THE IMPACT OF THE CORONAVIRUS PANDEMIC ON THE LABOR MARKET IN ARMENIA

Content

Executive Summary

In the period of coronavirus pandemic the imposed constraints (lockdowns, social distancing etc.) challenged the data collection by traditional means (e.g. Ducharme et al. 2020), making impossible face to face interviews. Therefore, alternative solutions and/or sources are needed to get timely data to reflect on current matters.Researchers (among others, Adams-Prassl et al.,2020; Bell and Blanchflower 2020;Bick and Blandin, 2020; Coibion et al., 2020) have already offered such solutions running their own surveys more frequently than official government surveys. For instance, Bick and Blandin (2020) designed a survey administered online via Qualtrics and provide real-time US labor market estimates more rapidly than traditional government surveys. Adams-Prassl et al. (2020) provide real time onlinesurvey evidence on labor markets during the covid-19 crisis from UK, US and Germany and show that the impacts of the coronavirus shock differ across countries.

This project has also conducted representative online surveys to make available timely and accurate data related to labor markets in Armenia[1] with the aimto estimate the impact of coronavirus shock. Mobile online surveys were conductedthrough the Avedisian Center for Business Research and Development at theManoogian College of Business and Economics of the American University ofArmenia. These two surveys covered all of Armenia and were titled "The Impact of Coronavirus Pandemic on the Labor Market in Armenia" and "The Socio-economic Consequences of Coronavirus Pandemic in Armenia". The potential respondents gotan invitation to participate in an online survey through SMS massages. Respondentswere chosen through the proportionate stratified random sampling method. The Demographic Handbook of Armenia, 2019 published by the Statistical Committee of the Republic of Armenia has been considered for stratification by marzes and Yerevan. The surveys were conducted in two phases: Survey participation invitations through SMS were sent out on September 25th (in fact, this was the first

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[1] As elsewhere, in Armenia the official data sources are available with time lag and specifically, LaborForce Survey (LFS) data is released only annually. The latest LFS published is for 2019.

phase) and on December 4th (the second phase[2]). Overall, 2516 and 3232 responseswere collected for the two surveys (out of which 1655 and 2048 were complete responses).

Using the data collected through the surveys, the project studies and documents labor market outcomes, e.g. job losses since the COVID-19 outbreak in Armenia. The analysis of data is provided in Chapter 1. In particular, more than 25 percent of respondents have lost job and attribute it to the coronavirus pandemic. For majority the lost job has been their main job. The coronavirus pandemic has ledalso to foregone opportunities of promotion and other effects on labor markets suchas difficulty to find a job. Respondents' anxiety, for example, about accumulated debts, salary reduction, job loss, daily expenses has gone up when they compare that to pre-coronavirus shock levels. Around 65 percent finds that coronavirus outbreak, its prevention and control measures had negative or very negative impacton their financial situation. The reduction of family's financial support received from abroad as a result of coronavirus shock and imposed restrictions was experiencedby 16 percent of the respondents, when they compared it with the same period of theprevious year. Around 17 percent of respondents (who did not lose job in 2020) indicate experiencing less payment at the workplace and around 23 percent of respondent indicate change in working hours. In terms of job losses, the industries"Agriculture, forestry և fishing"; "Manufacturing, mining and quarrying and other industry"; "Construction" and "Wholesale and retail trade, transportation and storage, accommodation and food service activities" were the most affected ones. The industries "Information and Communication" and "Financial, insurance and real estate activities" experienced much lower declines. Employees with written contracts were less likely to lose their job, while it was more likely for employees with a verbal agreement. Respondents, who were in a full-time or in a part-time job had lower percent of job loss, than those working with a daily or hourly wage rate. The longer job tenure is, the less is the job loss percentage. The job loss percentage changes with employer size and it is smaller in larger companies. Thereis a negative relationship between job loss and the ability to work from home. Constructing a variable on the potential to work from home (following Alipour et al.,

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[2] The two phases were conducted this much apart from each other because of the large-scale warlaunched by Azerbaijan against Arstakh Republic on September 27th.

2020), we find the "Information and Communication" industry has the highest potential of working from home, followed by the "Financial, insurance and real estate activities" and "Professional, scientific, technical, administration and supportservice activities". Then comes the "Public administration, defence, education, human health and social work activities".

The imposed restrictions to reduce spread of coronavirus shock assume social distancing. Thus, if remote work is possible, then potential negative effects on labormarket outcomes can be eliminated or mitigated to the extent demand slowdown allows. Given the importance of this question the project also studies the current matters of working from home in Armenia (paper is given in Chapter 2). Number ofstudies assess the possibilities of working from home for other countries as early as amid coronavirus outbreak (e.g. Alipour et al., 2020; Bartik et al., 2020; Brynjolfsson et al., 2020; Del Rio-Chanona et al., 2020; Dingel and Neiman, 2020; Saltiel, 2020). For instance, Dingel and Neiman (2020) estimate that 37 percent of jobs in the United States can be performed entirely at home. The analysis also reveals that lower-income countries have lower share of jobs which can be done athome. Based on their approach, Saltiel (2020) uses STEP survey data to estimate shares of works possible to do from home for a number of developing countries, included Armenia and Georgia. As per the obtained results, in Armenia that share isaround 12 percent while in Georgia it is close to 20 percent, though the estimates are at the same level in both countries (around 40 percent) if the criteria for classification is the fact that one uses computer at the workplace. However, note that the data that Saltiel (2020) uses comes from the first and second survey roundsof STEP (for Armenia that is the year 2013), and thus it is obviously not up to date. Gabrielyan (2020) provides and discusses the most recent evidence on working fromhome, analyzing the situation in Armenia using survey data conducted in late May, 2020. The survey designed for this project has similar question to reveal if respondent is working from home and also includes a question on a potential for working remotely. Following Alipour et al. (2020), the survey in this project explicitlyasks about self-assessment on the possibility of the job to be done from home, if such opportunity is provided. Around 57 percent of respondents indicate that the jobis not possible to perform from home. This result is in line with the finding of Saltiel(2020), which using STEP survey data and considering the criteria for classification

