

Upworkers in Finland

SURVEY RESULTS



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Abstract

Upwork is the world's largest online labor market platform connecting clients with freelance professionals from various disciplines ranging from administrative support to web development. This study documents the main findings of the *Upworkers in Finland* survey conducted in December 2017.

The survey targeted all freelancers listed on the platform who (a) claimed to reside in Finland and (b) had earned at least \$1 since signing up. Of the 207 such freelancers found publicly listed on *Upwork* on 8 December 2017, 58.9% responded to our online questionnaire. Most Upworkers in Finland are translators, followed by designers and coders. They are typically less than 30 years old, involved in higher education or training (or already have at least a college-level degree), and live in the capital region or another urban area. Approximately one-third are immigrants or other nonnative speakers. They have a strong preference for entrepreneurship/self-employment over paid/salaried employment. Independence, flexibility, and extra earnings are particularly motivators for online work engagement. The respondents are both quite fond of the platform and satisfied with their current online work arrangement.

Tiivistelmä

Havainnot ”Upworkers in Finland” -kyselystä

Upwork on maailman suurin puhtaan virtuaalisesti – ilman yhteyttä asuntoon, autoon tai muuhun fyysiseen hyödykkeeseen – ihmistyötä välittävä digitaalinen alusta, joka yhdistää toimeksiantajat ja eri alojen freelancerit hallinnollisista tukitehtävistä ohjelmistokehittäjiin. Tässä selvityksessä raportoidaan joulukuussa 2017 tehdyn *Upworkers in Finland* -kyselyn tuloksia.

Kysely suunnattiin kaikille niille tälle työnvälitysalustalle rekisteröityneille julkisen käyttäjäprofiilin omaaville freelancereille, jotka (a) olivat antaneet sijaintipaikkaseen Suomen ja (b) olivat ansainneet alustalle rekisteröitymisen jälkeen sen kautta vähintään yhden dollarin. Kaikkiaan 207:stä nämä kriteerit 8. joulukuuta 2017 täyttäneistä alustalla toimineista freelancereista verkkokyselyymme vastasi 58,9 %. Valtaosa Suomessa toimivista Upworkereista on kielenkääntäjiä, graafisia suunnittelijoita tai ohjelmistokehittäjiä. He ovat tyypillisesti alle 30-vuotiaita, korkeakouluopiskelijoita tai vähintään keskiasteen tutkinnon suorittaneita ja asuvat pääkaupunkiseudulla tai muissa kaupungeissa. Noin joka kolmas heistä on maahanmuuttaja tai muu kuin suomen- tai ruotsinkielinen. Yleisesti ottaen he pitävät yrittäjyyttä selvästi parempana tapana työllistyä kuin palkkatyötä. Online-työnvälitysalustalla toimimisen motiiveina korostuvat itsenäisyys, joustavuus ja lisäansiot. Vastaajat olivat varsin tyytyväisiä sekä Upworkiin että yleisemmin kyselyhetkellä vallitseviin työjärjestelyihinsä.

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Executive summary

Digital labor markets – virtual marketplaces for short-lived paid work assignments – may be divided into (a) *Online Labor Markets* (OLMs), in which an outcome of a job task is electronically transmittable; and (b) *Mobile Labor Markets* (MLMs), in which the delivery of a service requires physical presence. Both types of markets can be further split into lower-skill microtasks and higher-skill mini-projects. This report concerns *Upwork*, the world’s largest OLM platform for relatively high-skill mini-projects;¹ it does not discuss MLMs, such as *Uber*. The primary purpose here is to document the findings of the *Upworkers in Finland* survey conducted in December 2017.

Upwork aims at “creating economic and social value on a global scale by providing a trusted online workplace to connect, collaborate, and succeed”. It establishes an on-demand labor market by connecting clients with freelance professionals from various disciplines ranging from administrative support to web development. In the case of Finland, most *Upworkers* are translators (39%) followed by designers (25%) and coders (14%). *Upwork* provides its workers with job opportunities and additional income, but not with unemployment, pension, or other benefits often associated with offline work. For its employers, *Upwork* provides a convenient way to outsource and offshore.²

The *Upworkers in Finland* survey targeted all freelancers listed on the platform who (a) claimed to reside in Finland and (b) earned at least \$1 since signing up. Of the 207 such persons found publicly listed on *Upwork* on 8 December 2017, 58.9% responded to our online questionnaire.

The respondents are relatively young, involved in education or training (or already have at least a college-level degree), and often live in urban areas. They are slightly more likely to be men and to be married (or cohabiting). Approximately one-third are immigrants or other non-native speakers (who otherwise comprise less than one-tenth of Finland’s general population).

Upwork has considerable control over its workers. The respondents thought that this control is quite fair: on a 0–100 scale, the mean response to this question is 71,

which differs from the experiences of food carriers on a Finnish MLM platform (Seppänen, Hasu, Käpykangas, & Poutanen, 2018).

Freelancers are rated on *Upwork*. The rating system is considered useful (77 on a 0–100 scale). For the majority, the system is not a major cause of excessive stress (44 on a 0–100 scale). Nevertheless, competition on *Upwork* is considered quite intense (71 on a 0–100 scale), although there seems to be some ability to set one’s own prices for job assignments (53 on a 0–100 scale).

For most respondents, *Upwork* is not a substantial source of income. Only 40% have earned at least €1,000 since they signed up. Average annual online income in 2017 was €5,600 (via all platforms). The share of online to total income is more than half for one-quarter of respondents; for 45%, online work generates 0–10% of total income. However, the respondents are only partially active in the labor market: they work on average 21 hours per week (online and offline). More than one-tenth were performing income-earning tasks online on a daily and one-quarter were doing so on a weekly (but not a daily) basis; thus, most were *not* actively engaged with online work on a weekly basis. Typical earnings per hour of online work range from €3 to €90, with a mean of €19.

The most important aspects motivating the respondents’ online work were independence, flexibility, and extra earnings. Most of the respondents – more than 80% – thought that involvement with online work platforms is primarily a good opportunity for them and fit their current needs. The respondents strongly favor entrepreneurship over paid employment: given the choice, more than two-thirds of them would rather work in self-employment than in paid employment (the corresponding figure for the general population in Finland is a fraction of this).

The respondents have a high self-assessment of their current work performance (78 on a 0–100 scale), and they are quite satisfied with their current work arrangements (64 on a 0–100 scale). The respondents also indicate quite high work engagement (Schaufeli, Shimazu, Hakonen, Salanova, & De Witte, 2018): on the three

measures employed, the averages are in the 63–77 range (on a 0–100 scale).

Digitally mediated activities are a tiny but a growing part of the overall labor market in Finland. In most countries, MLMs – requiring some physical presence – are much bigger than purely virtual OLMs. Following the recent legalization of *Uber* and the increasing prominence of *Airbnb*, this is also likely to be the case for Finland. Nevertheless, OLMs are of considerable interest, as they enable “virtual migration”, through which a worker can perform a task from anywhere and switch between these tasks at will; moreover, without any physical presence, they are more difficult to observe and regulate.

We find that *Upworkers* in Finland are both quite fond of the platform and quite happy with their current online work arrangement. Online earnings nevertheless seem meager, although the average hourly wage of €19 is not terribly low.

Compared to the general population, a rather special group of people seem to self-select into performing tasks via *Upwork*. The respondents have a strong preference for entrepreneurship/self-employment over paid/salaried employment.

For Finland overall, the interesting question is how online and offline work ultimately interact. If “virtual migration” becomes a considerable fraction of all work, its intense global wage competition and short-lived assignments may have implications for offline work. It is unclear how the operating logic of online platforms influences the engagement between workers and employers and how this, in turn, shapes workers’ careers and learning opportunities. These are among the questions to be addressed in the next steps of SWiPE, *Smart Work in Platform Economy* (<http://www.smartworkresearch.fi/>).

Introduction

The growth of *digital labor markets*³ is shaped by two broader trends: changes in the legal boundaries of businesses and deepening global divisions of labor, both of which are fueled by advances in digitalization and falling restrictions on cross-border trade. Together, these two

trends have induced an era of trade in tasks (Baldwin, 2016; Grossman & Rossi-Hansberg, 2008) featuring extensive outsourcing and offshoring.

Digital labor markets enable “virtual migration” through which a worker can perform a task from anywhere and switch between tasks at will. Virtual migration further reduces geographical constraints for trade in tasks and fuels the unbundling of successive tasks in value chains.

Cristiano, Fabienne, and Biagi (2016) distinguish between

- (a) *Online Labor Markets* (OLMs), in which an outcome of a job task is *electronically* transmittable, and
- (b) *Mobile Labor Markets* (MLMs), in which the delivery of a service requires *physical* presence.

Horton’s (2010, p. 516) definition of an OLM corresponds to (a): “a market where labor is exchanged for money, the product of that labor is delivered over a wire and the allocation of labor and money is determined by a collection of buyers and sellers operating within a price system.”

Cristiano, Fabienne, and Biagi (2016) further propose splitting OLMs into

- (a.1) *microtasks*, relatively *quick and routine cognitive* tasks traded in platforms such as *Amazon Mechanical Turk*, and
- (a.2) deliveries of somewhat longer lasting and cognitively more challenging *self-contained (mini) projects*.⁴

The above typology by Cristiano et al. (2016) highlights how different various types of digital labor markets are. Much of the public debate worldwide revolves around *Uber* and similar services but if one compares *Uber* and *Upwork*, the two are towards the opposite ends of the spectra in many key dimensions.⁵

In this report, we concentrate on the world’s largest platform of the latter OLM type (a.2) – *Upwork* – in the context of Finland.⁶ We make some use of data collected directly from the platform, but our primary focus here is on documenting findings of our own “Upworkers in Finland” survey conducted in December 2017.

General characteristics of online labor markets

In recent decades, we have observed the emergence of OLMs such as *Amazon Mechanical Turk* (MTurk), *Upwork* (formerly *Elance-oDesk*), *Fiver*, *Guru*, and *Freelancer.com*. These are digital matching platforms that facilitate the allocation of productive effort across global economies.

The online labor markets we consider are supported by Internet platforms, which are essentially cloud-based software stacks designed

- first, to incentivize potential workers and employers to participate; and
- second, to induce their interaction.

The platform itself acts as an intermediary. Workers are freelancers, i.e., neither the platform nor employers assume the responsibilities associated with offline labor market contracts. The platform typically receives a share of the value of the contracts it mediates. Even though the duration of a traded job ranges from minutes to months, OLMs are essentially “on demand” or “spot” markets. Some platforms support one-to-many matches in the form of crowdsourcing; on others each worker is contracted individually.

These markets are a particularly interesting, novel, and powerful way of accomplishing work online (Horton, 2010). In these markets, employers can “buy discrete chunks of labor from a global pool of workers at a market price, similar to how they obtain any other factor of production” (Chen & Horton, 2016, p. 414). Tasks accomplished in these markets range from low-skill jobs such as transcription, data entry, or web research to relatively high-skill jobs such as web programming, legal advice, and data analysis.

The most obvious distinguishing characteristic of OLMs is that work is entirely performed online rather than by workers who are physically colocated (Chen & Horton, 2016). Hence, OLMs offer the potential for a large number of transactions and services to be provided by suppliers, who may be geographically distant from buyers (Agrawal et al., 2016). The exchanged service is often an experience good, i.e., a product or a service, the value of which is difficult to assess without purchasing and consuming

it (Kokkodis & Ipeirotis, 2016). Furthermore, workers can be hired by several employers at the same time (and workers may assume false or multiple identities). Thus, OLMs are characterized by many-to-many connections, with some connections lasting for only a few minutes (Felstiner, 2011). Finally, many OLMs generally broker highly heterogeneous tasks, enabling workers to work simultaneously in diverse task categories. Given the low entry barriers and global reach, workers in OLMs are also very diverse in their skill levels, motivations, and educational and cultural backgrounds (Manyika et al., 2016).

Both scholars and practitioners have recognized that online labor markets represent one of the most important trends in strategic human capital management (e.g., Accenture, 2015; Forbes, 2016; Johns & Gratton, 2013) and a powerful new paradigm for accomplishing work that offers benefits (and potentially downsides) for workers, organizations and economies. For example, the new connectivity enables “marginalized talent” – e.g., stay-at-home parents, retirees, and students – to enter the labor market. Hence, welfare gains can be realized by providing unemployed or “underemployed” workers with new job opportunities and an additional source of income. Similarly, welfare might be positively affected by providing workers in poor countries access to buyers in rich countries. Furthermore, both sides gain flexibility as firms hire digital workers for tasks that are not reliant on real-time and face-to-face collaboration. Consequently, firms can realize cost savings from building a flexible and virtual workforce, since they require less physical infrastructure and have access to low-cost talent outside their region. At the same time, these markets offer employers access to a broad skill pool, reduce search costs, and enable better and on-demand skill matching.

