

Online Labour Platforms in the context of Human Rights and Environmental Due Diligence

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Study on Online Labour Platforms in the context of Human Rights and Environmental Due Diligence

A research report for

Deutsche Gesellschaft für Internationale Zusammenarbeit

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Executive summary

Here, we outline this study's main findings related to the relevance of the German Act on Corporate Due Diligence in Supply Chains (LkSG) for online labour markets. The quantitative evidence relates to web-scraped data from a globally used online labour platform.

Online work and the supply chain regulation

The relationship between cloudworkers and clients qualifies as either quasi-employment or a buyer-supplier relationship depending on the type of activity. The LkSG (as well as the early proposals of complementary European legislation) suggest that cloudwork can be regarded as a part of the definition of the supply chain and thus require companies to include cloudworkers in their due diligence processes.

Human rights-related obligations depend on the specific type of cloudwork. As the LkSG and the CSDDD refer to international labour and human rights standards, it is important to relate those standards to the prevalent risks present in cloudwork, which might differ systematically from other occupations.

Large companies are aware of due diligence requirements but do not yet report on the use of cloudwork and related risks. DAX40 companies discuss their efforts in establishing human rights and environmental due diligence processes in business reports, but information on the use of cloudwork is missing.

Secondary sources show that German companies are aware of and use cloudwork. Company surveys suggest that large German companies, which fall under the scope of the LkSG, use cloudwork or source services via online labour platforms.

Online outsourcing by German clients

Germany's role in the global outsourcing via online labour markets is representative of its account in the world population. Within the total amount of projects in the data analysed for this study (almost 2 million projects), German clients account for 2 % of all projects. This figure amounts to more than 36.000 projects and delineates the widespread impact of the LkSG.

Projects outsourced from Germany have a geographical focus on Europe. In comparison to the overall market, German clients tend to hire more freelancers from European countries, and there is a focus on platform workers from German-speaking countries.

Online labour activity clusters in large cities, but rural areas do not suffer a negative wage premium. Cloudworkers hired by German clients are predominantly concentrated in urban areas across the globe, but there are no location-related effects on wages.

Only a minority of clients can be identified from the project descriptions. While the online platform provides a lot of information about individual cloudworkers, there are no client profiles that would provide a comparable level of detail about the client companies, leading to information asymmetries.

Some clients are open about their identity, but the platform seems to remove information that would make it possible to identify clients. A critical feature for the identifiability of clients is the presence of external web links in the project description, which are often removed by the platform.

Most of the identified clients on platforms are small startups from the digital economy. Sourcing online labour is particularly prevalent among small companies which provide digital services or other services. However, secondary literature indicates the use of online labour markets by larger companies as well. Additionally, companies disclosing their identity on the platform are more active users of online labour. We find that firms disclosing their identity use online labour platforms more frequently and pay higher wages.

Wages of online projects outsourced by German clients

Wages of projects outsourced from Germany vary widely. There is a large variation both between and within occupations of online labour projects outsourced by German clients. These variations suggest systematic differences in earnings possibly undercutting living wages in the respective worker's contexts.

Wages between cloudworkers from different locations vary substantially. We find that many online workers in Serbia and Egypt earn global average wages on the projects they conduct for German clients, while workers in Bangladesh conduct mostly lower-paid projects compared to the global average.

Most cloudworkers earn above local minimum wages, and some earn above-average wages.

In the three examined countries, almost all cloudworkers earn on average more than the (very) low local minimum wages. However, this does not necessarily indicate earning above context-dependent living wages. Wage differentials indicate a hierarchy between well-paid and low-paid tasks.

Geographical and gender wage gaps indicate a stratified labour market. In certain types of job types, we observe substantial wage gaps: on the one hand, between cloudworkers from Bangladesh in comparison to those from Egypt or Serbia, and on the other hand, between female and male workers in many occupations.

Risks for cloudworkers

Cloudworkers face several risks that are addressed by the LkSG. Empirical evidence indicates that several of the protected legal positions, as described by the LkSG, are at risk in the context of online labour platforms. These risks are to be identified, prevented and mitigated by clients that fall under the LkSG.

Hidden costs produce additional pressure for cloudworkers. Platform-internal mechanisms such as maintaining good profiles and additional investments such as the time spent in the search for projects create pressure on cloudworkers and their income by reducing their actual earnings per hour. Other hidden costs that reduce real earnings relate to initial investments necessary to access online labour platforms, such as acquiring hardware equipment, data bundles and specialised software.

Multiple labour risks affect workers on online labour platforms. These risks relate to wages and payment practices, occupational health and safety, debt dynamics, collective bargaining, discrimination and working hours. Often these risks overlap and reinforce each other. There are further contextual factors exacerbating these risks.

In terms of *Occupational Health and Safety*, cloudworkers are exposed to increased stress levels and accompanying health repercussions. Cloudworkers, due to the high flexibility and missing regulations, are exposed to physical and mental repercussions caused by stress and work-related anxiety. Furthermore, cloudworkers lack the healthcare contributions by conventional employers to cope with occupation-related health problems.

Discriminatory practices on online labour platforms are exacerbated by missing transparency and accountability. In the absence of complaint mechanisms as well as due to general

lacking transparency on online labour platforms, workers who experience discrimination based on gender identities and geographical location have no access to remedies.

Regulation of online work

Workers have no (institutionalised) possibility to negotiate the payment for their services.

While the dispersion and decentralisation of the global cloudwork labour force make collective bargaining difficult, the main obstacle is the inaction by platforms to facilitate the possibility for workers to self-organise. The realisation of core labour norms, such as collective bargaining and freedom of association, requires appropriate consideration by regulators and platforms.

Opportunities of cloudwork to improve the livelihood of people depend on the reduction of structural barriers as well as the abolition of harmful internal mechanisms.

Structural barriers refer to low-quality infrastructure (i. e., internet access), expensive equipment (i. e., hard- and software) and access to further education. Harmful internal mechanisms refer to intentional and unintentional tendencies on online labour platforms to produce stress on workers, wage theft, discriminatory algorithmic selections and the missing right to bargain collectively. Where there are persisting discriminatory practices and adverse impacts on workers, redress mechanisms need to be put in place to expand the potential of cloudwork as a viable source of income.

For cloudworkers to be included in local labour law and social protection schemes, policy-makers need to take the international nature of the market into account.

New regulations for online labour markets need to consider that cloudwork connects clients, workers and platforms from all over the world. Thus, regulators should pay attention to the experiences of cloudworkers themselves and engage in dialogue with all stakeholders.

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List of Abbreviations

AI Artificial Intelligence

BGB German Civil Code

CSDDD Corporate Sustainability Due Diligence Directive

EU European Union

GIZ Gesellschaft für internationale Zusammenarbeit GmbH

HREDD Human Rights and Environmental Due Diligence

ICESCR International Covenant on Economic, Social and Cultural Rights

ILO International Labour Organization

LkSG German Act on Corporate Due Diligence in Supply Chains

OECD Organization for Economic Cooperation and Development

OHS Occupational Health and Safety

PTSD Post-traumatic Stress Disorder

UDHR Universal Declaration on Human Rights

UNGP United Nation's Guiding Principles on Business and Human Rights

UK United Kingdom

US United States of America

ZEW Leibniz-Centre for European Economic Research

1 Introduction

Over the past decades, globalisation and digitisation has changed our world of work at a fast pace. New forms of work have been arising through digital technologies and innovations. However, this change does not only hold positive effects, and hence the public debate on how to deal with the challenges that an ever more globalised world poses to individuals societies. This study seeks to explore the challenges that arise from new forms of work, digitisation and a globally connected online workforce with a focus on supply chain regulation and working conditions in online markets. The study aims at contributing to the political debate by providing an empirical basis for further regulation in the area of online labour markets.

During the last two decades, online platforms rose as marketplaces that allow companies to tap into global talent pools. By connecting specialised workers with clients via online interfaces, so-called *online labour platforms* introduced new forms of work and fundamentally opened the conventional definitions of "employment" and "work". Online labour platforms are commercial digital platforms, which offer the mediation of paid services. Such services are either location-based, commonly termed as "gigwork", or online, sometimes referred to as "cloudwork" [1]. The focus of this study is on cloudwork, as it researches the international connections between clients and workers via online platforms on non-location-based services. Importantly, we examine three relevant actors: *(cloud)workers*, *clients* and *online (labour) platforms*, which engage in a three-sided form of coordination (See Figure 1). Clients are able to post jobs and project descriptions via the web interface. Cloudworkers can apply for projects based on their profile and via their user interface. Platforms enable this exchange by providing the user interfaces and designing the general framework of the interaction between clients and workers. Examples of online labour platforms include *Upwork*, *Amazon MTurk*, *99designs*, *freelancer.com*, or *fiverr.com*.

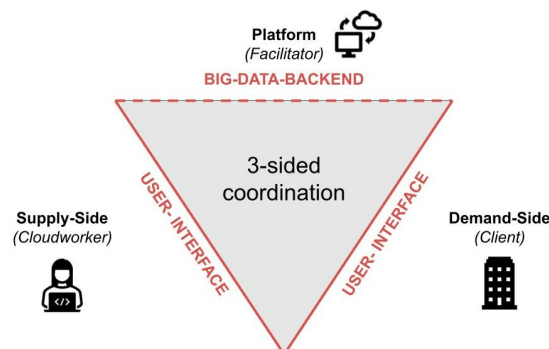


Figure 1 *Interaction on online labour platforms* The interaction on online labour platforms is a three-sided coordination between clients and cloudworkers via the platform; visualisation based on [1].

With this new form of work, alongside the benefits, new challenges emerge that often preclude the full enjoyment of benefits for workers. A lacking clear legal definition, or rather the inadequacy of existing norms, allowed for tendencies that are challenging for workers. Central problems include the missing transparency regarding clients, working conditions and ultimately, the legal recognition of work performed on online labour platforms.

New regulatory instruments such as the German Act on Corporate Due Diligence in Supply Chains (LkSG) could provide a novel avenue for addressing transparency, working conditions and legal definitions regarding online labour platforms by engaging with clients. We argue that securing working conditions and labour rights in the cloudwork economy benefits from these new regulatory avenues, particularly the development of human rights and environmental due diligence (hereafter abbreviated as HREDD) [2]. However, engaging with clients requires knowing the users of online platforms and identifying how they could assume a role and responsibility for the work they outsource via online labour platforms.

This study identifies the avenue of using new regulatory instruments, particularly the LkSG to approach working conditions and the relations between workers, clients and platforms in the context of online labour markets. We seek to establish an empirical basis necessary to inform future policymaking in the realm of online labour market regulation. This report aims to inform discussions regarding further legal instruments based on quantitative and qualitative data analysis, as outlined in more detail below. Concretely, this study aims to close the knowledge gap regarding the extent to which German companies as clients require and utilise online work services.

Throughout the report, we use a number of key terms, such as *online work*, *platform work* and *cloudwork* interchangeably. There are, however, different definitions used in the literature to describe various forms of work mediated online, ranging from so-called micro- or click tasks (think of simple image recognition) to large-scale projects that require specialised skills and last for several months [1]. In the quantitative data analysis presented below, we investigate data from a platform for 'macro tasks'. Tasks on the platform range from relatively low-skill (e. g. data entry, administrative support) to high-skill jobs (e. g. graphic design, software development, management consulting), spanning many major occupations that can be performed without face-to-face interaction. For more details on the data, see section 3.4 below.

The study aims at exploring the relevance of newly developed legal corporate due diligence for human rights and their environment in online labour markets. The central aim is to explore an empirical basis for using such novel legal instruments to reduce risks associated with working on online labour markets. The report provides a general analysis of the connections between online labour platforms and the focus on emerging legal requirements for due diligence. By:

1. Discussing the applicability of the German Act on Corporate Due Diligence in Supply Chains¹

¹ger. "Gesetz über die unternehmerischen Sorgfaltspflichten zur Vermeidung von Menschenrechtsverletzungen in der

(and the European Union's proposal for a Directive on Corporate Sustainability Due Diligence; CSDDD) in the context of work mediated via online labour platforms,

2. Analysing the overall demand by German clients for online labour,
3. Determining the level of awareness of large German companies on their due diligence duties and their awareness regarding the use of online labour,
4. Exploring the identifiability of employers from the project descriptions posted on the platform, and
5. Providing a detailed analysis of three country cases — Bangladesh, Egypt, and Serbia — to identify the overall economic contexts of these exemplary outsourcing destinations, as well as the working conditions and outcomes of freelancers working for German clients in these markets.

The study also evaluates the opportunity of applying new regulatory tools to guarantee the protection of labour rights in online labour markets. Thereby, the report stresses the responsibilities of both platforms and most importantly, clients in influencing outcomes for cloudworkers. The specific client perspective in the context of the supply chain legislation, has thus far not been explored in academic literature. Similarly, the client perspective has also not been in the centre of civil society action around cloudworkers which rather focuses on the role of the platforms. Overall, the study highlights the opportunities for policymakers, platforms, clients, workers and other stakeholders, such as non-governmental organisations and research institutions, to engage in dialogue and open up regulatory initiatives for further legal attention and protection of cloudworkers.

The report is structured as follows: chapter 2 discusses the potential implications of the novel German (and European) supply chain regulation for online labour markets. Based on these implications, chapter 3 (data sources methods) examines how relevant cloudwork is for German clients by looking at their activities on platforms and at existing surveys. Furthermore, Chapter 4 also looks closer at company reports to assess whether, social and occupational risks in using cloudwork services are acknowledged by large German corporation. Moreover, the study provides the results of an experimental approach to identify clients from online project descriptions. The 5th chapter presents detailed quantitative and qualitative results on the three country case studies Bangladesh, Egypt, and Serbia. The final chapter summarises the key findings and it presents policy implications based on the results derived in this report.

2 Cloudwork and the German Act on Corporate Due Diligence in Supply Chains (LkSG)

Working conditions and labour rights in the cloudwork economy benefit from newly emerging laws regulating companies' due diligence in supply chains, particularly the development of HREDD. Generally, this concept means that companies have a duty to care for the impacts of their business practices on the interests and rights of others and the environment. Legal acts, such as the German Act on Corporate Due Diligence in Supply Chains (LkSG) or the upcoming European Union's Directive on Corporate Sustainability Due Diligence (CSDDD) set out obligations for companies to "identify, prevent and remedy adverse impacts on human rights and the environment in their supply chains".² Put differently, these laws secure human rights beyond the borders of the state where a company might originate and ascertain that in all business activities, companies comply with core labour standards. In the broader picture, such laws seek to counteract globalised tendencies towards more precarious working conditions due to companies' pursuit of minimal costs of production. Weak labour laws and powerful multinational enterprises subject workers in global supply chains to precarious working conditions. By requiring standards that apply not only to a company's own business operations but also to their value chain, the LkSG (and similar laws) make companies responsible for poor working conditions, which they have contributed to through their purchasing practises. In that the LkSG sets a level-playing field for companies.

The main reason to apply the LkSG and other laws requiring HREDD also to the realm of online labour markets rests on creating responsibilities for companies which act as clients in online labour markets.³ The premise for the application is the fact that the relationship between freelancers and clients on online labour markets is similar (if not equivalent) to the relationship between buyers and suppliers in supply chains. In that, the missing coherent protection of working conditions in supply chains due to national differences in labour law is similar to the lack of legal protection for cloudworkers due to missing regulation in the digital space. Nowadays, supply chains span vast production networks with thousands of supplier-buyer relationships, each subject to different national standards. Similarly, online labour markets connect a globally dispersed labour force with globally sourcing clients without little to no regulations concerning the working conditions on these platforms. Both, supply chains as well as online labour markets challenge conventional regulation attempts which have inherent national, regional or local limits.

In essence, the LkSG and other supply chain regulations use business relationships as vehicles to foster labour and environmental standards. Similar to transnational production networks, re-

² The difference between "supply chain" and "value chain" is an important difference between the LkSG and the CSDDD. However, this distinction does not question the outcomes of this analysis. For that purpose, the report uses both terms interchangeably.

³ Thus, we use the terms "company" and "client" interchangeably. Companies which offer online (labour) services are not the primary focus of this study as their regulation pertains to their respective national legal context.

relationships on online labour platforms are approached from the client's rather than the worker's perspective. In light of that, this chapter explores how the approach in the LkSG can be fitted to transactions on online labour platforms among cloudworkers and their clients. For that purpose, the next section revisits the provisions on to whom the law addresses, and which relationships are covered (scope of application). Afterwards, the research on the main risks of working on online labour platforms illustrates the concrete need for action. The actual risks are compared to the provisions of the LkSG to see how the new law might provide protection. Thereafter, the steps to securing the conditions and the actions which companies will have to take are outlined. The last section summarises the insights and defines guiding questions for the report.

2.1 Cloudwork and Employment Status

Regarding the relationship between cloudworkers and clients, the lack of regulation in the area of online labour markets poses several challenges. It is not entirely clear how the three-sided relationship between platform, worker and client translates into the **context of supply chains** and so-called conventional or traditional **employment relations**.⁴ Are workers "employed" by platforms or by clients? Are workers "self-employed"? This study focuses on the **relationship between workers and clients**, but it should be stressed that the role of platforms requires further attention by policymakers. In the gig economy, platforms are not only "market facilitators", but they actively shape worker-client relations.⁵ Thus, they should be treated as central stakeholders in the process to regulate working conditions in online labour markets. However, in the scenarios presented below, we assume that in the case of online work, cloudworkers are either entirely self-employed or that qualities of the client-worker-relationship suggest a form of quasi-employment.

Scenario 1: cloudworkers as quasi-employees If cloudworkers are classified as if they were employees, they have a direct and strong connection to the client with certain qualitative characteristics that resemble a "conventional" employment relationship (see Figure 2).⁶ An example would be a web developer who works closely and continuously with the sales team of a company to set up an online marketplace. Such a project requires continuous coordination and might run for several months, or it might be comprised of multiple tasks over a longer time period. In this case, one could argue that the quasi-employee forms part of the clients' *own business operations*. Then, the LkSG incurs strong implications for clients since it is expected that clients have a high ability to influence

⁴For geographically-tethered or location-based services, this classification is somewhat easier since it concentrates the workers in a geographically bounded location. While this business model also challenges the conventional terms of "employment", online labour platforms are even more challenging as they encompass stakeholders from virtually all over the world.

⁵For further information on a "platform"-centred approach, the Fairwork Pledge provides for a (voluntary) framework.

⁶Such characteristics would relate to the definition of "employment" within the limits of German labour law (see §611a BGB).

Scenario 1: cloudworker as quasi-employees

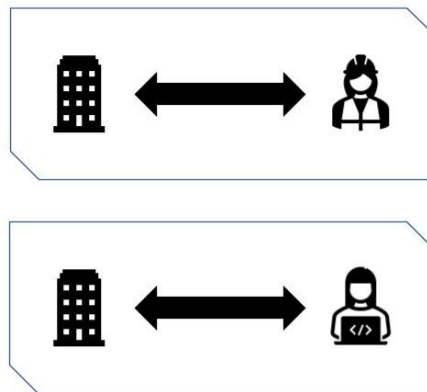


Figure 2 *Scenario 1 - cloudworkers as quasi-employees*: The relationship between clients and cloudworkers resembles the relationship of employers and employees

the working conditions in their own business operations.⁷ Overall, a conclusive position on the characteristics of such a relationship would require a detailed legal evaluation.

Scenario 2: cloudworker as suppliers

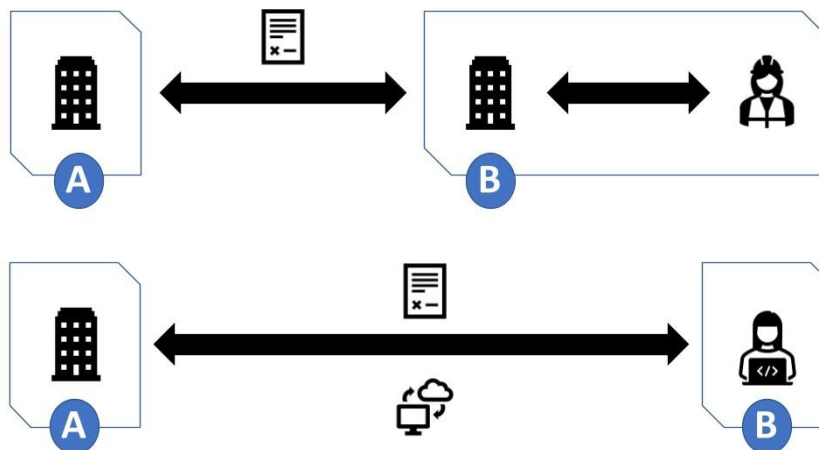


Figure 3 *Scenario 2 - cloudworkers as suppliers*: The relationship between clients and cloudworkers resembles the relationship of a buying firm and a supplier.

Scenario 2: cloudworkers as suppliers If cloudworkers are classified as *suppliers*, and thus essentially as *self-employed*, the LkSG incurs different obligations on the client, depending on whether

⁷The Federal Office for Export Control and Economic Affairs (ger. BAFA) clarifies in their authoritative documents that companies can be expected to have strong obligations concerning their own employees.

cloudworkers are "direct" or "indirect" suppliers. To illustrate, the relationship between worker and client would simply include a market transaction whereby the sourced task represents a contract for the delivery of a service to be supplied by the worker (see Figure 3). In that context, the law incurs stronger obligations for *direct suppliers* than for *indirect suppliers*. Cloudworkers could be regarded as indirect suppliers or subcontractors in the case that a supplier of a large German company sources several tasks via an online platform. Direct suppliers form part of the regular HREDD processes, whereas indirect suppliers are only part if there exists *substantiated knowledge* of potential or actual risks.⁸ This is a crucial distinction as direct suppliers are included in the regular due diligence process.⁹ However, the distinction is generally challenging in the context of the LkSG due to the inherent ambiguity in the term "substantiated knowledge". Waas et al. (2017) provide a comparative analysis between Germany, Japan and the US, illuminating different national approaches to classify cloudworkers [3]. In essence, under the LkSG, if cloudwork services are sourced by the company itself via an online platform, it is reasonable to expect the cloudworker to be in direct contact with the client and thus also be a direct supplier.

Essentially, both scenarios rest on the differentiation of tasks that cloudworkers perform. A third option, whereby cloudworkers are employed by the platforms themselves is not included in this context, as there exists no contractual relationship between cloudworkers and platforms (apart from the General Terms and Conditions). Without any contractual relationship, platforms cannot be classified as (intermediate) suppliers in the sense of the LkSG employing cloudworkers. Similarly, the *necessity* of the cloudwork service for the client's supply chain rests on the type of task performed. It can be argued that cloudwork services *generally* form part of a client's supply chain, but their necessity depends on the concrete task performed and how this task relates to the clients' provided goods or services.

To summarise, the classification of cloudworkers in national labour law and legal systems requires further research and should be actively taken up by policymakers. While the difficulty of classifying cloudworkers also affects the application of the LkSG, the law can be regarded as an opportunity and a policy tool to extend legal protection in a rapidly evolving legal field. So far, cloudwork and other evolving forms of hybrid and digital work are often unaccounted for in the general policy debates. In instances where new regulation is contemplated, disregarding different types of activities on online labor platforms as well as in the overall gig economy precludes meaningful and appropriate legal protection for people offering services on these platforms. This highlights the need for more research in the field of law in the digital space and particularly in the area of cloudwork and online labour markets.

The two scenarios imply different obligations for companies. *Scenario 1* implies the strongest

⁸§9 Section 3, LkSG]. Such ambiguous terms complicate the conclusive interpretation of either law. As such, they will not be discussed in more detail in this report.

⁹§3 Section 1 (5); §5 Section 1; §6 Section 4; §7 Section 1; §8 Section 1, LkSG

obligations since cloudworkers would be similar to other employees in the company's own operations. *Scenario 2* would relate cloudworkers to the situation of *suppliers* and thus weaker obligations than in *Scenario 1*. In the second case, cloudwork services might play a minor role in the company's risk prioritisation since the causal contribution of the client to the risks for cloudworkers is either *absent*¹⁰ or *minimal*¹¹. This is related to the fact, that cloudworkers in *Scenario 2* are only loosely connected to the clients via the online labour platform. Accordingly, the client's ability to influence the concrete circumstances of the workers is lower than in *Scenario 1*. Especially, the low ability to influence is a reason for clients to de-prioritise cloudwork. For example, in case the cloudwork services are sourced from (geographically) distant places. However, since clients are able to choose which areas they give priority to in their supply chains, they can focus on the most immediate risks. This *possibility to prioritise* gives leeway to clients to focus their resources while at the same time not limiting their overall awareness to the prioritised risks. Giving priority to certain areas of one's supply chain should go hand in hand with an overall broad awareness what is going on in the whole of the supply chain [4]. Therefore, "supply chains" are defined broadly for clients to account for their entire network of relations but they are given the opportunity to prioritise those where the risks are most pressing and most concerning. As such, the LkSG does not overburden companies but also allows them to focus their efforts. To illustrate, the supply chain is thus the entire process from developing, producing, and provision until the disposal of products or services. Here, the new CSDDD might broaden the definition to include cloudwork in downstream business activities which are unaccounted for by the LkSG.

Here, it is important to mention, that companies might want to outsource even more tasks via online labour markets, as the ability to influence is low and as such also the material obligations are lower. Essentially, companies might want to use cloudwork to be less responsible for the working conditions, precisely because it is less easy to influence. Therefore, it is important to stress that online labour markets are within the scope of the LkSG and do not provide an opportunity to sidestep relevant obligations regarding HREDD. While future case law will provide further insights into the concrete and applicable interpretation of the LkSG and its definitions in this context, policymakers are encouraged to preclude the possibility to use online labour markets to sidestep relevant labour laws. Here, we urge European policy makers to account for the challenges related to cloudwork in the upcoming Trialogue negotiations on the CSDDD.

In summary, cloudwork can generally be interpreted to be part of a company's supply chain in the LkSG. The intensity of obligations varies across the status of cloudworkers as either quasi-employees or direct or indirect suppliers. In the next step, it is necessary to determine the concrete risks in the context of cloudwork and how these risks relate to the **protected legal positions** in the LkSG.¹²

¹⁰§4 Section 2, LkSG

¹¹§5 Section 2, LkSG

¹²Generally, "protected legal positions" are similar to a colloquial understanding of *rights* or *working standards*.

Thereafter, one can outline clients' **material obligations**, i.e., what a client has to do, vis-à-vis cloudworkers and how working conditions can be addressed by means of the LkSG.

