

Across economic sociology, researchers share the core assumption that markets emerge from networks of relationships (White, 1981) between economic actors engaged in competition (Beckert, 2009). Following Fligstein (2001), competitive patterns in markets revolve around struggles for domination that build on actors’ conceptions of control. A conception of control comprises a template of a firm’s key organizational structures, including core characteristics such as firm structures and financial sources, alongside organizational elements that define the firm and its relationships with necessary others, including the workforce (Kirchner et al., 2022). Market dynamics unfold when competing firms struggle to dominate the market by establishing their conception of control as a general model. In this relational perspective, markets, as networks of actors, bring about and shape the dynamic social order required for steady and reliable transactions.

Reliability often limits highly aggressive strategies because cutthroat competition undermines the long-term survival of all market participants (Fligstein, 2001). Instead, firms often try to seize market niches to secure their positions. Usually, dynamics arise from challengers facing market incumbents or from emerging markets (Fligstein, 2001; Bourdieu, 2005). Therefore, implemented organizational models in a market reflect the struggles between competitors and the relationship patterns they have formed. This general view also applies to large, multinational corporations that compete with each other in several markets across countries.

Applying this competition-based position to the diversity of platforms, we assume that platform models across countries are contested as several companies compete over their conceptions of control and try to establish the dominance of their own models. Hence, we expect models to vary systematically across national markets, with some platforms conforming to the Uber template and
others introducing variants, such as employed providers and alternative financial sources. Across a given set of countries, the total number of platform companies is likely to be high owing to the struggle involved in gaining a sustainable market share in each country. Given the worldwide expansion dynamic of platforms, multinational corporations enter local competition, thus establishing cross-national competitive patterns. Following this position, findings on a few flagship companies cannot be generalized across countries as several competitors try to differentiate themselves. Instead, various platform companies compete and introduce diverse models to establish or maintain their market positions.

2.3 Comparative capitalism

The third position, grounded in research on comparative capitalism, complements the competition position above. The comparative capitalism literature highlights that economic activities take place against the background of national institutional frameworks that can be distinguished by broad types of regimes (for an overview, see Jackson and Deeg, 2008; Schröder, 2019). While the comparative capitalism literature comprises various concepts and idealypical classifications of countries into particular regimes (e.g., Esping-Andersen, 1990; Whitley, 1999; Fligstein, 2001; Hall and Soskice, 2001; Amable, 2003; Gallie, 2007), the approaches agree that institutional frameworks shape the economic activities in a given country. While some economic activities flourish in specific institutional frameworks, others perish as institutional forces systematically constrain them (Streeck, 1991). Most generally, comparative capitalism approaches tend to distinguish between lightly and highly regulated regimes. Lightly regulated regimes favor a market logic as a guiding principle for economic activity, while highly regulated regimes prefer to fence in market mechanisms with extensive regulation.

Regime classifications in the literature used to generally juxtapose lightly regulated regimes (e.g., the United States) with highly regulated regimes in Western Europe (e.g., Germany) until scholars began introducing regime types in more comprehensive taxonomies (Amable, 2003). Especially with respect to countries in Southern and Eastern Europe, researchers have suggested additional regimes, defining these economies as dependent-market economies (Nölke and Vliegenthart, 2009), mixed-market economies (Molina and Rhodes, 2007), or post-socialist economies (Bohle and Greskovits, 2012). These broad, ideal-typical regimes have enabled comparative capitalism research to provide a general concept as to why differences in economic activities and work practices across countries endure even in the face of strong homogenizing global trends.

According to the general position of comparative capitalism, competing platform companies face national regimes that enable or constrain their models. As broad regime types shape the competition between platform companies, we thus expect a low diversity of models within regimes but a high diversity across regimes. Lightly regulated regimes should accommodate the market-prone Uber model, while more coordinated regimes should be more favorable to alternative models. From a comparative capitalism perspective, findings on a few platforms in North America cannot be generalized across countries. Instead, different national institutional frameworks with distinct regimes separate the markets, enabling various platform companies to introduce diverse models in order to establish or maintain their market positions.
In the extant research on the platform economy across countries in Europe and North America, we find several contributions that support the latter two positions:

Generally, competition is rarely an explicit topic in empirical platform research as most studies consider only one case at a time or, if they investigate several cases, disregard the relationships between platforms. An exception is the study by Muszyński et al. (2022), which shows how local stand-alone platform companies design their models to fit specialized market niches as they struggle to differentiate their platforms from those operated by large multinational competitors. Comparative capitalism approaches are more common in platform research, especially with respect to gigwork. Quantitative comparative studies highlight topics such as the relevance of various institutional conditions for Uber’s establishment in new countries (Kim and Suh, 2021; Punt et al., 2021). Conceptual contributions broadly view platforms as “institutional chameleons” (Vallas and Schor, 2020, p. 281) that adapt to local institutional conditions. Some qualitative comparative studies examine various institutional influences on different platforms. For example, Thelen (2018) compares Uber’s attempts to establish platforms in the United States, Sweden, and Germany and argues that different outcomes have resulted from different institutional conditions. Ilsøe and Söderqvist (2022) reconstruct how the Nordic system of industrial relations exerted pressure on three multinational platform corporations to adapt to established forms of collective bargaining. Koutsimpogiorgos et al. (2023) show how the Terms & Conditions of five platforms operated by the same multinational corporation diverged over time. Their study found that national subsidiaries adjusted to national laws to maintain the corporation’s overarching strategy of non-employment. Contributions investigating adjacent topics reveal that institutional conditions also influence phenomena like online-based platform work (van Slageren et al., 2022) or technology-supported organizing in general (Davis and Sinha, 2021) and highlight the need for an alternative perspective on the platform economy that can account for the diversity among platform models.

Overall, extant research supports our general challenge to the platform capitalism position but so far does not provide a comprehensive empirical investigation of the diverse platform models across competing companies and countries. Informed by the three distinct positions outlined above, we can now pose the following three research questions: How diverse are platform models in the food delivery sector across Europe and North America? What competitive patterns exist, and how do they relate to the diversity of platform models? How do the diversity of platform models and competitive patterns relate to national institutional regimes?

We investigate the diversity of platform models within and across European and North American countries along key characteristics that we infer from qualitative studies showcasing platform diversity. We expect that models differ across platforms as well as across countries, reflecting underlying templates to control major inputs to the firm, which are summarized in conceptions of control (Fligstein, 2001). To capture these models, we focus on firm structures and financing alongside the formal relationships between platforms and their workers. In contrast to the assumption of monopolies shaping much of empirical platform research, we consider competition of dominant companies on and across national markets. We also assume that platform models will systematically vary across broad regime types, especially separating lightly from strongly regulated regimes.
3 Data, Variables and Methods

3.1 Data

3.1.1 Sample
Our sample consists of 91 cases of the dominant food delivery platforms active in 30 countries in Europe (EU-27, the UK, Norway, and Switzerland) and two in North America (Canada and the United States).

To identify relevant food delivery platforms in each country, we first conducted desk research to create an overview of all platforms active in the national food delivery market in each country. To ascertain dominance, we used app download rankings\(^2\) for the period of January 1, 2018 – February 11, 2022. In each country we identified up to four of the most popular food delivery platforms and designated them as dominant cases. In 23 countries, the sample comprised all nationally active platforms. In nine countries, our procedure excluded a small number of platforms with lower download rankings, indicating a low distribution of the app and thus a marginal impact of the platform on the overall competitive dynamics.\(^3\)

3.1.2 Data collection

No consolidated data source was available to help us find answers to our research questions. Facing the difficulty of collecting timely and accurate information in various countries simultaneously, a common problem of cross-national studies, we implemented a multimodal approach to build a consistent dataset of factual information from various sources (e.g., company websites, company reports, trade register entries, and media coverage).

We organized data collection according to a template using two different sources: research team desk research and crowdsourcing desk research. Crowdsourcing data gathering tasks were commissioned to freelancers in the countries under investigation (two per country), recruited through the crowdsourcing platform freelancer.com. Research team data gathering was conducted by members of the project team. Dissenting results of data collection were reviewed, and data was re-collected by the research team until differences could be resolved. All gathered factual information was transferred into a final dataset only when discrepancies could be eliminated. In a small number of cases, the team could not ascertain the relevant information (e.g., the financial sources of one case remained unclear). Data collection took place from March to October 2022.

3.2 Variables

For each sampled case we operationalized the platform models along two basic dimensions: (1) employment relationships and (2) firm structure and financing. To account for the role of national institutional frameworks, we coded (3) countries and regime types to categorize countries.

\(^2\) 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 for the apps of all providers we identified for each country.

\(^3\) Our procedure excluded one platform in Cyprus, Greece, and Norway; two in Germany, Ireland, Poland, Portugal, and Sweden; five in the United Kingdom; and eight in Italy.
(1) Employment relationships: This dimension of the model holds information about the formal employment relationship between platform companies and workers that perform the delivery service. The contract type captures whether workers for the investigated platform are officially subordinate to the platform company, to another organization, or to no one, depending on their formal employment status.

In a first step, we coded the contract type used by each sampled case with four binary coded variables (1: Yes, 0: No). Self-employed: Workers are formally self-employed and are formally connected to the platform through a brokerage contract. Subcontracted: The platform company cooperates with another organization (e.g., a temporary employment agency or fleet partner) that employs workers and/or administers their relationship to the platform company in other ways (e.g., by receiving and forwarding payments). Employed: Workers are formally employed by the platform company. Details of the employment contract can vary as this mode does not distinguish between different forms of formal employment (e.g., permanent/fixed-term, part-time/full-time, etc.). Other: Workers’ employment status is formally and materially distinct from both employment and self-employment according to the labor laws of the respective countries. The contract type self-employed (N: 75) is most frequent in all cases, followed by subcontracted (N: 41) and employed (N: 27); other (N: 6) is the most infrequent of all contract types (see Table A4).