Given these benefits, we observe both an increasing number of workers entering OLMs to provide their services through an online intermediary (*supply*) and an increasing number of employers outsourcing knowledge work to OLMs to realize cost savings and flexibility gains (*demand*). Consequently, scholars and practitioners suggest that the share of the online gig workforce will grow rapidly in the future, although it remains a relatively small part of the economy today.

Despite the perceived promises of OLMs, some issues remain unresolved. From the worker perspective, online

work often does not offer the benefits associated with offline work, such as payments into pension funds. Furthermore, OLMs are easily more competitive than their offline counterparts. Given the global reach, workers from Western countries compete with workers from low-wage countries within the same price system. In addition, OLMs are often designed to favor employers over employees in “labor market bargaining”. Thus, overall OLMs might put downward pressure on wages. However, wages are bargained (albeit perhaps only implicitly, if the platform determines pricing) in each instance separately, so in a considerable share of cases “a micromarket clearing wage” might be even higher than what would be available offline.

From the employer perspective, a key challenge of being active in OLMs “arises from the limited access to high-bandwidth information” (Autor, 2001). In other words, employers in OLMs cannot directly monitor a worker’s behavior (*hidden action problem*); however, since Autor’s contribution, this issue has been addressed, e.g., by taking a video or a stream of pictures or by recording the keystrokes and mouse actions of freelancers while they work on an assignment. In addition, given the short-term and “on demand” nature of tasks, workers are initially uneducated about the employer’s characteristics and the specificities of the job at hand. They may also lack longer-term interests in the employer’s success. This can further lead to goal conflicts and unsatisfactory results. Furthermore, given the anonymity and the diverse backgrounds of workers, it is difficult to assess and compare their ability and skill proficiency in advance (*hidden information problem*).

Upwork as an online labor market platform

Upwork was founded in 2015 as a merger of *oDesk* and *Elance*. Today, it represents one of the world’s largest freelancing websites. The platform aims at “creating economic and social value on a global scale by providing a trusted online workplace to connect, collaborate, and succeed” (Upwork.com, 2018). It connects clients with freelance professionals from various disciplines ranging from administrative support and graphic design to software and web development. With millions of jobs post-

ed – covering more than 3,500 skills – annually, freelancers are earning more than \$1 billion via the site each year (Upwork.com, 2018).

In contrast to OLMs focusing exclusively on micro-tasks (such as *MTurk*), *Upwork* explicitly encourages longer-term projects and prioritizes high-value, ongoing work (Pofeldt, 2016). This makes for a particularly interesting context of our study since few studies have examined high- rather than low-skilled contingent work (Kunda et al., 2002; O’Mahony & Bechky, 2006). For example, the most prominent examples of digital matching platforms – *Uber* (driving service), *Airbnb* (renting service), and *TaskRabbit* (handyman service) – predominantly provide job opportunities for less knowledge-intensive and largely homogenous tasks.

Upwork projects typically provide a degree of autonomy (as opposed to, e.g., the tightly specified tasks on *MTurk*). Projects are considered unique, one-off endeavors consisting of many varied and interdependent activities intended to achieve a desired result (Larson & Gray, 2013; Gido & Clements, 2012). Examples of relatively high-skill projects outsourced to *Upwork* include building an Android app from an existing iOS app or implementing new features in an existing app (*Upwork* category: Web, Mobile & Software Development), developing an online marketing strategy (*Upwork* category: Sales & Marketing), and reviewing business contracts (*Upwork* category: Legal).

Prior work considering Upwork (or its predecessors) as an online labor market platform

In this section, we summarize (scant) prior literature that uses data from *Upwork* (or its predecessors *oDesk* and *Elance*) or comparable OLM platforms. The majority of this work focuses on the *ex-ante* contractual phase of transactions, i.e., hiring decisions, using primary longitudinal data from *oDesk*. To our knowledge, only one study focuses on *ex-post* freelancer behavior – i.e., task performance. Both are, however, interesting aspects in identifying factors that can predict future worker performance.

Work on hiring decisions in high-skill OLMs emphasizes the search and screening process. This is because projects are shorter compared to offline contingent work and thus hiring decisions occur on a more frequent basis, making both the search and the screening processes much more important (Chen & Horton, 2016). Studies then aim at identifying accurate signals of future performance to reduce uncertainty about freelancers' skills and motivation. For example, Leung (2014) studies whether the order of a freelancer's work history, i.e., the chronological order of job types and categories in which the freelancer has worked, affects employers' hiring decisions. Leung (2014) finds that employers prefer applicants who move incrementally between similar jobs to those who do not move (specialize in one job category) or those with highly diverse job histories (move between highly dissimilar job categories). These results suggest that employers favor workers who are committed to a certain job area but attempt to develop their skills and careers at the same time.

Others examine the role of observable freelancer characteristics such as country of origin and gender on hiring decisions. For example, Agrawal, Lacetera, and Lyons (2016) find that employers are less likely to hire workers from less developed countries than workers from developed countries. This effect holds even after controlling for a wide range of observables but is weakened if these freelancers provide standardized and verified work history information on their profiles. Specifically, the authors find that standardized information disproportionately benefits freelancers from less developed countries. This is also true for additional career outcomes including wage bids, obtaining an interview, and being shortlisted.

Similarly interested in the role of a freelancer's country of origin in hiring decisions, Hong and Pavlou (2017) show that large country differences (in terms of language, time zone, and culture) have a negative effect on hiring decisions for software development projects. In addition, employers prefer freelancers from countries with higher IT development because employers expect easier access to an advanced IT infrastructure and freelancers from these countries are exposed to earlier and higher-quality IT education, both of which are associated with higher-quality IT services. The authors also find evidence for a moderating effect of freelancer reputation. Specific-

ly, the reputation of freelancers attenuates the negative effects of language and cultural (but not time zone) differences, while it substitutes for the positive effect of the country's IT development.

Relatedly, Kanat, Hong, and Raghu (2018) show how geo-economic factors (specifically, the country's level of development) and reputation interact to determine freelancers' survival in OLMs. They find a systematic advantage for IT service providers from developing countries in terms of survival, especially when providers from developing countries were able to signal their individual quality through reputation. Thus, reputation (or standardized information) is relevant for freelancers from developing countries.

Adopting a more dynamic perspective on hiring decisions, Leung (2017) finds that prior negative and positive hiring experiences with freelancers from specific countries influence an employer's subsequent likelihood of hiring applicants from those countries. Employers thus update their beliefs continuously and "learn to hire" in these markets with increasing experience.

Studying the role of freelancers' gender in hiring decisions, Chan and Wang (2017) find evidence for a positive hiring bias toward females in OLMs. Using a matched sample and a quasi-experimental technique, the authors show that gender traits of trustworthiness, cooperativeness, and attractiveness are the main underlying factors leading to the positive hiring bias for female workers. However, this effect diminishes over time when employers gain more experience on the platform.

Other studies look at how novice freelancers can overcome the "cold-start problem", i.e., how to be hired without prior experience on the platform when employers prefer more experienced freelancers (Pallais, 2014; Stanton & Thomas, 2016). For example, Stanton and Thomas (2016) find that working through an agency can help inexperienced freelancers start their careers. That is because agency affiliation can serve as a signal to reduce uncertainty about a novice worker's quality and motivation.

The only study focusing on freelancer performance as an outcome variable was conducted by Kokkodis and Ipeirotis (2016). They study whether prior task category-specific

ic feedback ratings serve to predict future performance. Interestingly, review scores in other categories predict performance even in categories for which there are few observations, suggesting that there is an innate underlying ability or motivation driving performance.

Gomez-Herrera, Martens, and Mueller-Langer (2017) study the aggregate welfare effects of UK-based *Peopleperhour.com*, which is similar to *Upwork*. They document that most employers are located in high-income countries, while workers are mostly located in low-income countries. Even though OLMs create direct global competition among workers, they do not observe a race-to-the-bottom in wages with their panel data. Worker characteristics, including country of residence, impact wages. Pure price competition appears to be limited. Worker quality signaling induces a superstar effect, leading to an uneven distribution of work and income.

In sum, most prior studies have been interested in overcoming adverse selection problems by identifying observable signals on which employers base their hiring decisions in a market characterized by high levels of information asymmetries.

How does *Upwork* work?

To post projects on *Upwork*, **employers** must register by providing their contact details and basic information on their firms, including name, owner, and location (Agrawal et al., 2015; Upwork.com, 2018). Once registered, employers can post as many jobs as they like. Job postings include a description of the task, the location of the employer, and the type of contract offered – either a fixed price or an hourly wage contract. The contract type has implications for monitoring and duration specifications. For hourly wage projects, employers must indicate the expected number of hours per week and the number of weeks required to complete the project. Employers can also limit the number of hours per week a freelancer can work on the project. When posting fixed-price projects, the budget and deadline must be specified. These job postings can be made public (so that any freelancer can apply) or private (so that only freelancers the employer invites can apply).

Workers must also register on the website by giving their contact details, name, and location and by setting up a profile page. Upwork controls registration and limits the number and type of entering workers (a few authors of this paper were rejected when they attempted to register as freelancers). Profile pages serve self-marketing purposes and freelancers can include a description of skills, education, work experience outside of *Upwork*, platform-specific skill test scores, certifications, agency affiliation, and platform work history and feedback scores.

Freelancers can apply for jobs by submitting cover letters and bids to job postings. A bid indicates the amount a freelancer is willing to be paid to work on a job. Employers have the option to interview and negotiate over bids and content with applicants before hiring and to hire as many contractors as they like.

Once their contracts are complete, freelancers accomplish tasks remotely. After project completion, work can be verified in several ways. On hourly contracts, employers can review the Work Diary, which tracks billable time and records completed work. During billing hours, the freelancer takes screenshots of her screen (six times per hour), enabling verification of billable work. On fixed-price contracts, both parties agree on milestones for each project. After submitting milestones, employers review the work and release funds upon approval. Submission of deliverables and payments are done via *Upwork*, which charges a service fee of twenty, ten or five percent depending on the total amount they have billed with a client (<https://www.upwork.com/i/how-it-works/faq/>).

After completing a job, employers provide freelancers with a feedback score ranging from 1 to 5 on six criteria: skills, quality, availability, deadlines, communication, and cooperation. Each freelancer also has an overall job success score,⁷ which is a job-size-weighted average of his or her individual scores that is prominently placed on his or her profile. Upwork may give freelancers patches (such as Rising talent) or award them with Top Rated status designed to showcase talent. Likewise, freelancers rate employers based on the same criteria; thus, employers have a comparable overall score.

The findings of the “Upworkers in Finland” survey

Survey design

To conduct our survey, we contacted everyone publicly listed on *Upwork* claiming to be residing in Finland and having earned at least \$1 on *Upwork* during their recorded history. After eliminating direct agency entries (but not individuals who might be associated with agencies) and duplicate profiles, we found 207 such persons on *Upwork* on 8 December 2017. We made each of these persons separate invite-only job offers in *Upwork*’s “other writing” category and defined the offers to require only “entry-level” skills. Our job description asked the person to follow an external link and respond to a 10–15-minute confidential survey, for which we offered to pay a \$20 fixed fee via *Upwork*. During December 2017, we gathered 122 completed answers yielding a response rate of 58.9%.

The design, implementation and summary tables of the results are reported in more detail in the Appendices of this report. In addition to survey data, below we utilize some background information on *Upwork* users that they have reported in their public profiles on the platform, such as profession and earnings generated on *Upwork*. Below, we summarize some key aspects of the survey responses.

Characteristics of Upworkers in Finland

Figure 1 summarizes various demographic aspects of *Upworkers* in Finland. As seen, they are typically

- relatively young,
- involved in education or training (or already have at least a college-level degree), and
- live in the capital region or another urban area.

One explanation for the last – perhaps surprising – observation above is that half of the online workers surveyed are either studying or in training. Indeed, all top locations of *Upworkers* in Finland host major universities. There is also literature suggesting that creative

jobs tend to concentrate in urban areas (see, e.g., Florida, 2002).

Figure 1 also reveals that *Upworkers* in Finland are somewhat more likely to be men, over half of them are married or living in a similar situation, i.e., cohabiting or living in a consensual union, and most of them do not have children. Roughly one-third are immigrants or other non-native speakers (who otherwise comprise less than one-tenth of Finland’s general population).