2.2 Cloudwork Clients and Applicability of LkSG

This section discusses which companies have a duty of care in their supply chains, and how this duty of care applies to cloudwork as well. We analyse the *scope of the law*, the definition of the *supply chain* and the (formal) *legal status* of cloudworkers in relation to their clients. Generally, the **size** of companies determines whether the LkSG applies to them, while the **definition of supply chains** is used to classify cloudwork as part of the supply chain. This means that the new legal obligations compel companies to regard cloudworkers whom they hire via platforms as part of their supply chain. Hence, the key insight is that cloudwork services fall within the merit of the LkSG and must be accounted for and addressed by companies' due diligence efforts. The CSDDD on a European level does not alter this conclusion but rather adds additional weight to the importance to include cloudworkers and their working conditions in policy considerations.





First, the laws' **scope** makes it possible to examine which companies must provide the necessary due diligence for human rights and environmental damages in their supply chains.¹³ As of the 1st January 2023, the LkSG applies to **large companies**, irrespective of their legal incorporation, which (1) entertain their main administrative centre or headquarter in Germany and (2) employ at least 3000 employees which covers employees sent to work abroad (§1 Section 1 (1) and (2) LkSG; the previous definition also covers companies maintaining a subsidiary in Germany).¹⁴

These criteria change on 1st January 2024 and subsequently apply to all companies with a registered branch office which fulfil the criteria set in sentence (1) and employ more than **1000 employees**. Since January 2023, the law applies to approximately 700 companies. As of January 2024, 2900 companies will be within the scope of the law. The reasoning for this new classification of companies is the magnitude of the task to monitor and alter supply chains: large companies have more resources and a stronger ability to influence their suppliers. Generally speaking, the EU CSDDD follows a similar approach but significantly lowers the thresholds to apply to more companies (see Figure 4).

Concerning the European Directive, it must be stressed that the legislative process is not yet conclusive. However, some initial remarks can be mentioned with regard to the LkSG. First, the EU CSDDD should be perceived as a gateway to use HREDD on a European level with the potential to improve the livelihoods of workers in- and outside of the EU. Since the EU CSDDD will apply to all companies within the EU (above a certain threshold), the impact of this law will be even larger than

¹³ The *personal scope* (ger. *Anwendungsbereich*) describes who is addressed by the law. In the following, the personal scope is equated with the addressees of the law.

¹⁴ Paragraph 13d (3) of the German Commercial Code states that the provisions applicable to main offices shall also apply to domestic branch offices of a company whose headquarters are located abroad.

German Act on Due Diligence in Supply Chains		Proposal by the EU Commission for a Corporate Sustainability Due Diligence Directive
Companies with administrative centre in GER > 3000 employees (01.01.23) > 1000 employees (01.01.24)		Companies with > 500 employees + € 150mio revenue Companies with > 250 employees + € 40mio revenue in textiles, minerals and agriculture sector European or active in the European Economic Area*
All goods and services Own operations , direct & indirect suppliers → "substantiated knowledge"		All goods and services (up- and downstream) Own operations , suppliers and subcontractors
HREDD according to UNGP & OECD (Risk Identification, Prioritisation, Measures, Reporting)		HREDD according to UNGP & OECD (Risk Identification, Prioritisation, Measures, Reporting)
Fines and exclusion from public procurement		Fines and further repercussions as determined by the Member States

* requirements relating to the number of employees do not apply to companies from outside the European Union.

Figure 4 Comparison between LkSG and CSDDD: overview of central provisions in both legal documents

the LkSG. Thus, there will be no competitive disadvantages from investing resources in HREDD processes across member states, as all companies will be affected equally. Second, the relationship between the LkSG and other European standards will be harmonised through the EU CSDDD. Hence, it will be important to compare the different definitions contained in both laws (See Figure 4). Until the EU CSDDD is applicable in the European Union, companies will have to anticipate legislative developments and adjust to the possible change in obligations. The discussions among the European Institutions indicate that the new directive will likely apply to even more German companies (for an indication of the threshold as seen in the proposal by the EU Commission, see Figure 4).

Overall, the LkSG (in its current form) applies to large German companies or foreign companies with a registered domestic branch office (ger. *Zweigniederlassung*) in Germany measured in terms of their number of employees. As of January 2024 the law applies to more companies which will (likely) increase again when a European law is applicable. The companies to whom the law applies are treated in the rest of the report as (potential) *clients* in the context of online labour platforms. In the next step, the law's definition of *the supply chain* is revisited. It is necessary to see how services sourced via cloudwork platforms fit this definition. The definition of "supply chains" covers "all products and services of an enterprise" and therefore also encompasses "all steps in Germany and abroad that are necessary to produce the products and provide the services".¹⁵

From this general provision, it can be argued that services sourced via cloudwork platforms are part of the supply chain *if they are necessary* to provide the company's products and services. The

¹⁵§2 Section 2 (5), LkSG

LkSG further determines that these activities include actions within the companies' own business operations, actions of direct suppliers and those of indirect suppliers. **Own business operations** refer to "every activity of the enterprise to achieve the business objective (...) regardless of whether it is carried out at a location in Germany or abroad".¹⁶ In the case of *direct* and *indirect suppliers*, the law adds that the actions of direct and indirect suppliers are relevant if their "supplies are necessary for the production of the enterprise's product or for the provision and use of the relevant service".¹⁷

Thus, if cloudwork services are used in the production processes or in the process to deliver the produced goods and services to customers, then it can be argued that the cloudwork services form part of the supply chain. To see whether cloudwork services are "necessary" within the meaning of the law, a granular approach should be taken. This means the specifics of each task must be judged individually, whether they are necessary for the provision of goods and services. Generally, the law's preparatory documents show that necessity should be approached in a broad manner. In addition, the explanatory notes by the Helpdesk for Business and Human Rights clarify that "necessary" in this context is to be interpreted to possibly include the supply of office goods or translation services. Thus, it seems reasonable to expect cloudwork to be included in the definition of the supply chains if they contribute to the production, provision and use of products or services; however, a case-by-case approach might nevertheless be necessary. Next, it is important to determine how the relationship between clients, i.e., companies, and cloudworkers can be classified to see which obligations arise for companies to improve working conditions.

2.3 General Risks on Online Labour Platforms

This section outlines the general risks associated with work on online labour platforms and relates these to the legal positions as protected in the LkSG. Concretely, the protected legal positions include labour rights-related obligations¹⁸ and environment-related duties¹⁹. Labour rights-related obligations include, among others, the prohibition of employing minors, prohibition of slavery and forced labour, prohibition of disregarding occupational health and safety, prohibition of disregarding the freedom of association, prohibition of unequal treatment and the prohibition of withholding adequate living wages. Environment-related obligations include the prohibition of the use of mercury, the prohibition of persistent organic pollutants and the prohibition of exports of hazardous waste, among others.²⁰

In the following, each risk is approached from an empirical observation, meaning: **which issues do we observe in online labour platforms based on previous research?** This is then followed by

¹⁶§2 Section 2 (6), LkSG

¹⁷§2 Section 2 (7) and (8), LkSG

¹⁸§2 Section 2 (1) – (12), LkSG

¹⁹§2 Section 3 (1) – (8), LkSG

²⁰In addition, the CSDDD elaborates in its Annex on several human rights and environmental aspects, such as the protection of biodiversity, the limitation of working hours and others.

Table 1 International Labour, Human Rights and Environmental Conventions

Labour, Human Rights and Environmental Conventions	
ILO Convention No. 29 (Incl. Protocol) and No. 105	Prohibition of Forced and Compulsory Labour
ILO Convention No. 87 and No. 98	Freedom of Association and the Protection of the Right to Organise
ILO Convention No. 100	Equal Pay for Men and Women
ILO Convention No. 111	Prohibition of Discrimination in Respect of Employment and Occupation
ILO Convention No. 138 and No. 182	Prohibition of Employment of Minors and the Elimination of the Worst Forms of Child Labour
International Covenant on Civil and Political Rights	General Human Rights
International Covenant on Economic, Social and Cultural Rights	General Human Rights
Minamata Convention	Prohibition of the Use of Mercury
Stockholm Convention	Prohibition of Persistent Organic Pollutants
Basel Convention	Control of Transboundary Movements of Hazardous Waste

a conceptual assessment of the overlap of each risk with the LkSG. As such, it is important to note that several legal positions in the LkSG are not relevant in the context of online labour, for example, the prohibition of the use of mercury, persistent organic pollutants and the disposal of hazardous waste (see Table 1). Similarly, there are observed risks associated with platform work which are not accounted for by the LkSG. These will be outlined as well and highlighted as important issues for future regulation concerns.

2.3.1 Wages

While widely debated and heavily context-dependent, the broad consensus is that a living wage allows "workers and their families to meet their basic needs".^[5] As such, a general approach to living wages incorporates the basic needs of all adults in a representative (or average) household in relation to the number of wage earners and their average discretionary income [6]. The concept of a living wage is featured in multiple foundational international documents, such as the Universal Declaration of Human Rights²¹, the International Covenant on Economic Social and Cultural Rights²², the ILO's preamble and the ILO Convention No 131 on Minimum Wages²³.

Different methodologies apply varying concepts of what constitutes "basic" needs and how to

²¹See Article 23 (3) and Article 25, UDHR

²²See Article 7, ICESCR

²³See Article 3, ILO Conv No 131

incorporate other factors that play a role, such as payroll deductions, taxes and social benefits. In the context of the LkSG, paragraph 2 section 8 outlines the prohibition of withholding and "adequate wage" which is to be interpreted in line with the definition in ICESCR. Concretely, the LkSG highlights that a starting point in calculating this adequate wage must be the local minimum wage standards (if existent). This differs fundamentally from the concept of a "living wage", as minimum wages might be substantially lower and less suited to provide for the coverage of basic needs. However, arguably the concept of an "adequate" wage relates more to a "living wage" as local living costs of workers and their families as well as local social benefits should be taken into account [4].

An important risk in cloudwork concerns the issue of unpaid work, which is directly related to the topic of wages. Unpaid work includes the time that cloudworkers spend on online labour platforms in order to apply for (highly paid) tasks or maintain their profile, allowing them to access them higher paid tasks. Further pressure on wages includes buying working equipment, data bundles, software, internet access or other hard-/software. This problem is exacerbated if clients reject to pay for the completed task because it does not fulfil their expectations. According to the 2022 Fairwork Ratings of online labour platforms, 30 % of surveyed cloudworkers had experienced not being paid for a task they performed [2]. Hence, almost one third of workers has experienced at least one instance in which they were not paid for a task they had performed. Considering greater uncertainty when engaging in cloudwork compared to standard-employment, coupled with unpaid working time as well as wage theft, cloudwork does provide higher risks to the earning of workers as many other sectors. In addition to the high insecurity and the volatile income, cloudworkers are in most jurisdictions not covered by tax-financed or state-based social protection systems. Hence the costs for e.g. healthcare, disability insurance, pension contributions or additional costs incurred due to absence, sick and maternity leave, are shifted from clients and platforms to workers.

Other tendencies also obscure the wage dimension. First, it is often assumed that *shadow clusters*, in essence, a group of cloudworkers using the same account, are the drivers behind high-performing accounts. Hence, even high wages for high-performers might need to be split across these clusters, obscuring the real earnings of cloudworkers. Second, recent reports from the NY Times as well as German news outlets show that earning are heavily dependent on the type of work performed by cloudworkers. Especially, so-called *clickworkers* or *data entry workers* often perform their work for very low earnings, while having to face often violent or disturbing content or data. This type of work is needed for content review and or training purposes of *Artificial Intelligence* (AI) systems [7, 8].

Additionally, most platforms do not offer effective help for workers to address issues and get meaningful help in lodging formal complaints. Missing accountability mechanisms are accompanied by asymmetrical information flows. Such asymmetries concern workers' ratings which suffer when clients reject payment, while workers stay within tight deadlines to deliver their products or services.

Conversely, clients often do not have ratings on their profiles if such profiles exist at all.

2.3.2 Occupational Health and Safety

In the context of online labour occupational health and safety (OHS) there is a big discrepancy to other forms of employment. In other (conventional) employment relations, there is an obligation for employers to ensure the OHS of their employees. However, this is different for online labour as the responsibility for the immediate work environment is externalised to the workers themselves. There is a general lack of systematic evidence on physical risks. Against this lack of evidence, however, there are several aspects which deserve further attention. This includes the stress and possibility of physical disorders (such as visual fatigue) and ergonomic problems [9]. Concretely, these problems stem from continuous exposure to screens, inadequate posture due to seating, loud and noisy immediate environments and the mental pressure to complete deadlines.

In addition to these physical risks, additional psycho-social risks may arise in the context of online labour where conventional methods of treatment and mitigation in the offline workplace may not be applicable [9]. Here, psycho-social refers to circumstances which increase mental stress stemming from the social aspects of online work itself. Such risks include the inherent precariousness of online work as there is no certainty, that future task applications and their payment are secure. Such uncertainty is also present for completed tasks as there is the possibility for clients to reject work they consider inadequate.

Furthermore, the competition on online platforms is fierce, and access to well-paid projects is uncertain or even restricted through paywalls. If there is a paywall, i.e., a premium subscription, this can even be considered "*wage-theft*". Task-related aspects include that the competition among high-earning online workers is stronger and usually associated with tight deadlines, while low-earning online workers, typically working on small tasks, are constantly under pressure to secure more projects in order to gain a desired level of income. Both tendencies increase the intensity of the workload, potentially raising stress levels. Lacking a direct means of communicating with clients might exacerbate the previously outlined stress factors. The Fairwork Ratings 2022 stress that cloudwork across large distances is often depersonalised and hidden [2].

Additionally, the inherent ambiguity of delineating clear boundaries between work and private life in online work produces additional constraints [2]. For example, the competition among workers alongside the uncertainty of receiving tasks leads to a high speed in the application process, and thus workers must remain constantly alert as tasks are posted on short notice.²⁴ Moreover, external distractions can seriously impair the ability to concentrate.

Online workers who work in the area of content tagging (i.e., sexual or violent content) or for

²⁴Taking into account time differences between clients and workers, the constant alertness creates additional pressure for workers working in countries in distant time zones.

clients engaged in the dark web or pornography might suffer from mental health problems, even PTSD, associated with regular and constant exposure to such content[10].

Furthermore, since payment for online work is often a lump sum, there is no general contribution to health care systems via online work. This responsibility, usually addressed to the employer, is also incurred by the employee. This forms part of the OHS risk, as regular healthcare contributions would indicate that there is at least a possibility to remedy physical strains through access to care. With limited information on this aspect, it must be stated that healthcare coverage which is usually an employer's obligation, is an additional burden externalised to online workers. Moreover, online workers might develop unhealthy and unsocial coping mechanisms to cope with the previously outlined OHS risks.

The intersection of different risks can accumulate. To illustrate, missing social protection and expenditures for healthcare, which usually would be covered by employers, connect the topic of payments for projects with occupational health and safety. Outstanding or refused payments may not only incur stress but also diminish workers' ability to afford care or treatment.

2.3.3 Debt Dynamics and Financial Dependencies

Interviews with experts on location-based and online platform work outline that cloudworkers have to bear the costs for the necessary personal infrastructure of working on online labour platforms. Concretely, this entails costs for internet access, hardware or software.²⁵ In the case that these (regular) payments for internet access or prior large investments in hardware and software exceed workers retained savings, they are forced to take out loans to finance their ability to apply for high-paying jobs. However, there is no guarantee that workers will earn enough to repay the loans and finance the initial investments. As such, workers might find themselves in a situation where they are forced to take up multiple tasks or low-yielding tasks which do not allow them to cover their debt payments while generating little or no income. Similarly, workers might have to (continuously) invest resources (time but also financial payments) to maintain good profiles to gain access to well-paid tasks and projects. Thus, distress caused by financial concerns can be an accompanying factor in other risks.

2.3.4 Collective Bargaining and Freedom of Association

With a globally dispersed labour force in online markets, the question of collective bargaining as well as workers' freedom of association addresses primarily platforms (rather than clients), as platforms provide the interface and the essential connection between workers and clients, as well as amongst workers themselves. In the complete absence of collective bargaining, the absence of the ability to

²⁵In location-based platform work, debt dynamics in the context of ride-hailing or delivery plays a major role, as workers take out loans in order to finance their mobility which is central to these tasks.

negotiate wages collectively as a central labour right is seriously impaired.

Furthermore, the individual ability to negotiate one's salary or payment for the project intersects with other risks such as discriminatory practices or structural disadvantages [11]. The LkSG refers to the right of collective bargaining and freedom of association and their importance in modern labour relations.

2.3.5 Discrimination on Online Labour Platforms

Discrimination on online labour platforms is connected to the issue of *transparency*. Limited transparency on online labour platforms does not allow to trace why clients chose certain applications over others. While there is only speculative evidence of discrimination on online labour platforms, it can be argued that missing transparency allows for obscuring discriminatory practices by platforms and clients alike. Section 5.1.3 outlines the gendered tendencies of hourly wages, suggesting that discriminatory practices might be present, particularly in the payment practices and the intersection between gender dynamics and unfair payment practices [11]. Another dimension of discrimination concerns the origins of cloudworkers. Research attributes these effects to held stereotypes by clients [12].

2.3.6 Working Hours

As working times are essentially at the discretion of workers themselves, there seems to be little risk for cloudworkers in this context. This perspective is too simplistic and fails to capture aspects that structure the working time of cloudworkers. For instance, tasks and projects are usually limited to tight deadlines and the estimated time advertised for projects is often not resembling the actual time spent on the project. In that, cloudworkers might spend more time on projects than is officially recorded. Additionally, posted tasks and projects do not include the time spent on maintaining good profiles and applying to tasks as mentioned previously. This entails that officially advertised hours are likely to understate actual working time. Put differently, there is a great discrepancy between *theoretical* working hours (as described in task and project descriptions) and *actual* time spent working on online labour platforms. Other aggravating factors include time differences between clients and cloudworkers, which exacerbate deadlines or suggest distorted working hours in case interaction between both parties is required.

2.3.7 Other Risks

The LkSG puts a strong emphasis on the prohibition of child labour and the prohibition of the exploitation of minors. Despite the importance of this issue, there exists little research on whether minors are engaged in online platform labour. The general lack of evidence precludes any conclusions to be drawn, which is why this report refrains from any speculations regarding child labour. Further

research into the concrete risks in cloudwork should take seek inspiration with international labour law, such as the ILO core conventions.

Similarly, a lack of research also applies to the intersection between online labour platforms and the application of AI. There is a need for more research on the changes that novel technologies, such as AI applications (for example, ChatGPT) and automatisisation, have on the types of tasks posted on online labour platforms and, consequently, on the possibility of cloudworkers earning income.

2.4 Legal Obligations of Clients vis-à-vis Cloudworkers

The LkSG's potential as a new instrument in bridging the legal gap in the regulation of cloudwork also refers to the actual steps that clients have to take in order to ensure their duty of care for labour rights. These steps cover the *material obligations* and as such the establishment of HREDD processes within their companies.

The LkSG (as well as the EU CSDDD) draws on concepts taken from international documents, particularly the United Nations Guiding Principles on Business and Human Rights (UNGP) and the Organization for Economic Development and Cooperation's (OECD) Guidelines for Multinational Enterprises.

Generally, HREDD is intended to "identify, prevent, mitigate and account" for a company's (adverse) impacts on human rights and the environment²⁶. Foundational to these processes is the understanding of the previously identified protected legal positions (See Section 2.2). Hence, clients need to integrate organizational processes that allow them to *identify* violations of labour law in their own business operations and their suppliers. Subsequently, they need to create safeguards that either *prevent* possible violations or allow them to *mitigate* the effect of past violations of labour rights. In a last step, companies must *report* on the risks and violations they identified and how they encountered these with mitigation efforts to relevant authorities and the public.

The LkSG draws on the suggested concepts taken from the UNGP HREDD process²⁷ and prescribes a series of different organisational measures²⁸, such as the establishment of a risk management system²⁹, assigning internal competencies³⁰, regular risk analyses³¹, issuing relevant corporate policies³² and reporting³³ among others (see Table 3 under "Due Diligence Duties"). These procedures are largely mirrored by the CSDDD with reference to the UNGP and the OECD's guiding documents³⁴.

²⁶Principle 17, UNGP

²⁷Principle 18-22, UNGP

²⁸§3 Section 1 (1)-(9), LkSG

²⁹§4 Section 1, LkSG

³⁰§4 Section 3, LkSG

³¹§5, LkSG

³²§6 Section 2, LkSG

³³§10 Section 2, LkSG

³⁴Article 4 (1) (a) – (f), CSDDD

Table 2 Structure of the LkSG: Illustration based on Grabosch 2021 [13]

Sections and Paragraphs	
1.General Provisions	§ 1: To whom and when will the law apply § 2: Definitions of risks to be avoided, the business area, the supply chain and direct and indirect suppliers
2.Due Diligence Duties	§ 3: Goal, appropriateness, civil liability § 4: Risk management § 5: Risk analysis § 6: Preventive measures § 7: Remedial Action § 8: Complaints procedure § 9: Indirect Suppliers § 10: Documentation and reporting obligation
3.Civil Proceedings	§ 11: Special capacity to litigate
4.Monitoring and Enforcement by the Authorities	§12: Submission of the report §13: Report audit §14: Action was taken by authorities §15: Orders and measures §16: Access rights §17: Obligation to provide information and surrender documents §18: Obligation to tolerate and cooperate §19: Competent authority §20: Handouts §21: Accountability report
5.Public Enforcement	§22: Exclusion from the award of public contracts
6.Financial Penalty and Administrative Fine	§23: Financial penalty §24 Provisions on administrative fines
Annex	List of relevant Labour, Human Rights and Environmental Conventions

Overall, the material obligations urge companies to know their impact within but also beyond their own business operations. Secondly, based on this knowledge, companies need to act on the possible risks they identify. Companies are required to exercise a duty of care for their possible impact on other people's lives and the environment. The basis to take action is detailed knowledge about the potential impacts that might arise. This study emphasises the aspect of transparency on online labour platforms as a crucial precondition for companies to exercise HREDD, because knowledge about the possible impacts of outsourcing projects is part of the material obligations. Therefore, the further empirical findings, both quantitative and qualitative, demonstrate the knowledge basis for companies to consider and plan their impact in the area of cloudwork.

2.5 Guiding Questions

Reviewing the LkSG as a potential instrument to use in the regulation of online labour markets yields promising opportunities for approaching the regulatory gap from the perspective of clients and thus opens new policy avenues. Regulation at the European level extends the scope of this question to European companies, which is significantly larger than the German context only. This highlights the importance to introduce cloudwork and associated risks in the ongoing discussions and negotiations on human rights due diligence on a European level. Based on the previous indications, several guiding questions can be discerned for the empirical analysis of this report:

1. **Do large German companies use globally sourced cloudwork services in their supply chains?** This question is divided into several sub-questions:
 - Can we observe *general outsourcing* of tasks and projects from online labour platforms from Germany to other countries?
 - Can we identify large German companies *as clients* on online labour platforms (a) by reference to their publicly available information or (b) by means of experimental evaluation of tasks posted on online labour platforms?
2. **What specific types of tasks are outsourced from Germany to other parts of the world?** The differentiation of tasks is relevant in the context of determining the role of cloudwork services in the supply chain as previously argued as well as for the classification of the relationship between cloudworkers and clients.
3. **What are the specific circumstances of cloudworkers in particular country contexts?** This question requires a detailed analysis of specific national contexts.

In answering these questions, the study seeks to establish an empirical basis for further policy considerations to be implemented. As such, the study combines quantitative and qualitative data analysis. The following section outlines the employed methodologies before proceeding to the results.

3 How to trace Supply Chains on Digital Labour Platforms

In this Section, we discuss the main data source used for the study—digital trace data from a global online labour platform. We also present the method used to collect and analyse the company reports, and we discuss the interview guideline, which we have used to interview experts for the three country cases considered here.

3.1 MAXQDA Method

The starting point for researching whether large German companies make use of cloudwork services or are aware of them in their supply chains was a quantitative text analysis of publicly available company reports using MAXQDA. For that purpose, a semi-automated query was run across a sample of 112 reports issued in 2021 and 2022 by the DAX 40, the forty biggest stock exchange-listed companies in Germany. The aim of this part of the analysis is to attain a general overview of the use of certain terms that are related to cloudwork or the use online services from the platform economy in the company reports. The results are portrayed against other secondary data sources from surveys to gain a better understanding of the role of cloudwork in the operations of large German companies.

3.2 Case Selection

The choice of suitable country contexts as deep dives to contextualise the working conditions of cloudworkers specifically is guided by the availability and relevance of quantitative as well as qualitative data.

Based on the results of the quantitative analysis in Chapter 4 regarding the relevance of individual outsourcing destinations for German clients on online labour platforms, Serbia, Egypt, and Bangladesh will be evaluated as relevant case studies for the deep dives outlined in Chapter 5. These countries represent interesting case studies as they are top outsourcing destinations for German clients on online labour platforms. Additionally, the wider economic context, such as income distribution, living standards, export portfolio as well as employment structure varies across the three countries, allowing to illustrate the role of cloudwork in different economic settings.

This choice of country cases is also guided by the availability of qualitative data, such as the availability of country-specific reports and the possibility of interviewing experts on the subject of cloudwork. The Fairwork Network and their national research teams yield the unique opportunity to benefit from local experts' and researchers' experience in the respective country. Generally, the Fairwork Network's reports cover both cloudwork and location-based "gig" services and online labour platforms. The national reports are complemented by research covering globally active online labour platforms.

Table 3 List of query terms

List of Search Terms	
DIRECT Search Terms	
Gig-Economy Online Labour Cloudwork Freelancer United Nation's Guiding Principles OECD Guidelines for Multi-national Enterprises LkSG	"Direct" search terms are used to identify either (a) the use of cloudwork services specifically or (b) the relevance of LkSG for the company. Direct terms are used because they reference or directly indicate the concrete context of cloudwork or the LkSG. This includes a reference to important international documents, such as the UNGP and the OECD Guidelines. Related or modified versions of the terms were included (i.e., different spelling, different capitalization, German terms and personifications, e.g. "cloudworkers")
INDIRECT Search Terms	
Platform Digital services Independent contractor Outsourcing Human rights Worker's rights Labour conditions Due diligence	"Indirect" search terms are used to infer (a) and (b) via the context of the information. Indirect search terms yield the disadvantage that they can obtain additional meaning outside of the context of this study (i.e., "platform" or "digital service" can also be terms used in different contexts than cloudwork). Related or modified versions of the terms were included (i.e., different spelling, different capitalization, German terms and personifications)

The case selection is further guided by GIZ' engagement abroad to foster the implementation of the LkSG and the support for German companies to conduct meaningful HREDD. The mandates of the GIZ projects *Initiative for Global Solidarity* and the *Gig Economy Initiative* allows to further contextualise the findings of this report into concrete action.

