Chapter 13
Online Platform Work in Russia and Ukraine: Gender Differences in Earnings and Work Satisfaction

Mariya Aleksynska, Andrey Shevchuk, and Denis Strebkov

Abstract Work through online labour platforms, which match freelancers and clients located anywhere, gained prominence in Russia and Ukraine over the past decade. Using survey data of online freelancers in Russia and Ukraine, this chapter inquiries into gender specifics of online work. It shows that some important structural gender differences in online work exist in both countries. These differences are primarily manifested by gender segregation into different sectors of activity. These structural gender differences, along with gender differences in online tenure, working hours, and family responsibilities, translate into persisting gender differences in earnings in both countries. Despite this, women seem to be happier with online work than men (in Russia), or at least as happy as men (in Ukraine). The chapter discusses the reasons and potential policy implications of these findings.

Keywords Online platforms · Freelancers · Self-employment · Gig economy · Digital economy

13.1 Introduction[1]

Since the early 2000s, labour markets of Russia and Ukraine witnessed an emergence of a new phenomenon mediated by technological developments—online freelancing. Online freelancing consists in accomplishing various tasks and projects through

[1] In this chapter, the terms "online freelancer" and "platform worker" are used interchangeably. Also, "online work" and "platform work" are used as synonyms.

M. Aleksynska
OECD Development Center, Paris, France

A. Shevchuk (✉) · D. Strebkov
National Research University Higher School of Economics (HSE University), Moscow, Russia
e-mail: shevchuk@hse.ru

D. Strebkov
e-mail: strebkov@hse.ru

T. Karabchuk et al. (eds.), *Gendering Post-Soviet Space*,
https://doi.org/10.1007/978-981-15-9358-1_13

online labour platforms that match workers (usually independent contractors or freelancers) and distant clients. Online freelancing is most popular with programmers and developers, designers, artists, writers, translators, engineers, architects, lawyers, as well as providers of simple digital skills, such as data entry. The development of the online freelancing became possible thanks to the rise of online labour platforms, which allow clients to post tasks and workers to find tasks that they can execute. These platforms and this new mode of work mediated by the technology are at the heart of important labour market transformations. They spark vivid research interest and policy debates all over the world (Berg et al. 2018; Graham et al. 2017; Hong and Pavlou 2013; Kässi and Lehdonvirta 2018).

Various estimates suggest that Russia and Ukraine appear to be among the global leaders of online platform work. In 2013–2017, Ukraine and Russia occupied the fourth and the fifth place in the world, respectively, in terms of the amount of financial flows and the number of tasks executed on English-language online platforms (Graham et al. 2017; OLI index, described in Kässi and Lehdonvirta 2018). Both countries also rank first in Eastern Europe in "IT freelance" (Topsdev 2017). More recent estimates show that by 2018, Ukraine and Russia were among top-10 world leaders in online work, and the leaders in the European continent (AnalyticsHelp 2018; OLI 2019). These global rankings account only for the work performed by Ukrainians and Russians on international English-speaking platforms. National research in these countries shows that, in addition, there is a very important local and regional dimension of digital labour markets in both countries, as Ukrainian and Russian freelancers also work on nearly a hundred of Russian- and Ukrainian-language platforms (Shevchuk and Strebkov 2015; Aleksynska et al. 2018).

The development of online labour markets has profound implications for traditional modes of work, such as wage employment or traditional self-employment for offline physical clients. It carries a promise of reducing entry barriers to labour markets, alleviating unemployment pressures on the local labour markets, and allowing for a better skill match by permitting clients to draw from a worldwide pool of workers (Graham et al. 2017). The emergence of labour platforms was also hoped to have substantial implications for gender parity in the labour market, because work for online clients at any time and any place may allow women to have a better access to labour markets, combine work with family responsibilities, and overcome cultural barriers and discrimination.

Yet, the nascent literature on the topic of gender balance in online labour markets has been rather disheartening, so far. It documents substantial gender differences in earnings which reflect the persistence of structural gender gaps in the world of work generally (ex.: Cantarella and Strozzi 2018; Andjelkovic et al. 2019). While online platforms do not purposefully create additional discriminatory effects, the gender differences in earnings are not remedied by the platforms either, because women continue having a disproportionate burden of domestic responsibilities (Adams and Berg 2017). If anything, because online freelancing allows working from home, uneven share of domestic responsibilities may even aggravate these gender differences, because women self-select into particularly "fast-to-execute" lowest-paid tasks that allow juggling platform work and care duties in the home (ibid.).

Given the importance of online freelancing in both Russia and Ukraine, this chapter inquires into whether gender differences also exist in online labour markets of these countries. Analysis draws on the survey data of online freelancers in both countries. The chapter first demonstrates that, as online freelancing becomes a more widespread phenomenon in Russia and Ukraine, more women join online labour markets. The chapter further describes general gender differences in terms of shares of men and women working online, tenure of online freelancing, gender differences in occupations, and in work for local or for foreign labour markets. Finally, the chapter closely examines the gender differences in earnings and work satisfaction. In both countries, women online freelancers suffer from lower earnings as compared to men. In contrast, the situation with work satisfaction is reversed: women are at least as satisfied as men with the online work in Ukraine, and more satisfied than men in Russia. The chapter concludes by discussing potential policy implications of these findings.

13.2 Development of Online Labour Markets in Russia and Ukraine

The distinctive feature of online labour markets is that they can operate across spatial and national borders. In Russia and Ukraine, the take-off of online work started in the early 2000s, with better and more widespread access to digital technologies, the development of online labour platforms, and the development of entrepreneurship culture more generally. In 2003, the first successful Russian-language digital labour platform Weblancer.net was found, which was Ukrainian-based and initially oriented towards the Information Technology (IT) sector. By now, Weblancer.net is one of the most influential regional platforms, counting over one million users. In 2005, the Russian-based platform FL.ru (former Free-lance.ru) was founded and very soon became the leading Russian-language platform with over 1.6 million registered users. In the same year, the Ukrainian Freelancehunt.com was launched. By now, it is considered being the largest Ukrainian platform and an important regional market player.

The global economic recession of 2008–2009 fostered the development of online labour markets in Russia and Ukraine. Businesses started to increasingly rely on outsourcing as a new business model, and more workers started to consider new modes of employment such as online freelancing. The number of online labour platforms rose, including those with a narrow focus on specific sectors and activities.

The years 2013–2014 marked the deepest political changes in Ukraine. These changes had immediate economic repercussions: a rise in unemployment, freezing of salaries, a significant decline in GDP growth (ILO 2016). Some evidence also suggests that the conflict between the two countries also led to the outflow of Ukrainian freelancers from Russian-based platforms. As a result, Ukrainian-based platforms have been witnessing a significant expansion ever since and more

Ukrainians started looking for work on global English-language platforms. A new economic recession also developed in Russia in 2014. It manifested itself notably in dramatic currency depreciation, which meant that the work for clients from the US and Europe became particularly attractive for Russians.