From these four variables, we found that cases often combine contract types in particular mixes. We found nine ways of combining mutually exclusive contract types (for a detailed breakdown, see Appendix). The combinations showed an exclusive usage only for the contract types self-employed and employed. The contract types subcontracted and other always link with self-employed or employed. We therefore denote them as secondary contract types.

To reveal the distribution between the poles self-employment and employment, we summarized the contract type combinations into five categories: “only self-employed,” “self-employed plus secondary,” “self-employed & employed plus secondary,” “employed plus secondary,” and “only employed.” The “plus secondary” denotes the usage of subcontracting (in most cases) and/or other. Table 1 reports the summarized five combinations of the contract types against the frequencies of the individual contract types.

4 To identify these cases, we investigated the conditions that potential candidate status provides to workers and platforms in different countries (see Appendix). We coded cases as “other” if the platform had workers whose status was formally distinct from employment and self-employment and the conditions of the status were materially distinct from both employment and self-employment for the platform. In our sample, this applies to contract types in three countries: “Freie Dienstnehmer” (free contractor) in Austria, “Peer2Peer” in Belgium, and “Umowa zlecenie” (contract of mandate) in Poland.
Table 1. Contract types (non-exclusive) and contract type combinations (mutually exclusive) used by dominant food delivery platforms in Europe and North America (N=91)

<table>
<thead>
<tr>
<th>Contract type combinations (CTC)</th>
<th>Self-employed</th>
<th>Employed</th>
<th>Subcontracted</th>
<th>Other</th>
<th>Total CTC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only self-employed</td>
<td>29</td>
<td></td>
<td>-</td>
<td>-</td>
<td>29</td>
</tr>
<tr>
<td>Self-employed + secondary</td>
<td>35</td>
<td>-</td>
<td>33</td>
<td>5</td>
<td>35</td>
</tr>
<tr>
<td>Self-employed &amp; employed + secondary</td>
<td>11</td>
<td>11</td>
<td>5</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>Employed + secondary</td>
<td>-</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Only employed</td>
<td>-</td>
<td>12</td>
<td>-</td>
<td>-</td>
<td>12</td>
</tr>
<tr>
<td>Total contract types</td>
<td>75</td>
<td>27</td>
<td>41</td>
<td>6</td>
<td>91</td>
</tr>
</tbody>
</table>

Note: + secondary: additional use of contract types subcontracted and/or other

(2) Firm structure and financing: This dimension provides basic information about the structure of the platform companies and their major financial sources.

The variable corporation holds either the name of the multinational corporation for subsidiaries of such corporations, like “Subsidiary: Uber,” or “Single firm” for platform companies that are local stand-alone companies.

The binary variable venture capital captures whether the platform company has received venture capital funding at its startup (1: Yes, 0: No). We found only four cases that relied completely on other forms of funding. These cases either received necessary capital from an investment bank (Takeout Group) or from private investors (Order.bg, Telli Toit, Wedely). In one case (Smood), the initial capital source remained unknown.

For local subsidiaries of a multinational corporation, the coded information derives from the multinational corporation.

Countries and regime types: Following the broad classifications in the comparative capitalism literature, we coded the country for each case in our dataset and categorized the 32 countries into seven regimes (Table 2). This categorization builds on the extended model of capitalist regimes by Amable (2003) that distinguishes five basic types: market-based (here: “Anglo-American”), “Continental European,” “Mediterranean,” social-democratic (here: “Nordic”), and “Asian.” Our study adopts four of these types, leaving out “Asian” as none of our countries falls into this category.

Accounting for the large number of post-socialist countries in our sample, we extend the types by subdividing Eastern European countries into three regimes, defined by Bohle and Greskovits (2012). These researchers investigated the development of new economic and political systems in Eastern Europe since the 1990s and argued that different institutional dynamics led to the emergence of three additional regime types: “Eastern-Baltic,” “Eastern-Central,” and “Eastern-Southern.”
3.3 Methods

We use descriptive statistics and exploratory methods to investigate our three research questions. To measure diversity within regimes, we calculated the relative entropy (Lin, 1991). To depict the patterns of cross-national competition, we computed a simple network graph using the information on cases and the name of the multinational corporations or local stand-alone companies to reveal the platform companies that operate in the same countries. Computing a multiple correspondence analysis (MCA) with the R-package FactoMineR (Lê et al., 2008), we explored the links between platform models, competitive patterns, and regimes. An MCA is a method that calculates the associations of multiple categorial variables in a dataset and identifies jointly occurring values as indicators of latent dimensions in the data (Greenacre and Hastie, 1987; Blasius, 2001). The associations can be displayed graphically by plotting cases and/or variables in a coordinate system in which the x- and y-axes represent the latent dimensions with the largest explained variance.