3.3 Interviews

Qualitative information used in the country deep dives was obtained through literature reviews and interviews. To gain a contextualised understanding of cloudwork in the respective country settings, semi-structured interviews were held with experts on the respective country contexts. The selection of interview candidates was guided by the expertise of the Fairwork Network of researchers. For all three countries, the respective researchers were consulted and interviewed. The order of interviews does not correspond to the order of presentation in this report: Interview 1 covers aspects in the Egyptian context, Interview 2 concerns the peculiarities of cloudwork in Bangladesh and Interview 3 yields insights into the situation of Serbian cloudworkers. The questions were made available before the interview, and the time frame was kept at a maximum of 30 minutes. The interviews were conducted by one of the researchers and documented in written form and to revisit the information in the further analysis. The information obtained was used in addition to secondary reports and other publicly available information to construct the country deep dives. The insights from the interviews were reiterated during the mid-term presentation and elaborated upon.

3.4 Digital Trace Data

The data used here is based on the data collection conducted for the study 'The global polarisation of remote work' by Braesemann et al. [14]. The following description of the data collection and preparation is a shortened excerpt from this study.

3.4.1 Data Collection

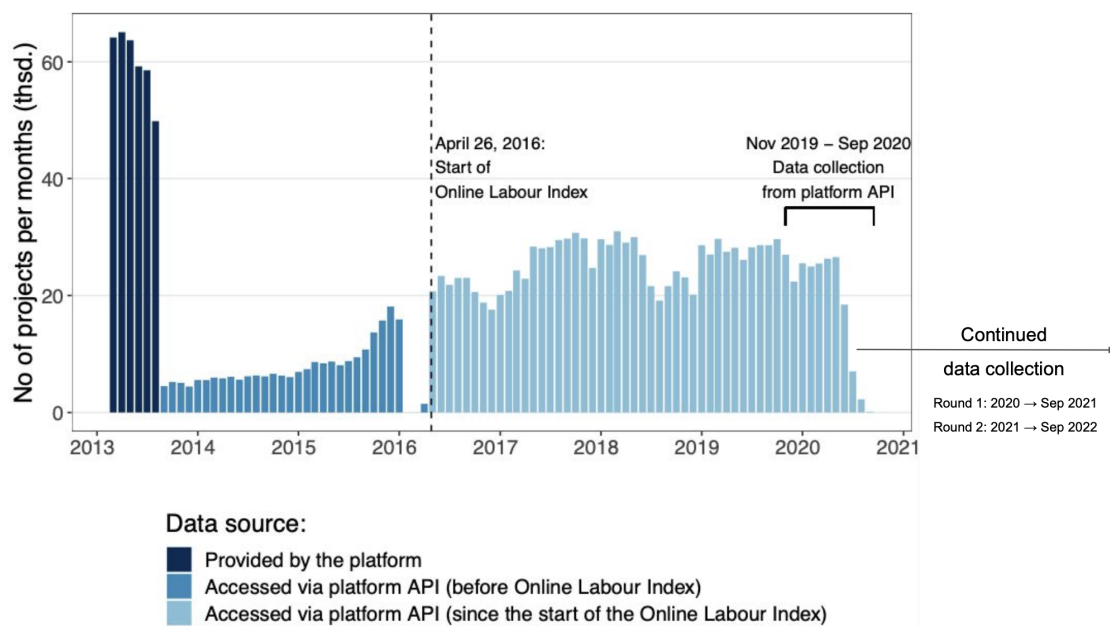


Figure 5 Description of the data collection process (**reproduced from [14]**): The data comes from two sources: data of 2013 transactions directly provided by the platform (dark blue) and data collected via the platform's API (blue and light blue).

Please note: this section is an excerpt from [14]. Our analysis is based on transaction data from a globally leading platform for remote work. As one of the largest global platforms [15], it features a great variety of jobs, ranging from relatively low-skilled data entry to more complex tasks, such as web design or software development. In contrast to microwork platforms (such as Amazon Mechanical Turk), the platform facilitates the coordination of larger projects that are generally of higher complexity than typical microwork tasks [16].

On the platform, workers apply for jobs posted by employers. Employers use the platform infrastructure to hire, monitor, and pay workers. The job postings include a project title, a description of the task to be performed, a list of required skills as well as further formal requirements, such as formal contract duration or required language skills. Interested workers bid an hourly wage or fixed price on the open job postings. Before making a hiring decision, employers can interview applicants

and review their public profile, including their working history and feedback from previous projects.

From the platform, we collected data in two ways. One dataset, which includes 330,000 transactions processed on the platform between March to August 2013, was provided directly from the platform in 2014. While this data set covers the entirety of all projects conducted on the platform in the observation period, it is limited by the relatively short time period. To gather more data from recent years, we additionally collected data using the database infrastructure of the Online Labour Index [17].

The Online Labour Index (OLI) is the first economic indicator that provides an online labour market equivalent to conventional labour market statistics[18]. It measures the supply and demand of platform work across countries and occupations by tracking the number of projects and tasks across platforms in real-time. To do so, it uses web-scraping to count the number of newly posted projects on a number of online labour platforms on a daily basis, and it stores the individual project IDs.

We have used these project IDs and the Online Labour Index's access to the online platform's database interface (API) to gather additional information, such as the project description and the employer's country-city location, about these projects (Figure 6).

The project data, which we collected via the API, also contained information about the applicants to each project, including a unique platform worker ID. In total, the OLI database contained IDs of 4.8 million projects stored between 2016 and 2020. The time span is representative of the development of online labour platforms prior to the Covid-19 pandemic. Further research should take into account the effects of the global pandemic on the evolution of online labour markets. We could not retrieve information about all projects, as information about some of the older projects was not available anymore, and other projects did not contain publicly accessible information.

After having gathered information via the API about the projects for which we had IDs, we extracted the platform worker IDs from these projects (see Figure 6). In the second step, we provided these IDs to the API in order to obtain the remaining information related to each transaction of these platform workers. This includes the hourly wage, the total price charged for the project, and the workers' country-city location. The individual platform worker profiles contain a project history (projects the platform workers had applied to in the past) ranging back to before the OLI data collection started in 2016. Thereby, we could obtain additional project IDs not yet covered in our dataset. In a third step, we collected the details about these projects to fill the data gap between the transaction set from 2013 and the data collected from API requests covered by the OLI since 2016.

From the unique project IDs available in both the project and platform worker data sets, we could assemble a set of full transaction records. After removing incomplete observations and those that could not unambiguously be assigned to one platform worker, a data set of 1.6 million full transaction records remained. These were merged with the 330,000 projects from 2013, so we

ended up with a complete transaction record for 1.9 million projects covering the period from 2013 to 2020.

Figure 5 provides an overview of the size of the complete data set. It shows the number of projects per month collected from the platform.

The data comes from two sources: the 2013 transactions, directly provided by the platform (dark blue), and data collected via the platform's API (blue and light blue). The 2013 data covers all transaction records conducted on the platform between March and August 2013, hence the larger volume during that period. From the data collected via the platform API, we distinguish between the projects that were directly captured in the OLI database since the start of the OLI data collection in April 2016 (light blue) and the projects from 2013 to 2015 that we collected in the third iteration of the API data collection (blue). The coverage of the data since May 2016 is roughly consistent up until the summer of 2020, when we finished the first round of data collection, with only some seasonality. For the period from September 2013 to April 2016, we could collect less data as we did not have access to all the daily project IDs, which were only made available through the OLI.

3.4.2 Data Preparation

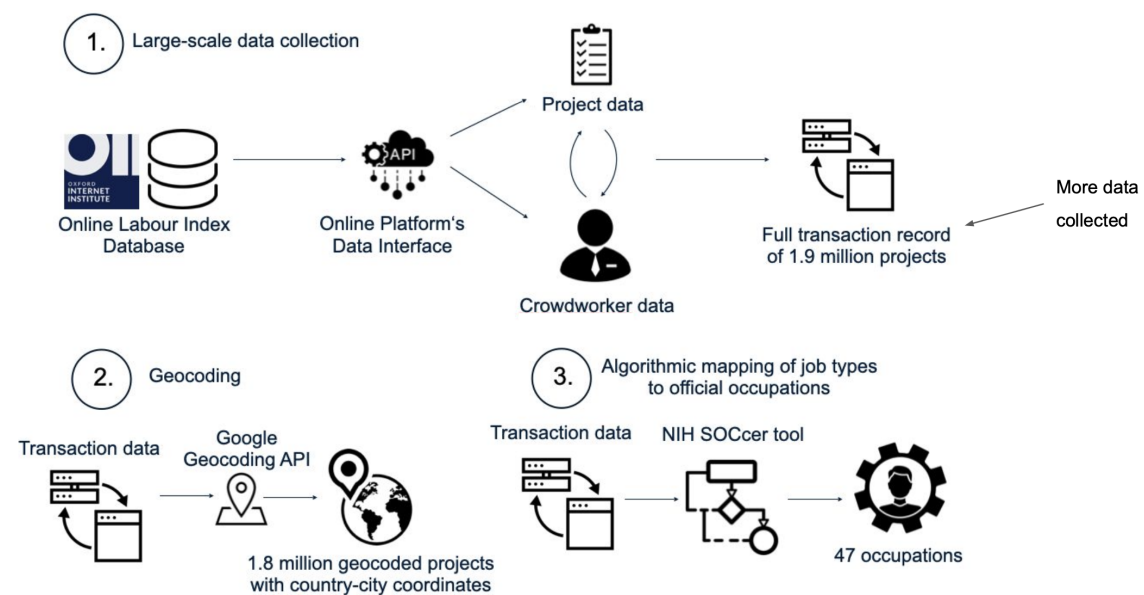


Figure 6 Illustration of the data collection and preparation (reproduced from [14]): the data preparation consists of three main steps: (1.) data collection from the online platform, (2.) Geocoding of the platform data and matching with regional data sources, and (3.) mapping of platform job types to official occupation statistics.

Please note: this section is an excerpt from [14]. Figure 6 visualises the primary data source and the steps we have undertaken to prepare the data for the subsequent analysis. In summary,

we have collected data from the online platform, geocoded the data and matched it to regional statistical databases, and we have mapped the online job categories to the Standardised Occupational Classification and merged the data with occupational statistics.

To geocode the data, we use a Geocoding API and provide it with a list of all unique country-city locations from both the employer and worker side of the platform transactions, a total of 66,085 locations. Besides the geographical analysis of online labour data, we also investigate the job types of online projects. For this purpose, we match the online job categories with official occupational statistics used by the U. S. Bureau of Labour Statistics (BLS). The BLS provides detailed information about each occupation's educational requirements, skills, and abilities. This data is available via the Occupational Information Network O*NET. To match online work descriptions with official occupational taxonomies, we use the SOCCer (Standardized Occupation Coding for Computer-assisted Epidemiological Research) tool provided by the U. S. National Institutes of Health for an automatised coding of a sample of 345,000 online projects.

The resulting data set contains geographical information about employers and freelancers (country-city locations and coordinates), project details (wages, project description etc.), as well as the occupation of each project.

3.5 Client Identification

In addition to analysing online traces from the digital labour platform related to outsourcing of services from Germany, we aim to identify sectors and individual companies from the platform as well as their total activity on the platform.

3.5.1 Identifying Individual Clients

The platform requires a lot of information from freelancers, among others, the verification of their identity³⁵ using a government-issued ID, and it similarly displays many details about freelancers on their profile, for instance, their first name and photo, their country location, employment history, skills etc. On the other hand, clients have only a minimally informative profile on the platform, as indicated in Figure 7.

The public profile of clients displays only limited information: the number of reviews and average feedback score, the amount spent on the platform, the date of registration on the platform and the country/state location. In particular, client profiles do not usually contain any information that could be used to identify a company or the main sector of company activity. Moreover, it is not easily possible to get data on the total project history of clients, as only a limited number of recent projects (up to 100) are displayed with every project posted by a client. In other words, the amount of information provided publicly on the platform is asymmetric between clients and freelancers.

³⁵<https://support.upwork.com/hc/en-us/sections/360002707773-Identity-Verification>

Job Details

Job description

Hey there. PLEASE read this description carefully as we are looking for a VERY specific person who must meet ALL of our requirements.

MUST BE YOU DOING THE WORK. WE WILL MONITOR THIS AND ARE NOT OKAY WITH ANYONE BUT YOU WORKING ON OUR SITE.

DO NOT WASTE YOUR TIME, OUR TIME, OR YOUR CREDITS, IF YOU HAVE NOT MADE AT LEAST \$50K WORKING ON UPWORK AND HAVE A 95% OR MORE SUCCESS RATE.

[...]

Again, if you are not advanced in UX/UI Design AND Development, please do not waste your credits or time.

If you're really good at what you do and looking for a great opportunity, this may be it!

About the client

★★★★★ 4.79 of 178 reviews

United States
Ohio

Over \$780,000 total spent
332 Hires 74 Active

Member Since Feb 20, 2016

Skills required

Web Development Database Development API

Web Design Ecommerce Website Responsive Design

API Integration Website Redesign WordPress Plugin

Custom PHP

Sean

CEO - Walcraft Cabinetry

less

Hourly Job

More than 30 hrs/week

More than 6 months

Expert

I am willing to pay higher rates for the most experienced freelancers

web search

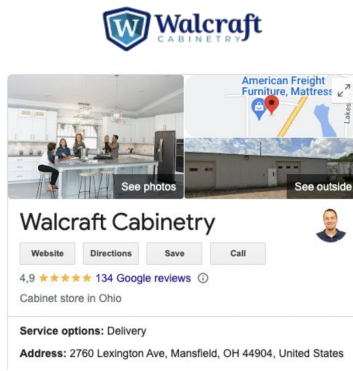


Figure 7 An example of an online project posted on the platform: to identify clients from the online platform, one needs to conduct a manual search utilising information posted in the project description.

Thus, it is not straightforward to identify individual companies from the publicly available platform data. In order to identify clients and describe their total activity on the platform, one has to utilise information from individual project postings. Figure 7 shows an example project in which it is possible to identify a client company conducting a manual web search. The client, Sean, signed the project post with his job title, which provided enough information to identify the company: Walcraft Cabinetry, a cabinet store in Mansfield, Ohio. As we will show in section 4.3, it is rarely possible to unambiguously identify employers from the project posts. In most cases, there is no information available related to either the company itself, their website or the sector or industry of the company activity.

As the task of extracting information related to the company or industry from the project posts is highly unstructured, it is not possible to conduct it in an algorithmic way. Instead, the project posts have to be read and evaluated by a human coder. In this study, we have analysed 250 project posts from German clients in order to assess the identifiability of companies from the platform data and to develop a first understanding of the target client audiences that make use of online labour platforms to hire talent.

3.5.2 Obtaining Project Histories of Clients

While the process of extracting company information is too unstructured to be done in an automatised way, it is possible to utilise an algorithmic data mining approach to obtain information about the total activity of individual (anonymous) clients from the digital trace data. The approach we developed to obtain the project histories of individual clients is described in Figures 8 to 10.

In the first step, we obtain a raw list of project IDs from each of the projects listed by different

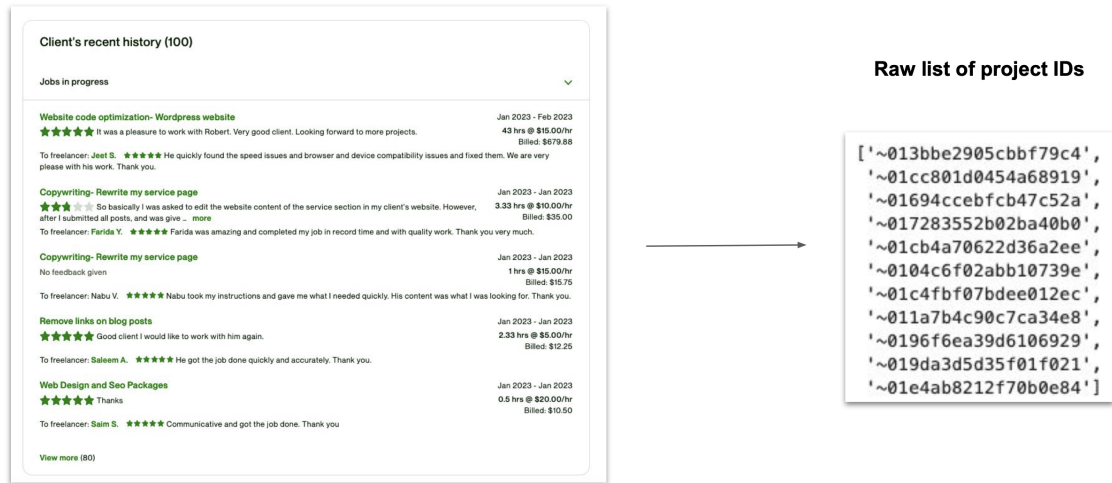


Figure 8 *Identifying the recent project history of employers:* on the platform, there are no client profiles or other unique client identifiers. Each project contains a list of recent other projects posted by the same client, which we use to generate pseudo client IDs.

employers, as shown in Figure 8. Unfortunately, this is not sufficient to get a full picture of each client's activity, as the platform displays only the most recent projects of each client.

Having obtained a large number of 'recent projects' lists from each project posting, we compare the lists in a second step searching for overlaps, see Figure 9. As outlined in the left part of the figure, those lists that contain overlapping project IDs indicate that they were posted by the same client. Iterating this process over all lists of recent projects available from each project post, we check thousands of lists for overlap and can construct comprehensive lists containing projects posted by the same client.

In the third and last step of identifying all available projects posted by the same client, we compare the concatenated lists from Step 2 and check that there is no overlap between these 'clients' lists, see Figure 10. Then, we assign a pseudo client ID to each list, and we extract information about the client, such as the client's country and city location, rating etc. Comparing country and city locations between the individual recent project lists of individual clients is further utilised to verify that the merged lists belong to one client only. The client lists are used to compare the total platform activity of anonymous and identifiable clients as outlined in section 4.3.

Having described the methods applied to analyse the different data sources, the report now turns to presenting the results of the quantitative data analysis related to the outsourcing patterns by German clients in the next chapter.

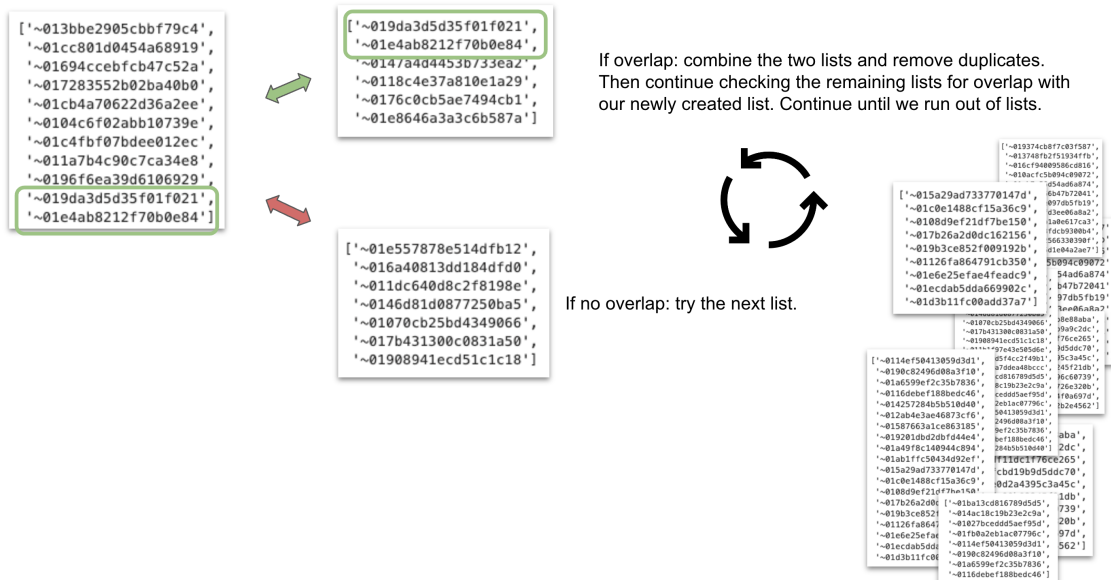


Figure 9 Searching for overlaps in project histories to identify projects from the same client: if two lists overlap, we assign them to the same client. This process is repeated until we have compared all project lists.

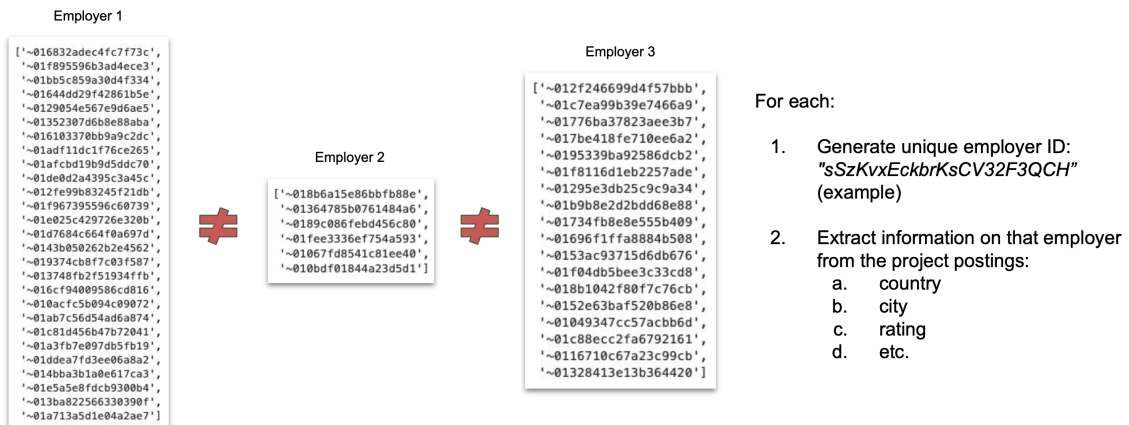


Figure 10 Creating unique client IDs and merging project histories: the result of this process is a set of non-overlapping lists. Each of these lists represents one client. We create unique employer IDs for each list. We extract information on the client from the project postings (e.g. country, rating etc.).

4 The Relevance of Platform Work in the Context of the LkSG

Here, we investigate the outsourcing of online work services by German businesses. In this chapter, we analyse data from a global online freelancing platform. The data collection and preparation is described in more detail in chapter 3.4. The outsourcing practices described here are further contextualised in the case studies on (national) working conditions on online labour platforms in specific countries. We consider three aspects: first, the overall outsourcing patterns in terms of quantity, types of online work and wages. As seen in chapter 2, wages are an important topic in the context of the LkSG. This part of the analysis provides quantitative estimates on the frequency, monetary value and hourly wages of projects outsourced from German companies to online freelancers globally, including a breakdown by world regions and the most relevant outsourcing destinations.

Second, we look into the reporting on online outsourcing and the utilisation of digital work services as part of the overall value chain in sustainability and financial reports by large German companies, and we consider additional sources that indicate the activity of large corporations in online labour markets. The reports do not mention platform work or related services explicitly, but there are other sources (online blogs, forums, advertisements on the platform’s website, surveys and academic research) which indicates that large companies are using online labour platforms.

Third, we explore the technical feasibility of identifying outsourcing industries as well as outsourcing companies from the descriptions of a sample of online projects in the digital trace data. We find that only a small share of projects contains information that can be used to identify companies via web search. Around a third of the projects contains information on the sector or industry of the client.

4.1 Online Outsourcing by German Clients

In this section, we investigate the overall online outsourcing patterns by German clients on the online labour platform.

4.1.1 Germany’s Role in the Global Online Labour Market

A first insight into the overall extent of online labour outsourcing by German clients is provided in Figure 11. The chord diagram displays the total online labour market data gathered by Braesemann et al. (2022) [14]. The figure displays all flows of online work from the main countries and world regions active on the platform (arrows of different widths represent the total flow of online work from one country or region to others; colours represent the country or region of origin, i. e. demand).

The data set contains 1.85 million projects. Of those, 36,800 or 1.9 % come from German clients (purple lines) and 16,800 or 0.9 % are conducted by German freelancers (orange lines). Overall, the most important bilateral flows are from the United States as the largest client country on the platform to India (175,000 projects; 9.4 %), the United States itself (125,000 projects; 6.7 %), the

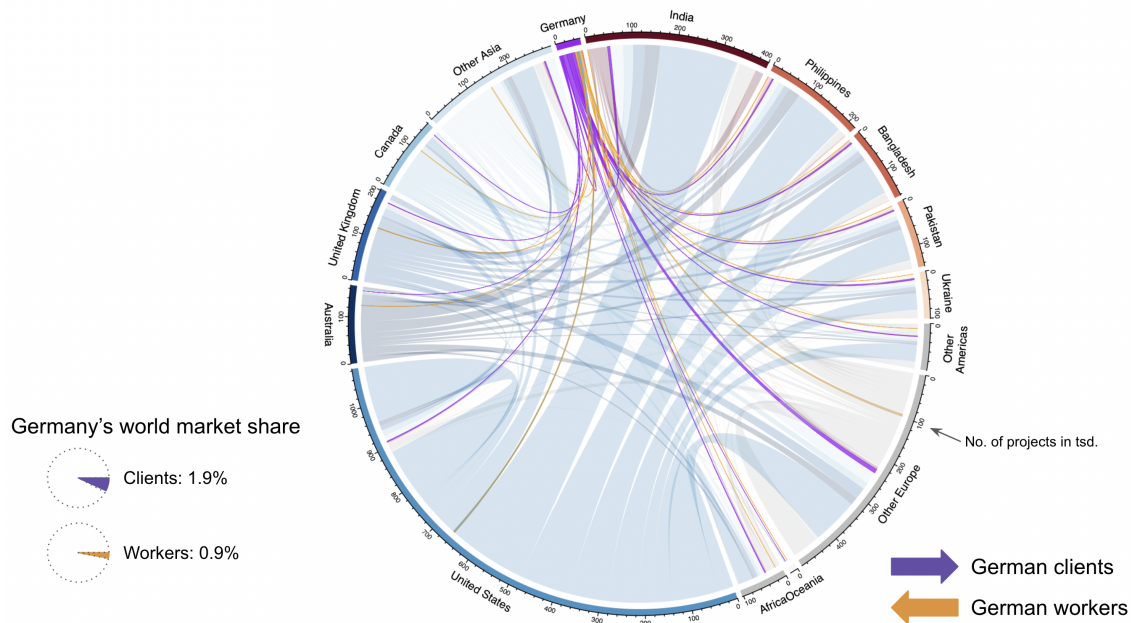


Figure 11 Chord diagram visualising labour flows from and to Germany as part of the global online labour market: German clients are responsible for around 2% of global demand; German workers account for 1% of global online labour supply.