Throughout our discussion in the following sections, we run the following simple regression (Probit or ordinary least squares) on a set of *Upworkers*’ characteristics:

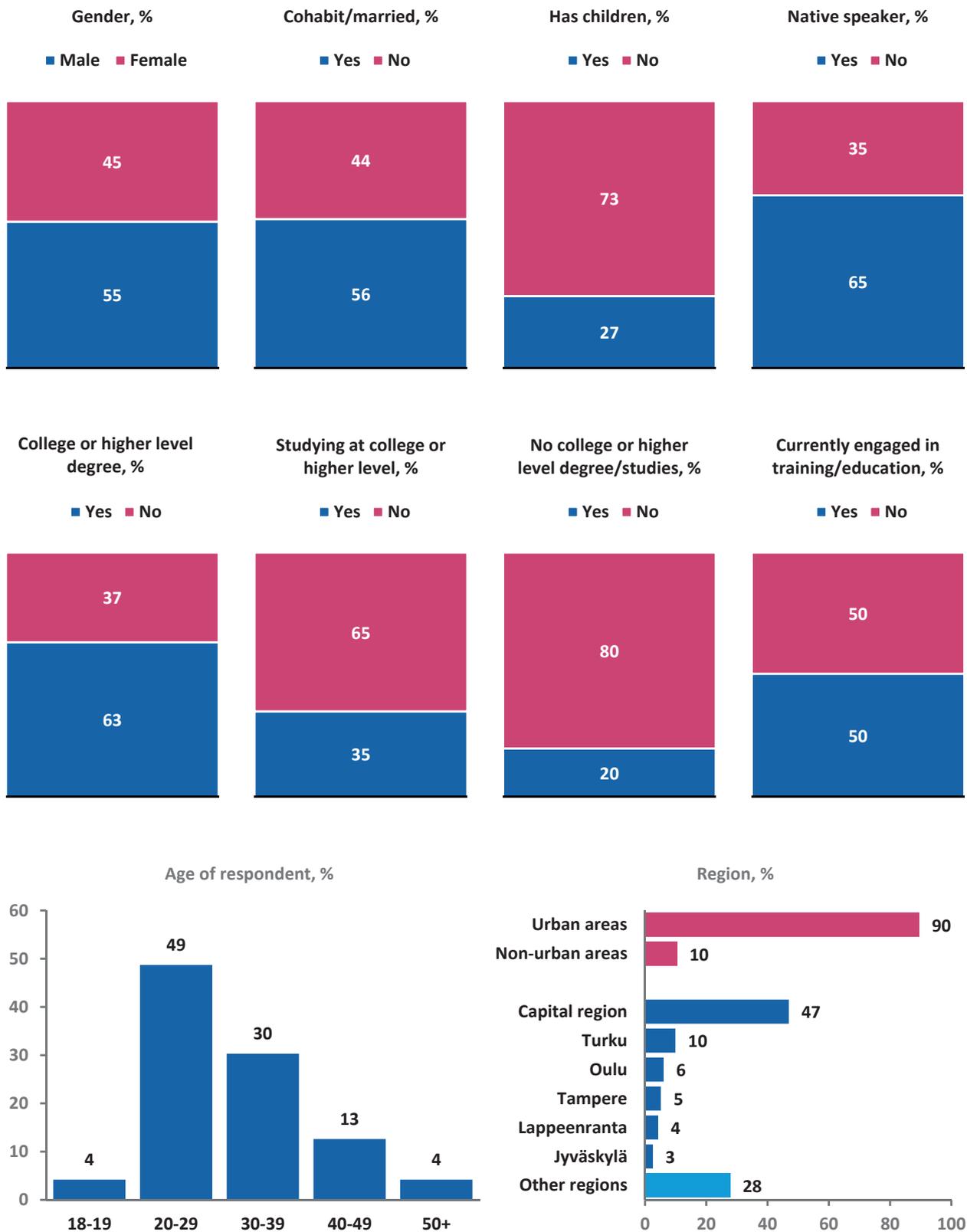
- age,
- gender,
- a dummy variable indicating that he/she is a native speaker,
- a dummy variable indicating that he/she is married or living in a similar situation,
- a dummy variable indicating that he/she has young children (less than 8 years old),
- a dummy variable indicating that he/she has graduated from a university (including universities of applied sciences), a college, or a polytechnic,
- a dummy variable indicating that he/she is studying in the afore-mentioned institutions,
- a dummy variable indicating that he/she prefers self-employment over paid employment,
- a dummy variable indicating that he/she has some chronic physical or mental health problem, illness or disability,
- the level of enthusiasm about his/her job (scale 0–100), and
- a dummy variable indicating that he/she lives in the capital region.

We run the regressions to get a feel for how the covariates might relate to each other in a multivariate context. We do not report complete regression results below (they are available upon request).

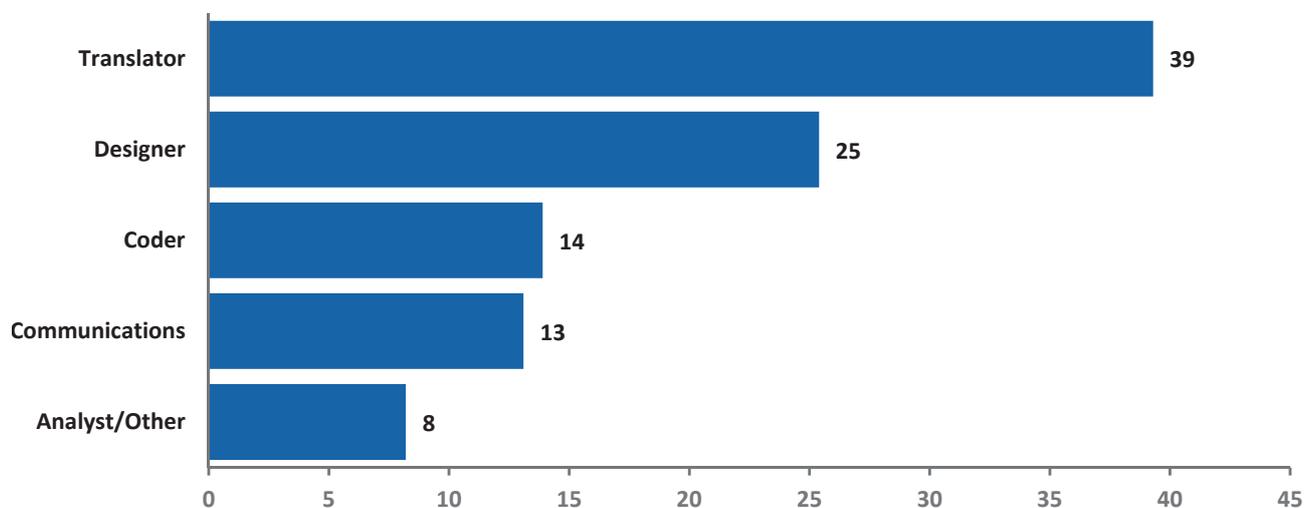
Working on Upwork

Upworkers describe their expertise on their profile pages. Based on these descriptions, we code the occupations of the respondents of the survey into five broad categories

Figure 1 Background characteristics of survey respondents



Source: Upworkers in Finland survey, December 2017.

Figure 2 Percentage shares of respondents' primary occupations based on their public *Upwork* profiles

Source: The authors' assessment based on workers' descriptions in *Upwork*, December 2017.

in Figure 2. The largest group among the respondents are translators (39%), followed by designers and coders. The large percentage of translators is a country-specific issue, as there is a constant need to translate writings, especially from Finnish to English and *vice versa*.

The survey included a few questions about *Upwork* as an online work platform.

Upwork has considerable control over a worker, e.g., by selecting who is listed on the platform. The respondents thought that *Upwork's* control over their labor is quite fair: on a scale of 0–100, the mean response of the question related to this was 71 (Figure 3). This finding differs from the fairness perception of food carriers on a Finnish MLM platform (Seppänen, Hasu, Käpykangas, & Poutanen, 2018). In our regression setting, attitudes deviated significantly only with respect to having young children: those with young children provided better scores on this question, on average.

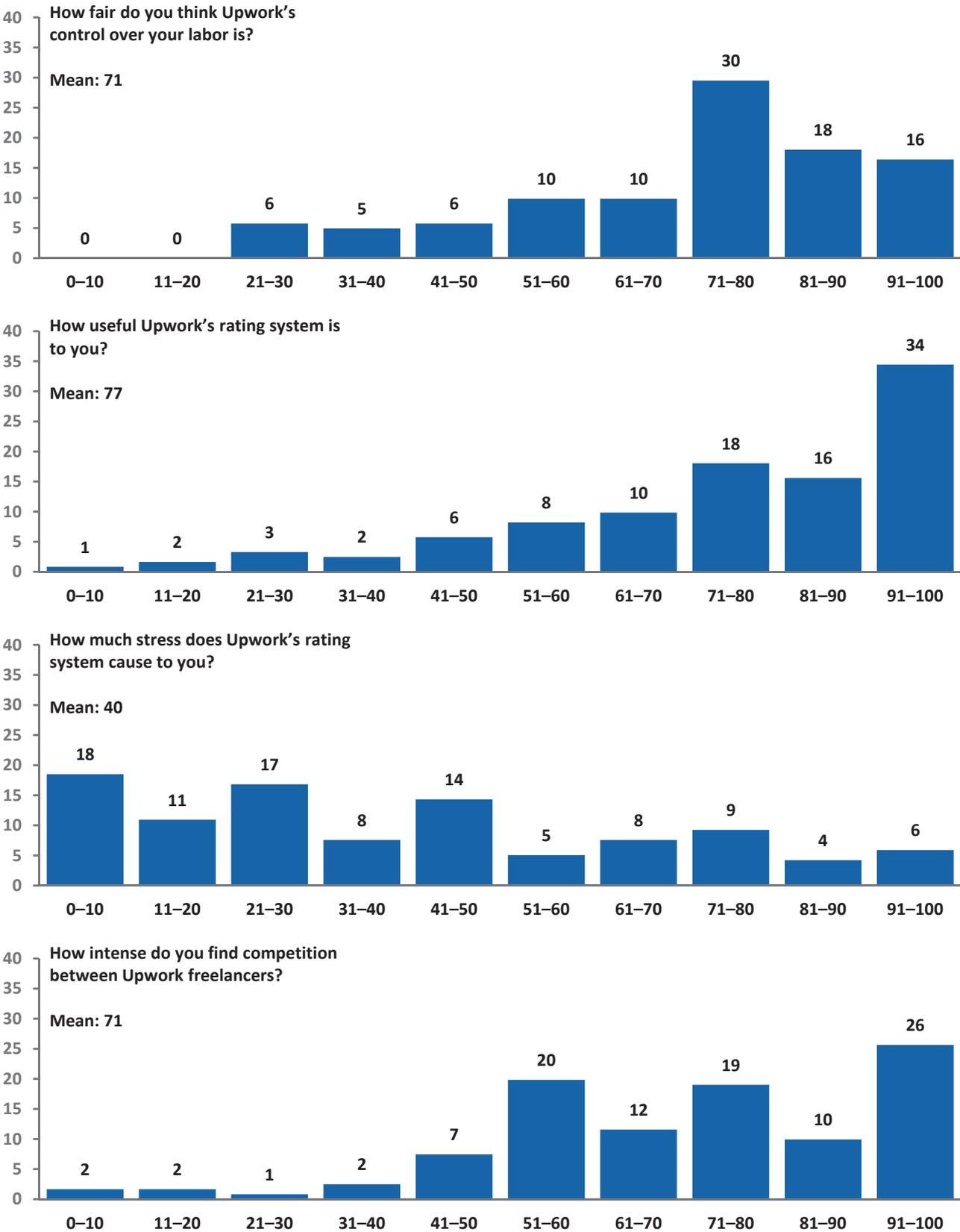
Workers providing their services are rated on *Upwork*. The rating system is regarded as relatively useful: on a scale of 0–100, the mean response to the question related to the usefulness of the rating system was 77. In our regression setting, married respondents and those with small children regarded the rating system as better.

We also asked whether the rating system caused stress. On a scale of 0 (not at all) to 100 (very much) the mean response was 40, so on average, it does not cause excessive stress (competition on the platform was nevertheless seen as quite intense; see below). In our regression setting, females, nonnatives, and those with a higher level of education regarded the rating system as more stressful.

We also asked respondents to evaluate the intensity of competition among *Upworkers*. The mean response on a scale of 0–100 was 71, so competition is regarded as quite intense. In our regression setting, the only explanatory variable that partially correlated statistically significantly with competition intensity was age, suggesting that older workers see the level of competition as more intense than younger workers.