4 Results

We present our empirical results following the three research questions posed above.

4.1 Diversity of platform models across Europe and North America

First, we turn to the diversity of platform models in the food delivery sector across Europe and North America (the United States and Canada).

Considering employment relationships, our results indicate that platforms utilize contract types in various combinations to diversify the platform model, with a substantial difference between cases from Europe and North America. Table 3 depicts the distributions and reports in the total column that contract type combinations vary considerably. The most frequently occurring category overall, “self-employed plus secondary” (38 percent), combines self-employment with the contract types “subcontracted” and “other.” The second most frequent combination is “only self-employed” (32 percent), followed by “only employed” (13 percent). A minor share (14 percent) combines self-employment and employment, in some cases extended by “subcontracted” and “other.” The remaining cases (4 percent) combine employment with “subcontracted” and “other” contract types. When the percentages are added, 82 percent of our cases utilize self-employment – often in

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### Table 2. Broad regime types and associated countries

<table>
<thead>
<tr>
<th>Regime type</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anglo-American</td>
<td>Canada, Ireland, United Kingdom, United States</td>
</tr>
<tr>
<td>Continental</td>
<td>Austria, Belgium, France, Germany, Luxembourg, Netherlands, Switzerland</td>
</tr>
<tr>
<td>Eastern-Baltic</td>
<td>Estonia, Latvia, Lithuania</td>
</tr>
<tr>
<td>Eastern-Central</td>
<td>Czech Republic, Hungary, Poland, Slovakia, Slovenia</td>
</tr>
<tr>
<td>Eastern-Southern</td>
<td>Bulgaria, Croatia, Romania</td>
</tr>
<tr>
<td>Mediterranean</td>
<td>Cyprus, Greece, Italy, Malta, Portugal, Spain</td>
</tr>
<tr>
<td>Nordic</td>
<td>Denmark, Finland, Norway, Sweden</td>
</tr>
</tbody>
</table>

*Source: authors’ collation following typologies by Amable (2003) and Bohle & Greskovits (2012)***
combination with additional contract types. Conversely, 29 percent offer employment, also often combined with additional contract types.

For North America, Table 3 shows that all six cases uniformly fall into the “only self-employed” category. In contrast, the European cases exhibit a high degree of diversity across combined contract types, mirroring the overall distribution.

**Table 3. Contract type combinations used by dominant food delivery platforms in Europe and North America (N=91)**

<table>
<thead>
<tr>
<th>Contract type combinations</th>
<th>Europe</th>
<th></th>
<th>North America</th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Only self-employed</td>
<td>23</td>
<td>27%</td>
<td>6</td>
<td>100%</td>
<td>29</td>
<td>32%</td>
</tr>
<tr>
<td>Self-employed + secondary</td>
<td>35</td>
<td>41%</td>
<td>0</td>
<td>0%</td>
<td>35</td>
<td>38%</td>
</tr>
<tr>
<td>Self-employed &amp; employed + secondary</td>
<td>11</td>
<td>13%</td>
<td>0</td>
<td>0%</td>
<td>11</td>
<td>12%</td>
</tr>
<tr>
<td>Employed + secondary</td>
<td>4</td>
<td>5%</td>
<td>0</td>
<td>0%</td>
<td>4</td>
<td>4%</td>
</tr>
<tr>
<td>Only employed</td>
<td>12</td>
<td>14%</td>
<td>0</td>
<td>0%</td>
<td>12</td>
<td>13%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>85</td>
<td>100%</td>
<td>6</td>
<td>100%</td>
<td>91</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Notes: North America: USA, Canada; + secondary: additional use of contract types subcontracted and/or other*

Considering the second dimension, **firm structure and financing**, our results overall indicate limited diversity among platform models (see Appendix for details): pertaining to the variable corporation, our results show that 95 percent of our platform companies are subsidiaries of multinational corporations, while the remaining 5 percent of cases are operated by local stand-alone platform companies. We also find little diversity along the variable venture capital, with 95 percent of the platforms in our dataset receiving venture capital at startup. The 5 percent with other or unknown financial sources are almost all single firms except for the one case in the dataset that is a subsidiary of the multinational “Takeout Group.” In this dimension, the cases from North America exhibit no diversity as all cases are venture capital funded and part of a multinational corporation.

### 4.2 Patterns of competition

We now turn to the competitive patterns that food delivery platforms form across countries, and to their relationship with the platform models. While the multinational platform corporations active in North America also compete in European countries, our results show a substantial number of further market actors.