Philippines (115,000 projects; 6.2 %), Bangladesh (84,000 projects; 4.5 %), and Pakistan (71,000 projects; 3.8 %). Thus, in comparison to the globally most active countries, German companies play a smaller role on the platform. However, in comparison to other European countries, clients from Germany form the second-largest group after the United Kingdom (148,000 projects) and before Ireland (23,600 projects), the Netherlands (22,200 projects), and France (21,900 projects).

4.1.2 Destinations of Germany's Online Outsourcing

Besides the overall market share in the global online labour market, what are the top outsourcing destinations of German clients? Figure 12 shows that, while most platform work outsourced from Germany, overall, goes to the largest outsourcing destinations, there is a tendency for German clients to hire freelancers from European countries with the strongest focus on the German-speaking countries Germany, Austria and Switzerland.

The left panel of the figure displays the total number of projects outsourced from Germany to its most important outsourcing destinations (length of the bars). The colour of each bar represents the German outsourcing intensity in comparison to the share of the global market that each country represents (see also the right panel). Red and orange bars represent countries where Germany is a less active client in contrast to its share of the world market, and blue bars represent countries where German clients tend to be more active. Most projects go to India, Bangladesh, the Philippines, Pakistan, the United States, Ukraine, and Germany. In the last two countries, Germany outsources

more online labour than its world market share. A number of other European countries are equally top destinations for online outsourcing by German companies.

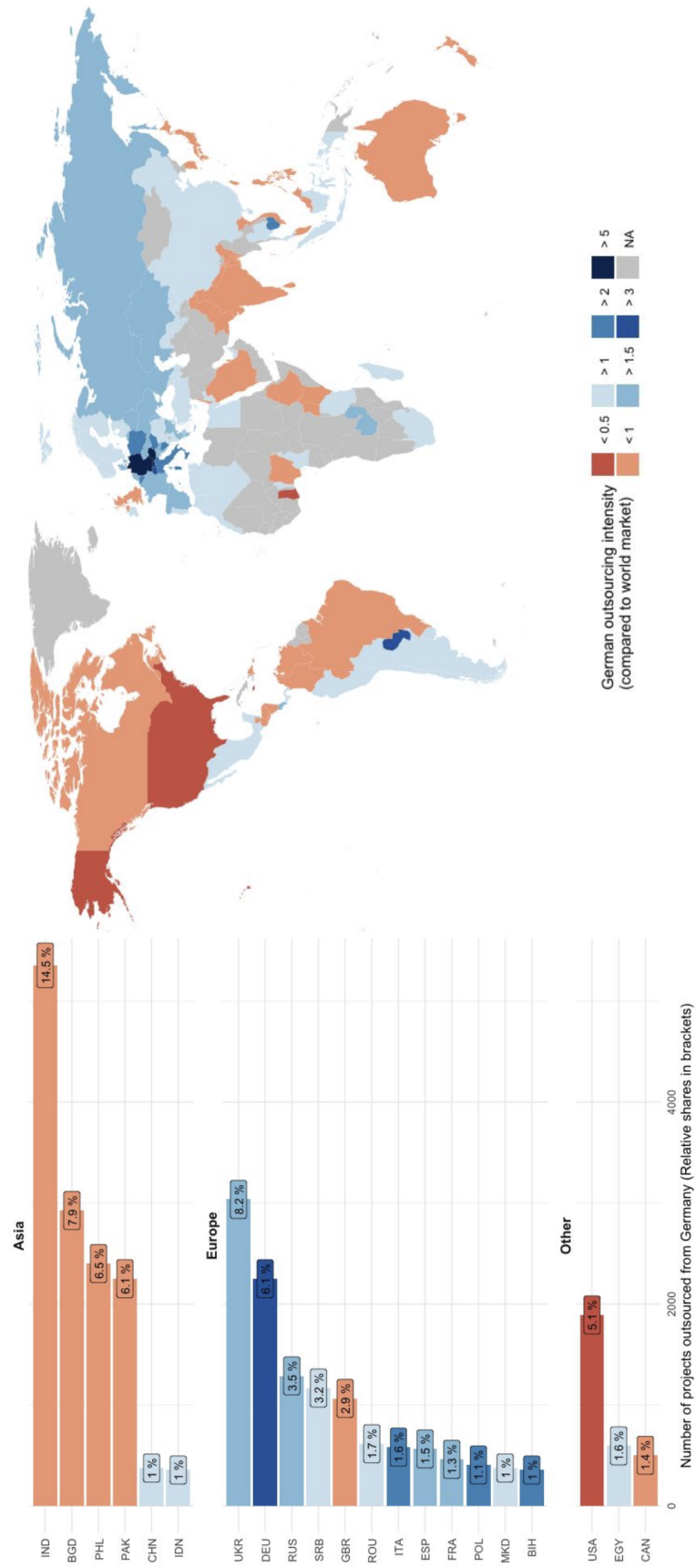


Figure 12 *Online outsourcing from Germany*: in contrast to the global market, German clients have a tendency to employ freelancers from Central and East Europe (colour of the bars and countries); the largest worker countries are also the most relevant for German clients in terms of total frequency (length of the bars).

4.1.3 Job Types Outsourced by German Clients

The type of online service bought by German clients forms another important dimension of German outsourcing in the online labour market. Figure 13 shows the top occupation by freelancer country (left panel: the colour of the countries) and the most important job types demanded by German clients on the platform (right panel).

As the market is self-organising, freelancers can offer services in any occupation independent of their country's location. Still, German clients seem to specialise in their buying behaviour in certain world regions (left panel). For example, there is a tendency to outsource writing and translation tasks to English-speaking countries such as the United States, Canada, the UK, Ireland, South Africa, Kenya, Australia, or New Zealand. Similarly, projects outsourced to freelancers from Germany, Austria and Switzerland are often focused on writing, probably for tasks requiring German-language skills. Other than that, freelancers in West Europe working for German clients seem to focus on jobs around media and communication; freelancers in East Europe and South Asia focus on software development, and freelancers from South-East Europe offer design-related jobs to German clients. Other regions of the world show a more diverse pattern of freelancer activity meaning no particular activity is dominant in comparison to others. This might vary for individual country contexts.

The right panel of the figure displays the top job types demanded by German employers. The length of the bars represents the total number of projects outsourced from Germany in each job type; the colour represents larger occupation categories. The distribution is unequal, with a small number of occupations being most relevant and a large long tail of occupations that are not much in demand. The most important job types outsourced by German clients in the online labour market are software development, design, writing and editing, IT-related jobs, and communication.

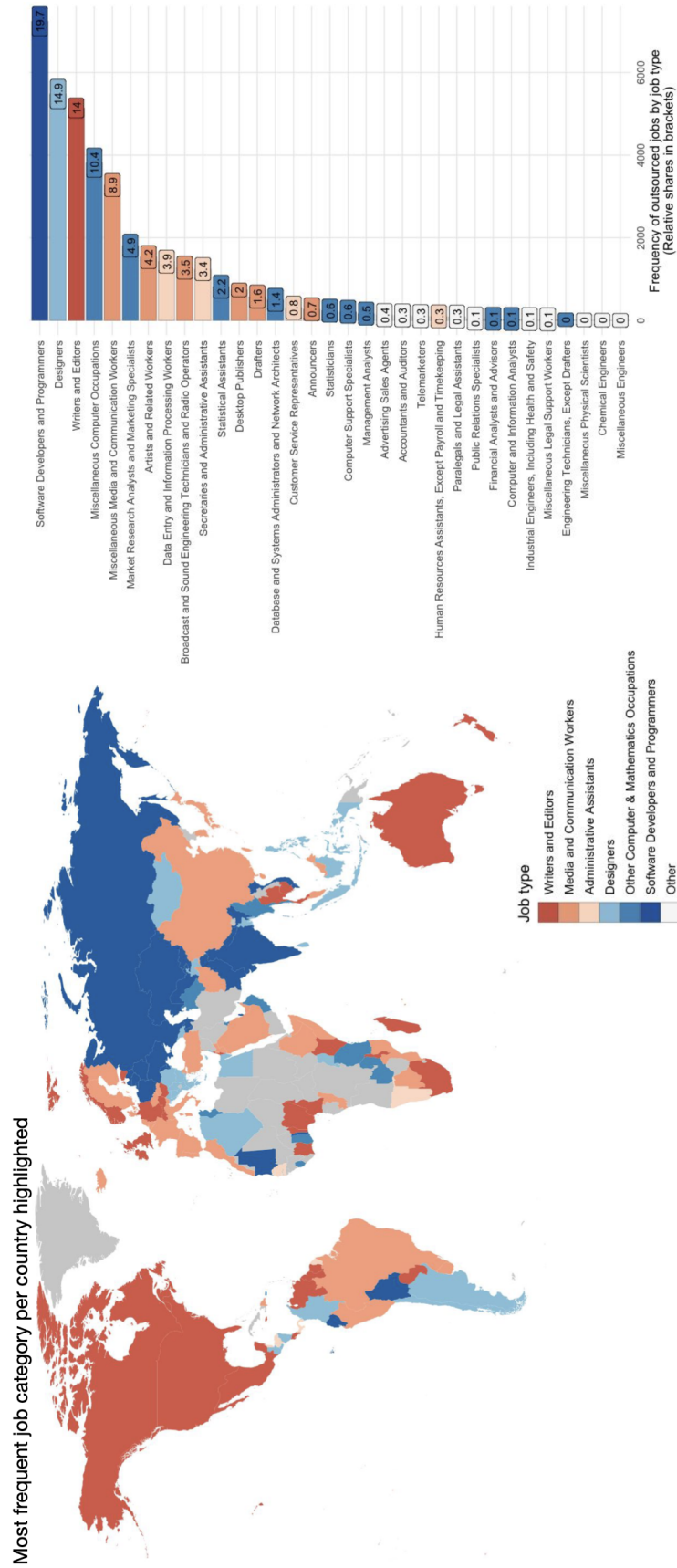


Figure 13 *Job types of projects outsourced from Germany*: While many different job types are offered by freelancers globally, there is a tendency of spatial organisation with German clients buying creative, communication and writing services from freelancers in West Europe and other high-income countries, while they contract freelancers from East Europe and South Asia mostly for IT-related services (left panel). Overall, software development, design and writing are the most relevant job categories demanded by German clients (right panel).

4.1.4 Job Types and Wage Levels

A final dimension of the German online outsourcing behaviour considered here is the hourly wage levels paid to freelancers in different occupations. Fair remuneration in the form of wages is a featured topic in the list of protected positions in the LkSG and is reflected in the ILO core conventions. Figure 14 on page 56 is a box-dot plot visualising the hourly wages (horizontal axis: logarithmic scale) paid for individual projects (small dots) and their distribution (boxes). The colour scheme compares average wage levels from low (dark red) to high (dark blue). Individual occupations (vertical axis) are grouped into larger occupation categories. The black vertical bar indicates the 2019 German minimum hourly wage of EUR 9.19.

From the figure, it is obvious that wage levels vary substantially both within and between occupations. Besides considerable noise in the data and unobserved heterogeneity, one reason for the large within-occupation variation is the wide geographical spread of German online outsourcing. Freelancers from countries with low wage levels and low price levels can offer services for lower wage levels than freelancers from countries or regions with higher price levels.

Besides within-occupation wage differences, the wide differences in average wage levels indicate that it is mainly the type of job outsourced on the platform that determines the hourly rate. A general tendency that can be observed from the figure is that more technical jobs and those that require particular types of skill sets pay higher wages on average. Among them are legal jobs; diverse IT-related jobs such as information security analysts, computer network support specialists, and database administrators; as well as design and engineering occupations. On the lower spectrum are jobs that require administrative or clerical types of skills, such as sales, word processing, data entry or customer service.

Accordingly, it is the low-wage job types that have the highest risk of being paid below minimum wage; however, the analysis here compares wages with the German minimum wage, and it is questionable whether this wage level should apply to jobs that are outsourced to freelancers who reside in other countries. Further analyses on wage levels of online projects outsourced from Germany (including minimum, average and living wages) are presented in section 5.1 with a focus on three exemplary country cases.

Furthermore, minimum wages are a measure allowing to compare the income earned via cloudwork in relation to the national average across occupations. However, the minimum wage does not automatically imply a living wage, (as outlined in Section 2), meaning *adequate payment to cover living expenses of all household members in accordance with dignified living standards*. Thus, it is important to see whether an *earned wage* corresponds to a *living wage*. The risk of earning less than a minimum wage thus exacerbates the risk of earning below the living wage.³⁶ Additionally, the

³⁶Cloudwork is often a "residual" source of income, meaning that cloudworkers often also pursue jobs in the physical economy while earning additional income on online labour platforms. While important, this aspect does not generally

emergence of *shadow clusters* (i. e., the tactic of *several* workers collaborating via the *same account*) is an important factor to take into account. For those workers sharing or splitting an account and its income, the earning might be well below a living wage, even below the minimum wage. The reasons for workers to cluster together are either entry barriers on the platform or benefits (i.e., less individual costs for maintaining a good profile).

4.2 Reports on Online Outsourcing by German Companies

In order to evaluate the importance of cloudwork for (large) German companies which will have to exercise HREDD under LkSG, it is necessary to determine whether these companies are aware of online outsourcing and whether cloudwork is actually used by companies. Concretely, we seek to establish the state of online outsourcing among those companies. In that we are complementing information taken from the online labour platforms with other available information sources. In order to find evidence of the use of cloudwork by large German companies, publicly available information in the form of reports such as financial statements but also sustainability reports is an initial starting point. These documents report on the overall company's performance as well as its business development and strategy. As of 2023, companies will be required by the LkSG to provide further reports on their HREDD processes. Large German companies, such as the stock exchange-listed DAX40, frequently report on their sustainability efforts, including their improvements made in the area of labour and human rights. This ought to include, as seen in Chapter 2, the HREDD obligations vis-à-vis cloudworkers.

Since the law is only in force since 2023 as well as the inherent complexities of cloudwork (Chapter 2), the absence of evidence on the use of cloudwork in the 112 evaluated sustainability reports and financial statements by DAX40 companies is not striking. Overall, the evaluation of publicly available reports provided little evidence on the use of cloudwork but demonstrated that companies are increasingly reporting on their effort to support human rights and the environment. Hence, the search for "direct" terms, i.e., terms that are directly connected with the field of cloudwork and HREDD, provides a twofold picture: direct terms connected to cloudwork, such as "cloudwork", "freelance", or references to large freelancing and cloudwork platforms such as "Upwork" are virtually absent in the reports. However, terms connected to HREDD, such as "human rights", "LkSG", and "UNGP", showed high incidents, particularly in the sustainability reports. This indicates that large German companies were aware prior to the LkSG entering into force on the necessity to incorporate HREDD in light of the emerging legislation.

The search for indirect results is less conclusive. Terms such as "platform" and "digital services" have a high incidence; however, the contextual analysis shows that the context of the mentioning has no relation to the topic of cloudwork or HREDD. Mainly "platform" is mentioned in the context

question the payment standards on online labour platforms in relation to national living wage averages.

of internal learning platforms established by the companies themselves, in the context of matching suppliers and customers within their network via company-internal platforms and in the case of exchange fora such as international initiatives. Similarly, digital services refer mainly to new strategies pursued by companies to deploy new products and services to their clients. These large occurrences can be explained by the fact that the selected query terms are not sufficiently unique to the topic of cloudwork but represent rather generic terms and relate to operational, strategic or other business-internal processes. Similarly, other indirect terms, such as "outsourcing", do not yield any insight into the use of cloudwork. In essence, the ambiguity inherent to the keywords in the search as well as the lack of direct terms, does not allow us to discern between internal business operations and development on the one side and information on the cloudwork economy on the other.

The implications of these contextualising results are the following: the absence of direct terms suggests that the reports are the wrong kind of data source to display whether cloudwork is present in DAX40 business operations; however, this does not suggest the factual absence. Reasons why cloudwork is absent from DAX40 companies' reports including the unawareness of companies of the wider implications of sourcing services via online platforms or a differing classification of services sourced via cloudwork that renders these services invisible to the search by means of direct terms. For example, services sourced via online platforms could be classified in a generic category together with other services sourced from other independent contractors. Furthermore, the occurrences related to the LkSG, the UNGP and human rights suggest that large companies in Germany are aware of the increasing need to respect human rights in their own operations and in their supply chains.

Since the publicly available company reports provided inconclusive results, secondary sources allow us to shed further light on the general connections between large German companies and cloudworkers. Specifically, other research, as well as surveys conducted by platforms (such as the Freelance Survey 2020), suggests that companies are generally aware of cloudwork services and that using online labour platforms to outsource projects is a growing practice among German companies [19].

In that, the Leibniz-Centre for European Economic Research (ZEW) conducts quarterly surveys with companies on the development of the information economy in Germany, which includes the ICT sector, media service providers and knowledge-intensive service providers. Their research is contrasted with surveys in the Manufacturing sector. In their presentation of results, companies are clustered in groups according to their economic sector and their size in terms of employees. In 2020 almost 800 companies participated in the survey providing information on their use of cloudwork. A study based on the survey results between 2014 and 2018 suggests that German companies are largely familiar with the concept of cloudwork. The results indicate that 72 % of companies from the

German Manufacturing sector (including Chemicals and Pharmaceuticals, Engineering, Automotive and Others) reported knowledge about the concept of sourcing services via cloudwork platforms. The awareness about cloudwork is more pronounced in the information economy, where almost 84 % of companies reported their familiarity with cloudwork platforms [20]. However, companies from both clusters also stated that they were more acquainted with issuing contracts for specific services to independent contractors rather than outsourcing the same tasks via online labour platforms [20]. These results contradict the earlier argument that companies are generally not aware of cloudwork and rather suggest that missing monitoring and reporting requirements on the use of cloudwork are the reason for the absence of cloudwork in the publicly available reports. Additionally, it must be mentioned that it is not possible to establish whether large German companies source from other companies that use cloudwork services. Such as *subcontractor-relationship* would not be visible in either the reports or the quantitative data.

In light of the Covid-19 pandemic, the survey observes an increase in the use of cloudwork since 2016. The share of actual use of cloudwork in the manufacturing industry has risen from 1.2 % to 6.1 %. In 2022 the value of actual use has slightly fallen to 4.9 %; however, the planned use reported by companies themselves in the following year forecasts an increase to 6.1 %. Similar to the trend in general awareness of cloudwork, the share of actual use and planned use is higher in the information economy, where in 2020, almost 8.3 % of companies reported the actual use of cloudwork [21].

The survey lists several reasons for the use of cloudwork for companies which includes the need for specialised knowledge, especially in design and programming, while a third among manufacturing companies and almost 46 per cent of information economy companies also pursue moving towards more flexible business models and a higher project completion rate [22]. When asked about the potential tasks to source via platforms, a third of companies from both clusters report seeking to source tasks related to programming, web development and data analysis. Another third indicated that they envisage the use of platforms to seek out creative tasks such as graphics design, marketing or drafting of texts. Further tasks possibly include administrative support such as accounting, project management and supportive data tasks [22]. The reasons why the overall share of companies using cloudwork services is yet low relate to the obstacles that companies perceive imminent in the use of online labour platforms. Mainly companies report that most of their operational tasks are inadequate to be carried out via an online platform. Furthermore, companies are concerned about the lack of quality management of completed projects and legal uncertainty regarding the contractual ramifications of cloudwork services. In essence, companies fear the loss of control if they outsource certain tasks. Additionally, more than half of the surveyed companies are concerned that outsourcing via online labour platforms might cause the loss of company internal knowledge or intellectual property [22].

Surveys provided by online labour platforms themselves suggest that these work together with big companies to match cloudworkers to the relevant projects. The Freelance Survey provided by FreelancerMap, an online labour platform mainly active in Germany, surveyed freelancers and cloudworkers engaged in project work via their platform and produces annual results for the DACH region (Germany, Austria and Switzerland). FreelancerMap openly advertises that several of the DAX40 companies use their platform to source projects among freelancers and cloudworkers.

Similarly, the now merged platforms Comatch and Malt reported that 80 per cent of their clients on the platform are stock exchange-listed companies, including the DAX40 [23]. In their 2020 report, FreelancerMap stated that 35 % of respondent freelancers worked for companies with more than 5000 employees. An additional 18 % claimed to be working with companies that employ over 1000 employees.

Overall, 61 % of freelancers reported having worked with companies employing more than 500 employees [19]. Respondents further indicated that the main sectors they were working on in their cloudwork projects pertain to the ICT sector (14 %), the Automotive industry (12 %), Banking and Finance (12 %) and the Industrial sector (10 per cent) in 2020 [19]. These results suggest that more than half of the freelancers in the DACH region work with companies that would be obliged under the LkSG and the CSDDD to implement HREDD.

Further, anecdotal evidence by cloudworkers as well as research on cloudworkers working on training algorithms, suggests that, particularly in content-moderation-tasks for large companies, cloudworkers are subjected to risks relating to harmful content[7]. Additionally, the training of algorithms for new industrial and consumer applications, such as autonomous driving, according to research by the Hans-Boeckler-Foundation, suggests that large German original equipment manufacturing companies make use of online outsourcing to train the AI systems [8]. This research pinpoints to the relationship between large companies and cloudworkers. The absence of systematic evidence in the publicly communicated reports, as well as the multitude of anecdotal evidence urges for more detailed research on the concrete connection engaging with companies themselves.

Overall, the evaluation of primary documents demonstrates that large German companies do not report on the use of cloudwork or online outsourcing practices; however, their general examination highlighted that companies are increasingly aware of their reporting requirements on human rights and working conditions. The contextual information provided by secondary data sources suggests that there is a general and growing awareness among German companies of the use of cloudwork as well as a growing practice. Synthesising these insights yields the conclusion that there is an apparent gap in the reporting requirements and the understanding of cloudwork and HREDD. Importantly, companies seem aware of the HREDD requirements and the possibility of cloudwork; however, the connection between cloudworkers and HREDD is yet to be made explicit in their public reports.

4.3 Identification of Clients

This part of the report presents findings that are based on a sample of 250 online project postings that were manually analysed for information that could potentially be relevant to identify the employer company or the main industry of company activity. Given the time required to read and scan individual posts for relevant information and to conduct a web search to identify the employer, this method cannot be scaled easily to large data sets. Still, as the exercise was conducted on a random sample of all projects posted by German employers in the data set, we are confident that the findings are generalisable to the wider data set. In the following, we present different features extracted from the 250 projects related to the identifiability of employers, pointing toward the differences between identifiable and anonymous employers on the platform as well as the main sectors of company activity.

4.3.1 Identifying Clients from Project Descriptions

In the first instance, we want to illustrate the process of identifying companies or industries from job posts using the examples in Figure 15.

In the figure, we present five examples in total. Two allow to identify the sector of company activity, two do not provide any information other than descriptions of the task to be conducted, and one provides sufficient detail to identify the client company.

The two first two examples do not only provide information related to the task — (1) *"We are looking for a free-lancer. . ."*, (2) *"we are looking for an accountant. . ."* — but they also provide some self-description: (1) *"We are selling premium segment skin-care products in beauty industry."*, (2) *"We are a white label provider for Bitcoin and cryptocurrency exchange software"*. In comparison, the two non-identifiable examples describe the task of the potential freelancer, but they do not include any information related to the client: (3) *"We are looking for a Tax lawyer or Accountant. . ."*, (4) *"We need you to go through a list of 1000 brands. . ."*.

The fifth example, however, is a long post with a sufficient level of detail (*"this project is about an adapter to great out energy meters using the IR (Infrared) interface that many meters have"*), a signature by the client (*"Thanks, Christopher"*), and a web link to identify the client company: *"Some details about the interface can be found here: <https://wiki.volkszaehler.org/>..."*. Using web search, we could identify the client as the organisation *volkszaehler.org*, an open-source project that educates people about constructing do-it-yourself smart meters to optimise energy consumption.

Going through all 250 projects in this way (see the left panel of Figure 16), we could identify 24 clients (10 % of all projects) and find information about the main sector of company activity in another 62 cases (25 %). Two-thirds of the projects did not contain any information other than descriptions of the task requested by the freelancer. The right-hand panel of Figure 16 and Table 4 shows that the average length of the project descriptions varies significantly between anonymous

employers (median: 344 letters) and those where a client's sector (median: 631 letters) or the company itself could be identified (median (733 letters).

Table 4 Comparison of median and log-mean project description lengths in three groups: (x1) non-identifiable, (x2) Sector identified, (x3) Employer identified; the average logarithmic character count is lower for anonymous projects.

	Description length (characters)		Statistical t-Test	
	median	mean _{log}	t-statistic	p-value
x1 - non-identifiable:	344	5.74	x1 ↔ x2: -6.34	<0.01
x2 - Sector identified:	631	6.52	x1 ↔ x3: -5.17	<0.01
x3 - Client identified:	733	6.53	x2 ↔ x3: -0.08	0.94

4.3.2 Web Links and the Identification of Clients on the Platform

A key feature for the identification of companies from the project descriptions is the presence of a web link, as shown in Figure 17. Of all 250 project descriptions investigated, more than half of the projects, where we could identify the client (54 %) contained a web link; in contrast, web links were present only for a small minority of cases in descriptions of anonymous clients (7 %) or those where we could only identify the sector (10 %).

In other words, it is much more difficult to identify employers from the project descriptions if links are not present. Therefore, identification is impeded if links to external websites are removed. The practice of removing links to websites is often used in online marketplaces to avoid the transaction being migrated out of the platform, which also happens on the online labour platform investigated here.

While there is an economic logic behind this practice, it also prevents the build-up of trust on the platform, as illustrated by the following example: one project description from the sample investigated here reads "I am conscious that I am new to this site, I have no credibility so here is my LinkedIn profile - (*link removed*) Thanks, Matt". In this case, it is not possible to identify the client and freelancers interested in applying to the project are prevented from learning more about their potential employer. Overall, projects with removed links are more present among non-identifiable project descriptions than in the other groups, as shown in Table 5.

