Results from the 2022 LFS pilot module on digital platform employment in Denmark, Finland and Norway

FOR THE LFS WORKSHOP ON OUTPUT IN LISBON, MAY 2023

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Introduction

This paper presents results of the pilot module on the Digital Platform Economy (DPE), which was collected as part of the LFS in 2022 by, among others, Denmark, Finland and Norway. The pilot study allowed the countries to gather valuable experience and collect data on a topic of great interest from many labour market policy makers and analysts. Across the three countries, around 45,000 persons responded to the DPE-questions. The paper goes through the results from the individual countries and points out some of the common features of the countries' data collections. In the end, the authors summarize specific points of attention for further work on DPE-related questions in the LFS.

Results from individual countries

The data was collected in 2022, as part of the core LFS survey in all countries. A sub-sample of waves was used for the data collection, and the number of respondents varied from 11,500 persons in Denmark to 18,800 persons in Finland. In general, the percentage of persons that had used apps to carry out work for pay or profit in the past 12 months, was between 4-6 percent in all countries. In Finland and Denmark, the most frequent app was selling of goods, while it was letting of real estate in Norway. Although the selling of goods is prominent in all countries, a lot of the app activity consists of the occasional selling of used goods (items). This should not be classified as employment, as the activity does not revolve around profit generation. The number of persons selling goods with an intention of making a profit was substantially lower than the overall number of persons using apps for selling goods.

When compared to the number of persons having used an app to earn income in the past 12 months, a much lower share of persons had used an app in the last month, pointing to a somewhat infrequent use of said apps. Around 1 pct. of respondents have used an app for employment purposes in the last month in all countries. Of these, most people seem to have another main job, seeing as only 0.1-0.3 pct. of respondents generate more than half their income from apps or regard the app as their main job. Table 1 summarizes data about the data collection and results in the three countries.

Table 1 – Main country collection data and results

	Finland	**Denmark**	**Norway**
Collection mode	CATI+CAWI	CATI+CAWI	CATI
Collection wave(s)	2nd ,3rd and 4th (of 5 waves)	2nd (of 4 waves)	2nd and 6th (of 8 waves)
Number of respondents	18,800	11,500	14,200
Item non-response	0.3 %	0.8 %	0.2 %
App use for pay or profit last 12 months	4.4 %	5.4 %	5.7 %
App use last month	1.2 %	0.6 %	1.5 %
App is more than half of the income	0.3 %	0.1 %	0.1 %
App is the main job	0.2 %	0.1 %	0.3 %
Most common app activity	Selling of goods	Selling of goods	Letting of real estate

The following sections contain some more detailed results from each country.

Finland

According to the Finnish DPE pilot data, 4.4 %, or some 148,000 persons of the whole population, had carried out or received work through an internet platform or app during the past 12 months. To continue, 1.2 % or some 40,000 persons of the whole population reported having worked via digital platforms in the past calendar month for at least one hour, and 0.7 % or 23,000 persons would have done so in the reference week – this latest information comes from a national question added to the pilot questionnaire.

The respective shares are slightly higher among men than women, higher among younger than older people, clearly higher among self-employed than among employees, and higher among those employed according to the core LFS in contrast to those not employed.

According to the initial data, the most common DPE activities in the past 12 months were commercial selling of goods (1.1 % of the whole population) and creating contents (0.8 %), as well as ‘other platform work or services’ (0.7 %) and transport services (0.7 %). Among all the population, 0.3 % had received at least half of their income in the past calendar month via platforms. Respectively, for 0.2 % the reported platform work had been the main work during the reference week.

However, at a closer look it becomes evident that there are numerous false positives in the data. In other words, the data needs a careful check and cleaning up, after which the figures mentioned above will surely change to some extent.

Some evident patterns are to be detected. A typical false positive case in the data is a situation, where the respondent has, according to the core LFS, a main (full-time) job as an employee with no additional jobs, and in the pilot section he/she claims to have worked via platforms in the field of this main job. When inquired about the platform used, the response is eg. Teams or Zoom. At the same time, the person has a physical place/company of work according to the LFS and there are no other indications that platform work or any additional work would have been done. Thus, the question most probably is about having misunderstood remote meetings in the main job as ‘platform work’. Also reported platforms such as ‘my company’s own web pages’ or those offering some sort of working tools – such as digital appointment reservation services – rather refer to a ‘normal’ self-employed job than to such platform work which was meant here.