computer usage at the workplace, finds that around 40 percent of jobs can be donefrom home in Armenia, hence the rest cannot (the data comes from year 2013). Moreover, our questionnaire also includes a question on the current state of mattersin working from home, attempting to reveal important characteristics of the nature of work from home (self-reported effects on productivity). The paper given in Chapter 2 studies the collected data and unfolds important characteristics of work from home, and possible effects WfH (work from home) and related platform technologies have had in mitigating COVID-19 crisis outcomes. In particular, it is found that women have more WfH engagement and potential, as well as willingnessto WfH. We also find that WfH has mitigated the negative effects of COVID-19 on the personal financial position and the salary income. Other facilitating technologies forjob finding, like online platforms did not have any positive role. As one would expect,we also find that higher education, income, urban residency, and being an employee are all positively correlated with actual WfH.

Besides the effect on job losses and work arrangements (work from home), the coronavirus pandemic and imposed restrictions have influence on expectation and perceptions about the future, which ultimately shapes their actions (such as work efforts, productivity, decision to look for a job). Following Baert et al. (2020), one of the surveys includes questions on how respondents think COVID-19 would affect their careers and labor markets in general. The collected data on respondents' perceptions is analyzed in a paper given in Chapter 3. This paper analyses the expectations and the anxieties of the general public connected to the labor market and their future career prospects. The majority of respondents in short term period(before the January 11) considered the possibility of earnings drop, job loss, postponed promotions, and decrease in the number of attractive job vacancies of respondents to be likely or very likely. As for the long-term effects of COVID19, assuming pandemic is overcome, the respondents' expectations on permanent salary reduction, career damage and missing future job still are considerable. The study identifies various demographic groups that are the most vulnerable to Covid19from the point of view of career and labour market pessimism (e.g. young urban population outside of Yerevan). Furthermore, this study highlights the fact that most of the labour market and career expectations are adaptive in their nature, and the experiential factors have the highest potency of determining them.

One of the surveys also includes a question on the willingness/intentions to get vaccination, when available. Note that apart from being a health related decision,it is also an economic decision (Mullahy, 1999). It acts as a means to enhance labor market outcomes (productivity, working hours etc) in the future. The project studiesand documents the data on the willingness to get vaccinated in the paper given in Chapter 4. If vaccine available, around 25.7% of the respondents express willingnessto get vaccinated, 34.6% are not willing to and the remaining 39.7% are unsure. The paper examines the willingness to get vaccinated against COVID-19 and its association with individual characteristics and perceptions. The willingness to get vaccinated displays expected patterns by employment, gender, education, marital status, insurance, trust towards the health system and information measure. In particular, those who have university degree, are employed, have better health status, are married and have lower trust towards health system are less likely to accept vaccination if available.

The collected survey data is studied and the results of the project are documented in the chapters of this report. To document the results graphical illustrations, tables and relevant statistical methods are considered, when applicable. Note that the report consists of different papers which are separate fromeach other and are given as chapters.

Chapter 1

Analysis of Survey Data - "The Impact of Coronavirus Pandemic on the Labor Market in Armenia"

There are 2442 responses[1] and note that it is not about complete responses. Figure 1 displays[2] that 58.5 percent of respondents are employed. Quite large fraction of respondents, 30.7 percent, indicate having no job, but actively lookingfor one. Having no job while not searching for one is indicated by 7.7 percent of respondents.

The coronavirus pandemic led to number of restrictions and hence, resulting changes in the employment status. For instance, some employees were furloughedor started working from home. Figure 2 reports the answers on the change of employment status.

Figure 1: Employment status as of last week
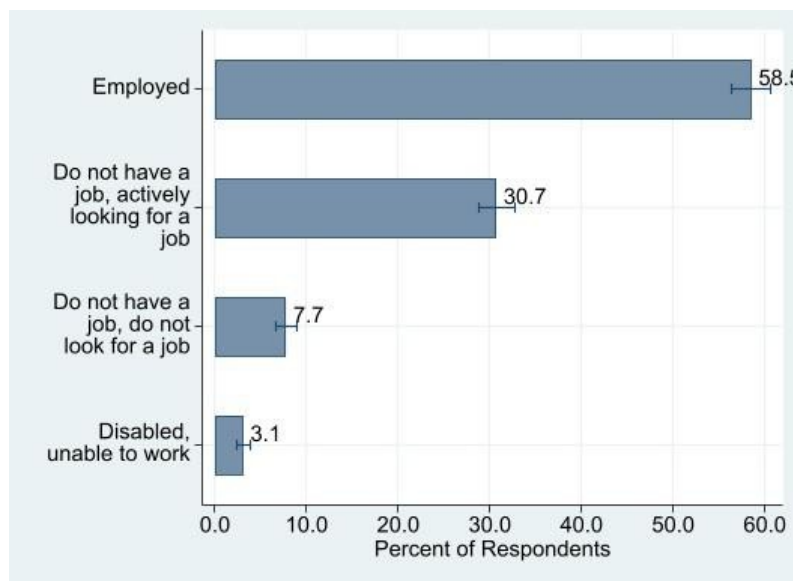
Note: 2157 observations.