4.3.3 Size and Age of Identified Companies

Having discussed the identifiability of companies from the project descriptions, we now turn to analyse features of those companies we could successfully identify.

Figure 18 shows the company size in terms of the number of employees and the foundation

Table 5 *Frequency of link removal in project descriptions: URLs to company websites are the most straightforward way to identify clients; their removal makes identification more difficult.*

	Frequency of 'link removed'
Non-identifiable:	7
Sector identified:	1
Employer identified:	2

year of the 14 companies for which we could identify such information via web search. The left panel of the figure displays the distribution of employee count in four groups: 1 – 10 employees (6 companies), 11 – 50 employees (4 companies), 51 – 200 employees (3 companies), and 201 – 500 employees (1 company).

The right panel of the figure displays the foundation year of identified companies (and the foundation year of three clients that could not be unambiguously identified, but for which we could extract the foundation year from the project description). The median foundation year is 2015, with a slight variation of a couple of years.

In other words, the data on company size and age indicates that it is mostly small and young companies, potentially startups, that use online labour markets to hire external talent. The report does not find evidence for the presence of large corporations that would be affected by the German Supply Chain Act. These findings are in correspondence with results presented in the "ZEW Branchenreport Informationswirtschaft" conducted by the Leibniz Centre for European Economic Research (ZEW.) The survey indicates that it is mostly small German companies that source services via online labour platforms [22].

However, it should be emphasised at this point that 90 % of all project descriptions do not contain information that would allow identifying employers. Furthermore, secondary sources (such as surveys with freelancers and companies) indicate the presence of large German companies. It might also be the case that smaller companies supply services to larger German companies and form part of their supply chains; however, this cannot be adequately traced in the present data. The quantitative data and the qualitative data available do not allow to conclude with certainty whether a supplier of a German company uses online labour platforms. Further data-gathering processes, such as surveys with large German companies, might provide an additional source of data to provide valuable insights.

4.3.4 Sectors of Company Activity

The following statistic on the main sectors of company activity is based on the data of the 86 project descriptions, for which the specific industry was identified. Figure 19 summarises the results.

The most frequent business activities are related to digital services, such as eCommerce (16 clients), IT services (8 clients), retail (7 clients), marketing (6 clients) and publishing (6 clients). There is also a relatively large pool of clients from the financial and professional services industry (14 clients in total) and numerous leisure and non-commercial clients (17 in total). Of those, it should be noted that five identified clients are individuals buying services such as editing wedding photos or getting help with CV writing. Four clients disclose themselves as providing services (photography, website development) for the adult and dating industry, which points to the type of business activity as a potential risk factor for freelancers. These findings correspond to and validate the results of surveys addressed to freelancers and other secondary sources.

Only a minority of companies are active in other sectors, such as beauty and well-being, health-care, manufacturing or energy. The findings presented here corroborate the interpretation made in the previous section that online labour markets tend to be used rather by startup companies that are active in the digital economy. However, surveys with freelancers suggest these sectors also play an important role in the outsourcing of projects. However, these secondary sources rely on cloudworkers from the DACH region³⁷ and might provide only limited representativeness of *overall* outsourced projects.

4.3.5 Activity of Companies on the Platform

An interesting aspect related to the identifiability of companies from the project descriptions is their activity on the platform.

Figure 20 compares the activity of clients in the three groups along four dimensions: hourly rate in USD (top-left panel), the total charge of all projects outsourced by the client in USD (top-right panel), total hours outsourced (bottom-left panel) and total count of projects outsourced via the platform (bottom-right panel). Due to the wide variation of the distribution, all plots show the density in the three groups on a logarithmic axis.

In terms of the average hourly rate, we find that those firms that identify themselves on the platform tend to pay higher wages (median wage of USD 19) than those that cannot be identified (USD 14.4). They are also more active overall, having spent a median amount of USD 10,000 (vs USD 4,700 for non-identifiable clients), and hired a total of 815 hours (vs 270 hours for non-identifiable clients) on 35 projects (vs 25 for non-identifiable clients).

To summarise, the total usage intensity per identified client averages to around 0.5 yearly full-time equivalents with an average hourly wage of USD 20. This is bigger than the activity of non-identifiable clients who hired an average of around 0.125 yearly full-time equivalents with an average hourly wage of less than USD 15. Thus, clients who are willing to disclose their identity tend not only to be more active but also to pay higher wages.

³⁷Germany, Austria, Switzerland

While it is not possible from the data analysed here to make causal claims about the direction of the relationship, one potential mechanism at play might be that clients who are transparent about themselves want to establish a stronger trust base with potential freelancers, or they might be more serious about their willingness to hire freelancers via the platform and might therefore be willed to both pay higher wages and to provide more information about the goods or service they produce.



Figure 14 *Wages of online projects outsourced from Germany*: the hourly wage levels (horizontal axis) of projects outsourced by German clients vary substantially by occupation (vertical axis). Overall, legal, IT-related and design job types obtain the highest average wage levels, while administrative assistance, sales and data entry show the lowest average wage levels (colour of the boxes and dots). The black vertical bar indicates the 2019 minimum wage in Germany (EUR 9.19).

Sector identified:

We are selling premium segment skin-care products in beauty industry. We are looking for an expert who can develop the business for us in The Netherlands.
We have a dedicated Dutch e-store and a listing at e-commerce site bol.com.
We are looking for a free-lancer who can give us a complete service to run on-line channels.

We are a white label provider for Bitcoin and cryptocurrency exchange software. As we are expanding worldwide, we are looking for an accountant who will perform simple tasks of controlling our Jira reports:

Job Specifications:

- Good Experience in Jira application
- Fluent English Speaker
- Know how to use Upwork
- Available to work up to 16/20 hours a week

Employer identified:

Hi,

this project is about an adapter to read out energy meters using the IR (Infrared) interface that many meters have. Some details about the interface can be found here: <https://wiki.volkszaehler.org/hardware/controllers/ir-schreib-lesekopf-ttl-ausgang> (in German, sorry!).

I need a of this IR adapter that is build around an BGM111 BLE Module and a Lilon battery.
I have a detailed specification that I will send you after you have signed an NDA.

The expected project outputs are:

- One Hardware Prototype
- Altium Files for the PCB including BoM
- Firmware for the BGM111
- An BLE interface description for the adapter for my app developer
- CAD Files for the housing (3D printable)

You need to be located in Europe and be willing to sign an NDA for this job. I have more work waiting if we finish this project successfully.

Thanks

Christopher

Not identifiable:

We are looking for a Tax lawyer or Accountant who is familiar with german tax laws and international taxation in the context of having an company incorporated in another country e.g BVI, etc

- speaks English and/or German
- has experience in a big accounting or law firm in the area of international taxation
- From Europe or the US

We need you to go through a list of 1000 brands and search for information about them and populate a spreadsheet. The output is the spreadsheet.
Looking for someone good at searching for data on google.

Web search



Impressum

Projektverantwortung und Inhalt gemäß § 6 MDStV:

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Klaus J. Müller
Wiesenstrasse 11
77770 Durbach
Fon: 0781/948 40-40
Mail: kjm@volkszaehler.org

Figure 15 Examples of project descriptions used for employer identification: descriptions need to be scanned carefully for potentially relevant information related to the sector of company activity, company names or web links.

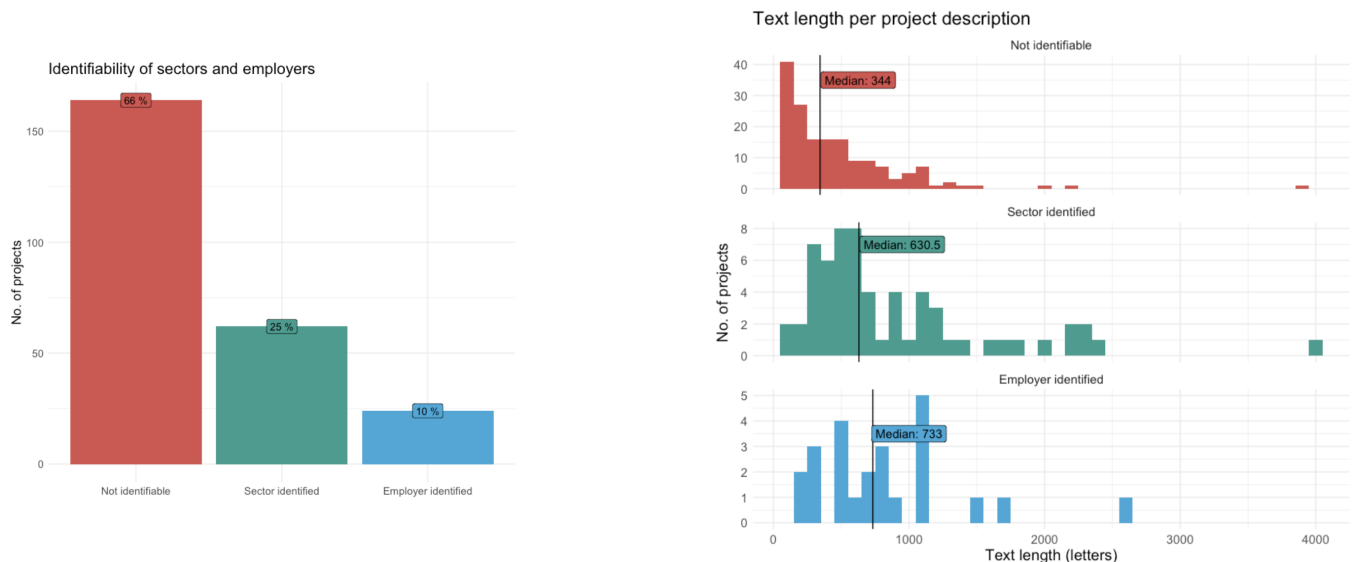


Figure 16 Identifiability of industries and companies from project descriptions: around ten per cent of the employers can be identified via web search, another 25% of the projects contain information related to the main sector of company activity; project descriptions with identifiable employers tend to be longer.

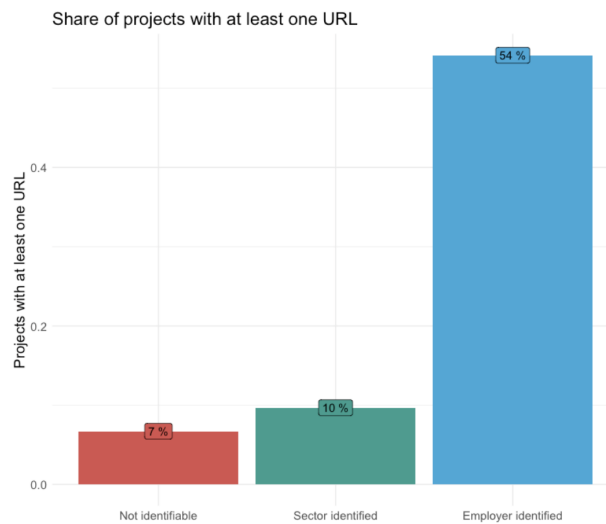


Figure 17 *The importance of web links for the identification of employers: some employers are open about their identity and their company, but the platform seems to remove links to web sources*

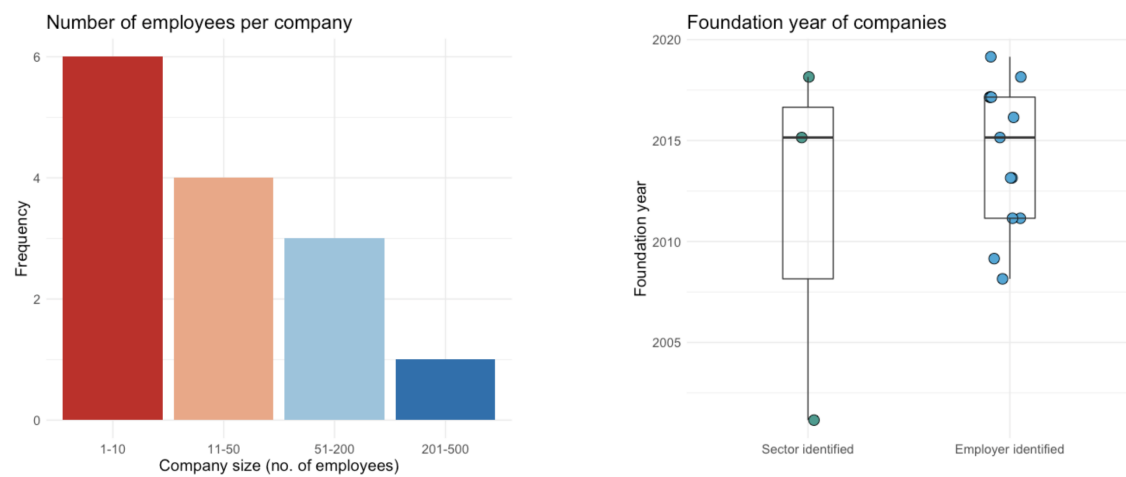


Figure 18 *Company size and age of identified companies: Most of the identified companies on the platform are small startup companies founded after 2010.*

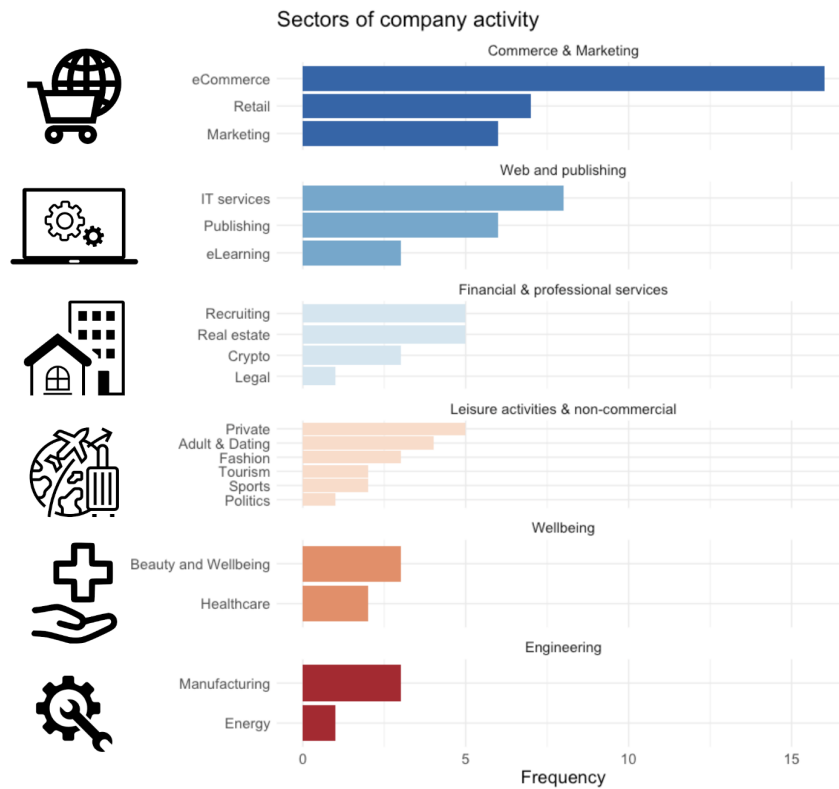


Figure 19 *Sectors of company activity of the identified employers:* Most of the identified companies are active in eCommerce, IT services, retail, publishing and marketing.

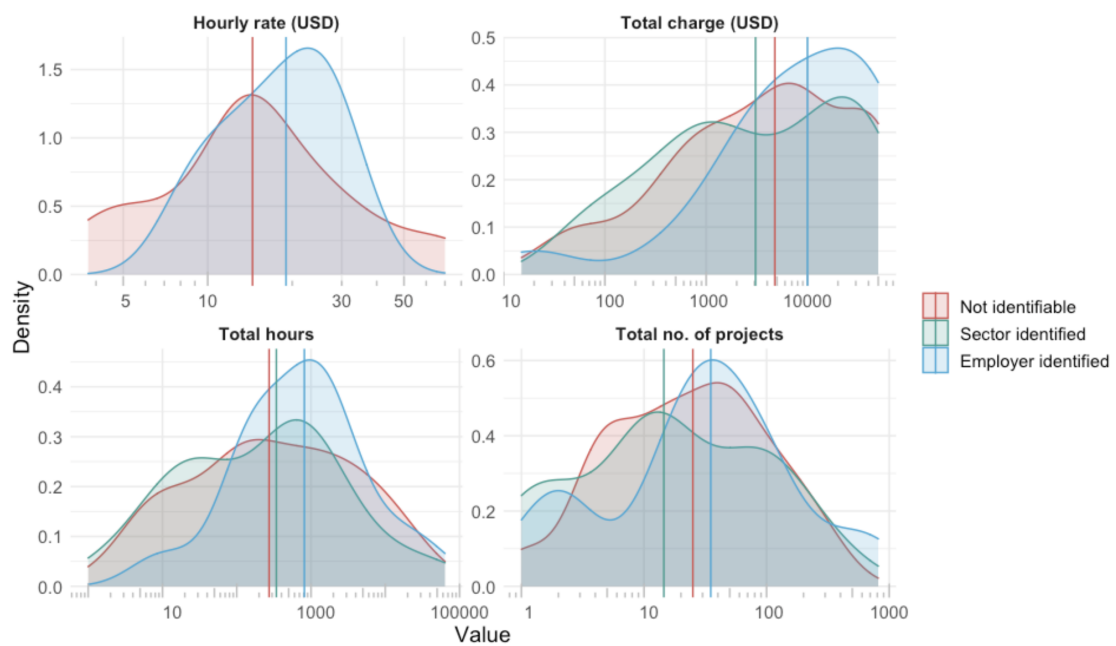


Figure 20 *Usage intensity of online labour for identified and anonymous companies:* the total usage intensity per identified client averages to around 0.5 full-time equivalents with an average hourly wage of \$ 15–20

5 Deep Dives into three Country Cases

In this part of the study, we contrast the findings related to the activity of German employers on the platform with quantitative and qualitative insights into platform work in three case study countries: Serbia, Bangladesh, and Egypt.

5.1 Quantitative Results

Here, we investigate the bilateral trade on the online labour platform between German employers and freelancers from Bangladesh, Egypt, and Serbia.

As a first insight into the extent of bilateral trade between Germany and the three countries, we provide a general overview of the labour flows in Figure 21. Of the three countries, Bangladesh is the most important trade partner, accounting for 2,900 or 8 % of all projects by German clients on the platform. Serbian freelancers have conducted almost 1,200 projects, or three per cent of all jobs outsourced from Germany, and Egyptian freelancers worked on 600 or 1.6 % of all German online projects.

The network visualisation also highlights the main freelancer destinations in the three countries. Due to the large number of projects outsourced to Bangladesh, the projects appear to be roughly evenly distributed in the country, even though most projects go to Dhaka, Khulna, and Chittagong. In comparison, the network flows on the map already emphasise the spatial concentration around Belgrade and Novi Sad in Serbia, and around Cairo and Alexandria in Egypt.

In addition to the general outsourcing patterns from Germany to Bangladesh, Egypt and Serbia, we also display the distribution per occupation in table 6. In all three countries, the occupations follow a similar heavy-tailed distribution. The top occupations in all countries are Designers, Software Developers & Programmers, and Other Computer Occupations. For the other job types, certain specialisations can be identified as can be seen from the table.

5.1.1 Wage Levels

Overall, the three countries show a similar distribution in terms of charges per project and hourly wage levels, as can be seen from Figure 22. The figure shows the density distribution of project charges (left panel) and hourly rates (right panel), both in USD on a logarithmic scale (horizontal axis). The colours represent the three countries Bangladesh (red), Egypt (green), and Serbia (blue). Both distribution plots indicate a similar log-normal form for all three countries. However, there are level differences between them, which are probably related to different prices and wage levels in the local labour market. The left plot on the project charges is right-skewed, as there are, in all three countries, projects that are paid considerably higher than the median values of USD 30 – USD 66, i. e. those with charges of more than USD 1,000 or USD 10,000 per project.

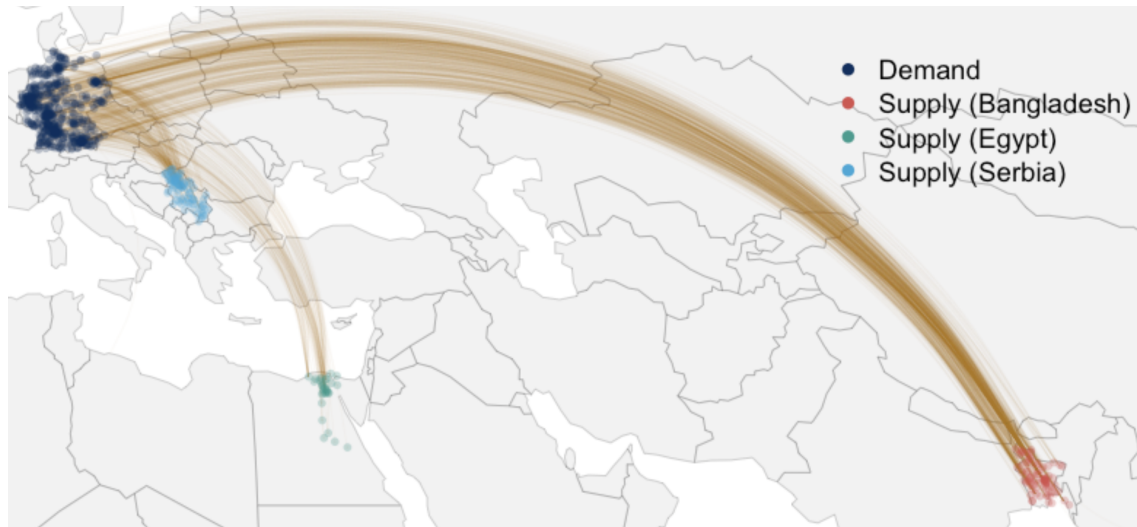


Figure 21 *Online outsourcing from Germany to Bangladesh, Egypt & Serbia: the map shows the extent of bilateral trade between Germany and the three countries as well as the spatial concentration of freelancing activity in large urban agglomerations.*

The distributions on the right-hand side (see Figure 22) also follow a log-normal distribution, which is multimodal in all three countries, which is particularly emphasised in Bangladesh. There are considerable groups of freelancers from Bangladesh offering work for very low wages of around or below USD 1. The wide distributions in all three countries with several local maxima indicate the wage differences between job types. In the wage data, level differences are pronounced: while the median of the hourly rate is USD 12 or USD 12.7 per hour in Serbia or Egypt, respectively, it is only USD 5 in Bangladesh.

Looking at the online wages in comparison to local minimum wages (Table 7 on page 64), we find that almost all hourly wages paid on the platform are above minimum hourly wage levels (upper panel). In the table, we compare hourly minimum wage estimates in USD based on data from the International Labour Organization with the lowest percentile of the wage distribution from the platform. The local hourly minimum wage levels in USD have to be estimated as the data provided by the ILO is often in local currency and on a monthly rather than an hourly level. We consider two estimates: one based on our own calculation (left column) and one based on a calculation done by Fairwork (middle column).

In Bangladesh and Egypt, the local hourly minimum wages are particularly low: between USD 0.07 and USD 0.11 in Bangladesh, and between USD 0.55 and USD 0.71 in Egypt, respectively. Compared to these very low values, online wages at the lower end of the distribution are still significantly higher, with USD 0.33 for freelancers from Bangladesh and USD 1.61 for freelancers from Egypt. In Serbia, the lowest percentile from the online wage distribution (USD 2.22) roughly corresponds to local minimum wage estimates of USD 2.33 and USD 2.64.

Table 6 *Top occupations per country outsourced from Germany*: the distribution of projects per occupation outsourced from Germany follows a similar heavy-tailed distribution in all three countries; however, there is a focus on computer-related occupations in Bangladesh, writing-related occupations in Egypt and Illustrators in Serbia.

Occupation	Total	Bangladesh	Egypt	Serbia
Designers	1195 (25.5 %)	750 (25.6 %)	127 (21.3 %)	318 (27.2 %)
Software Developers & Programmers	694 (14.8 %)	449 (15.3 %)	98 (16.5 %)	147 (12.6 %)
Other Computer Occupations	609 (13.0 %)	488 (16.7 %)	51 (8.6 %)	70 (6.0 %)
Market Research Analysts	378 (8.1 %)	288 (9.8 %)	24 (4.0 %)	66 (5.6 %)
Illustrators	270 (5.7 %)	160 (5.5 %)	31 (5.2 %)	79 (6.8 %)
Data Entry Keyers	263 (5.6 %)	186 (6.4 %)	28 (4.7 %)	49 (4.2 %)
Writers and Editors	229 (4.9 %)	107 (3.7 %)	40 (6.7 %)	82 (7.0 %)
Audio and Video Equipment Technicians	219 (4.7 %)	105 (3.5 %)	26 (4.4 %)	88 (7.5 %)
Administrative Assistants	185 (4.0 %)	116 (3.9 %)	25 (4.2 %)	44 (3.8 %)
Desktop Publishers	167 (3.6 %)	114 (3.9 %)	15 (2.5 %)	38 (3.3 %)

These figures imply that online wages tend to be higher than the low minimum wages in the respective countries. However, it is questionable whether local minimum wages should apply as a useful benchmark, given that the skill requirements of online freelancers are usually higher than those of the workforce at the lower end of the wage spectrum, which is to be protected from exploitation by minimum wages. In addition, the online hourly wage data only considers time spent working on the project. It does not account for the additional time spent searching for work or other (time) costs incurred by freelancers. Therefore, we compare living wages based on estimates from the WageIndicator Foundation, overall average wage estimates, and average wage estimates in the ICT sector in the three countries with average wages paid on the platform in the lower panel of Table 7 (see page 64).

For the average wages, we observe a similar relationship: average wages (median, mean) paid on the platform to freelancers from the three countries by German employers tend to be substantially higher than local average hourly wages. Online freelancers in Egypt and Serbia earn comparable median wages of USD 12.70 and USD 12.00 per hour on average. These values are higher than the respective average wages in Egypt (USD 1.10 per hour or USD 1.30 per hour in ICT jobs) or Serbia (USD 3.20 per hour or USD 5.61 per hour in ICT jobs). The significantly lower average online wages of USD 5.00 paid to freelancers from Bangladesh are still substantially higher than local average wages of USD 0.92 per hour or USD 1.57 per hour in ICT jobs.