Across our 32 countries, subsidiaries dominate food delivery, with only 4 platforms operated by single firms. These subsidiaries belong to 1 of 8 multinational platform companies. The large multinationals “Just Eat Takeaway” and “Wolt/Doordash” lead our sample markets with 18 cases, tailed by “Uber” (14 cases) and “Bolt” (12 cases) with a slightly lesser count. Subsidiaries of “Delivery Hero” and “Glovo” are dominant in 10 and 8 of our sampled markets, respectively, with
“Deliveroo,” a poster child of the debate, lagging behind with only 6 cases. The multinational “Takeout Group” has only 1 case in our sample.

To visually represent the patterns in which these subsidiaries of the multinational platform corporations and single firms compete against each other, we computed a simple network graph.

In this network, the platform companies (multinational corporations or single firms) and countries form the vertices. The edges connect companies to countries if the company operates one of the dominant platforms in the national market of this country. Single firms have exactly one edge in the network, while multinational corporations have as many edges as platforms they operate in our dataset.

Figure 1 displays the network graph that shows two distinct groupings of multinational platform corporations. An additionally computed cluster analysis (cf. Clauset et al., 2004) confirmed the existence of the two groupings.

One grouping (A) comprises “Just Eat Takeaway” in the center along with “Uber” and “Glovo,” with “Deliveroo” as an outlier. The other grouping (B) is formed by “Bolt” and “Delivery Hero,” with “Wolt/Doordash” as the central case. Several national markets connect to only one grouping (e.g., UK, Spain to A; Greece, Norway to B). The multinational corporations intensely compete within the two groupings. However, a bulk of countries resides in between (e.g., Germany, Canada, United States, Sweden, Austria), linking one or more competing multinationals from both groupings with each other and marking national markets that are contested between the two groupings.
Considering these patterns, it is interesting to learn how each multinational corporation and the network of competition relationships relate to the diversity of contract types we found above.

Figure 2 shows the contract type combinations across all subsidiaries for each multinational corporation, separated by groupings A and B.

The case “Just Eat Takeaway” presents a clear outlier as it exhibits the highest share of the “only employed” category. The multinational competitors in grouping A, “Uber,” “Glovo,” and “Deliveroo,” primarily rely on self-employment, with or without secondary contract types. Similarly, “Wolt/Doordash” and “Bolt” from grouping B exhibit a pattern of self-employment or self-employment plus secondary, with a slightly higher overall share of secondary contract types. “Delivery Hero” subsidiaries predominantly mix employee status with self-employed and/or secondary contract types. Contract type combinations vary across multinational corporations and across local subsidiaries of the same multinational corporation.
4.3 The relation between platform models, competitive patterns, and regime types

In our final step, we analyze how the diversity of platform models and competitive patterns relates to national institutional regimes. Most notably, cases from North America all fall into one regime type, the Anglo-America regime, which is often understood to be the most lightly regulated. The Anglo-American regime extends to Europe by including the United Kingdom and Ireland.

To measure the diversity within and across regimes, we calculated the relative entropy $H$ of the contract type combinations. The entropy is close to 1 in cases with many different contract types and close to 0 in cases with only a few types and little diversity.

Our results (see Appendix) reveal a high diversity ($H=0.865$) of contract types across all regimes. Within the broad regime types, the diversity varies considerably. This ranges from very low diversity in the Anglo-American regime ($H=0.178$) through medium diversity in the Eastern-Central ($H=0.390$) regime to a much higher diversity in the Eastern-Southern ($H=0.623$), Eastern-Baltic ($H=0.754$), Mediterranean ($H=0.829$), Continental ($H=0.877$) and Nordic ($H=0.912$) regimes.
Figure 3 graphically depicts this diversity across regimes, showing the varying number of combinations and systematic differences in the observed contract type combinations. Only cases in the lightly regulated Anglo-American regime predominantly use the contract type “only self-employed.” The mixed Eastern-Central regime relies mostly on “self-employed plus secondary,” and the Eastern-Southern and Mediterranean regimes exhibit a similar tendency but show a slightly higher percentage of further combinations. The Nordic and the Eastern-Baltic regimes lean toward “only self-employed” with further combinations, including those with employment, increasing the overall diversity. Only for the highly regulated “Continental” regime do we observe a dominance of the category “only employed” alongside a mix of further combinations.

**Figure 3.** Share of contract type combinations for platforms (N=91), per regime; “+ secondary” = additional use of contract types subcontracted and/or other

Since our findings show that contract type combinations differ systematically across broad regime types, we investigate this further by exploring the relationship between regime types, diverse contract types, and competitive patterns of multinational corporations.

We computed a multiple correspondence analysis (MCA) for the variables contract type, corporation, and regime. As the limited diversity of firm structure and financing almost completely coincides with being a “single firm” or being a subsidiary of the two multinational corporations “Glovo” and “Bolt,” both of which are already present in the MCA, we introduce the variable venture
capital as a passive variable.⁵ We also introduce a passive variable with five values for the five contract type combinations and depict these values instead of the individual contract types in the MCA graph to better connect to the findings presented above.