Given the state of emergency was declared and restrictions have been imposed in Armenia because of coronavirus outbreak, some workers were able to work from home. Namely, 13.5% used to commute but now work from home. Around 4.5% of workers report recently being furloughed. Yet, the majority (55.9%) was and still is commuting to work.

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[1] The age of respondents is restricted to be no lower than 18.
[2] In this and other figures of this document 95 percent confidence intervals are also shown.Hereinafter, limits of the confidence intervals are computed using logit transformation.

Figure 2: Employment condition as of last week, conditional upon being employed.
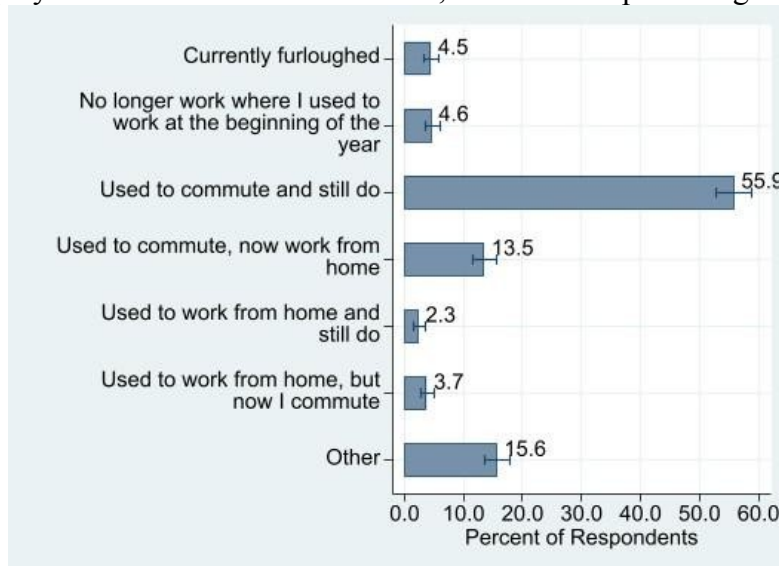
Note: 1076 observations.

Meanwhile, survey also asks about the readiness to accept an offer to work from home. We follow one of existing studies in the literature[3] to assess the potential of working from home. According to that approach, the job is not possible to do from home if the respondent explicitly indicates that the offer will not be accepted because the work cannot be done remotely. Figure 3 displays the results.

Figure 3: Respondents' acceptance of the offer to work from home.
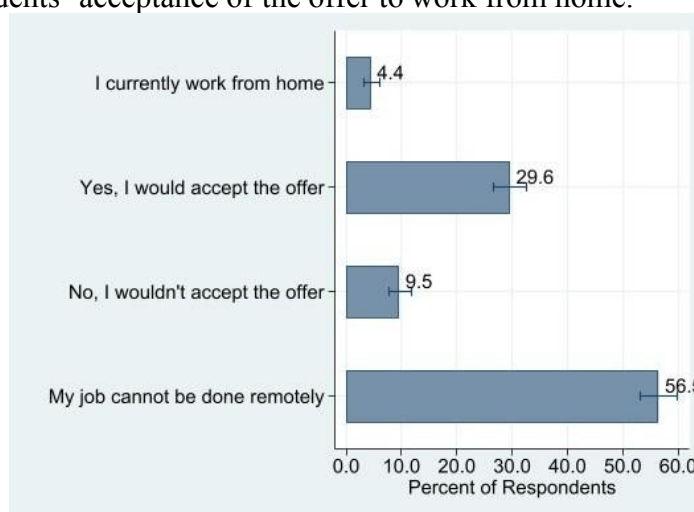
Note: 859 observations.

Thus, 56.5 percent indicate that the job is not possible to perform from home. Around 30 percent of workers report willingness to switch to work from home if offered and 9.5 percent are not willing to work from home. This result is in line with the finding of Saltiel (2020), which using STEP survey data and considering thecriteria for classification computer usage at the workplace, finds that around 40

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[3] Alipour, JV, Falck, O., Schüller, S. (2020). Germany's Capacities to Work from Home. IZA DP No. 13152

percent of jobs can be done from home in Armenia (though the data comes from year 2013). Regarding the productivity of work from home (Figure 5), slightly more than 25 percent of workers (conditional upon working from home) report being not productive or mostly not productive when working from home. Around 48 percent of workers report being mostly productive or very productive when working from home.