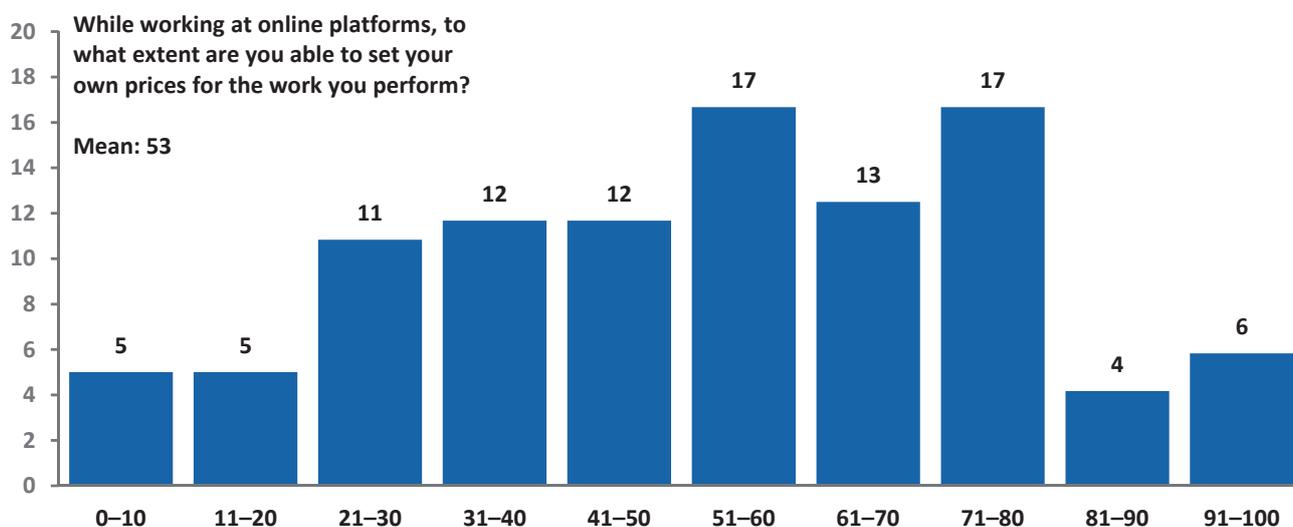
Figure 4 indicates that even though the competition is quite intense, *Upworkers* are to some extent able to set their own prices when taking assignments: the mean response of the ability to set one's own prices, on a scale of 0–100, is 53. Our regression analysis indicates that having a higher-level education and preference of self-employment (over paid employment) were positively associated with the ability to set one's own prices.

Figure 3 Respondents' attitudes regarding Upwork



Source: Upworkers in Finland survey, December 2017. The scale responses were from 0 to 100.

Figure 4 Respondents' ability to set their own prices on online platforms



Source: *Upworkers in Finland* survey, December 2017. The scale responses were from 0 to 100.

Earnings

For most of its workers, *Upwork* is not yet a substantial source of funds; only approximately 40% of the users have earned at least 1,000 euros from jobs mediated via *Upwork* since sign up (Figure 5). Online work is rarely the main source of income: the share of online to total income is more than half for one-quarter of respondents. For 45%, online work generates 0–10% of total income. Another indication of the relatively minor importance of online work to generating earnings is that the total annual income in 2017 from working online was on average only 5,600 euros. However, the respondents tend to be only partially involved in the labor market: they work an average of only 21 hours per week, including any kind of paid online and offline employment, and the mean of their overall income including all salaries, self-employment income, and other income was 19,750 euros in 2017, which is significantly less than the mean of all workers' income in Finland (27,087 euros in 2016).

Figure 6 depicts the requested (as reported in *Upworkers'* public profiles) and the obtained hourly wages of online work. We can see that the requested wages are on average 5 euros (25%) higher than the eventually obtained hourly rates: the mean of the hourly requested wage is 24 euros and the obtained hourly wage is 19 euros. The

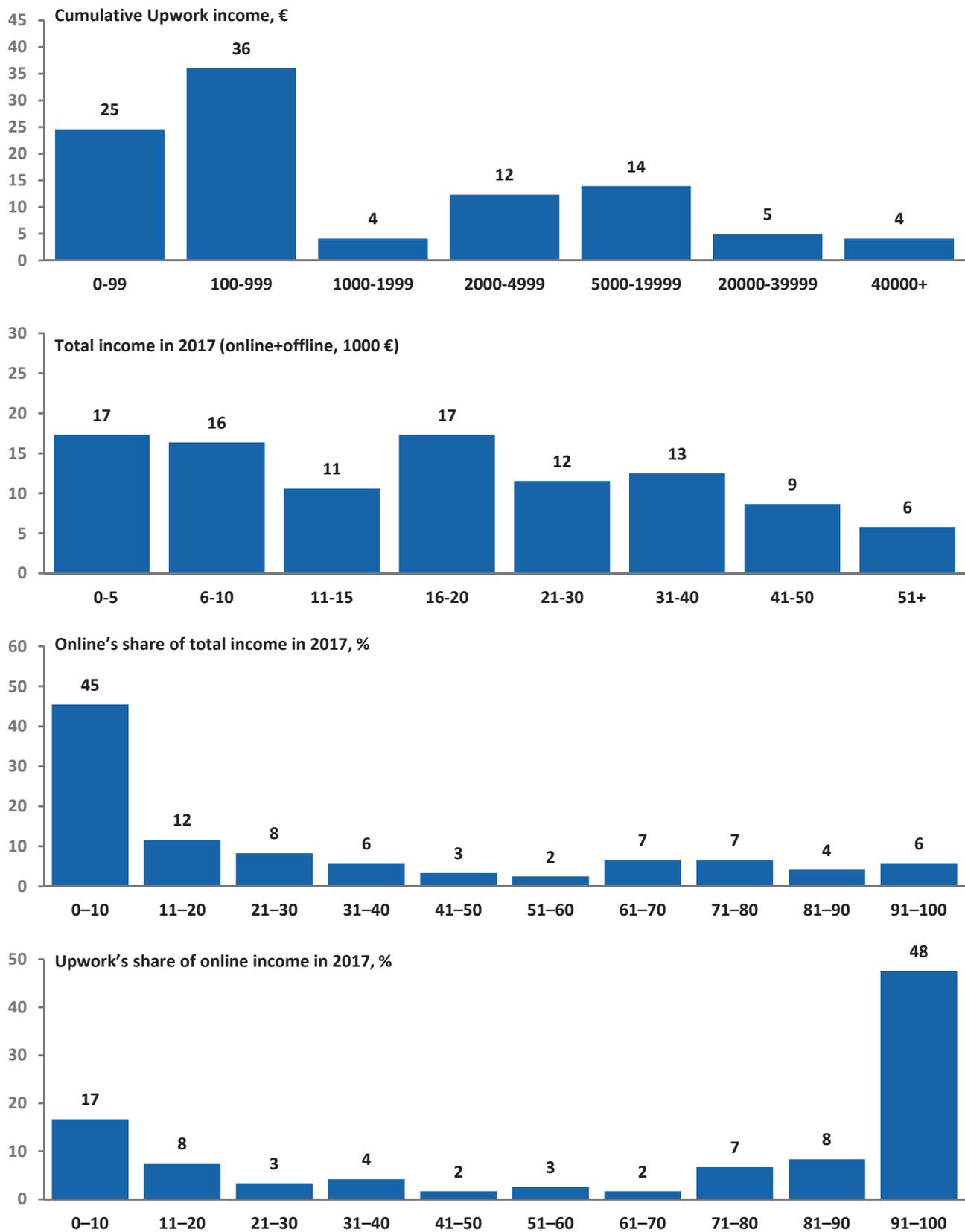
correlation coefficient between requested and obtained online wages is 0.80.

Let us elaborate on the incomes earned by working on online platforms in both absolute and relative terms.

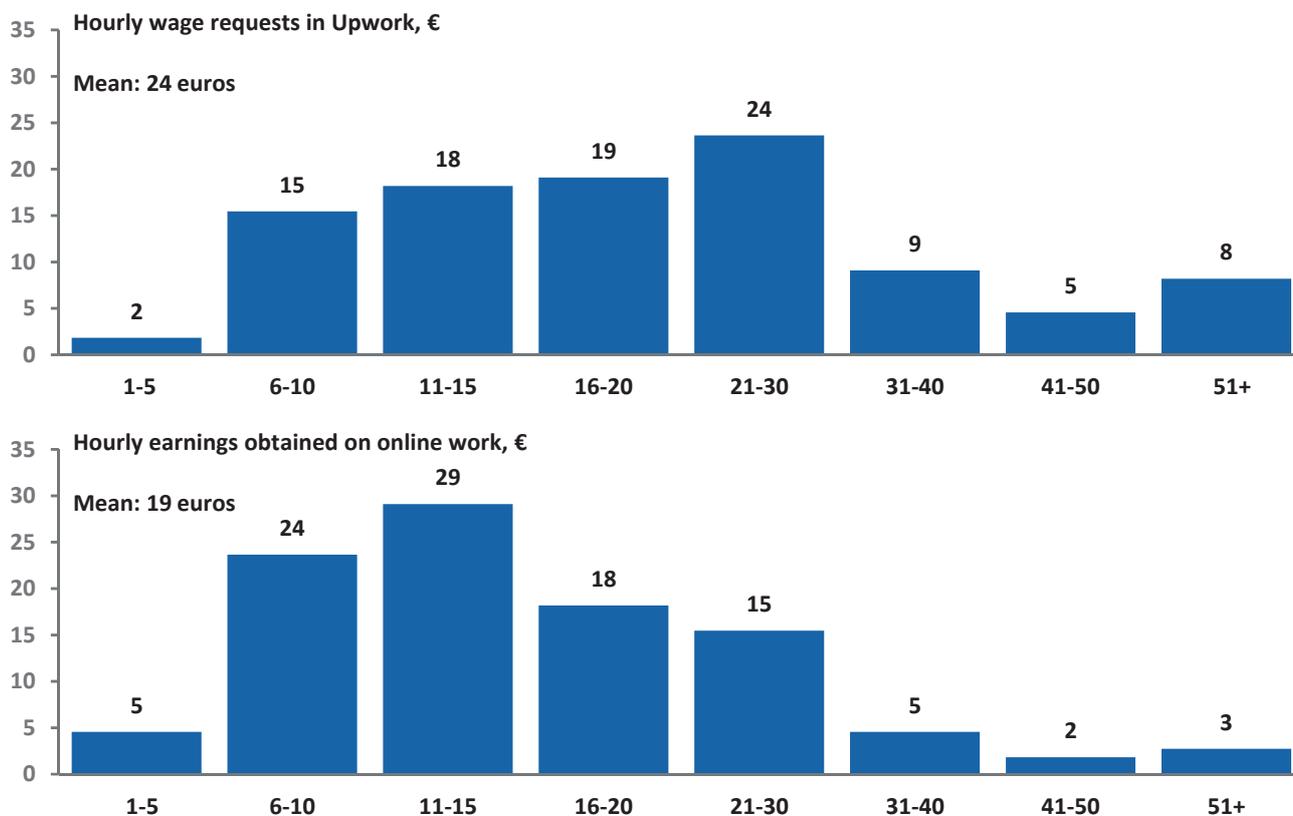
We formed the *absolute measure* by multiplying Question Q45 (total annual wage, salary and self-employment income in 2017) by Question Q15 (% of total income mediated via online platforms). The relative measure is Question Q17 (the respondent's estimate of the typical earning per hour of online work).

Total annual income in 2017 from working online varied in the sample from 0 to 49,600 euros, with a mean of 5,600 euros (as noted above). As we can see from part A of Table 1 (Pane A), pairwise correlations indicate that being a native Finnish speaker and studying for a degree in higher education correlate *negatively* with absolute earnings from working at online platforms. In addition, we find *positive* pairwise correlations in the cases of having a degree in higher-level education, preferring being self-employed rather than a salaried employee, being married or living in a similar situation, and being enthusiastic about one's own job. In our regression setting, variables native (with a negative sign) and enthusiastic (with a positive sign) remained statistically significant.

Figure 5 Respondents' reported earnings



Source: Upworkers in Finland survey, December 2017.

Figure 6 Respondents' requested and obtained hourly wages

Source: *Upworkers in Finland* survey, December 2017. The scale responses were from 0 to 100.

Typical *earnings per hour* of online work vary from 3 to 90 euros (the mean being 19 euros). Pane B of Table 1 reports the results of the correlation analysis of the background characteristics and earnings per hour of online work. We find a positive and statistically significant (at the 10% level) pairwise correlations between earnings per hour and (the first column of Pane B in Table 1): age, having children under 8 years old, having a higher-level degree, and being enthusiastic about one's work. In contrast, a statistically significant negative correlation (at the 10% level) is observed in the case of studying for a degree in higher education. In a regression setting, we find positive and significant coefficients in the cases of being native, having a higher-level degree, and preferring being self-employed to being a salaried employee; however, being female correlates negatively with earnings per hour working at online platforms.

Online work on *Upwork* and elsewhere

For the most part, the respondents' first engagement with online work was a web search for available jobs: 48% of respondents mentioned this aspect as the form of their initial engagement. Other aspects were much rarer: 28% were principally engaged with online work platforms because they knew somebody working on such a platform who gave them the idea, 18% had seen an advertisement, news, or story about online work and 6% had initially been an employer on such a platform and then became a worker.

In all, more than half of the respondents personally knew others conducting work on online platforms. Arguably, these persons had at least some "offline community" in relation to their online work.