The situation looks different if other reference wages are considered. If we compare online wages paid to freelancers in Bangladesh, Egypt, and Serbia, not to local minimum and average wage levels but to living wages, we find that not all online projects pay wages that meet the hourly

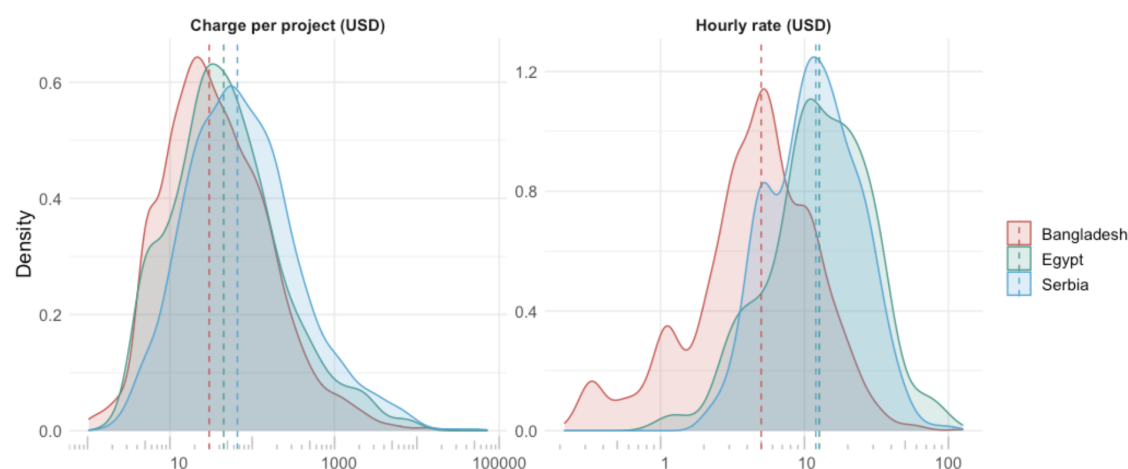


Figure 22 Distribution of project charges and wage levels in the three countries: both project charge and hourly wages show a similar distribution in all three countries, but there are level differences between them; the wider distribution in hourly rates in Bangladesh indicates that a substantial share of Bangladeshi freelancers work for very low wages of around and below USD 1.

living wage estimates. Table 7 shows that living wage estimates are above average wage levels in the three countries and, thus, higher than the wages observed for the lowest-paying online projects. However, only a small share of online freelancers (between 1 % and 8.5 %) from the respective countries earn less than local living wages, as can be seen from the lower panel of table 7.

The same holds if we compare online wage levels with respective wages from the employer country — Germany — only a minority of projects are above reference wages, as we show in Figure 23. We see from the left panel of the figure that only around half of the projects outsourced to Egypt and Serbia are paid above the current German minimum hourly wage levels. Due to the lower wage levels for projects conducted by freelancers from Bangladesh, only 14 % earn above German minimum wages. For almost all freelancers in the three countries, wages are lower than the respective average wage level in Germany (middle panel) or the average wage paid in the ICT sector (right panel). Thus, German employers can realise substantial cost savings through online outsourcing in comparison to the average hourly wages they would have needed to pay for local IT specialists.

What can we learn from the comparison of wages with local minimum wages? At first sight, it seems that the situation for online freelancers looks better than reports on precarious working conditions in the overall gig-economy suggest [2]. However, the average wage level is only one indicator of the overall working experience for online freelancers. Furthermore, there are factors that might obscure the *actual* amount earned, such as the organisation in shadow clusters, deductions for investment in soft- and hardware and the additional time spent applying for jobs without success and maintaining a good profile. Accordingly, in the data, we cannot observe the amount of time spent on unsuccessful applications, search for relevant projects and other forms of work that are not remunerated. Research by the Fairwork Network suggests that there exists almost 30 % wage theft

Table 7 *Minimum, average, and living wages in the three countries:* Despite very low wages on the lower end of the wage distribution, almost all wages observed on the platform are above local minimum wages; average wages on the platform are substantially higher than respective local average wages. However, not all projects pay wages that are above living wage estimates. Please note: hourly minimum, living and average wage levels shown in the table in USD are calculated from monthly estimates, partly in local currencies. This is why estimates differ between sources.

Country	Hourly minimum wage estimate (ILO ^a)	Hourly minimum wage estimate (Fairwork ^b)	Observed lowest percentile (1 %)		Hourly living wage (WageIndicator.org ^c)
Bangladesh	\$ 0.11	\$ 0.07	\$ 0.33		\$ 1.11
Egypt	\$ 0.55	\$ 0.71	\$ 1.61		\$ 1.43
Serbia	\$ 2.64	\$ 2.33	\$ 2.22		\$ 4.08
	Hourly average wage estimate (ILO ^d)	Hourly average wage estimate in ICT (ILO ^d)	Observed average wages median	Observed average wages mean	Share of projects below hourly living wage
Bangladesh	\$ 0.92	\$ 1.57	\$ 5.00	\$ 6.83	8.5 %
Egypt	\$ 1.10	\$ 1.30	\$ 12.70	\$ 17.20	1.5 %
Serbia	\$ 3.20	\$ 5.61	\$ 12.00	\$ 14.70	7.2 %

^aEstimates based on Wages and Working Time Statistics Database, ILOSTAT

^bEstimates provided by Mark Graham, Director of Fairwork

^cCalculated based on data from the WageIndicator Foundation

^dEstimates based on Wages and Working Time Statistics (COND), ILOSTAT

on online labour platforms [2].

Also, it can be questioned whether minimum or average local wages are of high relevance for online freelancers. Of course, wages that are substantially higher than local wages present a valuable source of income for those who can secure such online jobs. The great extent of spatial concentration in urban centres of the three countries suggests, however, that most freelancers come from metropolitan areas that usually have higher price levels and costs of living than country averages suggest. We discuss the interpretation of the findings in more detail in chapter 6.

5.1.2 Job Types

One important reason for the observed variation in hourly wages in all three countries is the different job types that freelancers work on. In considering the wage differences between the three exemplary country cases, we need to compare a number of different occupations that capture the main differences between the job types.

Figure 24 visualises the wage distribution in USD as a box-dot plot in six occupations (panels) for the three countries (vertical axis) on a logarithmic scale (horizontal axis). We can distinguish three main groups: the first one, represented by the occupation of web developers (top left panel), are high-skill, high-wage occupations. Such jobs are in global demand, and they pay high wages, largely independent of the freelancer's location, as can be seen by the overlapping boxes with similar median wages between USD 10 and USD 12. Of course, there is still substantial variation within the occupation, but this is a typical phenomenon of noisy, big online data.

A second group is represented by the occupations of graphic designers (middle left panel) and

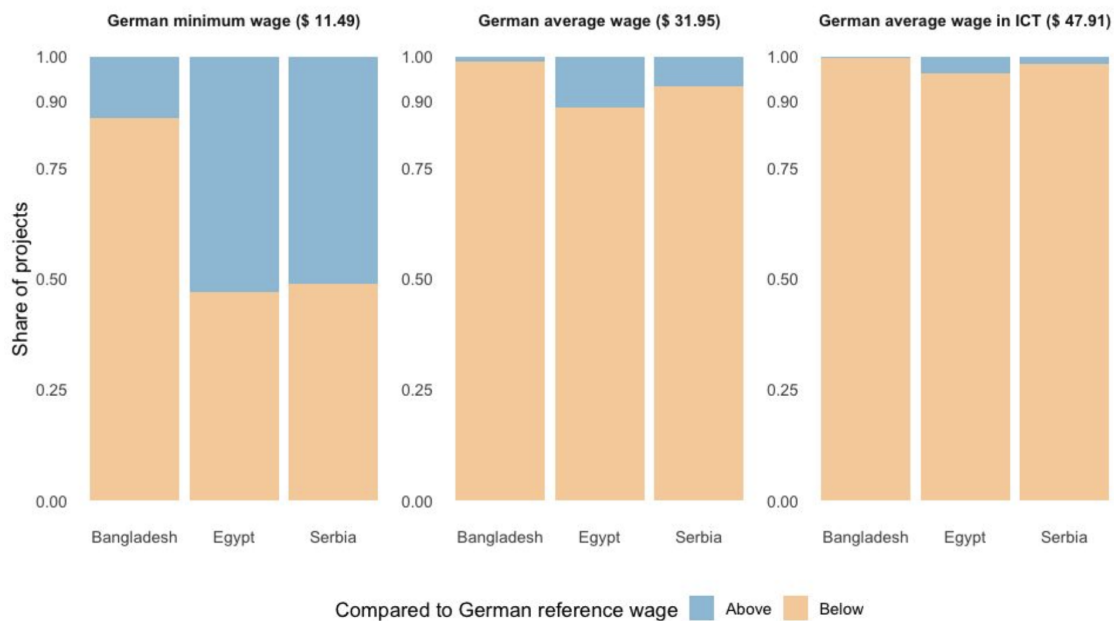


Figure 23 Hourly rates of outsourced projects in relation to German reference wages: while half of the projects outsourced to Egypt and Serbia pay above the current German minimum wage, only a very small minority of projects are paid on levels that are comparable to average hourly wages in Germany.

data entry keyers (bottom left panel). In these job types, local price differences play the main role in shaping the varying wage distributions between the three countries: wages are higher in Serbia than in Egypt, and those wages are higher than in Bangladesh, where they vary substantially. Particularly in a low-skill job category, such as data entry, competition for jobs is tremendous: the median number of applicants per project is 22, almost three times higher than in a high-skill job category, such as web developers, with eight applicants per project.

The job types in the right-hand panels of Figure 24 show a more complicated pattern in terms of wage levels. In these cases, wages in Serbia and Egypt are similar, as indicated by overlapping boxes, while wages in Bangladesh are substantially lower: the median wage for desktop publishers is USD 5.56 in Bangladesh vs USD 13.33 and USD 14.97 in Serbia and Egypt, respectively. Similarly, wages for other computer occupations for freelancers from Bangladesh are USD 3.75, on average, compared to USD 14.85 for freelancers from Egypt and USD 16.70 for those from Serbia. Lastly, wages vary widely for market research analysts: USD 5.28 for Serbian freelancers, USD 10.56 for those from Egypt and a mere USD 2.78 for those from Bangladesh. The high median wage for Egyptian freelancers in this job category might be driven by the low number of observations.

In all these job types, freelancers from Bangladesh likely offer different types of services or they might possess different types of skills than freelancers from the other two countries. There might also be other reasons for wage differences, such as discrimination, which the data does not allow us to investigate further. In any case, the resulting wage differentials are less likely to be associated

with differences in local costs of living but rather with imbalanced skill distributions. This points to the availability of in-demand skills as the main driver of outcomes for freelancers. If online workers possess in-demand types of skills, such as those required to conduct web development jobs or similar, they will be able to obtain wages that are close to global averages, independent of their location. Such jobs will be most profitable for workers from countries with low costs of living, as they will enjoy a considerable premium as compared to local employment opportunities.

On the other hand, there are several job types where freelancers from Bangladesh are less likely to come close to global average wages. In these occupations, Bangladeshi freelancers might offer services that require more basic skills than their counterparts in Serbia or Egypt. Those are the job categories with the highest potential for upskilling measures [14, 24]: freelancers work already in occupations that could potentially provide valuable sources of income, but they are, for some reason, unable to realise higher wages. Further data analyses of the work biographies of these freelancer sub-populations and interviews with workers from that group could identify the reasons for the substantial wage differences within these job categories and, subsequently, help to inform retraining programmes that enable workers to earn higher wages.

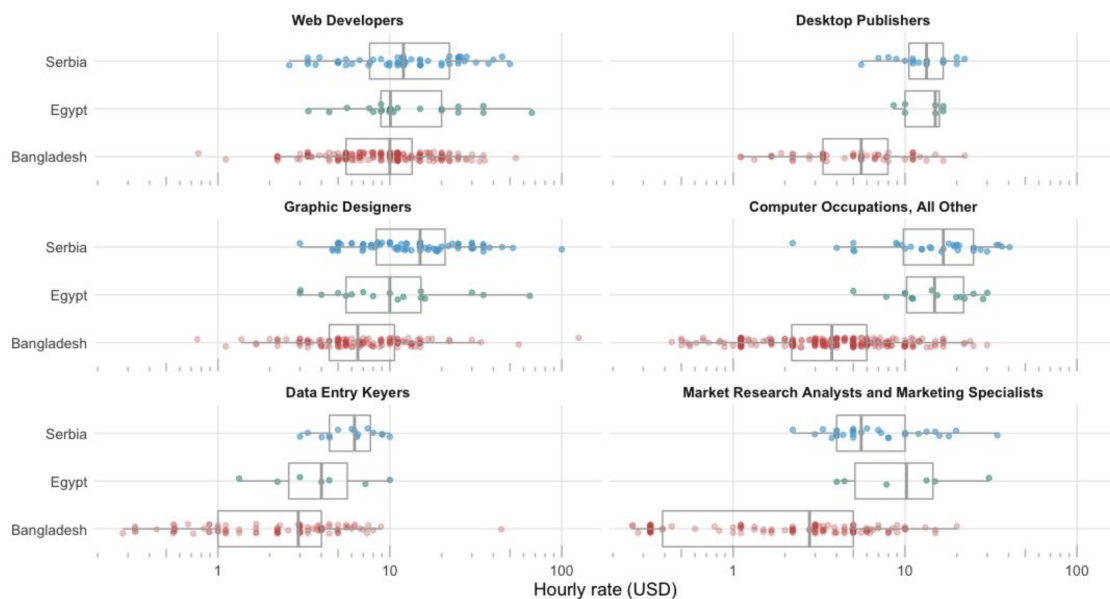


Figure 24 Hourly rates in three job types in the three countries: there are three groups of jobs - (1) those with high wages independent of location, such as web developers, (2) those shaped by local price differences, such as graphic designers or data entry, (3) job types with bigger gaps (those in the right panel).

5.1.3 Female Freelancers

So far, we have looked into hourly wages as a main outcome for freelancers from the three case study countries in general. Here, we want to extend this investigation by stratifying the analysis by the gender of platform workers. It is known from the literature that women find it more difficult to obtain profitable jobs in the platform economy[25], even though it promises to offer additional flexible sources of income that could be particularly appealing to female workers who might require more flexible work arrangements.

So far, there is only limited quantitative evidence available on the outcomes of female workers in comparison to male workers in the online labour market, partly because there is no straightforward way to identify the gender or sex of workers from the platform data. For this part of the analysis, we utilise an algorithmic approach, in which we have classified the gender of freelancers as female, male, or other based on their first name and country location.

This automatised gender identification allows us to compare the wage levels between male and female workers in different occupations, as we show in Figure 25. In the plot, yellow circles represent male freelancers and blue circles represent female freelancers; the size of the circle visualises the number of freelancers in each job category and gender, and the horizontal bar between both dots represents the gender wage gap (horizontal axis, in USD).

It can be seen from the figure that the extent and the direction of the wage gap vary between the different job types and freelancer populations. The small size of the dots in several panels, however, indicates that sample sizes are very small in some cases (this is due to the four truncations in the data: (1) filtering by German clients, (2) filtering by freelancers from the three countries, (3) filtering by job type, (4) filtering by gender).

Nonetheless, a few general trends can be observed from the data: first, the gender wage gap is bigger for high-wage categories, for example, market research analysts in Egypt and other computer occupations in Serbia and Egypt. Secondly, in some jobs, such as desktop publishers, there are no female freelancers at all. Thirdly, in some low-wage job categories, the gender wage gap is small or inverted: for example, for graphic designers in Egypt, data entry keyers in Serbia, or market research analysts in Serbia.

In general, female freelancers gather in jobs that are associated with lower median wages, as shown in Figure 26. The plot shows the share of female workers per job category on the horizontal axis and the median hourly rate in USD on the vertical axis. The dots represent job categories; their size corresponds to the number of freelancers in each category. The dots are coloured according to two larger groups of occupations: computer, finance, and engineering job types in red and creative & administrative job types in green. The trend line indicates the negative correlation between the share of female workers and hourly wages.

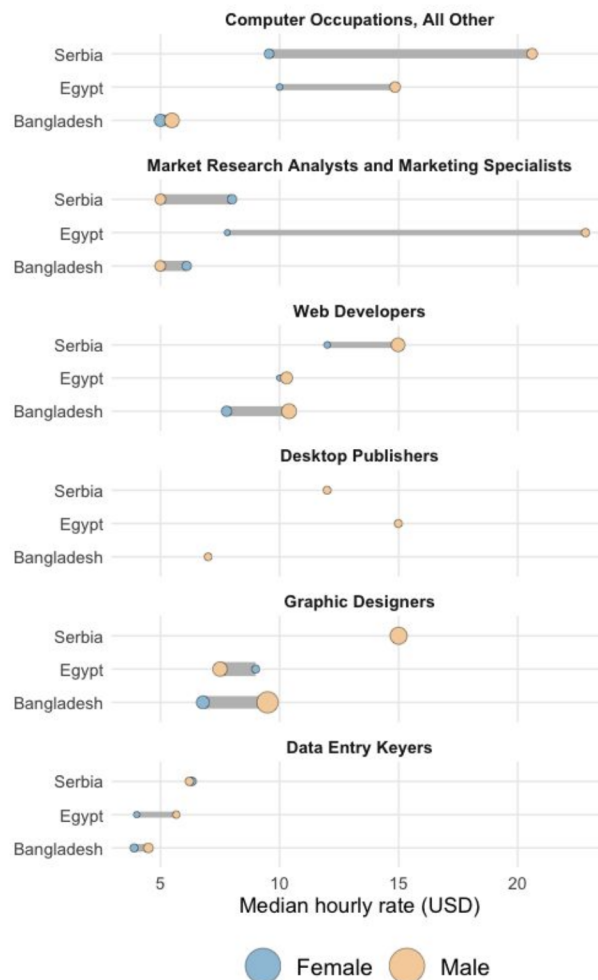


Figure 25 *Hourly rates, job types and gender*: some occupations show a huge gender wage gap; in others—usually those with lower wages in general—the gap is smaller or inverted.

The findings presented here are only correlational, and cautiousness is required in interpreting such correlational results. Furthermore, there is a lot of noise in the data due to heterogeneity in the raw data, but also due to the algorithmic gender identification, as well as due to the high level of aggregation of the data in Figure 26. Still, findings presented in this section indicate that female workers earn, on average, lower wages than male platform workers, and this is related to the type of jobs they work on. Not only do female freelancers cluster in jobs that show lower median wages, but they are also paid less than their male counterparts in many occupations.

Our interpretation of the gender wage gap is similar to the interpretation of the findings presented in the previous section: the platform data investigated here does not allow us to track all relevant aspects that are most likely responsible for the extent of the gender wage gap. For example, female freelancers might find it more difficult to meet certain deadlines due to care work responsibilities or other duties. However, one likely interpretation is that female freelancers, in some cases at

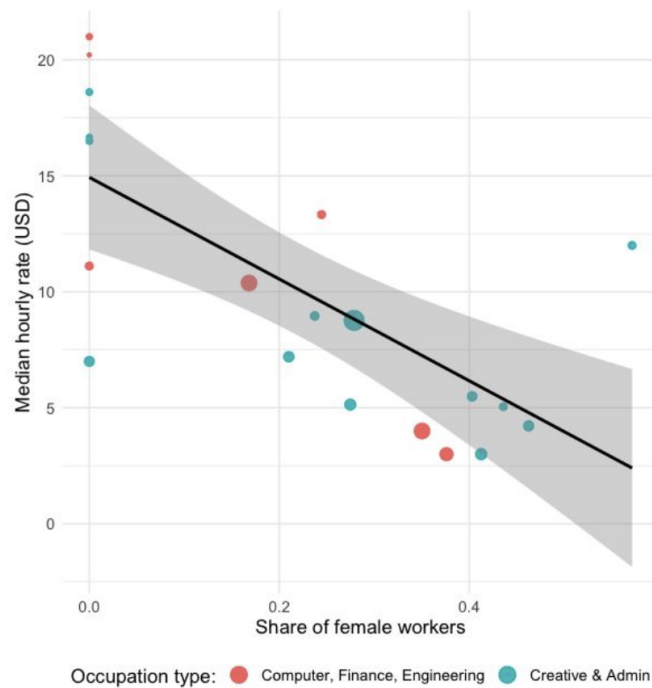


Figure 26 *Share of female workers and low wages*: the share of female workers (horizontal axis) is higher in job types (dots) that pay lower median wages (vertical axis); this trend seems to hold both for technical as well as for creative and administrative job types.

least, do not have the possibility to bring the same skill sets to the online labour market as their male counterparts (for different reasons). This might be the case in those occupations where male freelancers are able to obtain high wages, while the few female freelancers active in these categories realise lower wages [26]. In those cases, targeted retraining and upskilling programmes for female cloudworkers could be effective means to reduce the gender wage gap in the online labour market. However, further qualitative research into the behaviour of female freelancers and quantitative research into their working biographies on the platform will be needed to verify such interpretations.

5.1.4 Urban-rural Divides

The last dimension considered in the quantitative analysis of the three country cases is urban-rural divides. We saw already in Figure 21 on page 61 that online jobs in the three countries tend to be accumulated most in the largest urban areas of the countries. Here, we look into the relationship between urbanisation and platform activity in more detail.

Figure 27 compares the share of urban population (horizontal axis) with the online labour market intensity (measured by the number of projects per one million population; left panel) and median hourly wages in USD on a logarithmic scale (right panel) for the sub-national regions (dots) in the three countries. The data for the sub-national analysis comes from the Global Data Lab (further details on the data presented here in [14]). Yellow dots represent the regions that contain

the countries' capitals, and blue dots represent other regions in these countries.

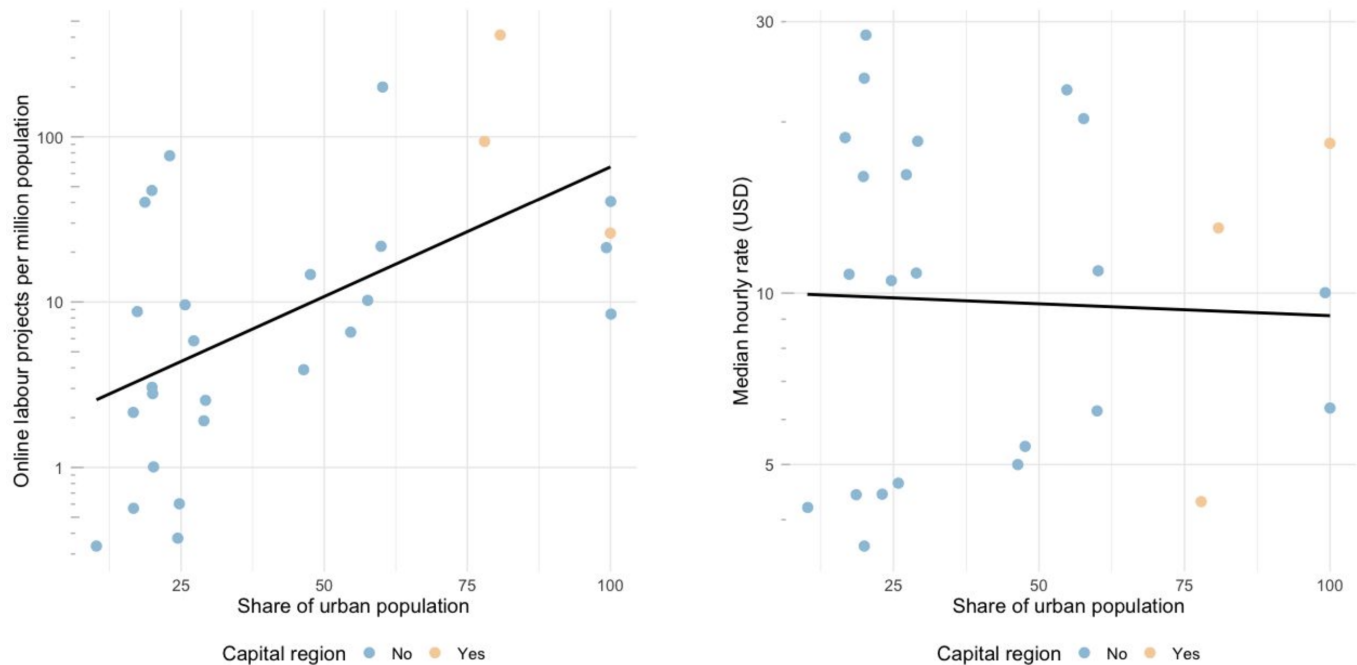


Figure 27 *Online labour distribution and wages in urban and rural areas:* Most online labour projects go to areas with a high share of the urban population (left panel), but online wage levels do not seem to be higher in urban areas (right panel).

As can be seen from the left panel of the figure, there is a clear positive correlation between the share of the urban population and the online labour market intensity in the three countries, which corroborates results known from the literature [27]. The capital regions (usually highly urbanised areas) are among the most active regions online. In other words, online labour is largely an urban phenomenon. Most freelancers from the three countries reside in large cities. This is most likely linked to the structure of the local economy and the availability of digital skills and infrastructure in urban regions. Urban dwellers have more access to specialised education, training and job experience as higher education institutions and digital businesses usually cluster in large agglomerations. In contrast, rural regions — in particular in Global South countries — are often shaped by a bigger focus on agriculture and other business activities, providing fewer opportunities for people in rural areas to acquire in-demand digital skills that they could offer on online freelancing platforms.

The right panel of Figure 27 shows that, despite more activity in urban areas, there is no substantial relationship between the share of the urban population and median hourly wages in the regions considered here. Thus, we can conclude that the location of freelancers in either urban or rural areas forms another important dimension affecting the outcomes of platform workers. Lower

costs of living and more restricted local employment opportunities make online labour markets a promising alternative for people in rural areas. Still, the limited access to local training and business opportunities will make it less likely that freelancers from these regions will be able to obtain valuable online jobs. On the other hand, the fact that wage levels do not seem to vary substantially between urban and rural areas implies that freelancers from rural regions could obtain income levels comparable to those paid to freelancers from urban areas, which would help to strengthen the resilience of the local communities the rural freelancers live in.