Figure 4: The assessment of productivity of work from home regarding the current job
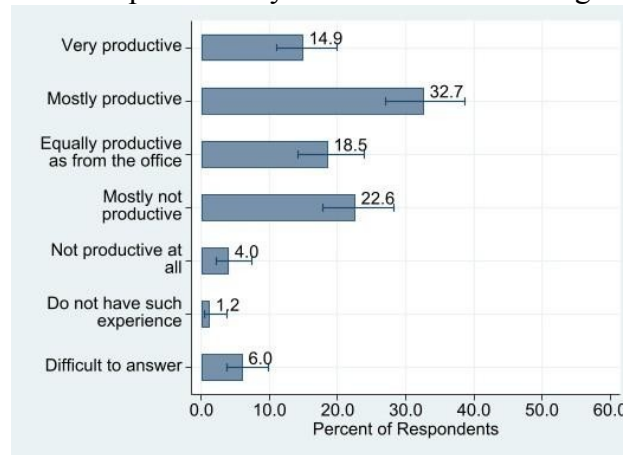
Note: 248 observations

The Figure 5 shows the impact of coronavirus outbreak on the respondents' financial situation. Among 2180 responses 1421 respondents (65.2 percent) indicated that coronavirus had negative or very negative impact on them, whileonly 85 respondents (3.9 percent) mentioned that the coronavirus had a positive effect. It is noteworthy, that 632 respondents (29 percent) mentioned that thecoronavirus had no impact on their financial situation.

Figure 5: What effect had the coronavirus outbreak, its prevention and control measures on your financial situation?
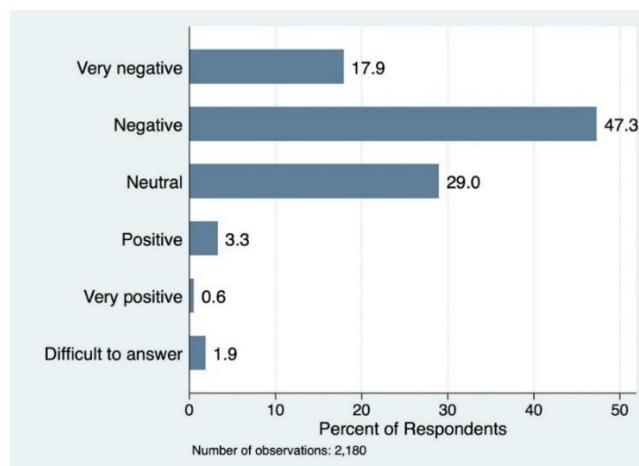
At the same time, as shown in the Figure 6, 1953 respondents (89.6%) think the coronavirus had negative or very negative on the financial situation in Armenia. If we compare this with Figure 5, then we could see that 17.9 percent of individuals considered the impact on their financial situation to be very negative, while for Armenia overall it is very high, i.e. 43 percent of respondents indicated the impact to be very negative.

Figure 6: What effect had the coronavirus outbreak, its prevention and control measures on the financial situation in Armenia?
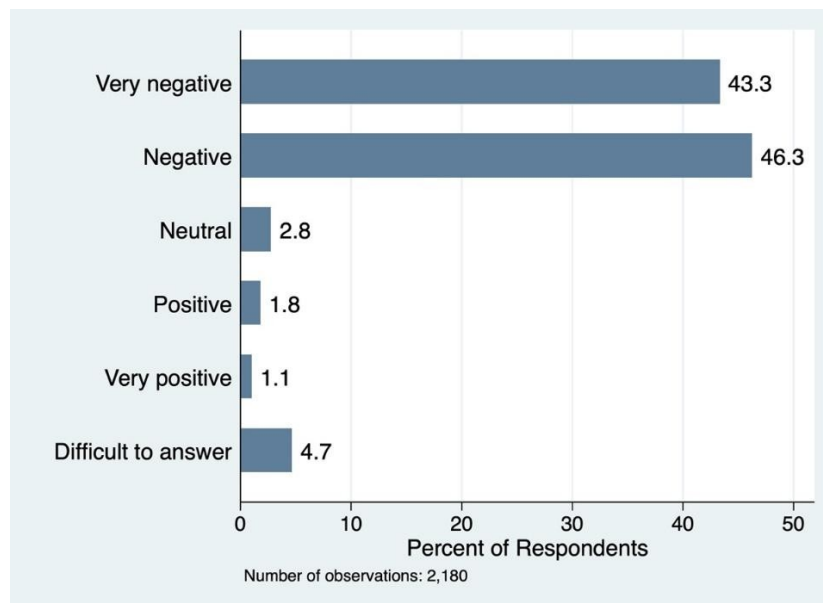
Figure 7 at the share of respondents, who answered whether coronavirus impacted on their wages. 16.6 percent says they got paid less for the same amount of work than before due to the coronavirus, while only 3.8 percent of respondents mentioned a wage increase. The remaining 79.6 percent indicated no change in salary. This is the question addressed by the respondents who did not lose the job in 2020. Thus 16.6 percent is a high proportion of people who even though did not lose the job but experienced reduction of the salary while doing the same amount of work.

Figure 7: Which of the following best describes the impact of coronavirus and restrictions applied on the salary from your main job?

Figure 8 shows how the coronavirus pandemic impacted on the working hours of the respondents during a typical/standard week. Note that this is addressed by respondents who have not lost a job. Still, 9.6 percent of them report an increasein working hours, while 13.5 percent reports a decrease. 76.9 percent of respondents have not experienced change in working hours.