It is very difficult to generate a precise count of workers involved in online work in Russia and Ukraine. Overall, several dozen online labour platforms operate now in each of the two countries. New platforms constantly emerge, and others lose their prominence or 'die'. They differ considerably in the number of registered users, business models, scope of occupations and skills. In 2018, at least half a million workers were registered on the six largest Ukrainian platforms alone, which represented about 3% of the employed population (Aleksynska et al. 2018). Around the same time, four leading Russian-based platforms had over 1 million users each, totalling about 6.5 million users. It should be noted that adding up the number of websites' users does not provide accurate information about the total population of platform workers because individuals usually have profiles on several platforms and may become inactive over time. But even if these figures should be treated with caution, they indicate a growing interest in online platform work in Russia and Ukraine.

13.3 Methods

13.3.1 Data Collection and Sample

The analysis of this chapter draws on the quantitative data from surveys of online freelancers in Russia and Ukraine. Both surveys have common features, such as overlapping and often similarly phrased questions. At the same time, the survey methods and some question wordings are quite different. Thus, the two surveys complement each other, allowing to confirming general common patterns in both countries with respect to online work.

When researching online freelancers, standard sociological methods based on probability sampling cannot be applied. This is because this group of workers is rather heterogeneous, has vast geographic distribution across spatial and national borders, and represents a tiny fraction of the general population. Thus, both data collections featured venue-based sampling, which is typically used to research populations that are geographically scattered, but who use certain spaces for regular meetings and congregations (Lee et al. 2014). In the case of Russian and Ukrainian online freelancers, this involved conducting online surveys on particular web platforms that are regarded as key venues of the target audience.

The Russian survey was conducted among users of one of the eldest leading Russian-based and Russian-language platform for online work, FL.ru. The sampling assumed that regardless of whether freelancers were registered on other similar websites, workers tended to use the largest and the most developed infrastructure for freelance contracting on the Russian-language Internet as represented by FL.ru.

To date, four waves of this survey have been conducted within the framework of the monitoring research project 'Russian Freelance Survey' (2009, 2011, 2014 and 2019). All waves featured a common methodology for collecting and analysing data, with many questions unchanged between the waves (for details, see Shevchuk and Strebkov 2015). This provides an opportunity to analyse the dynamics of key indicators in a ten-year time perspective. To recruit participants, FL.ru administrators sent to registered users e-mails with invitations to answer the questionnaire, and advertised the survey on social media. The questionnaires, which included from 40 to 54 items, covered a wide range of topics, including various measures of objective and subjective well-being. Participation in the study was voluntary. In this chapter, most of the analysis is based on the latest wave of the survey deployed from December 2018 to January 2019. The analytic sample includes only active genuine freelancers who performed their work through online platforms, completed at least two work projects in 2018, and for whom online work is the only source of earnings.[2] For comparability with the Ukrainian data, only Russian-based workers are retained for the analysis. After excluding freelancers with incomplete and unreliable data, the sample includes 670 respondents: 369 men and 301 women. In the descriptive part of the chapter, this data is complemented with the data of the previous waves of Russian survey, in order to highlight the dynamics in selected indicators.

The Ukrainian survey was conducted among Ukrainian-based freelancers operating on any online platform. To recruit the participants for this survey, three methods were used. The first method involved cooperation with some leading online platforms (Freelancehunt.ua, Kabanchik.ua, and the Ukrainian representation of Upwork.com). Administrators of these platforms were asked to send invitations to registered users to participate in the survey, they also posted links to the survey on the front page of each respective platform. Second, invitations to take part in the survey were sent to the individuals listed in an online panel, InPoll, which contains a representative all-Ukraine sample of active users of the Internet, and serves for regular recruitment of participants of other surveys conducted by the Kyiv Institute of Sociology. Third, snow-ball techniques were also used. The survey was conducted in December 2017 (with some post-survey checks taking place in January 2018), targeting respondents of the age 18 and older, and identifying themselves as workers performing work through at least one internet platform for pay in the 12 months preceding the survey (for details, see Aleksynska et al. 2018). Being a one-off survey, the collected data represents only a snapshot of current developments in the Ukrainian online labour market, which is best compared to the latest wave of the Russian survey. The analytical sample presented in this chapter includes 473 respondents, 245 men and 228 women.

[2]Technically, genuine freelancers in Russian survey are those who opted "I'm a freelancer and it's my only source of income" answering the question "Do you currently work as a freelancer (that is, as an independent professional working for various clients)? If yes, do you have other sources of income?".

13.3.2 Dependent Variables

The common approach to studying gender differences suggests using hourly rather than monthly earnings. However, in the Russian survey, online freelancers reported their monthly earnings and working hours in an ordinal form. Therefore, hourly earnings cannot be calculated and the analysis of this chapter is performed on monthly earnings. Earnings variable in the Russian sample is measured by responses to the question: 'What was your total monthly earnings (in RUB) in 2018' with eight response categories. As there were too few responses in some categories, the responses were aggregated to five intervals: earnings below 200 USD, from 200 to 399 USD, from 400 to 799 USD, from 800 to 1499 USD, and 1500 USD and above.[3] This five-scale variable is used as a dependent variable in the earnings regression in the Russian sample. The estimation method most appropriate for this dependent variable is ordered probit.

In Ukraine, survey participants were first offered a choice of currency in which they receive most of their earnings (Ukrainian hryvnia, Russian rouble, or US dollar), and then they were asked to report their average weekly earnings. The exact survey question is: "In a typical week over the past 12 months, how much have you earned from platform work?". For this chapter, the obtained answers are converted into monthly earnings in USD, by using the exchange rates prevalent at the time of the survey, and assuming that there are 4 weeks in a month. Further, to allow for the consistency of the regression analysis, and a better comparability with Russian results, this variable was also transformed into a five-scale variable. Because earnings in the Ukrainian sample are lower than in the Russian sample, the intervals for this new variable were chosen not based on the same USD brackets, but such that ensure a similar share of workers in each interval, as compared to the Russian sample. Five obtained intervals are: earnings below 50 USD, from 200 to 399 USD, from 400 to 799 USD, from 800 to 1499 USD, and 1500 USD and above.

These two five-scale variables (Russian and Ukrainian) are used as dependent variables in the earnings regressions (in two samples separately). When they are also used as control variables in the work satisfaction regressions, each of them is transformed into four dichotomous variables, with the lowest income category serving as a reference group.