5.2 Bangladesh - Alternative Sources of Income

Bangladesh is a small but populous Southeast Asian nation and (currently) classified by the United Nations as a "Least Developed Country".³⁸ Bangladesh's main exports are *Ready Made Garments (RMG)*, *Footwear* and other textile production. The World Bank projects that policy priorities for Bangladesh ought to include diversification of exports away from RMG and textiles to higher value-added products and a need for tackling infrastructure projects in the face of climate change. One major ongoing economic challenge in Bangladesh is the globally rising inflation manifesting at 8.6 % in the country. The IMF projects the annual real GDP Growth at 5.5 % for 2023. The living wage in Bangladesh ranges between 148 to 202 USD per month for the typical family. Estimated national minimum wages only range between 13 and 14 USD per month. As such, additional income or alternative sources of income (such as cloudwork) are important in the context of a highly informal economy and low-added-value export industry.

In Bangladesh, the general gig-economy, including cloudwork and location-based services, represents a growing development and is increasingly an important source of employment. The conventional employment-generating industry is mainly low value-added textiles with little high-income possibilities and precarious working conditions. As such, particularly, highly educated workers seek alternative employment opportunities. To understand these and other reasons for workers to seek more employment on online labour platforms, it is necessary to review other economic indicators describing the overall Bangladeshi context.

Generally, Bangladesh's labour market is characterised by a young labour force and a high concentration of informal employment. The overall labour force participation is at 58 % [28]. Female participation rate is significantly lower at 36 %. Total youth unemployment is at 13 %, with a higher average for female youth unemployment at 17 %. These information illustrate the general context wherein workers seek employment. In light of limited employment opportunities and a great share of the population seeking employment, cloudwork as well as location-based platform work can be an attractive alternative.

Other socio-economic conditions, such as the ability to negotiate wages collectively need to be

³⁸According to current forecasts, Bangladesh is projected to exit the list of "Least Developed Countries" in 2026.

taking into account, as these are also relevant for the realisation of labour rights in the context of the LkSG. Collective bargaining coverage, i.e. the share of labour agreements containing a reference to collective bargaining schemes, is at 1.6 % [28]. This very low density of collective bargaining mechanisms hints at the obstacles faced by workers to organise collectively to negotiate wages. Thus, workers will have to accept wages set by companies with limited possibilities to increase their income.³⁹. While not directly applicable to cloudworkers as seen in Chapter 2, trade unions and collective bargaining schemes serve in the broad society to pool resources and represent interests. The self-organisation of cloudworkers could benefit from stronger institutionalised labour relations in a particular national context.

Generally, the legal minimum wages are guided by the wages in the RMG sector. The overall share of the population, which is covered by at least one social benefit, is 28 %. In light of the risks associated with cloudwork as outlined in Chapter 2, the lack of broad social benefit coverage is an aggravating contribution of risks on online labour platforms. The informal economy, including the work mediated via online labour platforms, is estimated to contribute over 40 % to Bangladesh's GDP, with the cloudwork economy contributing over 100 Mio USD annually [29]. These numbers illustrate the importance of the sector for the national economy.

In these circumstances, the opportunities offered by digital cloudwork are especially appealing to young and highly educated people, as it is difficult to find employment in the physical economy (Interview 2). Location-based services provide an alternative source of income also to workers with a lower level of education. The Fairwork Report 2022 on Bangladesh identifies regular income and flexible working hours to be important incentives [29]. The missing employment status is one of the main challenges for cloudworkers (and gig-workers in general) in Bangladesh, precluding them from organising and enhancing their labour rights [29].

The relevance of the overall gig-economy in general, and cloudwork in particular, was made visible during the COVID-19 pandemic, when these occupations provided income when export-oriented factories and other employment opportunities collapsed. According to Fairwork, the digital economy, particularly online platform work, will be a thriving sector "absorbing a large number of unemployed young women and men in the future"[2]. If employment shifts, as suggested by Fairwork, to the work on online labour platforms, it becomes important to reconsider the classifications of employment status under labour law, which is a general challenge across countries.

For all types of gig work, location-based and cloudwork, it is important to mention *debt dynamics* that induce a precarious dependency for workers entering either form of work (See Section 2.2.3). During the expert interview, debt dynamics were raised as an important topic, which arises when workers need to make prior investments before entering into contracts via online platforms (Interview

³⁹This is different for the RMG sector, as outlined by the Interviewee, where collective bargaining schemes exist and a negotiated minimum wage is established.

2). In location-based services, this might include the purchase of a car for delivery or ride-hailing services, such as Uber or FoodPanda (Interview 2).

In the cloudwork economy, the equivalent dynamic arises for people purchasing equipment, such as product licenses for in-demand software or computer hardware. Thus, people purchasing a computer or other equipment (with limited or non-existing prior savings) have to take up loans and are thus dependent on the income generated through their gig work. Put differently; the debt precariousness might induce further risk-taking behaviour leading to a "race to the bottom"-competition among cloudworkers accepting lower payment, shorter lead times and other factors inducing pressure on them. Additionally, time spent in order to maintain a good profile, receive proper ratings and access well-paid projects is an investment on behalf of workers who do not receive sufficient remuneration (See *wage theft*, Section 2.2.1).

However, it must be stated that while there exists evidence for these dynamics, they differ across cloudwork and location-based services as well as individual cloudwork service types. Overall, the precariousness of working conditions and wages in the general gig-economy and particularly online labour is present in Bangladesh and increasingly communicated publicly [30].

Ultimately, there is a systemic non-recognition by Bangladeshi labour law towards the cloud- and other kinds of gig-workers. Work via online platforms is not recognised which precludes access to social benefits, benefits related to employment status and, conversely, the tax system. A recognition under labour law would entail access to the social benefit system; however, it would also mean the inclusion of cloudworkers in the tax system. The rationale for including cloud- and other types of gig workers in labour law must be primarily guided by the concern for the workers and the improvement of their situation. For example, recognition could provide cloudworkers with essential access to healthcare and avoid that people performing cloudwork services are burdened through increasing taxes. To design effective measures, a first step must be the improvement of data on the concrete situation of cloudworkers in order to design needs-based and context-appropriate policies

5.3 Egypt - Identifying Workers

The Arab Republic of Egypt is among the biggest Middle Eastern and North African (MENA) countries in terms of population with 109 million people. Annual GDP growth is projected at 3.3 %.

Similarly, the share of remittances of GDP amounts to 7.8 % illustrating the importance of income inflowing from abroad [31]. Cloudwork has the potential to mirror the impact of remittances by generating income from projects for clients located abroad. The living wage is estimated to be between 285 and 385 USD for a typical family in Egypt [32].

In comparison, the national minimum wage ranges between 84 and 90 USD per month. Here, the wage levels of tasks completed on digital labour platforms provide a much-needed additional source of income or are even considered the main source of income. While the wages paid for

Factsheet: Bangladesh

General information

- **General economic context¹:**
 - Share of informal employment **95%**
 - Total Labour Force Participation rate **58%** (Female LFP **36%**)
 - Youth Unemployment **13%** (Female YU **17%**)
 - Collective bargaining coverage **1.6%**
 - Population covered by at least one social benefit **28%**
- **Feature²: Alternative Source of Income**
 - Perception to earn (higher) wages for highly educated young people
 - Dependent on equipment and infrastructure (debt-dynamics)
 - No recognition under labour law

¹ Data taken from ILOSTAT, Reference Year 2017

² Based on interview

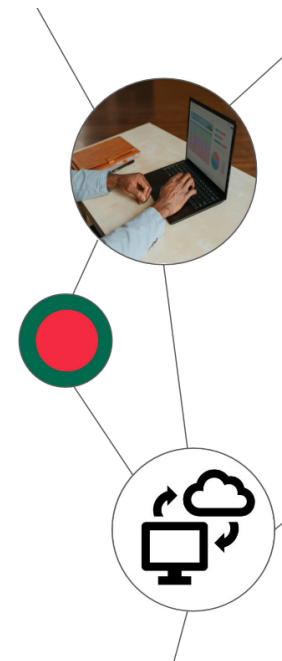


Figure 28 *Factsheet Bangladesh*: Summary of relevant information on the country context in Bangladesh

projects, as illustrated in Section 2.2.1) should (in theory) provide enough to cover the living wages, it is not possible to estimate the magnitude of sunk costs as well as costs for social protection and healthcare and therefore their impact on the wages earned on platforms. This highlights the need to engage with cloudworkers directly and include them in data gathering processes, such as, for example, National Household Surveys.

Overall it is difficult to establish a clear picture of the cloudwork economy in Egypt since there is missing data on cloudworkers. National labour surveys do not cover questions and related information on either cloudwork or location-based services. Currently, as reported by the Interviewee there is great interest by national agencies and NGOs to include further sections in the National Labour Surveys in order to obtain data on the gig economy in general and cloudwork in particular. Yet, even facing the lack of specific data, it is possible to contextualise cloudwork in the Egyptian context and draw conclusions about the situation of cloudworkers and devise further policy implications.

Generally, the interview with local researchers and experts described cloudwork in Egypt in the context of highly volatile economic circumstances (Interview 1). Figures by the ILO report in pre-pandemic times that the share of informal employment has risen to 65 % [28]. The interviewee hinted at the intricate connections between the formal sector employing informal work, exposing the general complexity of the Egyptian labour market. Considering the repercussions of informal employment facing rising inflation, additional sources of income are much needed for both medium- and low-income households.

The total labour force participation rate stands at 41.5 %, with a significantly lower value for

female labour force participation at 14 %. The interviewee added that female unemployment in 2021 stands at 24.3 %[28]. These figures not only show a high degree of informality but also suggest a strong gender dynamic, whereby female workers are less integrated into the local formal labour market. As such the educated but unemployed female labour force inhibits a strong potential for generating additional income for households. The interviewee contended that cultural norms in Egypt, but also in the MENA region in general, produce high rates of female unemployment and youth unemployment.

In Egypt, youth unemployment is at 17 % in a country where in 2017, more than half of the population was under 25 [33]. Here again, we can observe gendered dynamics, where female youth unemployment is at 44 % pinpointing to the high structural barriers for (especially young) women to enter the labour force due to, among others, cultural norms. Trade union density stands at 24 %, and 35 % of the population is covered by at least one social benefit [28].

While these figures are significantly higher in comparison to the covered shares in Bangladesh, missing extensive collective bargaining schemes marks workers as unable to negotiate appropriate wage levels for their income. These features of the labour market indicate a general and strong gender bias and informal employment as an important source of income for particularly young people.

Therefore, cloudwork, similar to the previous case of Bangladesh, is a particularly attractive opportunity for young and educated people to earn income. Furthermore, the interviewee expects that cloudworkers are mostly concentrated in urban areas around Cairo and Alexandria, which resembles our findings as illustrated in Figure 19. Moreover, particularly for women, the cloudwork economy can provide a basis for earning income and thus foster emancipation and decreasing dependency.

Women with higher education could find employment outside the Egyptian context via the cloudwork economy, thus gaining a source of income which would render them more independent and self-sufficient from male income earners. For that to be a realistic and sustainable perspective, improvements on the general and particular risks as outlined in this study need to be advanced. Thus, cloudwork is to be viewed as yielding the potential for the development of higher income for female workers under the condition that risks are mitigated and addressed by policymakers, platforms and clients.

Furthermore, this potential is underscored by the fact that the share of women with advanced education is 40 per cent, while the share of men with advanced education is only 20 % (Interview 1). Since it can be expected that cloudwork requires some form of education (particularly the well-paid tasks and projects), the gap in education between male and female workers indicates that policies to improve (or conversely restrict) working conditions, generally as well as specifically in Egypt, inhibits a strongly gendered dimension.

"Cloudwork is needed because it opens windows of livelihood of people, in MENA and generally the Global South. [It is about] improving working conditions rather than demonising platform work to open new windows of livelihood. (Interview 1)"

Furthermore, the interviewee argued that cloudwork is likely to produce an income which is above the national average. Herein, attention should be paid to the *methods of payment* which constitutes a general issue in online platform work (Interview 1). Working for international clients via digital labour platforms allows cloudworkers to be paid in foreign currency, i.e. US-Dollars or Euros, which yields a stable income since a foreign currency is often preferred to store value in light of current rising inflation and unstable exchange rates. This benefit of cloudwork is also a reason, as argued by the Interviewee, for scepticism towards the *formalisation of cloudwork*.

If cloudwork were formalised in *formal employment relations under labour law*, this would incur *taxes* as well as urge the question of whether payments to cloudworkers would need to be in local currency and at official exchange rates.

Furthermore, policymakers need an understanding of local contexts and how local conditions interact with global or international rules. For example, the LkSG will have a different impact in different countries based on the strength of local trade and labour unions or differing across industries producing for local markets or export markets. However, in the context of the cloudwork economy, policymakers need to acknowledge the impact that the LkSG will have on globally dispersed cloudworkers and as such also require local perspectives as provided in the present country case analyses.

Additionally, the formalisation of gig work in general (i.e., also including location-based services) urges for a granular approach, according to the interviewee, suggesting to differentiate between different types of work carried out via online labour platforms. Granularity is an important aspect of the data-gathering process on cloudworkers since it is a crucial challenge to classify the work and the corresponding characteristic working conditions. The empirical evidence on the characteristics of cloudworkers in Egypt is scarce. The "blind spots" ought to be a priority for research to attain a better understanding of who the cloudworkers are in order to design effective and beneficial policies and access to social benefits.

Therefore, there are several policy objectives in the Egyptian cloudwork context that need to be considered in a broader approach to the regulation of working conditions on online platforms. These objectives ought to ensure (1) the equitable inclusion of workers, (2) a granular approach to classifying new types of work, and (3) improving overall working conditions.

Arguably, the equitable inclusion of workers is a result of a granular approach to classifying new types of work as well as improving the overall working conditions; however, from the information gathered in the interview and the Fairwork reports, it is clear that policies affecting the employment status, the payment methods, as well as the access to infrastructure necessary for gig work (and

particularly cloudwork), have a stronger effect on young and female workers. Policy-makers ought to regard equitable inclusion as a concern for public policy and should thus preserve the opportunity to earn a livelihood for people in Egypt. For this, policymakers, as well as platforms themselves, need to establish a granular approach to gig work to gather further data on specific risks and working conditions connected to a particular type of gig- or cloudwork.

Granularity in the data also allows us to discern between other legal categories, such as self-employment or subcontracting. Improving the overall working conditions becomes thus a concern for policy-makers and platforms alike and can only be achieved through increased public awareness and a nuanced approach that works to the benefit of the workers without penalisation (Interview 1).

Factsheet: Egypt

General Information

- **General economic context¹:**
 - Share of informal employment **65%**
 - Total **L**abour **F**orce **P**articipation rate 41.5% (Female LFP **14%**)
 - **Y**outh **U**nemployment **17%** (Female YU **44%**)
 - Trade Union Density **24%**
 - Population covered by at least one social benefit **35%**
- **Features²: Worker characteristics**
 - “Blind Spots”- how to identify the online workers and creating awareness for beneficial policies (i.e., social benefits)
 - Opportunities: Gender Distribution Dynamics (i.e., women’s share of advanced education 40%; men only 20%)

¹ Data taken from ILOSTAT, Reference Year 2019

² Based on interview

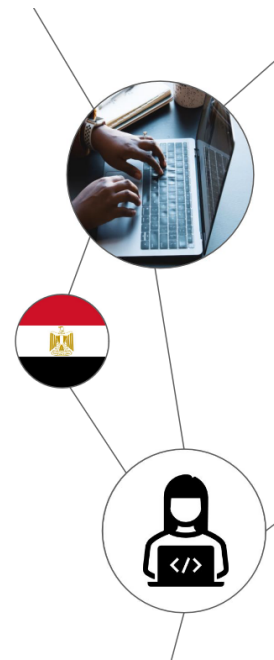


Figure 29 *Factsheet Egypt*: Summary of relevant information on the country context in Egypt

5.4 Serbia - Formalising Cloudwork

The Republic of Serbia is a Southeastern European State that is currently applying for accession to the European Union. As such Serbia seeks to proceed with structural reforms to renew its economy. As a provider of low- and high-skilled labour, Serbia is a popular outsourcing location of European companies particularly in the Automotive Sector. The annual GDP projection indicated 7.5 % growth. The strong research experience by the Fairwork Network’s local research team provides a background against which to assess the wage levels taken from Section 5.1.1.

Overall, in Serbia, the situation of cloudworkers differs significantly from the previously explored

case studies. First, the general economic circumstances differ. The share of informal employment is less pronounced at 17 %. The total labour force participation rate is 57 %. The gap between the national average and the female labour force participation rate is smaller than in the previous cases, with the female labour participation rate at 50 %. Youth unemployment is 26 % (Female youth unemployment is at 29 %). The overall population covered by at least one social benefit is 39 per cent. The trade union density is 33 %, with roughly one-third of the labour force covered [28]. In light of these circumstances, further issues relating to the cloudwork economy come into the focus of this analysis.

From the perspective of cloudworkers in Serbia illustrates the challenges of integrating cloudworkers into the national labour force and securing their benefits within the national system of social security benefits, healthcare and access to labour law institutions. This is possible due to the available research and data, primarily conducted by the Public Policy Research Centre, which launched the "Gigmeter" in 2020, providing data on cloudworker in Serbia and nine neighbouring countries (Interviewee 3). In essence, policy considerations can benefit from this perspective and integrate insights that Serbian stakeholders face in the current process.

High entry barriers for young professionals as well as a significant informal economy, were conducive to the growth of platform labour (both online and geographically tethered) in Serbia. Currently, Serbia hosts one of the largest per capita density of cloudworkers and freelancers [34]. Similar to the argument in the case of cloudworkers in Egypt, the availability of information on cloudworkers is a necessary step to include them in public policy schemes.

Generally, in the interview with the country expert, freelancers and cloudworkers were clustered into different groups according to the occupations and fields they were working in (Interview 3). The three clusters include; first, freelancers performing tasks online as the biggest group of cloudworkers; second, cloudworker performing English tutoring and teaching tasks for especially Chinese, Japanese and Korean platforms; and third, specialised platforms concentrating on ICT, creative tasks and design. The stratification into different "professional" clusters exposes certain dynamics that can induce additional pressure on cloudworkers. For example, according to the interviewee, the second group of tutoring cloudworker experienced a significant shift after the restriction of platforms by the Chinese government from abroad.

On a different note, this example illustrates the potential of governmental regulation in the home state of the platform, which should be considered a viable policy option. However, this example mainly illustrates the risks that arise when certain groups specialise in tasks without obtaining qualifications to switch to other tasks. As the majority of cloudworkers performing tasks are women, according to the interviewee, this suggests that the closure of Chinese platforms had a significant effect, especially for women. An upskilling scheme or attaining additional qualifications would allow workers to switch to other tasks in case their main area of expertise is not required anymore, as in

the case of tutoring.

Furthermore, regarding gender distribution, the interviewee argued that the distribution across the overall population is fairly balanced while the distribution per performed tasks differs significantly. Therein, men are more likely to work in highly paid professions, including ICT, web development and programming, whereas women are more present in professions with lower fees, such as tutoring, administrative work and data entry (Interviewee 3).

The education level of cloudworkers in Serbia is mostly highly educated, referring to university degrees and at minimum high school level. However, the interviewee contended that young people who earn an additional income while studying are increasingly neglecting their education or not finishing their degree, as the income they earn from cloudwork already presents them with a decent amount (Interviewee 3). This further hints at the income dynamics of cloudwork.

According to the interviewee, income from cloudwork can be grouped as follows: one-third of cloudworkers earn a significantly higher salary than the national average minimum wage of EUR 1150 (gross) per month. These workers earn up to EUR 4000 (gross) and are thus well above the national average and the opportunities in the physical economy (Interviewee 3)[35]. Another third of earners gain an income similar to the national average minimum wage. However, these workers still prefer cloudwork as employment is generally scarce while cloudwork provides them with stable income. The last third of cloudworkers earn below the national average minimum wage, but these workers are mostly part-time, earning additional income to their regular salary.

The new tax regime, introduced by the Serbian government recently, is built upon these general characteristics of the cloudworker population in Serbia and was devised in consultation with NGOs and Associations by cloudworkers themselves (Interview 3). This approach to the establishment of new tax regulations seems an appropriate avenue for creating new tax categories allowing one to discern the tax burden in accordance with the income of cloudworkers. The specifics of labour law in Serbia allow high-income cloudworkers to register as "entrepreneurs", which further allows them to employ up to 10 people. This speciality of the labour law allows the employees in this scheme to enjoy benefits as prescribed by labour law. However, the registered "entrepreneur" is no longer seen as a natural person but a legal business entity, thus complicating access to certain rights (Interview 3).

In general, cloudworkers can access several social benefits as long as they contribute to the social benefits scheme through voluntary payments. This mechanism is a speciality under Serbian Labour Law in theory providing social benefits to all who pay during their periods of income. Similarly, family care and healthcare are areas where cloudworkers are gaining more and more access to relevant rights and protection. However, there are certain rights which cannot be accessed yet, which include regular annual leave, sick leave, parental leave and other vital services which require proof of income, such as bank loans (Interview 3). These rights are already beyond the scope of the

LkSG and, as such, illustrate the potential that successful regulation can achieve.

The role of unions is less pronounced in the Serbian context, as cloudworkers already organise and try to distinguish themselves from the established patterns of trade unions (Interview 3) as they also lack general representativeness. As such, the right to collective bargaining only attains secondary priority in the Serbian context. Nevertheless, it remains acute to guarantee the right to organise and important representation on a global level.

The central issues regarding cloudworkers in Serbia, according to the national expert, concern, on the one hand, qualifications, including training to perform better-paid tasks and references that enable the recommendation of the worker to other employers. The interviewee suggests the establishment of a National Qualifications Framework that would allow categorising skills and thus also plan a strategic education plan for cloudworkers who wish to develop further skills.

On the other hand, social security contributions (albeit in theory possible) need a clearer set of rules. In the physical economy, employers and employees share the payment of social contributions. However, in the case of cloudworkers, this burden is shifted entirely to the employee. In summary, cloudwork provides an important high-income alternative to the lesser-paid jobs in the physical economy. Thus, the legal recognition of cloudworkers is essential in creating further benefits, including non-governmental benefits to cloudworkers.

Factsheet: Serbia

General Information

- **General Economic context¹:**
 - Share of informal employment **17%**
 - Total Labour Force Participation Rate **57%** (Female LFP **50%**)
 - Youth Unemployment **26%** (Female YU **29%**)
 - Population covered by at least one social benefit **39%**
 - Trade Union Density **33%**
- **Features²: Formalising online labour**
 - High income alternative vs low-paid jobs in physical economy
 - Legal recognition for the online workers enabling further benefits (also non-governmental)
 - Occupation-specific differences (i.e. ICT, Tutoring, Creative Tasks)

¹ Data taken from ILOSTAT, Reference Year 2021

² Based on interview

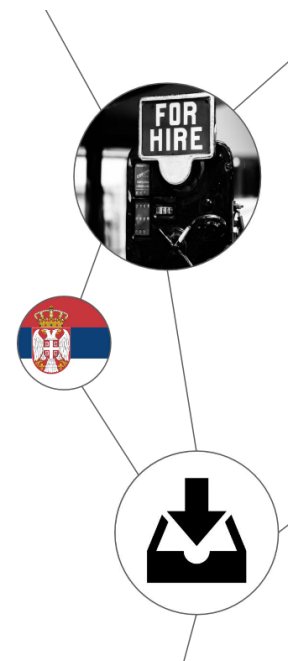


Figure 30 *Factsheet Serbia*: Summary of relevant information on the country context in Serbia

6 Discussion

This chapter summarises the findings gained in previous chapters and presents concrete recommendations focusing on company engagement, responsibility and related measures.

6.1 Summary of the Key Findings

Here, we summarise the main results from the individual analyses presented in the different chapters of the report.

6.1.1 Legal Context

Cloudwork is generally covered and relevant in the emerging HREDD legislation. The LkSG (as well as early proposals for an EU CSDDD) suggest that cloudwork is accounted for in the broad definitions of supply chains. However, clear classification is needed and to be further researched, particularly, related to restricting factors such as the focus on legal persons in the CSDDD or if a certain task by a cloudworker is "necessary" according to the LkSG. Generally, the legal definitions outlined in the LkSG suggest that the material obligations of companies towards cloudworkers might differ according to their relationship and the concrete tasks outsourced.

Cloudworkers can either classify as *quasi-employees* or as *suppliers* in clients' supply chains. While the recognition of cloudworkers either as either quasi-employees or suppliers incurs different obligations on client companies in their due diligence processes, it can be argued that cloudworkers are generally within the scope of the law and considerations on their working conditions need to be accounted for in any case.

Clients that are affected by the LKSG need to take different actions to include cloudworkers in their HREDD processes. Clients need to gather information on the varying risks that are connected to cloudwork and online labour markets and establish due diligence processes accordingly in line with the LkSG. Considering that clients are mostly small enterprises, new regulatory instruments addressing clients need to take this fact into consideration.

Several of the observed risks in online labour markets are reflected in the legally protected positions in the LkSG. As the LkSG refers to international labour and human rights standards, these directly cover risks which cloudworkers face. While the risks might differ across occupations and across national contexts, the general list of risks includes occupational health and safety of workers, their right to organise and their wage levels. In comparison to other areas, such as raw material extraction and manufacturing, the meaning of these obligations differs, urging for a granular and context-specific approach in conducting HREDD on behalf of the clients.

Multiple labour risks exist in the context of cloudwork for workers active on online labour platforms. These risks relate to wages and payment practices, occupational health and safety, debt dynamics, collective bargaining, discrimination and working hours. Often these risks overlap and reinforce each other. There are further contextual factors exacerbating these risks.

Hidden costs produce additional pressure on cloudworkers. Platform-internal mechanisms, such as maintaining good profiles and additional investments, such as the time spent in the search for projects, create pressure on cloudworkers by reducing their actual earnings per hour. Other hidden costs reducing real earnings relate to initial investments allowing to access online labour platforms such as acquiring hardware equipment, data bundles and specialised software. Particularly, the time spent on platforms applying to job offerings or used to polish the profile in order to appeal to clients is generally disregarded in the fees and payments posted by clients. Thus, these investments by cloudworkers become hidden and even sunk costs in the case of rejected applications which are not accounted for by neither platforms nor clients. Additionally, the tendency to form shadow clusters, meaning multiple people using the same account to cope with the effort to polish profiles, further reduces the real earnings per worker and is unaccounted for.

In terms of *Occupational Health and Safety*, cloudworkers are exposed to increased stress levels and accompanying health repercussions. Cloudworkers, due to the high flexibility and missing regulations, are exposed to physical and mental repercussions caused by stress and work-related anxiety. Furthermore, cloudworkers lack the healthcare contributions by conventional employers to cope with occupation-related health problems.