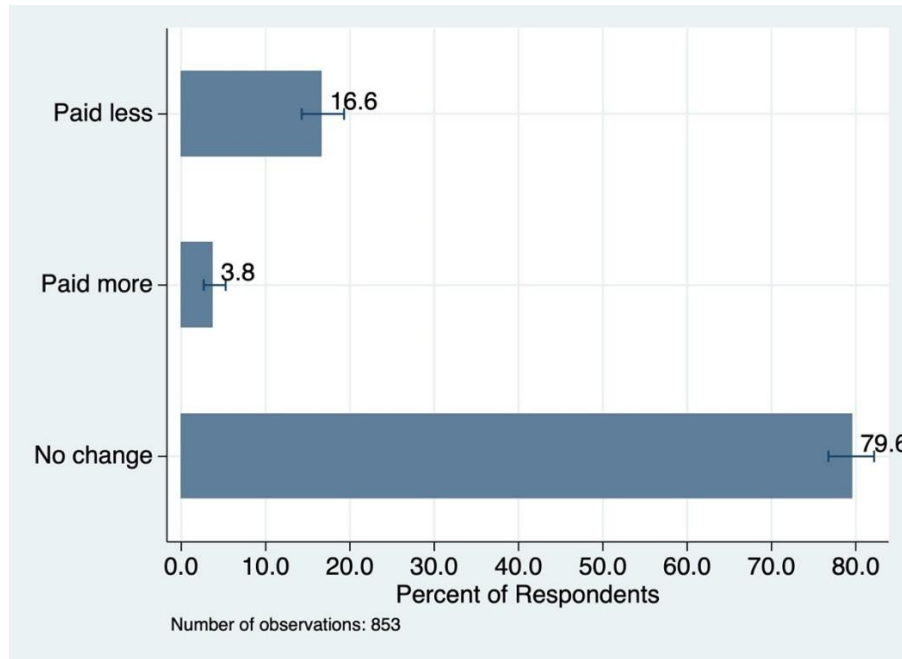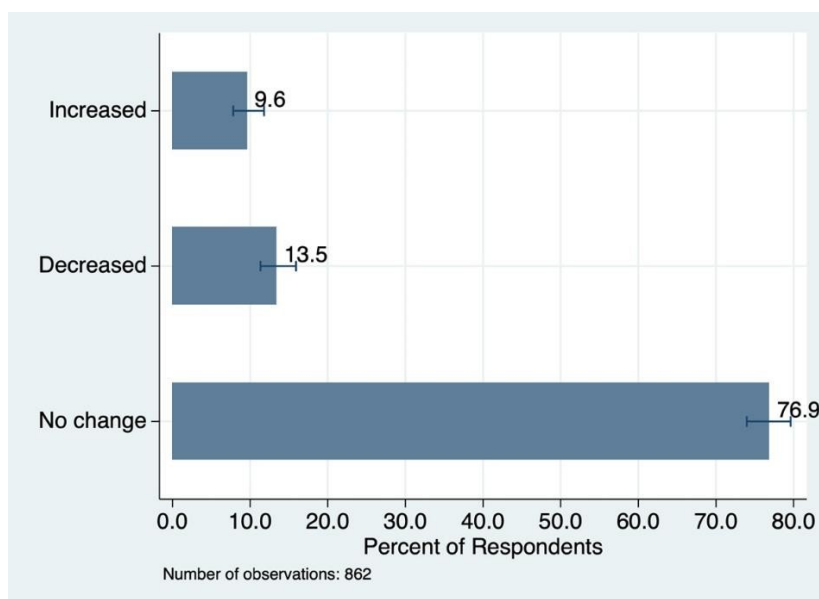**Figure 8:** Which of the following best describes the impact of coronavirus and restrictions applied on the working hours of your main job during a typical/standard week?

At the same time, a decrease of the financial support from abroad was experienced by 16 percent of the respondents, which is displayed in Figure 9. Only 2percent of the respondents had an increase of financial support from abroad, while75.4% has never received it.

Figure 16: Which of the following best describes the impact of coronavirus and restrictions applied on receiving financial support from abroad on your familly? Compare with the same period last year.
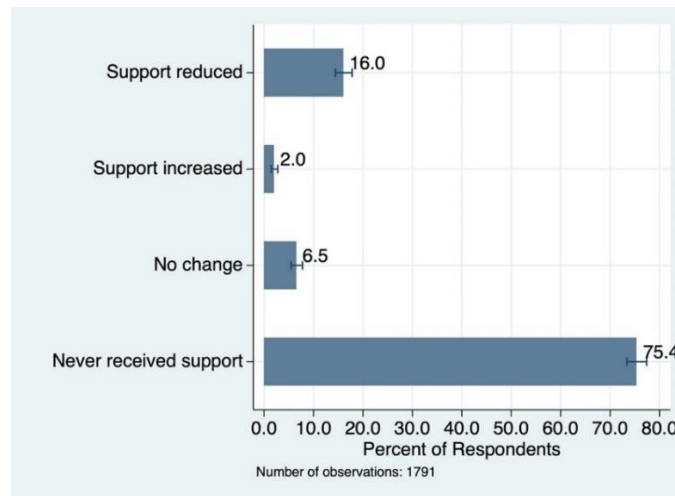
Following Adams-Prassl et al. (2020)[5] the job loss variable is constructed asfollows. It is equal to one if respondent has no job and attributed the loss to COVID-19, and is equal to zero if respondent was employed in the time of survey(26 percent are ones out of 1700 responses[4]). As it can be noted there is a clear negative relationship between job loss and the ability to work from home. Around 35% of workers who cannot work from home lost their jobs. This is comparable to data for the US and UK by early April, while for Germany for the same period itwas quite moderate, less than 10 percent[5].