At the time of the survey, almost one-third of respondents were also on other platforms besides *Upwork*. The most

Table 1 Pairwise and multivariate correlations of respondents' characteristics with total earnings in euros (Pane A) and earnings per hour from working on online work platforms (Pane B)

	A) Total earnings (Q45*Q15)		B) Earnings per hour (Q17)	
	i) Pair-wise correlations Coef./signif.	ii) OLS Coef./S.E	i) Pair-wise correlations Coef./signif.	ii) OLS Coef./S.E
Age	0.093 0.323	-0.099 (0.116)	0.264*** 0.005	0.134 (0.186)
Female	-0.065 0.487	-1.185 (1.880)	-0.140 0.144	-4.061* (2.367)
Native	-0.234** 0.010	-3.155* (1.839)	0.112 0.245	7.104** (3.007)
Married	0.165* 0.076	1.738 (2.072)	0.157 0.101	2.605 (2.364)
Has young children	0.054 0.569	1.04 (2.156)	0.167* 0.081	4.707 (4.168)
Graduated	0.195** 0.036	2.528 (1.820)	0.222** 0.020	7.882** (3.233)
Student	-0.176* 0.059	-2.235 (1.816)	-0.229** 0.016	-1.209 (1.825)
Prefer self-empl.	0.183** 0.049	2.462 (1.621)	0.157 0.101	4.128* (2.432)
Disability	-0.110 0.240	-0.473 (1.856)	-0.099 0.305	-1.946 (2.941)
Enthusiastic	0.289*** 0.002	10.310*** (3.336)	0.161* 0.093	9.67 (6.092)
Capital region	0.105 0.262	0.536 (1.682)	0.099 0.306	0.255 (2.442)
Constant		0.104 (3.892)		-5.028 (5.797)
Obs.	116	116	110	110
Wald(Model)		2.52***		2.26**
R2 (adj.)		0.20		0.24

* p<0.10, ** p<0.05, *** p<0.01
Robust standard errors in the parentheses.

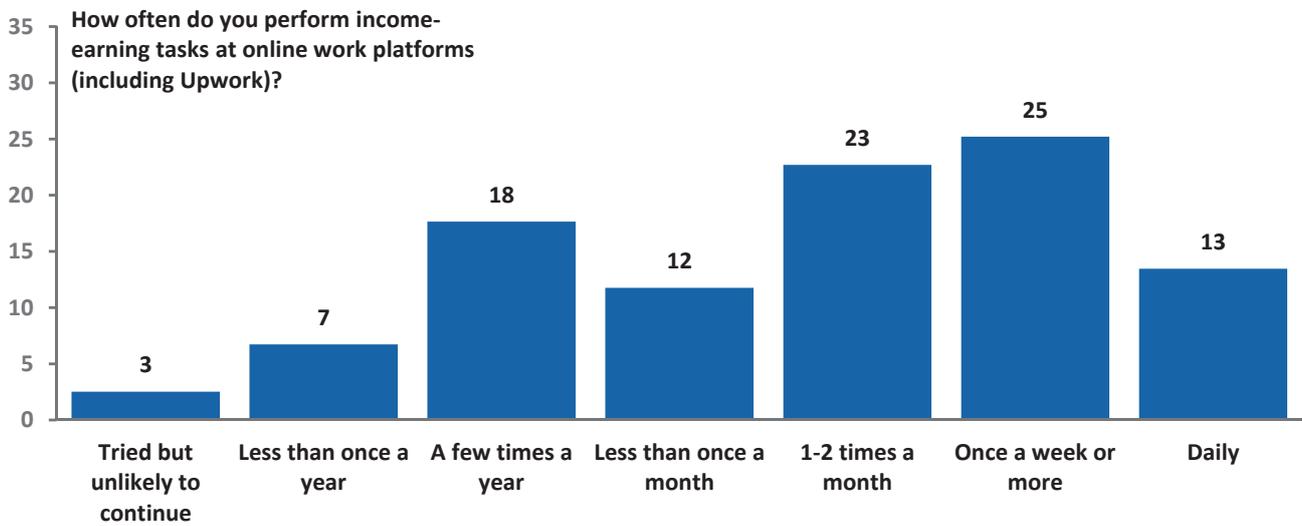
Source: *Upworkers in Finland* survey, December 2017. The authors' analysis.

popular other platform was *Freelancer.com*, to which 14% of the respondents were subscribed.

As seen in Figure 7, more than one-tenth were performing income-earning tasks on online platforms on a daily and one-quarter were performing such tasks on a weekly (but not a daily) basis. To elaborate on this aspect, we

ran an ordered probit regression in which the dependent variable was the frequency of performing income-earning tasks online. The regression results hinted that age and living outside the capital region were *negatively* related and the level of enthusiasm about one's own work was *positively* related to our intensity measure.

Figure 7 Respondents' frequency of performing income-earning tasks on online platforms

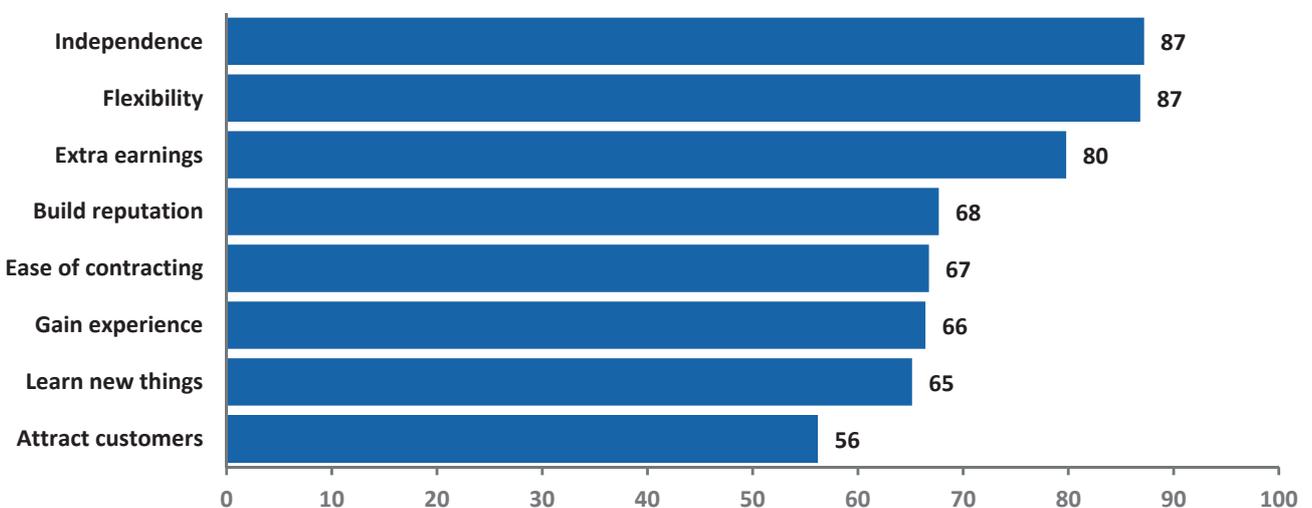


Source: *Upworkers in Finland* survey, December 2017.

The most important aspects motivating the respondents' online work were independence, flexibility, and extra earnings (Figure 8). To a lesser extent, – although it is noteworthy that all listed motives are quite prevalent – the motivating aspects were building reputation, ease of contracting, gaining experience, learning new things, and attracting customers. In terms of background characteristics, independence and flexibility were the most important

motives in all groups, but they were especially so for younger respondents, students, natives, females, those favoring self-employment over paid employment, and those with disabilities regarded these aspects higher than their counterparts. Extra earnings were a more significant motive, particularly to older respondents, females, nonnatives, married, and those with young children.

Figure 8 Respondents' motives for online work



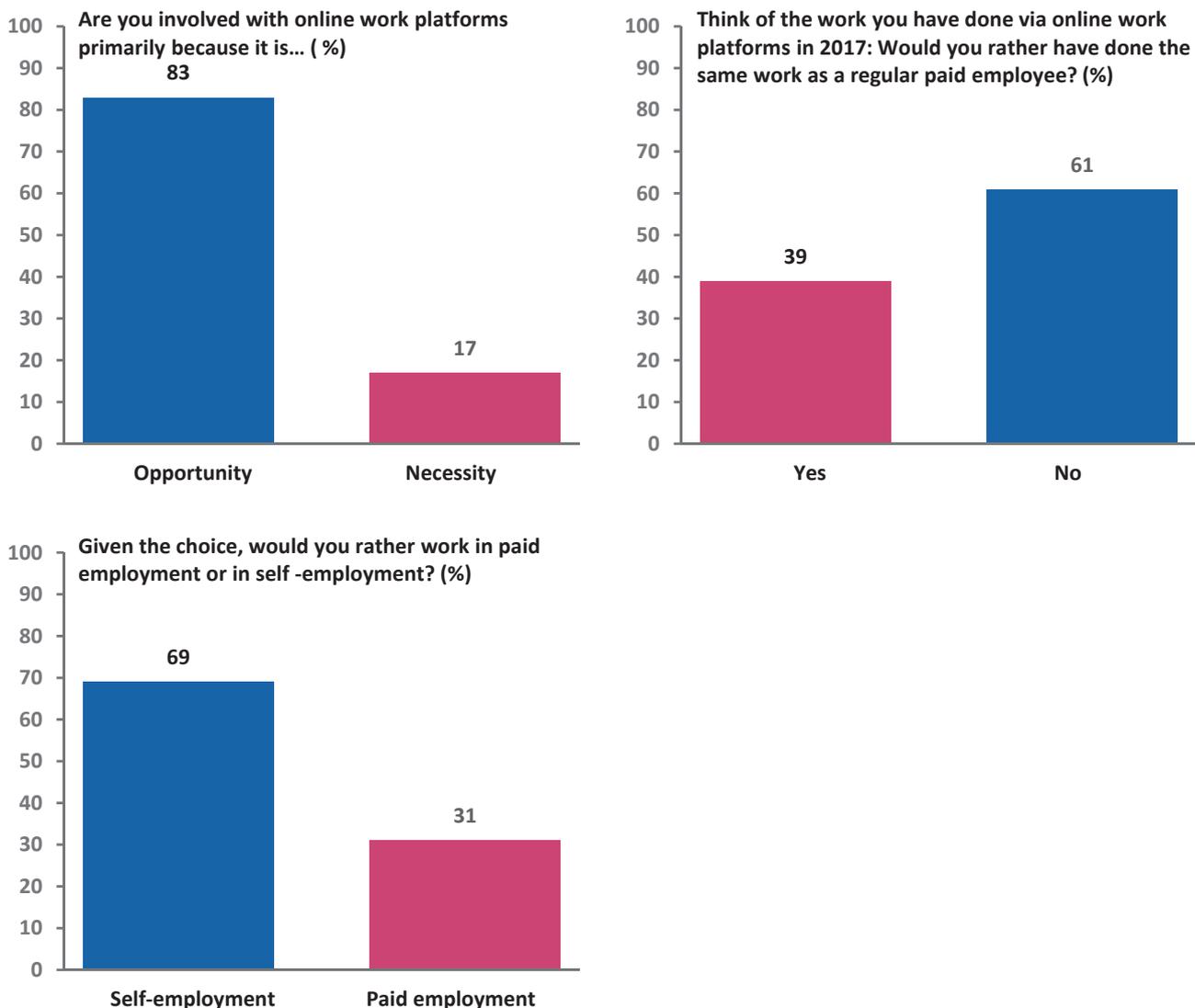
Source: *Upworkers in Finland* survey, December 2017. The scale responses were from 0 to 100.

Preference for self-employment/ entrepreneurship

Most of the respondents, more than 80%, thought that involvement with online work platforms was primarily a good opportunity for them and fit their current needs (Figure 9).⁸ Furthermore, the respondents strongly favor entrepreneurship over paid employment: given the choice, more than two-thirds of them would rather work in self-employment than in paid employment (according to our guesstimate, the corresponding figure for the general population in Finland would be one-tenth of this).