The chapter also investigates the gender differences in work satisfaction among online freelancers. Work satisfaction is measured in both countries on a 5-point scale ranging from 1 (very dissatisfied) to 5 (very satisfied). It is used as a dependent variable in the work satisfaction regressions in both samples (estimations, again, are done separately). The chosen estimation method is ordered probit.

[3] In 2018 the average exchange rate was 62.7 rubles per USD. The authors round it to 60 rubles per USD.

13.3.3 Independent and Control Variables

Commonalities in Russian and Ukrainian questionnaires allow constructing regression models that include almost identical independent and control variables. Appendix A shows the exact definition of each variable in each sample. Appendix B presents selected summary statistics.

All models include a standard set of socio-demographic characteristics: sex, age and its square to capture possible non-linear effects, marital status, parenthood status, two dichotomous variables reflecting the education level (no university education serving as a reference group), tenure of online platform work, and the weekly hours of work. In addition, the authors control for specialization in the online work. Both surveys contained rich information about the types of tasks that freelancers do online. Those were grouped into five large thematic categories—websites and computer programming; graphic design and creative arts; photography, audio and video; writing, editing and translating; business services (advertising, marketing, consulting etc.). These constructed categories reflect standard job categories at online platforms for freelancers. In the Russian sample multiple choice question was used. Thus, each item is considered as a separate variable. In the Ukrainian sample, 'other tasks', including microtasking (low-skilled tasks of short duration, such as writing customers reviews, or filling in online questionnaires) served as a reference group. Regressions also include control variables for the type of clients that online workers deal with (local or foreign).

13.4 Structure and Dynamics of Gender Differences: Similarities and Differences Between the Two Countries

Before turning to the regression analysis, it is instructive to inquire into the structural features of online labour markets in a descriptive manner. The primary interest here is to see the extent of participation in the online freelancing by men and women and into gender differences in online occupations. Demographic and labour market characteristics of male and female online freelancers are also compared.

The Russian surveys allow tracking the evolution of these structural features over the past ten years. They show that, while the gender disparity was particularly pronounced at the times when online work was only emerging, a gradual alignment of the gender structure has also been happening. In 2009, the share of men working online as freelancers was one and a half times more than the share of women (60% vs. 40%). Ten years later, the disproportion decreased: by 2019, there were 55% of men vs. 45% of women among Russian online freelancers. The present situation in the online labour market compares well to what is observed in the traditional labour market. According to Rosstat, the share of women among all Russian workers was

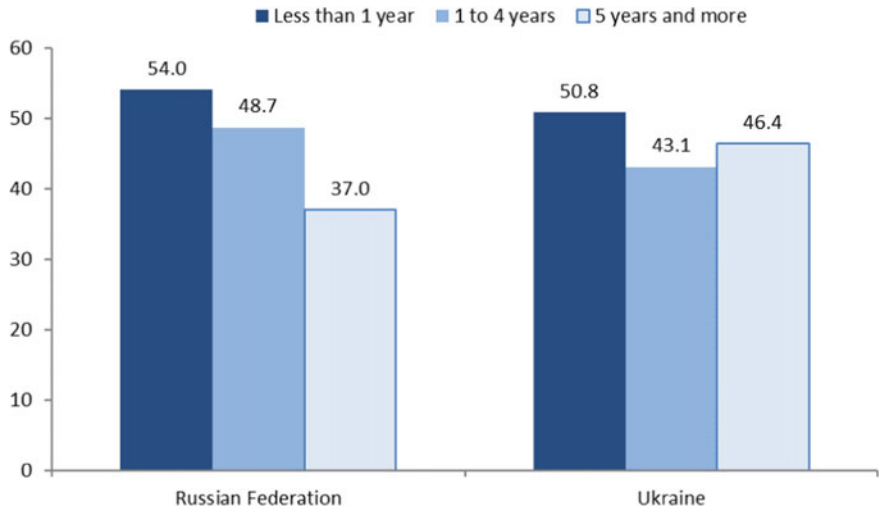

Fig. 13.1 Share of women in online labour markets, by tenure (in per cent) (*Source* Own computations based on the Russian survey [2019] and the Ukrainian survey [2018] of online workers)

49% in 2019 as well as in 2009.[4] Thus, it seems that men pioneered the development of online freelancing, but as this work generalized, women also started up-taking online jobs more actively, and the online labour market started progressively resembling the general labour market.

Similarly, in Ukraine, by 2018, there were 52% of men vs. 48% of women among Ukrainian online freelancers. This resembles the general situation in the labour market: the share of women among all workers in 2017 was estimated at 47% (ILO STAT).

These same dynamics can also be partially traced by looking at the share of men and women by their experience, or 'tenure', of general freelance work and of online work specifically (Fig. 13.1). In both countries, among the newcomers (those who started working as a freelancer, or as a platform worker less than a year ago), the share of women is higher than among more experienced workers. In fact, it already exceeds the share of men, accounting for 54% of newcomers in Russia and 51% in Ukraine.[5] In Russia, comparisons with earlier waves allow to see significant outflow of women from the group of freelancers over time. In 2019 among workers with over 5 years of online tenure, the share of women is much lower than it was actually observed in the 2014 sample (37% vs. 49%). This is probably due to the fact that women with small children, for whom freelance is the only type of earnings, eventually return to

[4] https://www.gks.ru/labour_force.

[5] There is some difference in wording of these questions, however. In Russia, the question was "In what year did you begin working as a freelancer?", while in Ukraine it was "For how long have you done platform work?". In other words, the answers in the Russian questionnaire potentially capture also those workers who started freelance activities in the traditional offline economy before they started online freelancing.

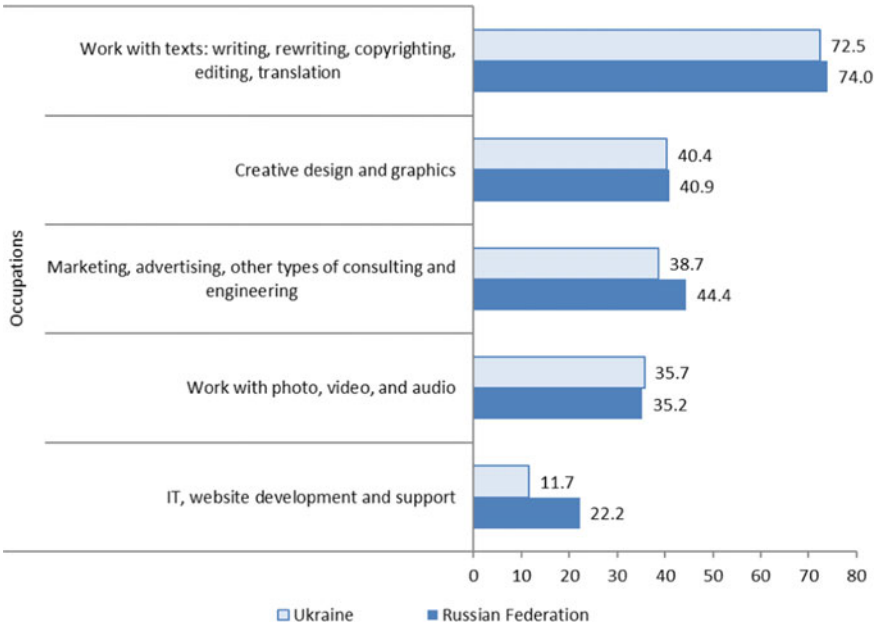

Fig. 13.2 Share of women in online labour markets, by occupation (in per cent) (*Source* Own computations based on the Russian survey [2019] and the Ukrainian survey [2018] of online workers)