Figure 4 shows the MCA results displaying the categories of the utilized variables. Put simply, the closer two categories appear to each other on the graph, the more often they co-occur in the data, indicating a higher degree of correlation. The farther apart two categories appear on the graph, the less often they co-occur in the data. The x- and y-axes try to separate the most substantial factors for the co-occurrence and indicate important underlying dimensions that separate or relate the categories across the cases in the dataset. The graphical display uses the dimensions with the largest explained variance (denoted by the eigenvalue λ).

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⁵ An alternative MCA in which venture capital is introduced as an active variable computes the same pattern of interrelations but a highly distorted graph because of the skewed distribution of the variable venture capital (see Appendix).
The MCA reveals a pattern of interrelation between contract types, multinational corporations, and regimes: For example, “Uber” and “ Deliveroo” align with the Anglo-American regime, which is also associated with self-employment, indicated by the category “only self-employed.” “Just Eat Takeaway” closely associates with the Continental regime and employment of workers in the “only employed” category. “Glovo” and “Bolt” associate with the mixed market regimes in Southern and Eastern Europe, with both relating to the usage of self-employment plus secondary contract types. The results overall reveal an interrelated pattern of competing multinational corporations in national institutional regimes that correlates with observable patterns of diversity with respect to contract types.

Overall, our results provide the following main insights: We find a general uniformity across Europe and North America as almost all cases initially relied on venture capital and the majority are operated by subsidiaries of multinational corporations. However, we also find a substantial diversity of contract types in Europe, where platforms use self-employed, employed, and subcontracted (or otherwise employed) workers, often in various combinations, alongside a clear uniformity in North America, where platforms use only self-employment.

Considering competition, we found that platform companies in our sample form noticeable competitive patterns that relate to diverse platform models. A few local stand-alone platform companies face several competing multinational platform corporations. Cross-nationally, we find two groupings of multinational corporations. Contract types vary within and across multinational corporations, with some corporations exhibiting a tendency toward particular contract types. The diversity within each multinational corporation forms distinct patterns, suggesting a preference for certain contract types that could be interpreted as niche specialization. This indicates that companies can and do adopt their models to local conditions and the competitive situation.

In an integrated analysis, we show that diverse contract types, competitive patterns, and national institutional regimes interrelate: Platforms in the lightly regulated countries of the Anglo-American regime type (extending beyond North America) predominantly follow the Uber template of self-employment. Platforms in countries of the other regime types implement various alternatives. Platforms in countries with mixed regimes tend to utilize self-employment more often alongside secondary contract types, whereas the highly regulated Continental regime presents the only instance where employment prevails. We find that diverse contract types, multinational corporations, and regimes align. Our findings therefore point out systematic differences between platform models of competing firms in lightly regulated and highly regulated regimes, with platforms in mixed regimes following more mixed approaches.

5 Discussion and conclusion

In this paper, we challenged the assumption of a uniform platform model across countries. Following economic sociology, we assumed that market competition and national regimes foster diverse platform models. We conducted a unique empirical investigation of food delivery platforms across countries. Our results reveal a uniform platform model in North America and a high degree...
of diversity in Europe. The uncovered diversity of platform models unfolds against a backdrop of multiple competing platform companies. We also showed that diverse platform models and patterns of competition relate to broad regime types, as generally assumed in comparative capitalism research. Hence, our investigation reveals that food delivery platforms across Europe differ systematically from flagship pioneers in North America and that approaches are needed that can account for the systematic empirical diversity of platform models across countries.

Building on our comprehensive empirical overview, we can now highlight key characteristics of food delivery platforms across Europe and North America and discuss their implications for platform research. With respect to firm structure and financing among platform companies, we find striking uniformity as almost all cases in our sample relied on initial venture capital investment and were operated by subsidiaries of multinational corporations. In contrast, contract types of workers exhibit a high level of diversity. In line with mounting case study evidence, our findings show that platforms that use alternatives to self-employment are not just exceptions to a dominant model but instead indicate a systematic diversity across companies and countries. Often, platforms combine various contract types. These empirical results conflict with the uniform model assumed by the platform capitalism position and require additional theorizations of the observed diversity.

Introducing competition and comparative capitalism to platform research allows us to highlight three main insights:

First, platform models in the food delivery sector operate with diverse forms of employment. These forms range beyond self-employment, which the platform capitalism position presupposes, to include subcontracting and traditional employment. Often, observable platform models mix several forms. Platform companies thus do not appear to break radically with traditional employment to impose a new form on the economy. Instead, the models we observed cover the whole range of employment relations outlined by Davis (2016) because many platform companies utilize subcontracting and employment, implementing well-known forms of the “flexible firm” (Atkinson, 1984). In line with the findings of Johnston et al. (2023), our results indicate that the contract type is at least partially at the discretion of platform companies, which are not doomed to utilize self-employment to establish dominant platforms. While being employed by platform corporations might not involve superior job quality, in many countries, even within the platform economy employees can invoke certain rights. For example, they can take advantage of labor laws to unionize or even bargain collectively.