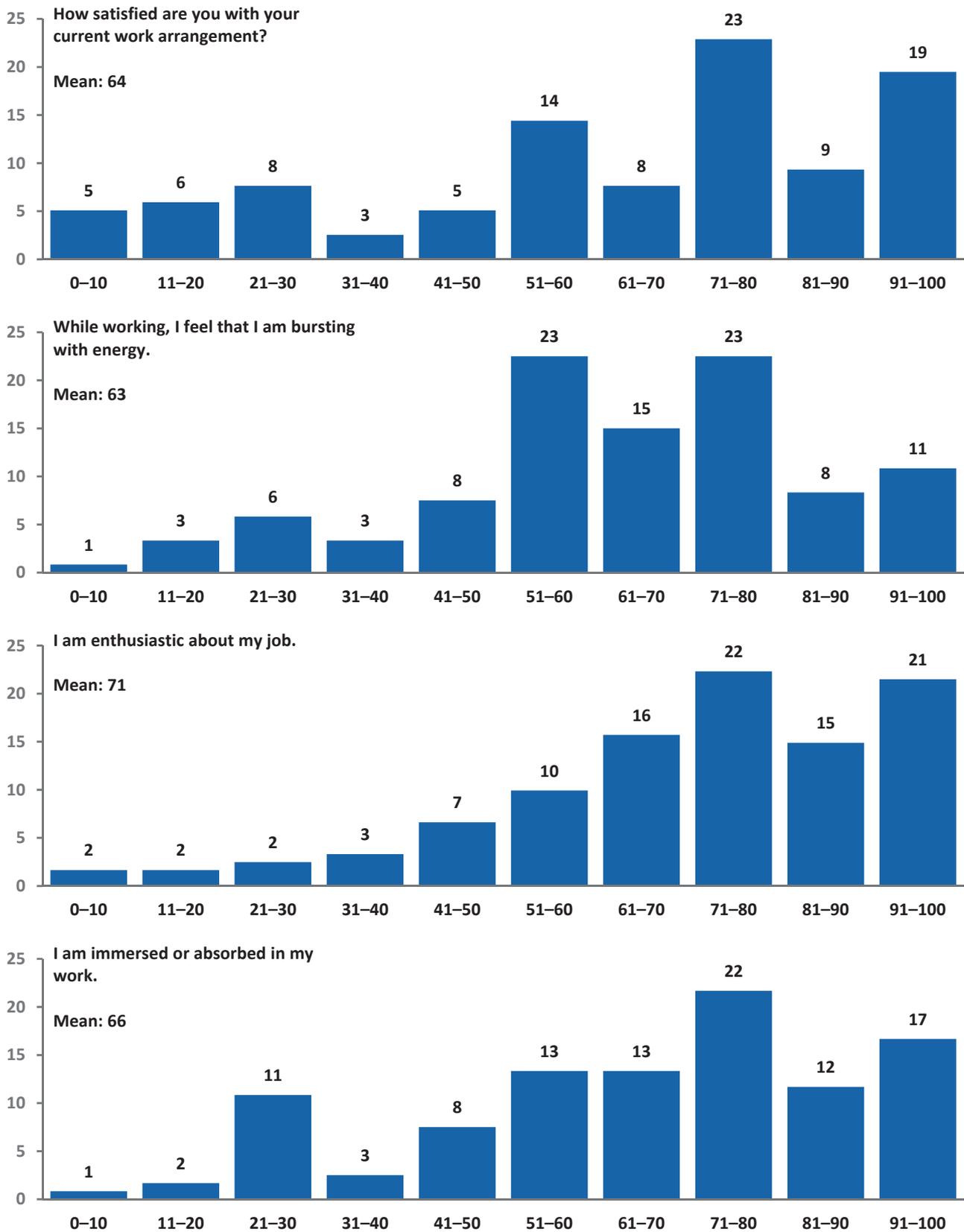
Our regression analysis indicates that having young children was negatively associated with the preference for self-employment among the respondents and the age of the respondents correlated positively with preferring self-employment. When asked to think of the work that the respondents have done via online platforms, only two-fifths of the respondents would have preferred to do the same work as a regular paid employee. In the probit regression, in which the dependent variable obtained a value of 1 if the respondent would have done the same work as a regular paid employee and 0 otherwise, we obtained negative and statistically significant coefficients

Figure 9 Respondents' preferences for (opportunity) entrepreneurship/self-employment



Source: *Upworkers in Finland* survey, December 2017.

Figure 10 Respondents' work engagement



Source: *Upworkers in Finland* survey, December 2017. The scale of responses 0–100.

(at 10% level) in the cases of age, native status, and having a degree from a higher education institution.

Burtch et al. (2018) study the links between the emergence of the “gig economy” and changes in entrepreneurial activity. They exploit data on *Uber* and *Postmates*, a delivery platform, along with information on crowd-funding campaigns on *Kickstarter*. Their initial conclusion is that platform work might “... substitute for lower-quality entrepreneurial activity rather than act as a complement to higher-quality entrepreneurial activity” (p. 4). While our survey does not directly address this aspect of platform work, we certainly observe that highly entrepreneurial individuals self-select into freelancing via *Upwork* in Finland.

Work engagement

The respondents had a high self-assessment of their current work performance: on a scale of 0–100, the mean value was 78. In our regression setting, being enthusiastic about one’s work and being a native Finnish speaker were positively associated with one’s perceived work performance.

As we can see from Figure 10, the respondents were also quite satisfied with their current work arrangements, the mean value being 64 (on a scale of 0–100). Almost 20% of the respondents gave at least a value of 90 and only 5% gave a value of less than 10. In our regression setting, the preference for self-employment obtained a positive and statistically significant coefficient, whereas being a student obtained a negative and statistically significant coefficient when the dependent variable was the level of satisfaction with one’s current work arrangements.

The survey also included a section on work engagement, i.e., on how energetic, absorbed, and enthusiastic the respondents were in their jobs (Schaufeli, Shimazu, Hakonen, Salanova, & De Witte, 2018). *Upworkers* score reasonably high in all these aspects. The mean score, on a scale of 0–100, was 63 on the question “while working, I feel that I am bursting with energy”.⁹ The mean value of the question regarding one’s enthusiasm is 71. Overall, 84% of the respondents gave a score of 50 or higher to this question. The regression analysis suggests, perhaps surprisingly, that studying in a higher-education institu-

tion or having obtained a degree from such an institution is negatively partially correlated with enthusiasm. Finally, the mean score for the question of being “immersed or absorbed in one’s work” is 66.¹⁰

Final remarks

Digitally mediated activities are a tiny but a growing part of the overall labor market in Finland. In most countries, Mobile Labor Markets (MLMs) – requiring some physical presence – are much bigger than purely virtual Online Labor Markets (OLMs). Nevertheless, OLMs are of considerable interest, as they enable “virtual migration”, through which a worker can perform a task from anywhere and switch between tasks at will; furthermore, without any physical presence, they are more difficult both to observe and to regulate.

In looking forward, one interesting question is how online and offline work ultimately interact. If “virtual migration” becomes a considerable fraction of all work, its intense global wage competition and short-lived assignments may have implications for offline work. It is unclear how the operating logic of online platforms influences the engagement between workers and employers and how this, in turn, shapes workers’ careers and learning opportunities. These are among the questions to address in the next steps of our research related to online labor markets.

Appendix 1

Design and basic documentation of the survey

Design and implementation of the survey

In December 2017, we carried out an online survey of workers using the *Upwork* platform to offer their skills in Finland. The survey consisted of 49 questions and included questions about workers' educational and other background, experiences regarding online work platforms, and their attitudes with respect to working habits and preferences.

The potential respondents were identified in the *Upwork* platform by setting conditions that

- a worker had an active public profile at the time of the survey (8 December 2017),
- had earned at least one dollar on *Upwork* since sign up (as reported on *Upwork* at the time of the survey), and
- claimed to be located in Finland at the time of the survey.

Overall, 207 individuals met these conditions (after eliminating direct agency entries, but not individuals who might be associated with agencies, and duplicate profiles; see Screenshot 1 in Appendix 4 to get an idea of what we did while on *Upwork*).

We made each person a separate invite-only job offer in *Upwork*'s "other writing" category and defined it to require only "entry-level" skills (see Screenshot 2 in Appendix 4). Our job description asked the person to follow an external link and respond to a 10-15-minute confidential survey, for which we offered to pay a \$20 fixed fee via *Upwork*.

If the respondent followed the link we provided, s/he was taken to our online survey (see Screenshot 3 in Appendix 4 for the opening page and Screenshot 4 for a typical question using a slider with one-point intervals from 0 to 100).

During December 2017, we gathered 122 completed answers, yielding a response rate of 58.9%. It took an average of 12 minutes to answer the survey.

Our questionnaire is provided in Appendix 2. Simple means and other descriptive statistics are provided in Appendix 3. The following sections in this Appendix comment on some of the responses (see also the main text).

Background of respondents

More than half (52%) of the respondents were living in Helsinki or other areas in the region of Uusimaa. This is approximately 20 percentage points higher than the Uusimaa region's proportion of all self-employed workers in Finland. By occupation, 40% of respondents are translators, 25% are designers, 14% are coders and other IT professionals, 13% are communications professionals, and 8% are analysts or other professions. Sixty-three percent of the responding workers had graduated from a university (including universities of applied sciences), college, or polytechnic and 35% were studying in such educational institutions; 20% were neither studying in nor graduated from these educational institutions.

The median age of respondents was 29 years; the youngest was 18 years old and the oldest was 62 years old. Forty-five percent of respondents were females. At the time of the survey, 56% were married or living in a similar situation, i.e., cohabiting or living in a consensual union. Twenty-seven percent had children; the median age of the youngest child was 5 years. Sixty-six percent spoke Finnish or Swedish as their native language. The average rating that nonnative speakers gave to their fluency in Finnish on a 0-100 scale was 42. Of the workers who responded to the survey, 13% had some kind of chronic physical or mental health problem, illness or disability.

Working habits

At the time of the survey, the respondents worked an average of 21 hours per week, including any kind of paid employment and both online and offline work. Given the respondents' situation and preferences, 47% would like to work more, 45% thought that the level of work was at the desired level and 8% would like to work less. Given the choice, most of the respondents (69%) would work as an entrepreneur rather than in paid employment. At the time of the survey, 37% of respondents were working in self-employment or as an entrepreneur for at least 15

hours a week and 27% were working with an employer in paid employment for at least 15 hours a week. Fourteen percent of respondents were unemployed, 50% were engaged in some sort of education or training, and fewer than 1% were retired or pensioners. During 2017, 8% had worked for a temporary help agency (a company that offers temporary workers for hire).

On a scale of 0–100, the respondents rated their work performance as 78 on average. On the same scale, the mean response to the question regarding satisfaction with the current work arrangement was 64. In addition, the mean response to the question related to bursting with energy while working was 63. The mean value in regard to enthusiasm about the respondent's work was slightly higher (71). Furthermore, the mean value of the response to the question asking how immersed or absorbed the respondent was in her work was 66.

Working online

Of the respondents, 48% had engaged with online work platforms because they were searching online for available jobs, 28% because they knew somebody working on such a platform who gave the idea, 18% because they had seen an advertisement, news, or a story about online work and 6% because they had first been a customer of such a platform and then became a provider. Fifty-seven percent of the respondents personally knew others conducting work on online platforms. Eighty-three percent were involved with online work platforms primarily because it was a good opportunity for the respondent and fit her current needs and 17% were involved because they had no better choices for work. Thirteen percent were performing income-earning tasks at online platforms almost daily, 25% once a week or more (but not daily), 23% once or twice a month, 12% less than once a month, 18% a few times a year, 7% less than once a year, and 3% had tried it but were unlikely to do so again. At the time of the survey, 31% of the respondents were also on other platforms besides *Upwork*. The most popular such platform was *Freelancer.com*, which 14% of the respondents used.

When asking to think about the work the respondent had done via online work platforms in 2017, 40% would rather have done the same work as a regular paid employee. Fifty-two percent had sometimes been in salaried employ-

ment and simultaneously worked on an online work platform. Twenty-four percent had at least once continued the engagement and received pay outside the platform after engaging with a customer via an online work platform. Eleven percent had sometimes subcontracted jobs assigned to her while on contract via an online work platform. On a scale of 0–100, the mean value of the ability to set one's own prices for the work performed through online work platforms was 53.

The most important aspects motivating the respondents' online work on a scale of 0–100 were independence (mean value 87), flexibility (87) and extra earnings (80). To a lesser extent, the motivating aspects were building a reputation (68), ease of contracting (67), gaining experience (66), learning new things (65), and attracting customers (56).

When asking to evaluate on a scale of 0–100 how fair *Upwork's* control over the respondents' labor is, the mean set a value of 71.¹¹ The mean value of the usefulness of *Upwork's* rating system to providers was 77. *Upwork's* rating system did not cause significant stress to the respondents; the mean value was 40. According to the responses, the competition between *Upwork* freelancers was fairly high; the mean value on a scale of 0–100 was 71.

Income

In 2017, the respondents earned on average of 19,750 euros, including all salaries, self-employment income and other income. The mean capital income was 9,376 euros. The share of wages and salaries earned in paid employment of the total income was 37% on average, the share of self-employment and entrepreneurial income was 34%, the share of unemployment, redundancy, or other social benefits was 19%, the share of private income was 8%, and the share of pensions and retirement benefits was 2%.

On average, 31% of respondents' overall income was mediated via online platforms. The share from *Upwork* of all income mediated via online work platforms was 68% on average. A typical earning per hour of online work (after any fees paid to the platform but before taxes) was 19 euros. Twenty-one percent reported that they had not always paid applicable taxes from online work.