Accessing well-paid projects on online labour platforms requires initial and constant investments by cloudworkers which are not accounted for in project payments. Investments, either the purchase of hard- and software, as well as the time invested to maintain good profiles, present sunk costs for workers which are not compensated for in project descriptions and payments. In the case of expensive hard- and software, such costs can create *debt dynamics and financial dependencies* for workers reducing their real earnings and producing additional stress.

Workers have no (institutionalised) possibility to negotiate the payment for their services. While the dispersion and decentralisation of the global cloudwork labour force make collective bargaining difficult, the main obstacle is the inaction by platforms to facilitate the possibility for workers to self-organise. The realisation of core labour norms, such as collective bargaining and freedom of association, while difficult in the digital space, is not impossible and requires appropriate consideration by regulators and platforms.

Discriminatory practices on online labour platforms are exacerbated by missing transparency and accountability. In the absence of complaint mechanisms as well as due to general lacking transparency on online labour platforms, workers who experience discrimination based on gender identities and geographical location have no access to remedies.

6.1.2 German Outsourcing via Digital Labour Platforms

German clients play a role in the global online labour market representative of Germany's share of the global platform economy. In contrast to all projects on a global level (almost 2 million projects), there are 36,000 or 2% of all projects outsourced by German clients.⁴⁰ However, in terms of the total number of outsourced projects, German clients form the second-largest group in Europe after clients from the United Kingdom and before Irish, Dutch or French clients.

Projects outsourced from Germany have a geographical focus on Europe. In comparison to the overall market size, German employers tend to higher more freelancers from European countries. There is also a strong focus on platform workers from the three German-speaking countries, Austria, Switzerland, and Germany. The most relevant job types bought in by German clients are software development, design, writing & editing, as well as other computer and communication activities. This concentration highlights the potential effect that the application of the LkSG could have on European freelancers. The application of a European regulatory instrument could provide a vital source for also non-European freelancers.

Wages of outsourced projects vary widely. There is a large variation both between and within occupations of online labour projects outsourced by German clients. The highest-paying job types are those related to legal services, design or IT. The lowest-paying jobs are those that require more basic skills, such as customer support, administrative assistance or data entry. Some projects pay below local minimum wages: these projects bear the risk of unfair wage practices. Projects that pay below appropriate living wage levels might also be considered unfair. Further wage pressure arises from contextual factors such as wage theft and debt dynamics.

6.1.3 Analysis of Company Reports

Large companies do not report in public documents on the use of cloudwork or online labour platforms. The examined country reports show no indication of companies using cloudwork or online labour platforms in general. Terms such as "freelance", "cloudwork", or even "gig economy" are virtually absent from the reports. However, this missing evidence does not suggest the absence of cloudwork from these companies' operations and supply chains but rather demonstrates

⁴⁰The largest bilateral flows of labour in the online labour market are between clients in the United States and cloudworkers in South Asia, the Philippines, and the United States.

the inadequate reporting requirements and missing understanding that cloudworkers' working conditions also form part of the HREDD obligations.

Secondary sources provide evidence of the awareness and the use of cloudwork by German companies. Surveys with German companies from the manufacturing sector and the information economy, as well as the promotion by online labour platforms themselves, suggest that large German companies, including several DAX40 companies, are using cloudwork or source expertise via online labour platforms. Furthermore, surveys with freelancers suggest further connections between individual cloudworkers and large German companies. Additionally, anecdotal evidence suggests the direct use of cloudwork services by German companies for content moderation and the training of algorithms in the area of autonomous vehicles.

6.1.4 Client Identification

Only a minority of the clients can be identified from the project descriptions. While the online platform provides a lot of information about individual freelancers, such as their work history on the platform, skills, educational background and more, there are no employer profiles that would provide a comparable level of detail about the client companies. Consequently, it is not straightforward to identify employers. We manually analysed a sample of 250 project descriptions and could identify the companies via web search in around ten per cent of the cases; another 25 % of the project descriptions contained information related to the main sector of company activity. We find that project descriptions with identifiable employers or sectors tend to be longer than others.

Some employers are open about their identity, but the platform seems to remove links to web sources. A critical feature for the identifiability of the client is the presence of external web links in the project description. We find that more than 50 % of the postings for which we could identify the client company contained at least one URL to an external web source. In contrast, postings with such links were much rarer in the set of descriptions without any identifiable client information. The online platform seems to be keen to remove links to external web sources, which makes it difficult to identify employers but also impedes the build-up of trust via increased transparency. Overall, the freelancer-client relationship is shaped by information asymmetries as clients are much less required to share information about themselves and prospective projects than freelancers who are asked to provide detailed information about themselves and their work experience and education.

Most of the identified companies on the platform are small startup companies from the digital economy. We could gather additional information about the size and age of the identified

client companies. As it turns out, most of the clients are small startup companies active in eCommerce, IT services, retail, publishing or marketing; all activities related to the digital economy. Most companies have between one and 50 employees, and most of them were founded after 2010.

Companies that disclose their identity on the platform are more active users of online labour. Having compared the usage intensity of the employers on the platform, we find that those firms that disclose their identity are, overall, more active users of online labour markets. Their total usage intensity averages to around 0.5 full-time equivalents with an average hourly wage of USD 20. In contrast, non-identifiable clients have bought in an average of only 0.125 full-time equivalents with an average wage of less than USD 15. While the concrete mechanisms of these differences are not obvious from the data, it might be that identifiable clients want to increase trust by providing more information about themselves as they consider online outsourcing a more critical part of their hiring strategy than other employers.

6.1.5 Country Deep Dives - Quantitative Analysis

Wages between freelancers from different locations vary substantially. We find that online workers in Serbia and Egypt earn global average wages on the projects they conduct for German clients, while workers in Bangladesh conduct projects that are lower paid. Overall, the project charge and wage distributions are comparable between the three countries.

Most freelancers earn above local minimum wages, and many earn above-average wages. Comparing online wages with local living wages shows that only a minority of online freelancers earn less than living wages. In all three countries, almost all freelancers earn more than the (very) low local minimum wages. However, it is not obvious whether local minimum wages provide an appropriate reference. Some parts of the freelancer population also earn more than comparable average wages in the local ICT sectors. However, the data does not consider the time freelancers most likely need to invest in unpaid work for finding and applying for gigs. Overall, online freelancing can be a source of valuable income for platform workers if they have the right skills to allow them to conduct in-demand types of online jobs. However, considering reports by the New York Times Magazine as well as a German news outlet uncover the precarious working conditions for lower skilled labour in data labelling, or commonly referred to as clickwork, for AI training purposes [7]. Hence, earnings are dependent on the required skill-level, type of task as well as the specific platform.

Geographical and gender wage gaps indicate a stratified labour market. In certain types of jobs, we observe substantial wage gaps: on the one hand, between freelancers from Bangladesh

in comparison to those from Egypt or Serbia, and on the other hand, between female and male workers (which might or might not be related to gender-based discrimination). For example, female graphic designers in Bangladesh earn, on average, 28 % less than male graphic designers. A likely reason for these large within-occupation wage gaps is that lower-paying platform workers conduct different types of jobs within these occupations, probably because they have different available skill sets. In these occupations, the potential of retraining and upskilling programmes might be highest, as freelancers are already active in potentially high-paying job types, but they are unable to realise such wages.

Online labour activity clusters in large cities, but rural areas do not suffer a negative wage premium. In all three countries, most online labour is done in large urban areas (particularly in the capital region), and relatively few projects are done by workers in rural areas. This is most likely related to the availability of enabling institutions in cities, such as higher education, specialised digital training or business opportunities. However, rural areas do not suffer from a negative wage premium. This finding underlines the potential of online labour for the resilience of rural communities in the Global South if freelancers in these areas are able to find in-demand online jobs that pay relatively high wages. Thus, online labour could be a relevant angle for development policies, which aim at supporting rural communities.

6.1.6 Country Deep Dives - Qualitative Analysis

There exists a general lack of data resources. Obtaining information on cloudworkers in general but also in the respective country contexts is highly difficult. The interviews conducted with experts from Bangladesh and Egypt highlight the problem that there exists little information on the cloudworkers themselves. The Serbian context illustrates how improved data availability allows to include cloudworkers in public policy research and it highlights their interest in accessing fair working conditions and social protection by means of legal recognition. Additionally, the separation of cloudwork and location-based services is often blurred or merged in the general debate obstructing a granular approach to public policy and adequate context-specific protection of workers and an improvement of their rights.

Opportunities for cloudwork to improve the livelihood of people depend on the reduction of harmful internal mechanisms and barriers on online labour platforms. Harmful internal mechanisms refer to intentional and unintentional tendencies on online labour platforms to produce stress on workers, wage theft, missing redressal mechanisms, discriminatory algorithmic selections and the missing right to bargain collectively. *Structural barriers* refer to low-quality infrastructure (i.e., internet access), expensive equipment (i.e., hard- and software) and access to further educa-

tion. Where there are persisting discriminatory practices and adverse impacts on workers, redress mechanisms need to be put in place, in order to expand the potential of cloudwork as a viable source of income. These barriers obstruct the entry points for cloudworkers, but they can also serve to create continuous pressure on cloudworkers, such as debt dynamics requiring them to adhere to unsafe and unsustainable working practices, such as extensive overtime. Additionally, the lack of skills or further education might entrap cloudworkers in the performance of certain tasks and create dependencies on platforms.

The transboundary character of client-worker-platform-relationship complicates definitions.

The inclusion of cloudworkers in the labour law and, thus, social protection [schttps://www.overleaf.com/project/650c3fe](https://www.overleaf.com/project/650c3fe) of individual countries are difficult due to jurisdiction ambiguities ascribing legal rights and duties. National jurisdictions are challenged to introduce additional and residual mechanisms which allow to include cloudworkers under social benefit schemes. Conversely, policymakers are incentivised to introduce tax schemes which also include cloudworkers. The challenge is to improve working conditions for cloudworkers without penalising their income through inadequate tax burdens.

6.2 Policy Implications

Here, we list a number of implications and potential areas of intervention based on the results presented in the previous chapters. The policy implications discussed here are directly related to the findings from the quantitative and qualitative analysis. Thus, they might abstract from the supply chain act but should be considered when discussing further regulation on the EU level. We list several implications that are relevant to the different stakeholder groups: cloudworkers, platforms, clients, and policymakers. Each paragraph starts with a headline, describing the identified problem, followed by a short description. The last part of each paragraph (in italics) states the implication or recommendation to address the identified problem.

6.2.1 Clients

Understanding human rights and environmental due diligence requires context-dependent expertise. While large German companies report on their efforts in conducting HREDD, the absence of cloudwork in their overall reports suggests that they lack the understanding that cloudwork is part of their overall human rights-related obligations. *Furthering this understanding among clients opens up new pathways to engage with stakeholders in formalising and securing the online labour market.*

Engage companies to identify the potential of online work. Studies on the German industrial sector and their use of cloudwork services identify the utilisation of freelance services in big German

companies. *Companies need to understand the global impact of sourcing these services in the context of economic development.*

Define the role of platforms in the value chain of companies. The platform seems to be used mainly by small and young enterprises in digital and IT-related service sectors. *If we understand why certain clients use platforms, we can promote fair working conditions with these firms and sectors.*

Increase the awareness of the rights in the digital space with companies. While companies increasingly report on human rights and environmental impacts, they might not be aware of the possible risks in the procurement of digital services. *More awareness is needed of the responsibility that companies have in using digital platforms in general and platform work in particular.*

Conclusive data sources are missing. The publicly available information provided by companies themselves in the form of sustainability reports and financial statements is insufficient to draw conclusions about the use of cloudworkers and their working conditions. *To improve and secure the working conditions of cloudworkers, it is necessary to establish further data sources by means of qualitative and quantitative surveys by directly engaging with companies on the matter.*

6.2.2 Governments, Labour Legislation, Tacation and Social Protection

Regulatory gaps restrict room for political action. The lack of attention by legislators and policymakers has led to a legal void allowing for precarious working conditions and unfair practices. Particular issues are the formal recognition of cloudwork as a category under national and international labour law. *Policymakers should further proposals on clear rules on the recognition of cloudworkers in order to enable access to social security and health care.*

Further legislation on supply chains should explicitly acknowledge new forms of work. Regulations on supply chains with their broad and encompassing approach need to account for developments connected to digitisation. *New regulatory instruments should not only ensure increasing transparency regarding the working conditions of cloudworkers but also establish clear expectations on mitigation and remedial mechanisms. The ongoing negotiations on the EU CSDDD provide a unique opportunity to establish a supply chain directive that accounts for the situation of cloudworkers and new forms of work. German ministries like the Federal Ministry for Labour and Social Affairs (ger. Bundesministerium für Arbeit und Soziales) as well as the Federal Ministry for economic Cooperation and Development (ger. Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung) but also involved civil society organisations like the European Coalition for Corporate Justice address these issues more thoroughly.*

Labour rights as per ILO core conventions and beyond are at risk on online labour platforms. Cloudworkers face problems with wages, OHS, discrimination, collective bargaining and debt dynamics which require legal protection. *New laws need to secure a perspective for workers to solve problems with these issues.*

Cloudworkers have no clear legal status under national labour law. Across individual country cases, the lack of recognition of the employment of cloudworkers poses a serious challenge to the enjoyment of their rights. The transnational character of the interactions between workers, platforms and clients obscures the employment status and thus limits access to rights. *New laws that formally recognise cloudwork should draw on workers' experience and furthermore secure a clear perspective on their employment relations from which legal certainty is created for workers and clients.*

Cloudworkers should have access to social protection systems. As cloudworkers are not being defined as employees or engaging in forms of standard employment they often do not have access to social protection systems, including health care, disability insurance, pensions or sick and maternity leave. If they choose to access such systems, they bare the entire cost. *New approaches to the access to social protection systems for cloudworkers have to be developed. Decoupling the access to such systems from the status of employment, extending social protection to self-employed, or creating new legal definitions for cloudworkers represent possible options.*

Formally integrating cloudwork into the tax and labour code must recognise contextual factors. *In order to establish cloudwork as a viable source of income, the applicable tax regime must recognise differences between various cloudwork occupations as well as hidden and sunk costs connected to people working via online labour platforms in order to reduce the burden on their income.*

The cloudworker demographics must be taken into account in the design of policies. *Demographic characteristics such as education levels, location, gender and age distributions are important factors that need to be taken into account when designing policies.*

Interventions need to be structural. Although varying across different types of activities, the majority of online freelancers are likely to be young and highly educated. *Interventions should lower structural barriers, i. e. by providing better infrastructure, easing payment methods, including marginalised groups etc. The user group of online labour needs to be kept in mind. An important stakeholder in the realisation of structural interventions are development agencies and their local teams.*

Upskilling programmes need to be tailored, especially for women. People who offer low-demand job types struggle to earn sufficiently high wages. Especially, women suffer from lower

wages as they appear to perform lower skilled tasks on average. *For freelancers, especially women, to earn sustainable incomes from online labour, it is paramount to identify and predict in-demand jobs and invest in tailored upskilling mechanisms. Development cooperation should reinforce programmes for upskilling in order to increase the sources of additional income, particularly for female freelancers.*

Polarisation happens on multiple dimensions. The online labour market is a global market polarised along several dimensions, in particular, skills. *The global nature of the market needs to be acknowledged (which implies a lot of competition and which limits the scope of national interventions). Potential interventions need to be tailored to address different local contexts.*

Ongoing need for action. European policymakers, particularly German policymakers, should use the empirical indications as well as the remaining blind spots as a motivation for extensive action to include cloudworkers, their working conditions and their concern in the debates on negotiating an appropriate legal instrument on the European level. *For that, a coalition between different stakeholders including cloudworkers, clients, platforms, researchers, NGOs, policymakers and development agencies, such as GIZ, is needed.*

6.2.3 Platforms

To reduce the power asymmetries between platforms, workers and clients, more transparency is needed An important pathway for platforms to reduce power asymmetries is to provide more detailed information about clients outsourcing projects and make this information available to workers. *To secure working conditions and their enforcement, it is necessary to reduce power asymmetries between cloudworkers, platforms and clients by providing more transparency. For example, to raise legitimate grievances, workers must know more about their clients and the possibilities to contact them. Furthermore, cloudworkers must have the right to fair management processes in the case of wage theft, discrimination or other harm done to workers. Low barrier and transparent redressal mechanism must be set in place for workers to address these issues, receive help from the platform management with concrete consequences for clients.*

By providing access to social and work-related benefits, platforms increase the awareness of the benefits and risks associated with online labour and can enhance their legitimacy. Cloudworkers require legal recognition of the benefits and access to social benefits. Platforms as central facilitators should engage with policymakers and legislators to facilitate such access. In that, platforms also attain more legitimacy as they integrate within the wider regulatory framework. The LkSG and further EU regulation provide a first step in that direction by also involving clients in the process as central stakeholders to provide more transparency. *Online labour platforms need to*

become more transparent and provide information on algorithmic management and conflict resolution mechanisms to workers and governments alike to make them fair working environments for cloudworkers independent of their location.

Increased transparency builds reputation and mutual trust. Many clients do not disclose their identity, and the platform does not encourage this. At the same time, clients that share their identity voluntarily are more active users of online labour and pay higher wages. *More public information about the transactions and the parties seems to increase trust and outcomes overall. Clients should share their identities, and platforms should be encouraged to establish public client profiles to increase transparency and trust in the market.*

6.3 Limitations

There are a number of methodological limitations that need to be considered when interpreting the results and implications presented in this report.

6.3.1 Online Platform Data

While the data investigated here is one of the largest quantitative data sources available in the field of online labour, our analysis is still limited by the features available in the data. For example, with the data, it is not possible to track the amount of unpaid work invested by freelancers on the platform. It is likely that, in particular, the most active and successful freelancers invest a lot of time in applying for jobs, acquiring additional skills or scanning the market for potential projects; however, as the time spent on the platform is not available in the data, we cannot estimate this time in a quantitative manner.

Additionally, the big online data used here is noisy. The hourly wage information varies widely, and it is not possible for us to verify how many hours freelancers have actually worked on their projects. It might very well be that freelancers invest more time conducting the work for the projects for which they are not remunerated.

Also, we are limited by the size of the data set. Even though we have millions of projects to begin with, several truncations reduce the sample size substantially: filtering projects from German client only, then filtering by freelancers from only the three case study countries, then filtering by occupation and by gender can lead to very small samples that will lead to measurements with wide standard deviations and uncertainty.

6.3.2 Client Identification

The approaches of identifying clients from the data and searching for online labour outsourcing by large German corporations from the company reports also come with limitations.

Trying to identify clients from the platform data is a time-consuming task. It is not possible to automatise this process in any meaningful way. This is why we had to limit ourselves to a relatively small sample of 250 projects only.

While we conducted the identification exercise with great care, we cannot be certain whether all companies associated with the project descriptions have been correctly identified. We had to rely on the web search of mentioned company names or follow the imprint of web links in the posts, and this process naturally comes with some uncertainty.

Most importantly, the absence of evidence of the activity of large companies as clients on the online labour platform does not imply that we have evidence for their absence. The large share of non-identifiable companies (90 %) means that it has been impossible to obtain any information related to the identity of the clients for the vast majority of the demand side. Also, online labour markets might be used by contractors of large German companies so that the utilisation of platform work might happen along the longer supply chain but not as a direct procurement by the companies that are affected by the German Supply Chain Act.

6.3.3 Company Reports

A substantial limitation to attaining relevant information about the use of cloudwork in large German companies is the lack of reporting by said companies on the matter. While it is difficult to pinpoint to the exact cause of this lack, it can be assumed to be related to the missing public awareness about the connection between human rights and environmental due diligence and cloudwork. Future transparency and reporting requirements for companies on the use of cloudwork could improve the suitability of sustainability reports as data sources.

Currently, alternative data sources might prove more promising in providing evidence of the use of cloudwork services, such as data provided by platforms on client accounts or qualitative research conducted with company representatives themselves.

A further limitation is an ambiguity in the selection of query terms, such as "platform" or "digital services". While a more detailed analysis by means of systematised search terms provides a methodologically sound approach, the present analysis sought to contextualise the overall quantitative analysis by means of the information provided in the reports. Thus, the lack of results should not be interpreted as a methodological shortcoming but rather a general lack of information hinting at the insufficiently defined reporting requirements.

6.4 Directions for future research

The findings presented here provide first insights into the role of emerging legislation on human rights and environmental due diligence and its connection to the cloudwork-economy, the activity of German employers in the global online labour market, the possibility of identifying client companies

and of tracking their behaviour on the platform, as well as the risk factors for freelancers in Global South countries.

The report provides an array of quantitative and qualitative findings on all these aspects. It also reveals open questions and potential directions for future research to understand better the relationship between legislation on corporate human rights due diligence and platform work. A few of these are listed in the following:

Analyse worker biographies to identify upskilling opportunities. We have seen that certain groups of freelancers are not able to obtain the same wage levels as other freelancers, even though they are active in the same occupations. This holds for platform workers from certain countries as well as female workers in some occupations. A more in-depth analysis of the worker behaviour on the platform over time could help to understand the different pathways being taken by some freelancers and not by others which allows them to realise better outcomes.

Extend the employer identification exercise and consult other data sources. The data source used here comes from a globally leading online labour platform. It does, however, not provide employer profiles. In order to gain more insights about the clients of online labour, one could either extend the employer identification exercise by considering a larger sample of project descriptions, or one could also analyse data from other online labour platforms. Certain platforms, such as *freelancer.com*, have more expressive employer profiles. One could collect data from that website to gather more data about German clients of online labour.

Conduct interviews and surveys on the use of cloudwork in German companies in the context of HREDD. To design strategies for improving working conditions in online labour markets, a better understanding of the use of cloudwork by companies must be developed. Thus, it is important to understand the reasons why companies would use or refrain from using cloudwork services. Building on existing research efforts in this direction, interviews and surveys should be conducted with companies with the aim of attaining knowledge on possible improvements.

Engage with workers on their motivation, needs and perceptions. Effective improvement strategies should be designed by building on the concrete experiences of cloudworkers. Understanding their motivation to work via online labour markets and their needs, as well as their perception of the online labour market, yields important insights that shape the successful integration of cloudworkers in the overall labour force. This understanding includes the possibilities of upskilling, access to social security and other work-related benefits that significantly alter working conditions.

Engage with policymakers and legislators on designing effective regulatory instruments.

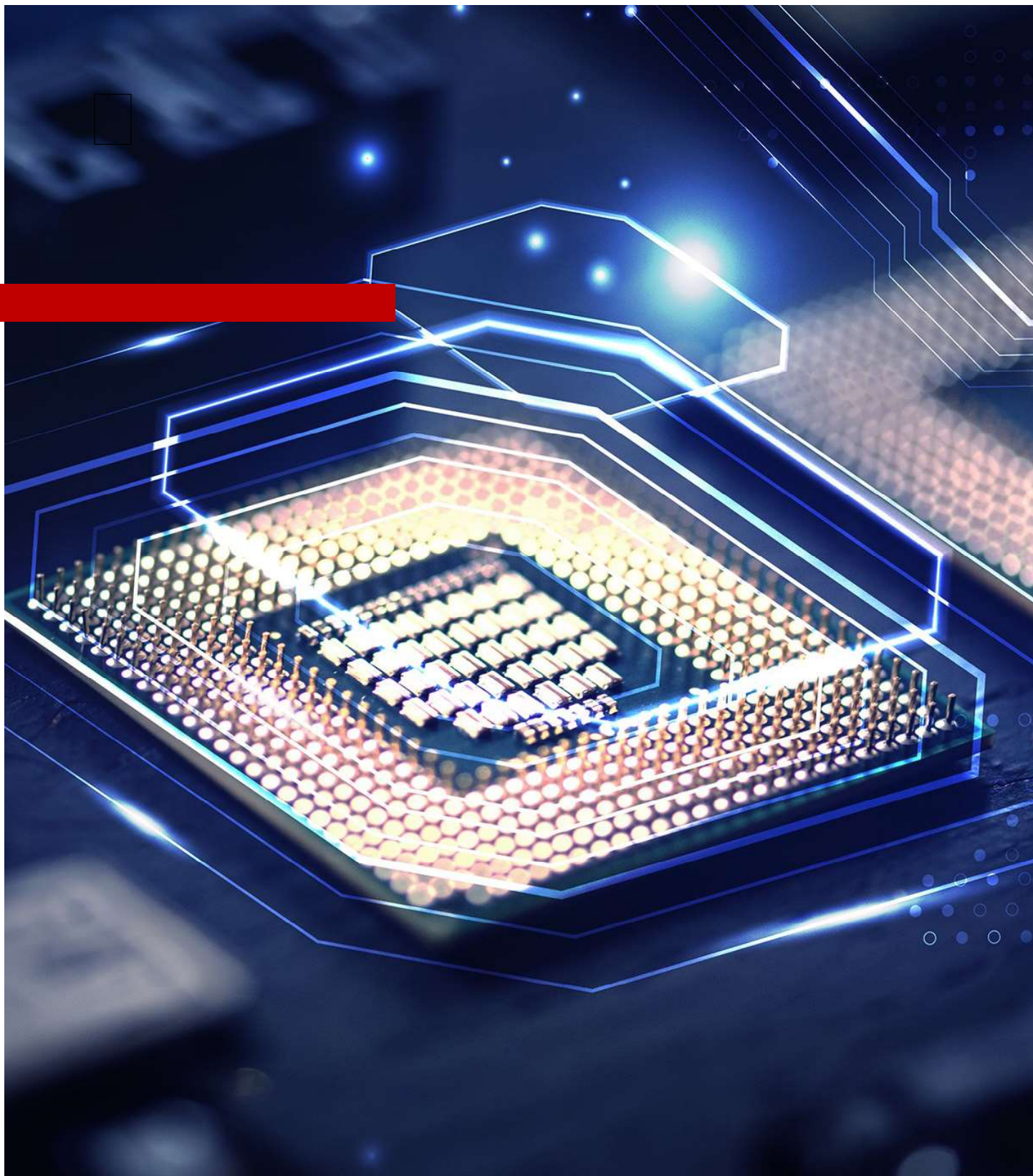
New regulatory instruments should be designed in light of the implications that they incur on cloudworkers. Informing and engaging policymakers creates awareness for the situation of cloudworkers and yields to the potential to adapt regulatory instruments to the growing impact of digitisation to the benefit of workers. As such formulating legal definitions, the scope of application and material obligations should take into account the differing realities of cloudworkers. Such an approach should include cloudworkers, clients and platforms and facilitate dialogue among the different stakeholders.

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