Second, the diversity of contract types across countries relates to specific patterns of competition among multiple large multinational platform corporations and only a few local stand-alone companies in domestic niches. These patterns emerge in a competitive network that extends across countries as multinational platform corporations fight to dominate several national markets. Competition also generates distinct groupings with intense ingroup competition. Here, platform models vary in their usage of contract types within national markets, within groupings, and even across the subsidiaries of each multinational corporation. The relation between platform models and competitive patterns underlines that platform companies can and do adapt their models to local conditions. The diversity of contract types also indicates that platform companies at least partially compete through employment relationships.
Third, platform models and competitive patterns relate to national institutional regimes, which we captured through broad regime types according to assumptions made in the comparative capitalism literature. Our results show that platform models generally vary within and between regime types. Most notably, the lightly regulated Anglo-American regime type, which includes the pioneer cases from North America, exhibits very little diversity. Most platforms in countries of this regime implement a uniform model using self-employed workers. Other regime types exhibit high diversity, with some regimes appearing to foster the use of particular contract types. Platforms in the Continental regime rely more frequently on formal employment, whereas platforms operating in Mediterranean, Eastern-Southern or Eastern-Central countries resort more often to self-employment and subcontracting. The Nordic regime comprises the highest diversity, indicating that forms of employment are less relevant in these institutional systems due to their universalistic welfare state (Thelen, 2018). These findings lend support to assumptions derived from comparative capitalism: The market-oriented Uber model aligns with the most lightly regulated regime type, employment is more common in the highly regulated Continental regime type, and platforms in countries with mixed-market economies more often implement mixed contract types, reflecting the varying local conditions and more incoherent institutional frameworks. While assumptions about the national institutional frameworks in which these markets are embedded partially correspond to the contract types platforms prefer, frameworks do not determine models.

Building on our unique empirical results, we can thus extend the narrow understanding of the platform as a monopolistic singularity and reconnect platform research to economic sociology. We interpret our results as evidence that several multinational platform corporations in the food delivery sector compete to establish their own conception of control as dominant while jockeying for national and cross-national market leadership. Here, our findings support case study evidence that noticed competitive dynamics underlying platform models (Muszyński et al., 2022). While initial reliance on venture capital presents a uniform building block of these companies’ conceptions of control (Fligstein, 2001), other aspects remain contested. Especially the form of employment exhibits diversity across national markets and across and even within platform corporations, making it an element of competition.

Overall, the results problematize the idea that case study evidence or theorizations from one regime type, such as the Anglo-American regime, can readily account for the models in other regimes, especially those of the Continental regime type. Taken together, we conclude that a model exemplified and conceptualized by a few flagship pioneers in North America cannot account for the empirical diversity we observed. Rather, our empirical investigation indicates that the initial platform model form North America diffused to Europe, where it diversified in response to intense competition and diverse national institutional conditions. Hence, the platform conception of control in food delivery is not settled yet and still contested in ongoing competition – at least in Europe.

Our approach has several limitations. The empirical investigation tackles a significant challenge of collecting data concerning platforms across countries. For that purpose, we utilize available data sources and various information gathering techniques to validate the collected information, relying on publicly available material (e.g., company websites, company reports, trade register entries, and media coverage). While this limits our empirical reach, we assume that this produces valid data for our dimensions since platforms need to make information public to continuously recruit their labor
forces or to comply with all imposed regulations. Our sample comprises cases from Europe and North America, representing two regions highly salient in current debates. While including platforms from other world regions would exceed our scope and resources, our approach could serve as a basis for future comparative studies that include other important regions such as South America, Africa, and Asia (Jackson, 2022). Aside from the methodological challenges, such studies would require additional theoretical foundations for comparisons. Thus, our empirical approach provides a first step toward tackling these challenges and advancing these debates. Our study contributes needed empirical evidence to discussions that rely on comparison (Schor et al., 2020) at the level of both platforms and countries.

The paper’s main contribution is to prove that in the debates about the rise of platforms as a novel organizational form, the platform capitalism position does not present the full picture. Using empirical evidence, we show that the rise of platforms is accompanied by competition among several multinational platform corporations operating within national institutional frameworks and implementing a diversity of models. Our results challenge the platform capitalism position, which assumes that a uniform platform model provides a general template for the platform debate. We show that because of the narrow focus on North America and conceptualization based on a limited set of cases, this line of argument has failed to both capture theoretically and account for the empirical diversity of platforms – especially across Europe. We therefore argue for an understanding of platforms as a novel form of enterprise that is shaped by competitive dynamics within national institutional regimes in which platform companies try to establish their own conceptions of control as dominant. An important implication of our study is that researchers should treat sweeping claims about emerging changes to capitalist economies with caution. As our study shows, established theories of economic sociology remain highly relevant, especially in the face of eminent transformations like the rise of powerful internet companies.