Figure 17: Job loss by percentage of tasks that can be done from home

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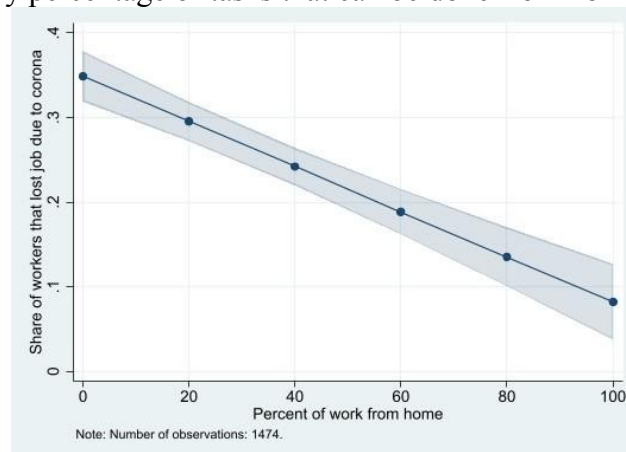
[4] Note that around 73 percent of respondents who do not have job and lost it in 2020, attributed it to coronavirus pandemic. More can be found on the p.12 of this document from the other survey.
[5] Adams-Prassl, A. Boneva, T., Golin, M., Rauh, C. (2020) Inequality in the impact of the coronavirus shock: Evidence from real time surveys, *Journal of Public Economics*, Volume 189,

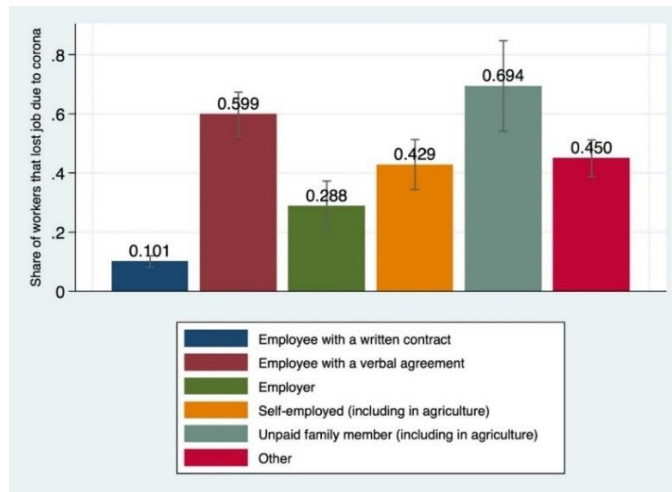Figure 18 displays the proportion of employees who lost their job by the employment contract[6]. Employees with written contracts were less likely to lose their job. It is only 10 percent in this category who lost the job. Employees with a verbal agreement lost job in 59.9 percent cases.

Figure 18: Job loss due to the coronavirus by the employment contract

Number of observations: 1665

The Figure 19 draws the share of workers, who lost their job due to the coronavirus, depending on the contract type they had. As it can be seen, respondents, who were in a full-time or in a part-time job, had lower percent ofjob loss, than those working with a daily or hourly wage rate. It is only 14.1 percent of full-time and 19.8 percent of part-time working respondents mentioned that theylost their job, while respondents who had daily or hourly wage rates lost their jobin 61.7 percent and 36.5 percent case, respectively.

Figure 19: Share of workers that lost their job due to the coronavirus depending on the contract type.

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[6] Note that given the number of categories are several while the number of observations are small so within a given category there can be small number of observations, this results and similar ones in this document should be treated with some caution. Nevertheless, the confidence intervals are reported too.

Number of observations: 1639

Figure 20 shows the share of workers that lost their job due to the coronavirus depending on the work duration. It can be noted, that the more years the respondents work, the less likely they are to lose the job. Respondents with an experience less than a month, lost their job in 61.8 percent cases, with 3-5 months experience - in 52 percent cases, while respondents with 5+ years of experience lost their job in less than 14 percent cases.