Appendix 2 Questionnaire

INTRODUCTION

This survey is jointly conducted by ETLA (the Research Institute of the Finnish Economy), University of Turku, FIOH (the Finnish Institute of Occupational Health), and Ludwig-Maximilians-Universität München. The analysis based on this survey contributes to economic policy making in Finland and serves to improve the Finnish labor market environment.

All responses are **strictly confidential**. All reporting will be in a statistical form that makes identifying individual respondents impossible. To minimize the time to complete the survey, the results might be combined to data from Statistics Finland or other sources.

Answering to the survey will take 15-20 minutes. Please try to answer all questions; your rough impression is always more valuable than no information at all. It is nevertheless all right to skip any question you are unable to answer.

Should you have any question regarding this survey, please contact Petri Rouvinen at ETLA.

CONTACT

To identify you at Upwork (and to provide your compensation), we need the following information.

- Q1. Your email address: [EMAIL]
- Q2. Your mobile phone number: [TEXT]
- Q3. Your first name: [TEXT]
- Q4. Your last name: [TEXT]
- Q5. Your year of birth: [NUMBER]
- Q6. Postal code of current place of residence: [CODE]

PLATFORMS

Many of the questions below use sliders; please slide to point to your chosen answer.

Upwork has direct control over aspects of work you do at the platform.

Q7. How **fair** do you think Upwork's control over your labor is? SLIDER FROM COMPLETELY UNFAIR TO COMPLETELY FAIR [0-100]

As your work conducted at Upwork is being rated, you build a reputation on the platform.

Q8. How **useful** Upwork's rating system is to you? SLIDER FROM UNUSEFUL TO VERY USEFUL [0-100]

Q9. How much **stress** does Upwork's rating system cause to you? SLIDER FROM NOT AT ALL TO VERY MUCH [0-100]

Q10. How intense do you find **competition** between Upwork freelancers? SLIDER FROM NOT INTENSE TO VERY INTENSE [0-100]

Q11. Are you currently on **other** online work platforms besides Upwork? [YES/NO]

Q11a. If you are currently on **other** online work platforms besides Upwork, please could you name all other relevant platforms? [OPEN ANSWER(S)]

Q12. How did you **first** engage with online work platforms (including Upwork)? [SELECT ONE]

1. At first, I was a customer of such a platform and then became a provider.
2. I knew somebody working on such a platform, who gave me the idea.
3. I saw an advertisement, news, or a story about online work.
4. I searched online for available jobs/tasks.
5. Other, please specify _____

Q13. Are you involved with online work platforms **primarily** because: [SELECT ONE]

1. It was a good opportunity for you and fitted your current needs.
2. You have no better choices for work.

Q14. How often do you perform **income-earning tasks** at online work platforms (including Upwork)? [SELECT ONE]

1. Almost daily.
2. Once a week or more (but not daily).
3. Once or twice a month.
4. Less than once a month.
5. A few times a year.
6. Less than once a year.
7. I tried it but I'm unlikely to do it again.
8. Never.

Q15. What percentage of your **overall** income is mediated via **online** platforms (including Upwork)? [0-100%]

Q16. Of all income mediated via **online** work platforms, what percentage comes from just **Upwork**? [0-100%]

Q17. What is your typical earning per one hour of online work in **euro** (after any fees paid to the platform but before taxes)? [EURO]

Q18. Think of the **work** you have done via online work platforms in 2017: Would you **rather** have done the same **work as** a regular paid **employee**? [YES/NO]

Q19. Do you personally know others **conducting work** on online platforms? [YES/NO]

Q20. While working at online platforms, to what extent are you able to set your own **prices** for the work you perform? SLIDER FROM NOT AT ALL TO VERY EXTENSIVELY [0-100]

Q21. After engaging with a customer via online work platform, have you ever continued the engagement and received pay **outside** the platform? [YES/NO]

Q22. While on contract via online work platform, have you ever **sub-contracted** or have others do work assigned to you? [YES/NO]

Q23. Have you ever been in salaried employment and **simultaneously** worked on online work platform? [YES/NO]

Q24. Have you always paid applicable **taxes** from your online work? [YES/NO]

Q25. How **important** are the following in **motivating** your online work? SLIDER FROM NOT IMPORTANT TO VERY IMPORTANT [0-100]

1. Independence
2. Flexibility
3. Extra earnings

4. Gain experience
5. Attract customers
6. Build reputation
7. Ease of contracting
8. Learn new things

WORKING

Please think of any type of paid employment; including online/offline self-employment.

Q26. In total, how many hours do you currently work **per week**? [HOURS]

Q26a. Given your situation and preferences, is this your **desired** level of work?

1. Yes
2. I would like to work **more**
3. I would like to work **less**

Q27. Are you currently working with an employer in **paid employment** for at least 15 hours a week? [YES/NO]

Q28. Are you currently working in **self-employment** or as an **entrepreneur** for at least 15 hours a week? [YES/NO]

Q29. Given the choice, would you **rather** work in paid employment (as a salaried employee) or in self-employment (as an entrepreneur)?

1. Paid employment
2. Self-employment

Q30. Are you currently registered as being **unemployed**? [YES/NO]

Q31. Are you currently engaged in **education** or **training**? [YES/NO]

Q32. Are you currently **retired** or a **pensioner**? [YES/NO]

Q33. During year 2017, have you worked for a **temporary help agency** (a company that offers temporary workers for hire)? [YES/NO]

Q34. How would you **rate** your current work performance? SLIDER FROM POOR TO EXCELLENT [0-100]

Q35. How **satisfied** are you with your current **work arrangement**? SLIDER FROM NOT SATISFIED TO SATISFIED [0-100]

Q36. While working, I feel that I am **bursting with energy**. SLIDER FROM NEVER TO ALWAYS [0-100]

Q37. I am **enthusiastic** about my job. SLIDER FROM NEVER TO ALWAYS [0-100]

Q38. I am **immersed or absorbed** in my work. SLIDER FROM NEVER TO ALWAYS [0-100]

BACKGROUND

Briefly on your educational and other background:

Q39. Have you **graduated** from a university (including universities of applied sciences), college, or polytechnic? [YES/NO]

Q40. Are you currently **studying** in a university (including universities of applied sciences), college, or polytechnic? [YES/NO]

Q41. Are you currently **married** or living in a similar situation, that is, cohabiting or living in a consensual union? [YES/NO]

Q42. What is the age of the youngest **child** in your household (if any)? [AGE]

Q43. Do you have any chronic physical or mental health problem, illness or disability? [YES/NO]

Q44. Is Finnish or Swedish your **native** language? [YES/NO]

Q44a. **If not**, please rate your fluency in Finnish? SLIDER FROM FEW WORDS TO NATIVE [0-100]

INCOME

Lastly, a few questions regarding your income:

Q45. What is your estimate of the **total annual wage, salary and self-employment income** in 2017 in thousand euro? [THOUSANDS OF EURO]

Q46. What is your **capital income** in 2017 in thousand euro? [THOUSANDS OF EURO]

Q47. What **percentage** of your **income** comes from the following sources? [0-100%]

1. **Wages and salaries** earned in paid employment
2. Self-employment and **entrepreneurial income**
3. **Pensions** and retirement benefits
4. Unemployment, redundancy, or other **social benefits**
5. **Private** income

Q48. Would you like to comment the work you have conducted at Upwork or other online work platforms (or send a message to the researchers)? [OPEN ANSWER]

In order to gain better understanding of online work, we are conducting also more in-depth interviews.

Q49. Would you be available for an online or a face-to-face interview at a date/time to be agreed on later? [YES/NO]

Thank you for your input! Please press **submit** to complete the survey. Based on the contact information you provided, we will identify you at Upwork and proceed with your payment. Should you have any further questions, do not hesitate to contact us.

Appendix 3 Descriptive tables

Q5. Your year of birth							
Mean	S.D.	Obs.	90% confidence interval				
1985.58	0.80	119	1983.99 - 1987.17				
Q7. How fair do you think Upwork's control over your labor is?							
Mean	S.D.	Obs.	90% confidence interval				
71.40	1.88	122	67.69 - 75.11				
Q8. How useful Upwork's rating system is to you?							
Mean	S.D.	Obs.	90% confidence interval				
76.66	2.09	122	72.53 - 80.80				
Q9. How much stress does Upwork's rating system cause to you?							
Mean	S.D.	Obs.	90% confidence interval				
39.85	2.66	119	34.58 - 45.12				
Q10. How intense do you find competition between Upwork freelancers?							
Mean	S.D.	Obs.	90% confidence interval				
71.40	2.05	121	67.33 - 75.47				
Q11. Are you currently on other online work platforms besides Upwork?							
Yes	No	Obs.					
31.09%	68.91%	119					
Q12. How did you first engage with online work platforms?							
First c.	S. told	Story	Searched j.	Obs.			
6.03%	27.59%	18.10%	48.28%	116			
Q13. Are you involved with online work platforms primarily because							
Opport.	Necess.	Obs.					
83.05%	16.95%	118					
Q14. How often do you perform income-earning tasks at online work platforms?							
Alm. d.	O.w.	O.t.m.	L.t.o.m.	F.t.y.	L.t.o.y.	Tried	Obs.
13.45%	25.21%	22.69%	11.76%	17.65%	6.72%	2.52%	119
Q15. What percentage of your overall income is mediated via online platforms?							
Mean	S.D.	Obs.	90% confidence interval				
30.57	2.86	121	24.91 - 36.23				
Q16. Of all income mediated via online platforms, what % comes from Upwork?							
Mean	S.D.	Obs.	90% confidence interval				
67.79	3.55	120	60.76 - 74.83				
Q17. What is your typical earning per one hour of online work in euro?							
Mean	S.D.	Obs.	90% confidence interval				
18.62	1.29	110	16.07 - 21.18				
Q18. Would you rather have done the same work as a regular paid employee?							
Yes	No	Obs.					
39.32%	60.68%	117					
Q19. Do you personally know others conducting work on online platforms?							
Yes	No	Obs.					
57.02%	42.98%	121					
Q20. While working at online pl., to what extent are you able to set your prices?							
Mean	S.D.	Obs.	90% confidence interval				
52.78	2.17	120	48.48 - 57.09				
Q21. After engaging with a customer via online pl., have you cont. outside the pl.?							
Yes	No	Obs.					
24.17%	75.83%	120					
Q22. While on contract via online work platform, have you ever sub-contracted?							
Yes	No	Obs.					
11.67%	88.33%	120					
Q23. Have you ever been in salaried empl. and simultaneously worked on online pl.?							
Yes	No	Obs.					
51.67%	48.33%	120					
Q24. Have you always paid applicable taxes from your online work?							
Yes	No	Obs.					
78.99%	21.01%	119					
Q25 1. Motivation: Independence							
Mean	S.D.	Obs.	90% confidence interval				
87.21	1.72	121	83.80 - 90.61				
Q25 2. Motivation: Flexibility							
Mean	S.D.	Obs.	90% confidence interval				
86.84	1.62	121	83.64 - 90.05				
Q25 3. Motivation: Extra earnings							
Mean	S.D.	Obs.	90% confidence interval				
79.81	2.03	120	75.78 - 83.83				
Q25 4. Motivation: Gain experience							
Mean	S.D.	Obs.	90% confidence interval				
66.42	2.62	120	61.23 - 71.62				
Q25 5. Motivation: Attract customers							
Mean	S.D.	Obs.	90% confidence interval				
56.21	2.94	118	50.39 - 62.03				