work in organizations as employees. Nevertheless, there are good reasons to believe that the share of women in the online freelance market will continue to grow in the future.

Despite the growing share of women, important differences in both countries are observed by the type of work that women and men do online as freelancers. If men dominate the IT and web-development sector in both countries, women are largely over-represented in working with texts. Copywriting, editing and translating, are the only sectors where the share of females is higher than the share of males (Fig. 13.2). Russian data for ten years suggests that the share of women has particularly grown among IT-specialists (from 17.4 to 22.2%) and copywriting, editing and translating workers (from 64.9 to 74.0%). Noteworthy, that in Russia the share of females in online IT freelance (22.2%) is now twice as high as in Ukraine (11.7%).

Other studies in this field also confirm the low presence of women in very technical sectors. For example, a survey of the IT sector of Ukraine, including online freelancers working in IT, confirms that in 2017 there were only 20% of women in Ukrainian IT in general (Ippolitova 2018). As in Russia, the share of women has been growing rather rapidly, increasing by 13 percentage points between 2011 and 2017 (ibid.). Yet, even within this sector, women are actually over-represented in lowest-paid non-technical occupations: 75% of all workers in IT human resources, program managers, or sales are women, while the top-paid occupation of senior software engineers is male-dominated (90% are male: ibid.). Another survey, aimed at specifically

discerning gender differences in Ukrainian IT work, links these gender inequalities to cultural stereotypes of what a "female job" is, to the fact that women more rarely choose technical degrees, to lower self-esteem of women that impedes their career development, and also to a higher drop-out rate of women from IT because of family responsibilities (Makarova 2016).

Another important difference between men and women working online is the number of hours that they put into this work. In the Russian sample, men work, on average, 48 h per week online, while women work 43.7 h. In Ukraine, differences are somewhat more attenuated: on average, men work 23.9 h online, while women work 20.8 h.[6] These differences inevitably translate into differences in monthly earnings.

Twice as many Russian freelancers (two thirds) are working exclusively for the local market as compared to Ukrainian ones (one third). The latter result, however, should be also considered jointly with the fact that among those Ukrainians who work with foreign clients, 11% actually work with Russian clients. Moreover, the Russian local market is substantially greater in size than the Ukrainian one. Nevertheless, 15% of Russian freelancers also worked in 2018 with clients from Ukraine.

Looking at the demographic characteristics of online freelancers, there is no significant difference in marital and parenthood statuses between men and women in Russia. However, in Ukraine, more women working online report having children as compared to men (53% vs. 40%), and slightly more women do not have a partner (42% vs. 39% for men: see Appendices A and B). This indicates that single-parent women, and women with children in Ukraine are turning to online work more often than others. Also, in the Ukrainian sample, there are two times fewer women with no university education as compared to men (11% vs. 20%), but there are more female online freelancers holding PhD and MA degrees as compared to men (60% vs. 51%). In the Russian sample, those differences are more attenuated, even if there are also more female than male freelancers with PhD and MA degrees (54% vs. 46%). Despite these high levels of education, women in both countries tend to be over-represented in online occupations requiring a relatively low level of skill. This indicates that, possibly, women, especially in Ukraine, experience a sizeable skill mismatch in the online labour markets.

13.5 Gender Pay Differences in Online Work

This chapter investigates whether, in addition to the differences in online labour market participation, working hours, tenure, occupations, and other socio-economic characteristics reported above, there are also differences in earnings between men and women working online, in Russia and Ukraine. In the two samples, the surveys'

[6] Across the samples, the differences in working hours are explained as follows. In the Russian sample, only freelancers with online work as the only source of income are included into the analysis. In the Ukrainian sample, the pool of freelancers includes those, for whom online freelance is the only activity, and also those, who combine it with other economic activities.

answers regarding earnings are not directly comparable. Thus, in what follows, the cases of Russia and Ukraine are presented separately. Rather than comparing the outcomes between countries, the interest lies in seeing whether similar tendencies can be observed with respect to the gender earnings differences.

Figure 13.3 shows the distribution of average monthly earnings of Russian male and female online freelancers. From this figure, it is apparent that the share of men with relatively high earnings (over 1500 USD per month, or 90,000 RUB) is two times higher than the share of highly paid women (22% vs. 9%). Ten years earlier, despite lower average earnings of online freelancers in absolute terms, this ratio was approximately the same: there were 17% highly paid men vs. 7% highly paid women. Thus, even if more men and women access better earnings through online freelancing, the earnings differences between males and females in the Russian online labour market persists. Different number of working hours and differences in tenure (not accounted for in this figure) are plausible explanations of this result. But in addition, it is the specific types of work that probably matter, too. As shown above, men dominate the IT sector, which is both more skill-intensive and pay more. In contrast, women are overrepresented in working with texts and other "lighter" activities, which are less skill-intensive and pay less. The regression analysis of the next session corroborates these hypotheses.

In the Ukrainian sample of online freelancers, men are over-represented among higher-end online earners only (those earning above 400 USD). Along the rest of the income distribution, there are substantially more women than men. In fact, there are two and a half times more men earning over 400 USD as compared to women (33.2% vs. 12.8%) (Fig. 13.4). If average hourly earnings from online work are considered, they are almost twice as high as the average hourly earnings in the traditional offline Ukrainian economy, though the latter reflects gross wages (before taxes), while survey respondents in Ukraine usually report net wages (after taxes). Since for the majority of workers, earnings from online work represent a complementary source of earnings, these earnings are sufficiently important and attractives.