Figure 20: Share of workers that lost their job due to the coronavirus depending on the job tenure
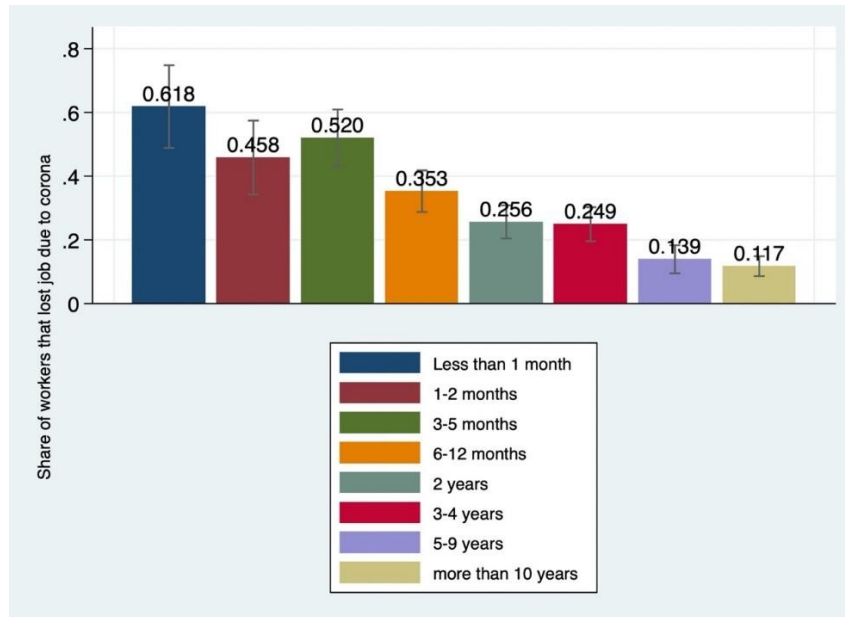
Number of observations: 1629

The job loss depending on the number of employees in the workplace is displayed in Figure 21. It is worth to mention, that only 0.7 percent of the respondents, who was working in a company with more than 250 people, lost their job, while people working in a company with less than 20 people, lost their job in more than 36 percent cases, with the highest 47.5 percent loss for respondents, working alone.

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Figure 21: Share of workers that lost their job due to the coronavirus by the number of employees in the workplace.
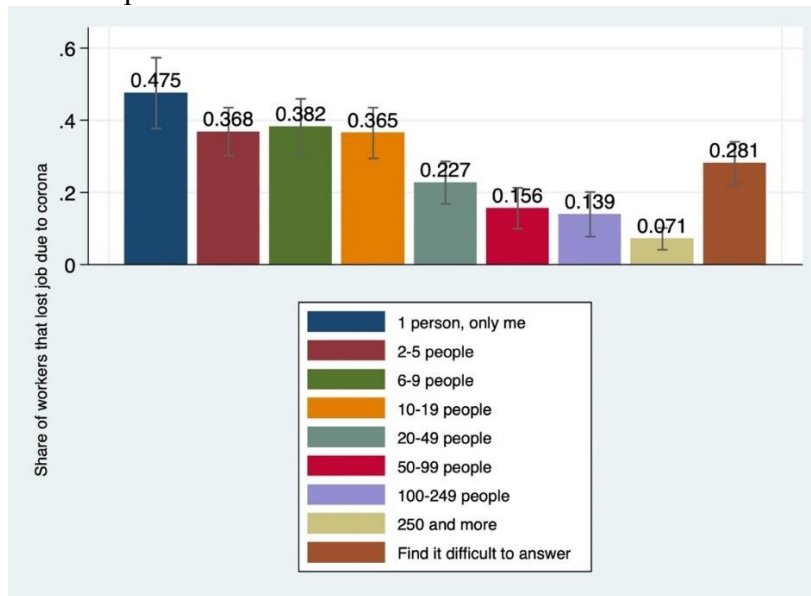
Number of observations: 1619

Figure 22 displays that job loss proportion is lower in the state and private localorganizations compared to other types.

Figure 22: The job loss depending on the organization type
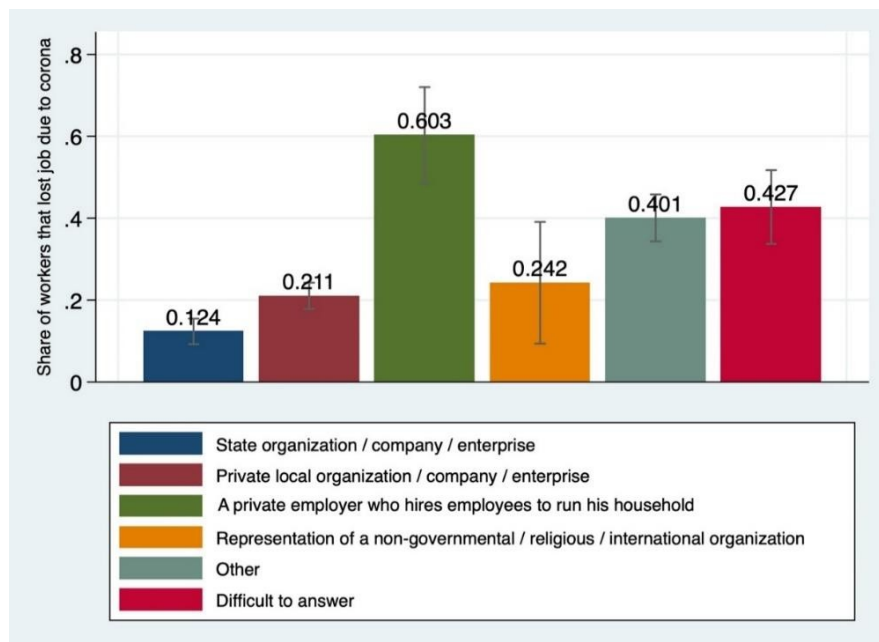
Number of observations: 1697

The share of job losses by sectors is displayed in Figure 23. Employees in the industries[7] "Agriculture, forestry u fishing"; "Manufacturing, mining and quarrying and other industry"; "Construction"; "Wholesale and retail trade, transportation and storage, accommodation and food service activities" and "Other services" were most likely to lose their jobs. Other industries such as "Information and Communication" and "Financial, insurance and real estate activities" experienced much lower declines. Figure 24 displays job losses by marzes and capital city.