Furthermore, there are several cases, where DPE-work has apparently been done, but it has been reported in connection of the wrong type of platform work. The first question of the questionnaire was ‘In the last 12 months, did you use an Internet Platform or App for phones or tablets to carry out any of the following services or work for pay or profit: A. Taxi services, using for example Uber or Yango?.’ It seems evident that the question has been interpreted by many as covering all sorts of platform work. Among the platforms the respondents name here, there are many, which operate on a completely different field than in taxi services, such as platforms on translation, care or renovation services. As the questionnaire proceeds, these kinds of errors get less: it seems to have become more clear for respondents that there are several questions and each of them tries to capture a certain type of work.

Another clear pattern is seen in the responses capturing the variable DPE01M. Here, several respondents report such work or services, which should have been reported at an earlier stage. For example, a person claims in connection of the question on DPE01E that he has not undertaken any handiwork. However, in connection of DPE01M he reports that he has given ‘other platform work or services’, and in the follow-up questions precises that the work has been eg. electrical installation via one of the most known platforms on renovation work.

Despite the challenges in the questionnaire used, the principle of inquiring platform work type by type seems to better capture the phenomenon than one more general question would. This becomes evident when the DPE pilot 2022 results for Finland are compared to those from 2017. At the time, in connection of the LFS 2017, respondents aged 15 to 74 were asked about whether they had 'during the past 12 months worked or otherwise earned income through the following platforms: 1. Airbnb, 2. Uber, 3. Tori.fi/Huuto.net, 4. Solved, 5. Some other, 6. None of the above.' As a response to this question, some 8 % of respondents considered that they had worked or earned income through platforms the past 12 months. This is almost double as much as in the DPE 2022, although quite the opposite would be expected: platform work – even if still a marginal type of working irrespective of measurement methodology – has surely become more common since 2017. The results indicate that such a general question as used in 2017 gathers even more false positives than the more precise methodology used in 2022.

Denmark

According to the Danish DPE-data, 5.4 pct. of the target population, corresponding to 202,000 people, had used an internet platform or app to carry out work for pay or profit during the last 12 months. Half of these are under the age of 35. The respective shares are marginally higher among women than men, except for the youngest (<25 years) and oldest (>54 years) age groups. It is slightly more common among self-employed than employees.

Work on digital platforms are limited

Only 0.6 pct. of the target population had worked more than one hour using the platforms or apps during the last month. This shows that much of the work on digital platforms is done occasionally. We find that of those having worked more than one hour in the last month, 22.2 pct. had more than half their income from these platforms and apps, which corresponds to 0.1 pct. of the target population and 19 respondents.

Most common activities are selling goods, transportation services and other

The most common digital platform work is the selling of goods (1.5 pct.) followed by transportation services (1.3 pct.) and other (1.0 pct.). It should be noted, that this corresponds to just 115-183 respondents.

Respondents typically use the Danish online platform DBA and Facebook Marketplace to sell goods. The question on transportation service is the first listed, and considering the answers given on which platforms are used, we see that there is quite a few false positives, which should have been in other categories, primarily selling of goods and accommodation. Some respondents also mentioned traditional transportation services that provides booking and/or ticket options on their platforms, which again leads to many false positives. Likewise, we saw that the other category had answers referring to some of the previous categories.

Seven of the categories has less than 0.2 pct. users. These are cleaning and handiwork, child and elderly care, medical and health care services, tutoring and teaching services, translation services, IT-services and online support or checks for online content. Therefore, we suggest that some of these categories are removed or combined in the next version of the questionnaire.

False positives in all categories

Considering the answers given in the free text variable, it is evident that some of the respondents misunderstood the aim of the questions leading to a problematic level of false positives. While some of the platforms mentioned does not support digital platform economy and therefore must be false positive, others can be used either for pay or profit or as a customer. It seems that some of the respondents understood the questions as having used platforms in the given category in general, rather than using it for pay or profit, thus making it impossible to establish exactly how many of the respondents who actually used the platform for pay or profit. It would not be possible to determine this, even if we went through all answers one by one.

Norway

The main findings are that 5.7% of the population 15-64 years of age (corresponding to 200,000 persons) have done some sort of digital platform work over the last 12 months, and only 0.1 % had it as their main source of income in the last month. This means three things: even only trying digital platform work as a hobby or as a second or even third job only concerns a few persons, there is no real permanency, and it is such a marginal part of the labour market economy in terms of workers, hours, and money, that it is difficult to measure it properly in the LFS.