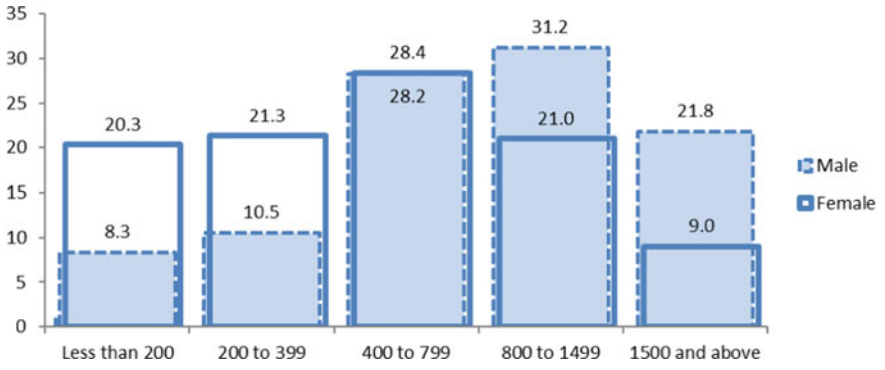

Fig. 13.3 Distribution of monthly earnings among Russian online freelancers, percentage by sex, in USD (*Source* Own computations based on the Russian survey)

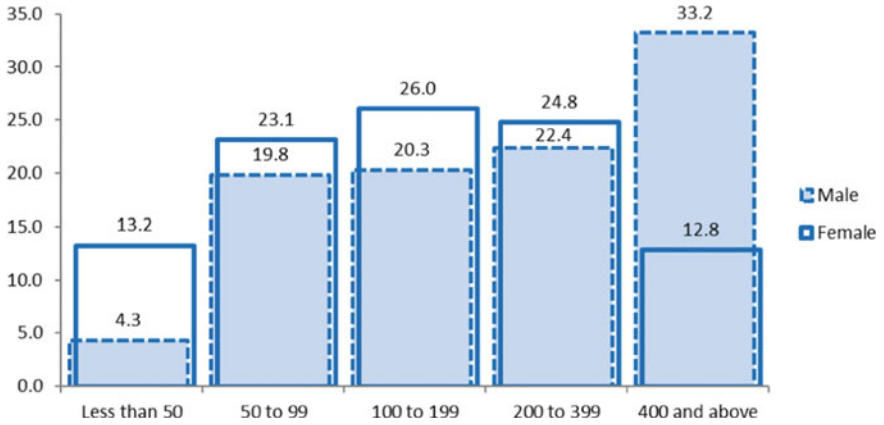

Fig. 13.4 Distribution of monthly earnings among Ukrainian online freelancers, percentage by sex, in USD (*Source* Own computations based on the Ukrainian survey)

The gender differences in earnings in the online labour market, however, are higher than the gender differences in the offline Ukrainian economy. The offline gender earnings difference is estimated at 23.7% (ILO 2016), while the observed gender difference in the online market in the sample of Ukrainian freelancers is 41%. Possibly, as in Russia, the gender segregation into different types of activity may at least partly explain this gap. Indeed, as in Russia, more men than women are found in IT, which in addition is highly oriented towards foreign markets that pay more. In contrast, women, especially those doing writing, rewriting, or editing, are more oriented towards the local and regional market which pays less. Another reason is that women work fewer hours online, as compared to men. Yet another reason is that in the Ukrainian sample more single-parent women are turning to online work to complement their earnings. It is likely that, being more vulnerable in the labour market, and having more domestic responsibilities, they are also ready to accept easier lower-paid tasks.

13.6 Predictors of Earnings and Work Satisfaction

13.6.1 Results of the Regression Analysis: Earnings

This section goes one step further in examining the material well-being of freelancers, measured in terms of their earnings from online activities. The main interest is to understand whether differences in earnings between the two genders remains even when various demographic and labour market characteristics of freelancers are accounted for.

Table 13.1 summarizes the results of the regression analysis, performed separately

Table 13.1 Regression coefficients for earnings and self-reported work satisfaction

	Earnings equations				Work satisfaction equations			
Variables	Russian Federation		Ukraine		Russian Federation		Ukraine	
	(1)		(2)		(3)		(4)	
	B	S.E.	B	S.E.	B	S.E.	B	S.E.
Gender (female—ref. group)	.48	.09***	.36	.10**	−.24	.10*	−.01	.11
Age	.08	.03**	.07	.03*	.01	.03	.05	.03*
$Age^2/100$	−.12	.04**	−.09	.04*	−.02	.04	−.07	.04*
Family status (single/divorced/widow—ref. group)	.45	.09***	.07	.11	.17	.09	−.07	.12
Parenthood status (no children—ref. group)	−.12	.10	−.27	.11**	.09	.10	−.01	.11
Education status (no university education—ref. group)								
Specialist, MA, PhD	.35	.12**	.01	.15	−.19	.12	−.35	.16*
Unfinished university degree and bachelors	.22	.12	.08	.16	−.32	.12**	−.42	.17*
Freelance tenure	.06	.01***	.13	.03***	−.01	.01	−.01	.03
Working hours per week	.004	.002*	.010	.001***	−.001	.002	.002	.002
Primary area for work (microtask—ref. group for Ukraine)								
Websites/Computer programming	.38	.11***	.52	.18***	−.02	.11	−.23	.18
Graphic design, creative arts	−.24	.10*	.36	.24	−.08	.10	.20	.28
Photography/Audio/Video	−.01	.13	−.03	.22	.10	.13	.14	.23
Writing/Editing/Translating	−.26	.11*	−.05	.12	−.12	.11	.06	.13
Business services	.33	.10**	.05	.16	−.18	.11	−.09	.16
Clients from abroad	.27	.09**	.21	.11*	.02	.09	.10	.11
Monthly earnings (first group—ref. group)								

(continued)

on two samples. Columns (1) and (2) contain regression outputs for the earnings equations.

In both countries, the association between earnings and being a male is strong, positive, and significant. While direct comparisons of coefficients are not appropriate, it can be seen that, in both samples, earnings increase with age, though at a decreasing rate. They are lower for workers with children as compared to workers without. Longer experience of freelancing translates into higher earnings. Regressions confirm that the IT specialists have the highest earnings. Finally, those who work exclusively with local clients earn substantially less than those who work with clients from other countries.

Table 13.1 (continued)

	Earnings equations				Work satisfaction equations			
Variables	Russian Federation		Ukraine		Russian Federation		Ukraine	
	(1)		(2)		(3)		(4)	
	B	S.E.	B	S.E.	B	S.E.	B	S.E.
Second group					.36	.15*	.04	.179
Third group					.84	.14***	.48	.18***
Fourth group					1.29	.15***	.32	.17*
Fifth group					1.69	.18***	.67	.18***
Number of observations	670		473		670		473	
Likelihood Ratio Chi–Square (df)	219 (15)***		100 (15)***		164 (19)***		41 (19)***	

Note B: ordered probit; S.E.: standard error; df: degrees of freedom. *p < .05; **p < .01; ***p < .001. Cut points and constants also estimated where appropriate

Some differences across the two regressions are also observed. In Russia, married individuals, as well as those with university degree above the bachelor level earn more than others. These results are not relevant for Ukraine. With regards to education, it is possible that in Ukraine, freelancers have a poorer skill match in online platforms, which downplays the role of education (education variables are insignificant).