Q25 6. Motivation: Build reputation			
Mean	S.D.	Obs.	90% confidence interval
67.70	2.62	120	62.51 - 72.89
Q25 7. Motivation: Ease of contracting			
Mean	S.D.	Obs.	90% confidence interval
66.76	2.39	120	62.03 - 71.49
Q25 8. Motivation: Learn new things			
Mean	S.D.	Obs.	90% confidence interval
65.15	2.80	119	59.62 - 70.69
Q26. In total, how many hours do you currently work per week?			
Mean	S.D.	Obs.	90% confidence interval
21.27	1.66	118	17.97 - 24.56
Q26a. Given your situation and preferences, is this your desired level of work?			
Yes	No,more	No,less	Obs.
44.54%	47.06%	8.40%	119
Q27. Are you curr. working with an employer in paid employment?			
Yes	No	Obs.	
26.89%	73.11%	119	
Q28. Are you curr. working in self-employment or as an entrepreneur?			
Yes	No	Obs.	
37.19%	62.81%	121	
Q29. Given the choice, would you rather work in paid empl. or in self-empl.?			
Paid empl.	Self-empl.	Obs.	
31.40%	68.60%	121	
Q30. Are you curr. registered as being unemployed?			
Yes	No	Obs.	
14.29%	85.71%	119	
Q31. Are you curr. engaged in education or training?			
Yes	No	Obs.	
50.42%	49.58%	119	
Q32. Are you currently retired or a pensioner?			
Yes	No	Obs.	
0.83%	99.17%	120	
Q33. During the year 2017, have you worked for a temporary help agency?			
Yes	No	Obs.	
8.26%	91.74%	121	
Q34. How would you rate your current work performance?			
Mean	S.D.	Obs.	90% confidence interval
78.02	1.91	121	74.23 - 81.82
Q35. How satisfied are you with your current work arrangement?			
Mean	S.D.	Obs.	90% confidence interval
63.51	2.61	118	58.34 - 68.68
Q36. While working, I feel that I am bursting with energy.			
Mean	S.D.	Obs.	90% confidence interval
63.22	1.99	120	59.28 - 67.15
Q37. I am enthusiastic about my job.			
Mean	S.D.	Obs.	90% confidence interval
71.26	2.05	121	67.21 - 75.32
Q38. I am immersed or absorbed in my work.			
Mean	S.D.	Obs.	90% confidence interval
65.93	2.22	120	61.53 - 70.33
Q39. Have you graduated from a university?			
Yes	No	Obs.	
63.33%	36.67%	120	
Q40. Are you currently studying in a university?			
Yes	No	Obs.	
35.00%	65.00%	120	
Q41. Are you currently married or living in a similar situation?			
Yes	No	Obs.	
55.83%	44.17%	120	
Q42. What is the age of the youngest child in your household?			
Mean	S.D.	Obs.	90% confidence interval
6.20	0.96	33	4.25 - 8.15
Q43. Do you have any chronic physical or mental health problem?			
Yes	No	Obs.	
12.93%	87.07%	116	
Q44. Is Finnish or Swedish your native language?			
Yes	No	Obs.	
66.39%	33.61%	119	
Q44a. If not, please rate your fluency in Finnish			
Mean	S.D.	Obs.	90% confidence interval
41.69	4.56	42	32.49 - 50.90
Q45. What is your estimate of the total income in 2017 (1000 e)?			
Mean	S.D.	Obs.	90% confidence interval
19.75	1.72	116	16.34 - 23.16

Q46. What is your capital income in 2017 in thousand euro?			
Mean	S.D.	Obs.	90% confidence interval
9.38	1.32	109	6.75 - 12.00
Q47 1. Income:Wages and salaries earned in paid employment			
Mean	S.D.	Obs.	90% confidence interval
37.43	3.89	114	29.72 - 45.14
Q47 2. Income:Self-employment and entrepreneurial income			
Mean	S.D.	Obs.	90% confidence interval
33.95	3.58	114	26.85 - 41.04
Q47 3. Income:Pensions and retirement benefits			
Mean	S.D.	Obs.	90% confidence interval
1.85	1.02	114	-0.16 - 3.86
Q47 4. Income:Unemployment, redundancy, or other social benefits			
Mean	S.D.	Obs.	90% confidence interval
18.78	3.00	114	12.84 - 24.73
Q47 5. Income:Private income			
Mean	S.D.	Obs.	90% confidence interval
7.99	1.88	114	4.26 - 11.72
Q49. Would you be available for an online interview?			
Yes	No	Obs.	
61.02%	38.98%	118	

Appendix 4 Screen shots

Screenshot 1:

The screenshot shows the Upwork search interface. At the top, there are navigation links for JOBS, FREELANCERS, REPORTS, and MESSAGES. A search bar contains 'Find Freelancers'. The user profile is 'ETLA, The Re...'. Below the navigation, there are tabs for SEARCH, PAST HIRES (115), and SAVED FREELANCERS (185). The search bar contains 'Search for freelancers'. There are buttons for 'Filters' and 'View'. Below the search bar, there are filters for '\$1+ earned' and 'Location: Finland'. A 'Clear filters' button is also present. The main filter area is divided into several sections:

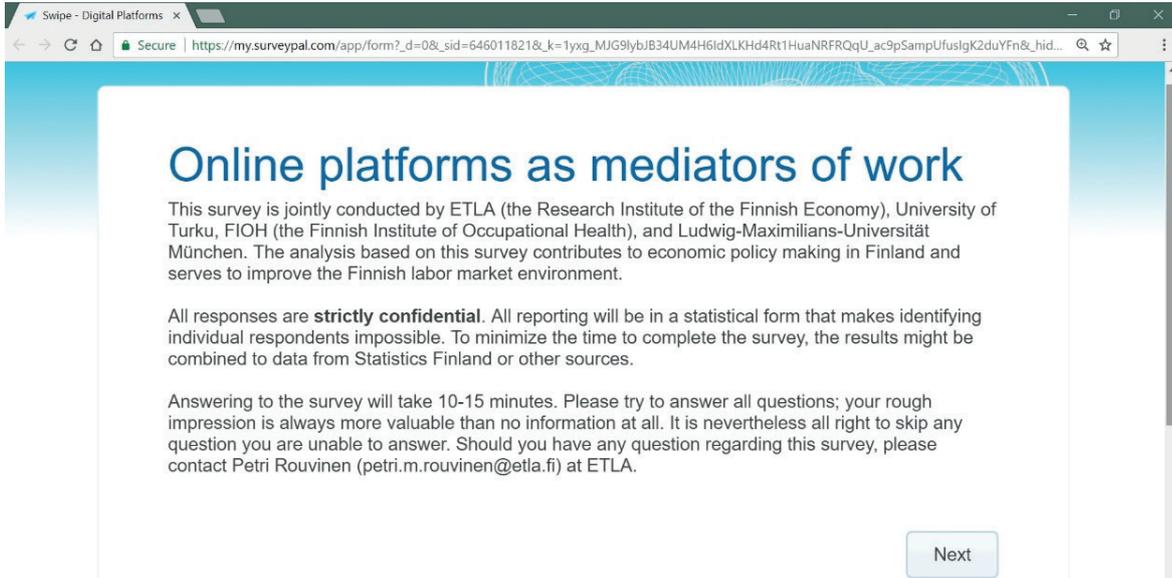
- Earned Amount:**
 - Any amount earned (1,804)
 - \$1+ earned (255)
 - \$100+ earned (207)
 - \$1k+ earned (128)
 - \$10k+ earned (55)
 - No earnings yet (1,549)
- Job Success:**
 - Any job success (255)
 - 80% & up (120)
 - 90% & up (110)
- Hourly Rate:**
 - Any hourly rate (255)
 - \$10 and below (41)
 - \$10 - \$30 (150)
 - \$30 - \$60 (48)
 - \$60 & above (16)
- Hours billed:**
 - Any hours (255)
 - 1+ hours billed (147)
 - 100+ hours billed (63)
 - 1,000+ hours billed (21)
- Category:**
 - Any category
 - Graphic Design (27)
 - Article & Blog Writing (61)
 - Personal / Virtual Assistant (26)
- English level:**
 - Any level
 - Basic
 - Conversational
 - Fluent
 - Native or bilingual
- Freelancer Type:**
 - Any freelancer type (255)
 - Independent freelancers (247)
 - Agency freelancers (8)
- Last Activity:**
 - Any time (255)
 - Within 2 weeks (130)
 - Within 1 month (163)
 - Within 2 months (191)
- Location:**
 - Any location
 - Finland
- Tests:** Search tests
- Other languages:** Search languages

Screenshot 2:

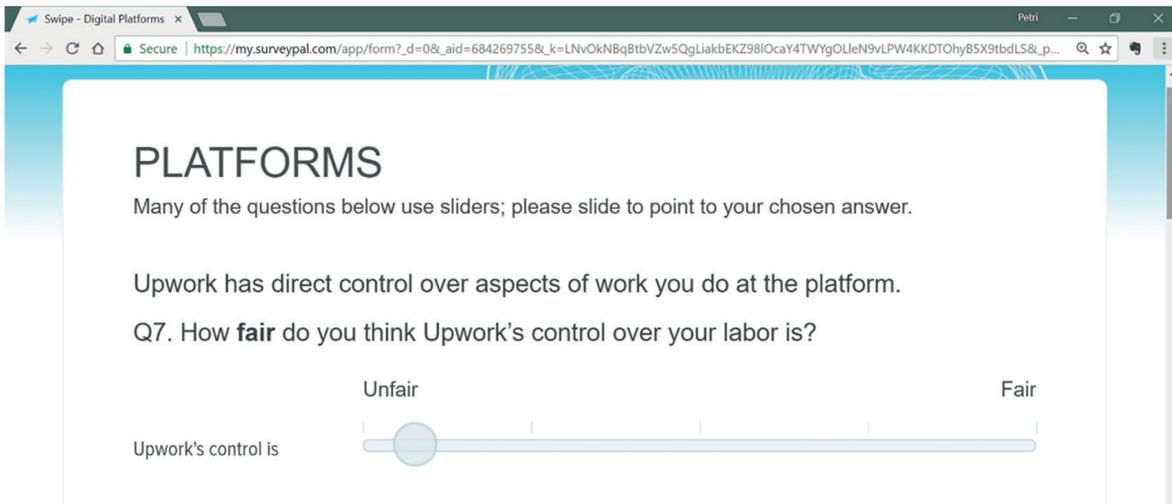
The screenshot shows a job details page. At the top, there is a section for 'Job Details' with a dropdown menu showing 'Other - Writing' and 'Invite-Only'. Below this, there is a section for 'Needs to hire Freelancers'. The task description is: 'Task: To respond to a survey about your online work experiences, which takes 10-15 minutes (note: the initial compensation includes responding to a 5 minute follow-up survey at a later date). All survey responses are strictly confidential. The results will be reported in a statistical form that makes identifying individual respondents impossible. ETLA, the Research Institute of the Finnish Economy, is responsible for the survey (contact: Petri Rouvinen). Link to the survey is: <https://my.surveypal.com/online-platforms-as-mediators-of-work> Once you have responded, we verify your it and provide your compensation (please allow some time for processing). Project Type: One-time project'. On the right side, there is a sidebar with the following information:

- Compensation:** \$20 Fixed Price
- Entry Level:** I am looking for freelancers with the lowest rates
- Start Date:** December 8, 2017

Screenshot 3:



Screenshot 4:



Endnotes

- 1 In 2018, freelancers will earn more than \$1 billion on *Upwork*.
- 2 As we show, there are relatively few freelancers/employees on *Upwork* that reside in Finland. There are even fewer locally resident organizations and individuals on the employer side. Upon completing this report in mid-September 2018, there were only 68 posted job openings by Finnish employers.
- 3 Cristiano, Fabienne, and Biagi (2016) offer the following fivefold definition of digital labor markets (p. 17): Markets “(1) that work as digital marketplaces for non-standard and contingent work; (2) where services of various nature are produced using preponderantly the labour factor (as opposed to selling goods or renting property or a car); (3) where labour (i.e. the produced services) is exchanged for money; (4) where the matching is digitally mediated and administered although performance and delivery of labour can be electronically transmitted or be physical; (5) where the allocation of labour and money is determined by a collection of buyers and sellers operating within a price system.”
- 4 The complete their two-by-two typology, Cristiano, Fabienne, and Biagi (2016) further split MLMs into (b.1) lower-skilled physical errands (e.g., *TaskRabbit*) and (b.2) higher-skilled interactive services (e.g., *TakeLessons*).
- 5 *Uber* tasks are mostly manual, whereas *Upwork* tasks are cognitive; *Uber* tasks are relatively low-skill, *Upwork* tasks are high-skill; *Uber* tasks do not require much prior education, whereas *Upwork* tasks may have educational requirements; *Uber* services need to be delivered physically, whereas *Upwork* tasks are fully *transmitted* electronically; *Uber* tasks embody the significant services of a capital good (a car), whereas *Upwork* services are almost purely digital labor (save for some computing resources); *Uber*'s business model is arguably designed to reduce the role of the workers on the platforms, whereas *Upwork* makes an explicit effort to promote its workers' skills and competences. A further interesting difference is that *Uber* is promoting its expansion by incurring heavy losses, whereas *Upwork* appears to be quite profitable. Kenney and Zysman (2018) discuss the financial model underlying many currently popular platforms, including *Uber*. They suggest that so far, we have seen what is, broadly speaking, the “Silicon Valley version” of platforms in which startups are structured to pursue growth at all costs as they endeavor to achieve market domination. In this model, a platform can incur heavy losses for extensive periods of time and engage in pricing behavior that seems at least predatory.
- 6 Digital labor markets at large – and especially more skill-intensive OLMs – remain a marginal phenomenon in Finland. These markets are, however, currently growing at a rate that would make them economically significant in the medium term.
- 7 In our interviews, freelancers on *Upwork* were unaware of how their job success scores are calculated.
- 8 We ran a probit regression in which the dependent variable had a value of 1 if the respondent thought that online work platforms are a good opportunity and 0 otherwise, but we did not uncover any significant partial correlations from this exercise.
- 9 In our regression setting, we did not find any immediately obvious partial correlations with this dependent variable.
- 10 In our regression setting, we did not find any immediately obvious partial correlations with this dependent variable.
- 11 Indeed, any online labor platform embodies some aspects of algorithmic management (Möhlmann & Zalmanson, 2017).

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