6 References


7 Appendix

Table A4. Country-specific formal status behind contract type other and characteristics compared to employment and self-employment

<table>
<thead>
<tr>
<th>Country</th>
<th>Formal status</th>
<th>Characteristics compared to employment and self-employment</th>
</tr>
</thead>
</table>
| Austria | Freier Dienstnehmer (free contractor) | Entry requirements: similar to self-employment  
Taxation: like employment  
Labor protections: like employment  
Social security: like employment |
| Belgium | Peer2peer                   | Entry requirements: platform accredited as p2p platform; income caps; all p2p workers reported to tax authority  
Taxation: like self-employment  
Labor protections: like self-employment  
Social security: like self-employment |
| Poland  | Umowa zlecenia (contract of mandate) | Entry requirements: like self-employment  
Taxation: like self-employment  
Labor protections: like self-employment but with minimum wage as lower limit for payment depending on individual circumstances but less than employment, more than self-employment  
Social security: like self-employment |

Table A2. Frequencies of all possible mutually exclusive combinations of contract types

<table>
<thead>
<tr>
<th>Possible combinations of contract types</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only Self-employed</td>
<td>29</td>
<td>32 %</td>
</tr>
<tr>
<td>Self-employed &amp; subcontracted</td>
<td>30</td>
<td>33 %</td>
</tr>
<tr>
<td>Self-employed &amp; other</td>
<td>2</td>
<td>2 %</td>
</tr>
<tr>
<td>Self-employed, subcontracted &amp; other</td>
<td>3</td>
<td>3 %</td>
</tr>
<tr>
<td>Self-employed, employed, subcontracted &amp; other</td>
<td>0</td>
<td>0 %</td>
</tr>
<tr>
<td>Self-employed, employed &amp; other</td>
<td>0</td>
<td>0 %</td>
</tr>
<tr>
<td>Self-employed, employed &amp; subcontracted</td>
<td>5</td>
<td>5 %</td>
</tr>
<tr>
<td>Self-employed &amp; employed</td>
<td>6</td>
<td>7 %</td>
</tr>
<tr>
<td>Employed &amp; other</td>
<td>1</td>
<td>1 %</td>
</tr>
<tr>
<td>Employed &amp; subcontracted</td>
<td>3</td>
<td>3 %</td>
</tr>
<tr>
<td>Only employed</td>
<td>12</td>
<td>13 %</td>
</tr>
<tr>
<td>Total</td>
<td>91</td>
<td>100 %</td>
</tr>
</tbody>
</table>
### Table A3. Financial sources at startup by firm structure of platform companies

<table>
<thead>
<tr>
<th>Financial source at startup</th>
<th>Subsidiary (N = 87)</th>
<th>Single firm (N = 4)</th>
<th>Total (N = 91)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Venture capital</td>
<td>86</td>
<td>99 %</td>
<td>0</td>
</tr>
<tr>
<td>Other form of capital</td>
<td>1</td>
<td>1 %</td>
<td>3</td>
</tr>
<tr>
<td>Capital source unknown</td>
<td>0</td>
<td>0 %</td>
<td>1</td>
</tr>
</tbody>
</table>

Notes: Financial source at startup encoded with variable venture capital; Venture capital: venture capital = Yes, Other form of capital: venture capital = No, Capital source unknown: venture capital = NA

### Table A4. Diversity of contract type combinations across regime types

<table>
<thead>
<tr>
<th>Regime type</th>
<th>N</th>
<th>Diversity H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anglo-American</td>
<td>12</td>
<td>0.178</td>
</tr>
<tr>
<td>Eastern-Central</td>
<td>15</td>
<td>0.390</td>
</tr>
<tr>
<td>Eastern-Southern</td>
<td>9</td>
<td>0.623</td>
</tr>
<tr>
<td>Eastern-Baltic</td>
<td>8</td>
<td>0.754</td>
</tr>
<tr>
<td>Mediterranean</td>
<td>17</td>
<td>0.829</td>
</tr>
<tr>
<td>Continental</td>
<td>19</td>
<td>0.877</td>
</tr>
<tr>
<td>Nordic</td>
<td>11</td>
<td>0.912</td>
</tr>
<tr>
<td><strong>All</strong></td>
<td>91</td>
<td>0.865</td>
</tr>
</tbody>
</table>

Note: Diversity H calculated as relative Shannon entropy, following Lin (1991)
Figure A1. Frequencies of contract type combinations per regime for food delivery platforms in Europe and North America (N=91); “+ secondary” = additional use of contract types subcontracted and/or other

Adding venture capital as active instead of passive variable generates a similar pattern of interrelations between contract type, corporation and regime as in figure 4 where the variable is passive. However, the resulting graph is highly distorted as the distribution of the variable venture capital is extremely skewed (“Yes”: 95%).