Taken together, results indicate that men indeed have higher earnings online, as compared to women, other demographic and work characteristics being equal. Moreover, in both regressions, the magnitude of the gender effect is almost the same in a more parsimonious versions of the models (not reported), which include only demographic characteristics. This suggests that work-related controls, such as tenure, occupation, and working hours, play only a limited role in reducing the role of the gender ("male") variable. It is possible that other different unobservable characteristics, such as skill match, objective level of professionalism, a better positioning of oneself in the labour market, different domestic responsibilities or other unobservable characteristics may matter. For example, other researchers indicated that, even in online markets, women tend to have a lower confidence than men and position themselves at a lower end of requested rates for the same online tasks as men (Barzilay and Ben-David 2017; Dubey et al. 2017; Howcroft et al. 2019).

To gain a better understanding of these earnings' differences, a series of additional models is also performed. Those include various interaction terms, such as adding to the base model interactions of gender variable with marital and parenthood status, as well as with the type of market served (results available on request). These additional models show that among Russian online freelancers, married men have the highest earnings in comparison with other groups. For female freelancers, earnings do not depend on their marital status. The presence of child(ren) in the household, in turn, decreases wife's odds of having higher earnings, especially if these children are under 3 years of age. But for men, earnings do not depend on their parental status. These

results confirm findings from other studies, which attribute this effect to unequal sharing of care duties within the household (Adams and Berg 2017). Professional characteristics of freelancers also affect the association between gender and earnings. The higher men's workload (measured as working hours per week), the greater is their earnings. This regularity is not found for female freelancers. For both men and women, earnings increase with freelance tenure, though for men the effect is stronger.

The most interesting result in the Ukrainian sample is obtained when gender is interacted with the market served (result available on request). It shows that the gender earnings differences disappear for men and women who have access to foreign markets. In contrast, it deepens further for those who work for the local market exclusively. In other words, it seems that online platforms through which foreign clients are accessed, help to overcome differences in earnings between men and women. It is also possible that women who work with foreign clients through online platforms are also the ones who manage to better position themselves in the market, and better match their skills. Additional investigation, however, is needed to better understand this result.

13.6.2 Results of the Regression Analysis: Work Satisfaction

Finally, Table 13.1 columns (3) and (4) contain regression outputs for the work satisfaction equation. Interestingly, men seem to be less satisfied with their online work than women in Russia, holding all other conditions equal. However, it seems that there are no apparent differences in work satisfaction between male and female online freelancers in Ukraine. The only variables that have consistent effects in the two samples are earnings: higher earnings increase the odds of being more satisfied with work everywhere.

In both countries, negative predictors of work satisfaction are education controls: better education, either at bachelors' level or above, is associated with a lower level of work satisfaction. This result is again consistent with the idea that freelancers may actually have a poor skill match in the online labour market. For example, as shown in Shevchuk et al. (2015), horizontal skill mismatch has a particularly detrimental effect on women's work satisfaction, while no such effect is found for men. It is possible that vertical skill mismatch has similar effects. It is also possible that higher-educated workers feel more constrained to turn to the online labour market in the absence of decent work opportunities in the traditional labour market.

Additional models (not reported) show that marital and parenthood statuses moderate the association between gender and work satisfaction. Married women, as well as women with children, are actually more likely to be satisfied with work than married men, possibly because they manage to remain in the labour market.

13.6.3 Predicted Probabilities

In addition to regression coefficients, it is possible to compute predicted probabilities to fall into a particular earnings and work satisfaction interval, for men and women, in both countries. For this, all other variables are set to their mean or mode value. Thus, in the Russian sample, the reference group is persons of 32 years of age, with a life partner, without children, with a diploma of specialist, master degree, or PhD, with 5 years of freelance tenure, working 45 h per week as a graphic designer or and creative artist, only for the local market (no clients from abroad). In the Ukrainian sample, such reference person is 33 years old, with a life partner, without children, with a diploma of specialist, master degree, or PhD, with 1.4 years of freelance tenure, working 22 h per week as a writer or translator, and with clients from abroad.

Regression models predict that, within such reference groups, with all other conditions being equal, men working as online freelancers have a higher probability to have the highest level of earnings than women (1500 USD per month in Russia and 400 USD per month in Ukraine). In Russia, these figures are .18 for men and .08 for women, in Ukraine — .31 and .15 respectively (Table 13.2).

According to the second set of regression models with all other conditions being equal, the probability to have the highest level of work satisfaction among online freelancers in Russia is .10 for men and .14 for women. In the original sample, men are approximately at the same level of work satisfaction as women (15.1% vs. 14.8%) because of their higher incomes, but now one can see that if the incomes were equal, women's satisfaction would be higher. In Ukraine, the probability to have the highest level of work satisfaction among online freelancers is .11 for men and .09 for women (12.0% vs. 10.0% in the original sample).

13.7 Conclusions

The analysis of this chapter has shown that there are important gender differences in online work. If the share of women working online has been growing over time (for example, from 40% in 2009 to 45% in 2019 in Russia), some structural differences persist. These structural differences mainly relate to the workers' field of specialization. Men segregate into technical sectors, such as IT (39.1% of all Russian male freelancers are in this sector, in contrast to 13.6% of women; the figures are 20.0% and 2.9% for Ukraine). In contrast, women are choosing "lighter" sectors, such as notably work with texts (12.5% of all Russian male freelancers are in this sector, in contrast to 43.5% of women; the figures are 12.3% and 35.6% for Ukraine). Currently, women also have a lower tenure of online work (1.5 years difference in Russia, .2 years difference in Ukraine). These differences finally result in lower online earnings of women as compared to men (in both countries the share of men with relatively high earnings is 2–2.5 times higher than the share of highly paid women). If it is reasonable to expect that female earnings will increase as they become more experienced, it is harder to

Table 13.2 Predicted probabilities of monthly earnings and work satisfaction by gender

	Russia		Ukraine	
	Men	Women	Men	Women
Monthly earnings				
First group (low)	.06	.13	.05	.12
Second group	.11	.19	.16	.27
Third group	.30	.34	.21	.25
Fourth group	.35	.26	.27	.21
Fifth group (high)	.18	.08	.31	.15
Work satisfaction				
Not satisfied at all	.04	.02	.01	.01
Rather not satisfied	.14	.10	.02	.03
Neither satisfied nor dissatisfied	.37	.32	.38	.41
Rather satisfied	.36	.41	.48	.46
Very satisfied	.10	.14	.11	.09

Note All other variables set to their mean or mode value

expect that women and men will change radically their specialization. Indeed, the share of women in very technical fields has been growing, but at a slower rate than the total share of women in online work. Moreover, other studies in the field suggest that even within technical fields, women may be specializing in "softer" occupations. In addition, it seems that women suffer from a worse skill mismatch as compared to men: while they are often more educated, they overwhelmingly work with simpler tasks.