Data quality

The main issue for the survey is if the respondents have understood what we mean by 'digital platform work'. It was an untraditional, but very good idea, to have free text variables to catch the names of the apps/platforms. When we look at the app names given by those who say they have done app work we find large differences between the NACE activities in the understanding of what app work is. In transport of goods, letting of real estate, selling of goods, cleaning and handiwork, online support, and content creation the understanding is reasonably good among the respondents. However, in transport of persons, child care, medical services, tutoring, translation, and IT, the level of false positives is so high that we cannot recommend to use the data set for analysis without line-for-line manual cleaning.

We also note that the 'other' category is quite high, and contains answers which clearly should have been allocated to the specified activity types. But it also contains answers which are so far from what we meant by app work that it is difficult to understand what the respondents have thought of. Results from the testing phase shows that some respondents understood this category as 'other work activities *in addition to* the DPE work', that is as non-DPE activities. That could be at least a part of the answer for the somewhat strange responses we received ('email', 'no apps').

We suspect that the large number of misunderstandings is because app work is still a rather fuzzy term for many persons. Some typical misunderstood answers for app jobs are 'Google translate', 'Teams', and 'Python'. So a substantial amount of respondents have understood 'digital platform work' as 'using digital tools'.

Types of activities which either are qualitatively new, or have one or only a few major actors, look to be easier to understand. Everyone knows what Foodora and Wolt is, and are reasonably able to separate them from traditional delivery services, like having furniture from Ikea delivered to your home. However, separating traditional taxi services, which anyway now all are app based seen from the perspective of the customer, from new taxi services, is very difficult, even for those who work in the industry.

Top three DPE activities over the last 12 months

Letting of accommodation is the largest activity type (1.2 % of persons aged 15-64). There is quite a wide range of app names, and all of them are believable. From the names we can see that a large proportion of this is most likely short-term letting. This probably means that most of those who earn an income from this activity are typically letting their holiday homes.

Content creation for online publishing is the second largest (0.6 %). This has been an easier variable to understand than many of the others it seems, as all listed apps make sense. Instagram, YouTube and Tiktok rank high, with Twitch and Kajabi following a bit behind. These are strictly speaking not apps which assign tasks, but it is reasonable to say that earning money from publishing your own content on YouTube is a digital platform job. The majority of the yes-respondents here are below 30 years of age, and about 60% are men. The education level is low, and even lower than what can be explained by the low age. Almost all were in employment at the time of the interview, but only about 10% of them had this as their main job.

Commercial sale of goods is the third largest activity (0.5 %). As expected, the Norwegian online platform finn.no is the leading portal, but we also find international ones like Etsy and eBay. The number of sellers is low, so it is difficult to draw any sure conclusions, but it could look that this is an activity which is most usual among the very youngest respondents.

Common features

The most striking common feature is the extremely low use of digital platform jobs as main jobs (0.1 – 0.3 percent). Even though 4-6 percent of the working age population has had DPE-work, this number is inflated by at least three factors:

1. Some digital platform use should not be counted as DPE employment (e.g. the occational selling of used goods),
2. People in all three countries misunderstood the definition of DPE work, leading to many respondents citing *Google Translate*, *transportation booking services*, *Teams* and *Python* as digital platform work. Preliminary results from Finland point to around half of respondents doing DPE-work in transportation services being false positives,
3. The DPE jobs are mostly occasional or short term, as evidenced by the substantial decline in the DPE share when asking about work in the last month compared to the last 12 months. Norwegian figures point to 68 pct. of those having done DPE work in the last 12 months, had not worked any hours in an app job in the last calendar month.

The issue of false positives may in practice be mitigated somewhat by false negatives arising from bias in non-response. The DPE work is most pronounced among young people, that are typically among the groups with low response rates when compared to the entire population. Post-calibration of weights using register information seeks to neutralize the bias arising from uneven non-response, so the actual size of this problem is unknown.

Even though the questionnaires were different across the three countries, both by design and language, all three countries experienced substantial issues with conveying the topic to respondents and what DPE work exactly entailed. There were also issues related to how people interacted with the app in question. In a number of cases, the respondent stated having done DPE work although they had only interacted with the app as a customer.

Recommendations for future DPE-related questions

We see that it is difficult to explain to the respondents what we mean with digital platform employment, as we have a notable proportion of false positives. A possible solution could be to reduce the number of categories / industries we ask about, and rather focus on explaining better what we mean with for instance DPE selling of goods. Several test persons understood that category as buying from online shops, and that is definitely not what we meant with the question. The definition of employment in a digital context remains blurry, which is another challenge when conveying the definition to respondents. A number of different cases of false positives risk distorting the results, especially compared to the small number of persons actually involved in the DPE. This leads to a substantial share of DPE-workers incorrectly classified as being that, but rather users of digital platforms.