The regression analysis confirms also that these structural differences translate into substantial gender earnings differences of online workers. Moreover, it seems that women with children are particularly penalized. At the same time, when Russian and Ukrainian freelancers manage to transcend the national borders and use digital platforms to access international clients, they may be more successful in securing higher earnings. Work with international clients also has the potential to diminish the earnings differences between men and women.

Despite the general gender earnings differences, women seem to be happier with online work than men (in Russia), or at least as happy as men (in Ukraine). For women in Russia, having a family life in addition to work is one of the explanations of this effect. Possibly, they are happy that online markets allow them to remain in the labour market generally, despite low earnings. Earnings online also allow both men and women to generally improve their material well-being as compared to working (only) in the traditional labour market. These earnings represent an important determinant of work satisfaction.

The findings of this chapter complement the findings of earlier studies, such as Adams and Berg (2017), who focus on microtasking on English-speaking internet

labour platforms. In this chapter, a wider pool of platform workers in terms of occupations is considered, and in countries that were not analysed previously. Yet, the findings are similar to Adams and Berg (2017). As such, these findings reinforce the idea that, as the platform work generalizes, and as more women enter the online labour market, it would be important to ensure that differences between men and women decrease rather than accentuate. This especially concerns the higher presence of women in technical occupations, their better skill utilization, and their better self-positioning in the labour market in general. Policies that encourage more women to study in technical fields and decrease stereotypes of what is a male or a female profession can be helpful to achieve this. Provision of better care facilities, especially for very small children, and more equal sharing of domestic responsibilities between and women will also be important in this regard. Lastly, wider use of part-time, temporary transfer of both men and women with small children to part-time work, and practice of adjusted work schedules at the firm level should be encouraged. After all, women with small children do not seem to be ready to drop out of the labour market altogether. Rather, women use online labour markets because they allow having work hours more adapted to their circumstances.

Acknowledgements Support from the Basic Research Program of the National Research University Higher School of Economics (HSE) for the second and the third author is gratefully acknowledged.

Appendix A

See Table 13.3.

Appendix B

See Table 13.4.

Table 13.3 Variables' definitions

Variable	Russian sample	Ukrainian sample
Gender (female—ref. group)	Dichotomous variable equal to 1 if male, 0 if female	Dichotomous variable equal to 1 if male, 0 if female
Age	Self–reported age	Survey year minus reported year of birth
$Age^2/100$	Age squared, divided by 100	Age squared, divided by 100
Family status	1 if married or cohabiting with a partner, 0 otherwise	1 if married or cohabiting with a partner, 0 otherwise
Parenthood status	1 if have any children below the age of 16; 0 otherwise	1 if have any children below the age of 18; 0 otherwise
Education status		
No university education	1 if incomplete secondary education (school), or full secondary education, or full technical vocational education; 0 otherwise	1 if incomplete secondary education (school), or full secondary education, or qualification diploma of technical specialist; 0 otherwise
Unfinished university degree and bachelors	1 if incomplete university education (less than 2 years), or bachelor degree from institute, university; 0 otherwise	1 if degree of junior specialist of a technical college; or bachelor degree from institute, university; 0 otherwise
Specialist, MA, PhD	1 if diploma of specialist or master degree, or MBA, or candidate of sciences, or doctor of sciences, or PhD; 0 otherwise	1 if diploma of specialist or master degree, or candidate of sciences, or doctor of sciences; 0 otherwise
Freelance tenure	Survey year minus reported year of start of working as a freelancer	Number of years of work on online labour platforms. Answers obtained in interval form: less than 1 months, 1–6 months, 7–12 months, 1–2 years, 3–4 years, 5+ years. Recoded to reflect the average year in the interval. Takes on values of .08; .25; .5; 1.5; 3.5; 7 years
Working hours per week	Self–reported average number of hours spent on all paid activities, including work online, per week. Interval variable	Self–reported average number of hours spent on paid work online, per week. Continuous variable
Primary area for work	Multiple choice possible	"Other tasks", including microtask—serves as a reference group

(continued)

Table 13.3 (continued)

Variable	Russian sample	Ukrainian sample
Websites/Computer programming	1 if work is in IT, web creation, web support, 0 otherwise	1 if work is in IT, web creation, web support, 0 otherwise
Graphic design, creative arts	1 if work in graphic, object design, printing, art, 0 otherwise	1 if work in graphic, object design, printing, art, 0 otherwise
Photography/Audio/Video	1 if work with photo, video, audio; 0 otherwise	1 if work with photo, video, audio; 0 otherwise
Writing/Editing/Translating	1 if work with texts: writing, editing, copywriting, rewriting, translating; 0 otherwise	1 if work with texts: writing, editing, copywriting, rewriting, translating; 0 otherwise
Business services	1 if work in sales and customers search, advertisement, collection of information, consultancy, engineering etc.; 0 otherwise	1 if work in sales and customers search, advertisement, collection of information, consultancy, engineering etc.; 0 otherwise
Clients from abroad	1 if work is done partly or exclusively for foreign clients; 0 if has only local clients	1 if work is done partly or exclusively for foreign clients; 0 if has only local clients
Monthly earnings	Self–reported average monthly earnings, converted in USD, according to predefined survey intervals:	Self–reported average monthly earnings on platforms, converted in USD:
First group	1 if earnings less than 200 USD; 0 otherwise	1 if earnings less than 50 USD; 0 otherwise
Second group	1 if earnings between 200 and 399 USD; 0 otherwise	1 if earnings between 50 and 99 USD; 0 otherwise
Third group	1 if earnings between 400 and 799 USD; 0 otherwise	1 if earnings between 99 and 199 USD; 0 otherwise
Fourth group	1 if earnings between 800 and 1499 USD; 0 otherwise	1 if earnings between 199 and 399 USD; 0 otherwise
Fifth group	1 if earnings are 1500 USD or above; 0 otherwise	1 if earnings are 400 USD or above; 0 otherwise
Work satisfaction	5—scale answers to the question “How satisfied or dissatisfied are you with your work in general?”, with 1—not at all satisfied, 5—very satisfied	5—scale answers to the question “How satisfied or dissatisfied are you with working as a platform worker?”, with 1—not at all satisfied, 5—very satisfied

Table 13.4 Selected summary statistics: variable means, total count (for dichotomous variables), standard deviation (for continuous variables)

Variable	Russian sample				Ukrainian sample			
	Males		Females		Males		Females	
	Mean	Count/St.dev.	Mean	Count/St.dev.	Mean	Count/St.dev.	Mean	Count/St.dev.
Age	32.1	9.5	32.2	8.5	33.8	9.8	32.2	9.6
Freelance tenure	5.4	5.3	3.9	4.5	1.5	1.8	1.3	1.8
Working hours per week	48.0	24.8	43.7	24.1	23.9	14.7	20.8	15.1
Family status: Married or with partner (single/divorced/widow—ref. group)	60.7	229	64.5	200	60.8	321	58.4	281
Parenthood status: Have children (no children—ref. group)	34.4	130	40.2	125	39.7	210	52.6	253
Education status (No university education—ref. group)								
Specialist, MA, PhD	45.8	173	53.9	167	51.8	150	60.7	138
Unfinished university degree and Bachelors	31.2	118	26.8	83	28.4	274	28.7	292
Primary area for work (microtask—ref. group)								
Websites/Computer programming	39.1	147	13.6	42	20.0	106	2.9	14
Graphic design, creative arts	41.5	156	35.1	108	5.8	31	4.4	27
Photography/Audio/Video	15.2	57	10.1	31	6.8	36	4.2	20
Writing/Editing/Translating	12.5	47	43.5	134	12.3	65	35.6	171
Business services	26.2	99	25.4	79	14.3	76	9.9	48
Clients from abroad	44.3	167	37.2	115	68.6	166	69.7	146
Monthly earnings								
First group (ref.)	8.3	31	20.3	63	4.0	10	13.0	32

(continued)

Table 13.4 (continued)

Variable	Russian sample				Ukrainian sample			
	Males		Females		Males		Females	
	Mean	Count/St.dev.	Mean	Count/St.dev.	Mean	Count/St.dev.	Mean	Count/St.dev.
Second group	10.5	39	21.3	66	19.0	46	23.0	56
Third group	28.2	105	28.4	88	20.0	47	26.0	63
Fourth group	31.2	116	21.0	65	22.0	52	24.0	60
Fifth group	21.8	81	9.0	28	33.0	77	12.0	31
Work satisfaction								
Not satisfied at all	5.3	20	4.2	13	1.0	15	1.0	13
Rather not satisfied	13.0	49	14.1	44	4.0	19	6.0	26
Neither satisfied nor dissatisfied	27.6	104	36.3	113	38.0	191	39.0	181
Rather satisfied	39.0	147	30.5	95	45.0	238	44.0	211
Very satisfied	15.1	57	14.8	46	12.0	65	10.0	50

References

Adams A, Berg J (2017) When home affects pay: an analysis of the gender pay gap among crowdworkers. SSRN Electron J

Aleksynska M, Bastrakova A, Kharchenko N (2018) Work on digital labour platforms in Ukraine: issues and policy perspectives. ILO, Geneva

AnalyticsHelp (2018) Global Internet Freelance Market Overview for 2018. Available at: https://analyticshelp.io/blog/global-internet-freelance-market-overview-2018/. Accessed: September 2019.

Andjelkovic B, Sapic J, Skocajic M (2019) Digging into gig economy in Serbia: who are the digital workers from Serbia and why do they work on global platforms? Report. Public Policy Research Centre

Barzilay A, Ben-David A (2017) Platform inequality: gender in the gig-economy. Seton Hall Law Rev 47(2):2

Berg J, Furrer M, Harmon E, Rani U, Silberman S (2018) Digital labour platforms and the future of work: towards decent work in the online world. ILO, Geneva

Cantarella M, Strozzi C (2018) Labour market effects of crowdwork in the US and EU: an empirical investigation. IZA Conference proceedings

Dubey A, Kumar A, Hamilton M, Kass A (2017) Analyzing gender pay gap in freelancing marketplace. SIGMIS-CPR Conference proceedings. https://doi.org/10.1145/3084381.3084402

Graham M, Hjorth I, Lehdonvirta V (2017) Digital labour and development: impacts of global digital labour platforms and the gig economy on worker livelihoods. Transfer 23(2):135–162

Hong Y, Pavlou PA (2013) Online labor markets: an informal freelancer economy. The IBIT Report. Philadelphia, PA: Institute for Business and Information Technology

Howcroft D, Mumford C, Bergvall-Kareborn B (2019) Gendered platforms? Exploring women's experiences of crowdwork. Regulating for Decent Work Conference Proceedings. ILO: Geneva

ILO (2016) ILO decent work country programme for Ukraine 2016–2019. Available at: https://www.ilo.org/budapest/countries-covered/ukraine/WCMS_467704/lang–en/index.htm. Accessed: September 2019

Ippolitova I (2018) In Russian: Женщины в IT: портрет, планы, мотивация. Women in IT: portrait, plans, motivations. Survey Results published at DOU.UA. Available at: https://dou.ua/lenta/articles/it-woman/. Accessed: September 2019

Kässi, O. and V. Lehdonvirta (2018) Online Labour Index: measuring the online gig economy for policy and research. Technological Forecasting and Social Change, 137:241-8.

Lee S, Wagner J, Valliant R (2014) Recent developments of sampling hard-to-survey populations: An assessment. In: Tourangeau R (ed) Hard-to-Survey Populations. Cambridge University Press, Cambridge, pp 424–444

Makarova O (2016) In Russian: Женский вопрос: гендерные стереотипы в украинском ИТ. Работа. Female question: gender stereotypes in the Ukrainian IT. work. Survey Results published at DOU.UA. Available at: https://dou.ua/lenta/articles/women-work/. Accessed: September 2019

OLI (2019) Available at: https://ilabour.oii.ox.ac.uk/online-labour-index/ Accessed: September 2019

Shevchuk A, Strebkov D (2015) The rise of freelance contracting on the Russian-language internet. Small Enterp Res 22(2–3):146–158

Shevchuk A, Strebkov D, Davis S (2015) Educational mismatch, gender, and satisfaction in self-employment: the case of Russian-language internet freelancers. Res Soc Strat Mobil 40:16–28

Topsdev (2017) In Russian: Рынок ИТ-фриланс-аутсорса Восточной Европы в 2016 году. Market of IT freelance outsourcing of Eastern Europe in 2016. Available at: http://topsdev.org/blog/obzor-rinka-freelance-2016.htm Accessed: September 2019