Figure 23: The share of job losses by sectors

Number of observations: 1571.
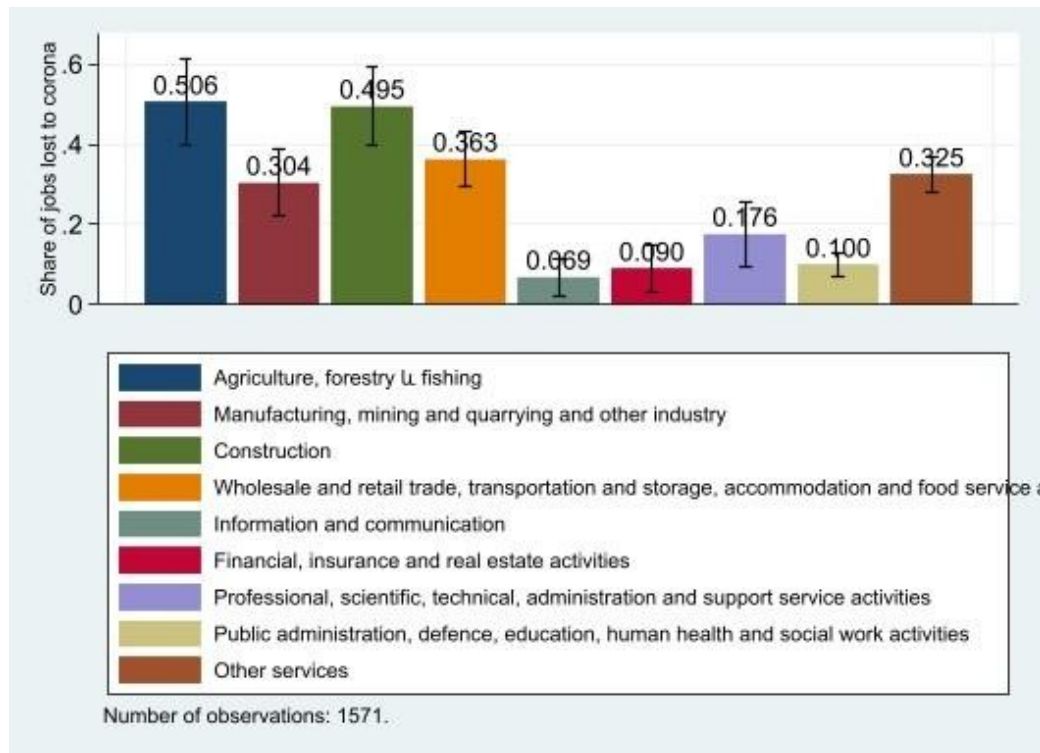
Figure 24: The share of job losses by capital city and marzes

Number of observations: 1351.

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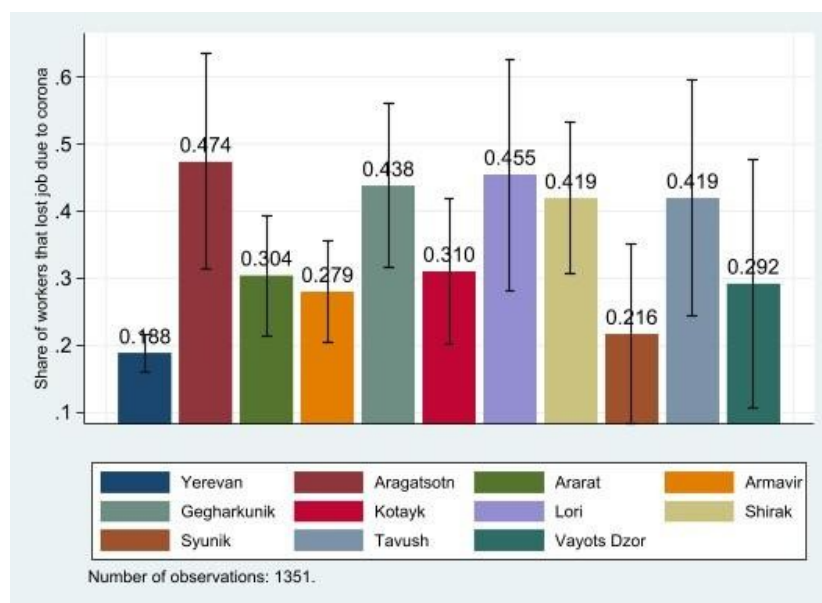
[7] High-level SNA/ISIC aggregation is considered.

Following Alipour et al. (2020)[8] we construct a variable on the potential to work from home. The respondents are asked if they would accept the work from home offer by the employer. The work from home is considered as impossible, if respondents explicitly indicate that it is not possible at their job to work from home(otherwise it is considered as possible). Figure 25 and 26 display the potential of work from home by industries and regions. As it can be noted, the "Information andCommunication" industry has the highest potential of working from home, followed by the "Financial, insurance and real estate activities" and "Professional, scientific, technical, administration and support service activities". Then comes the "Public administration, defence, education, human health and social work activities".

As for the regional breakdown, the highest work from home potential is in Yerevan.

Figure 25: The potential of work from home by industries
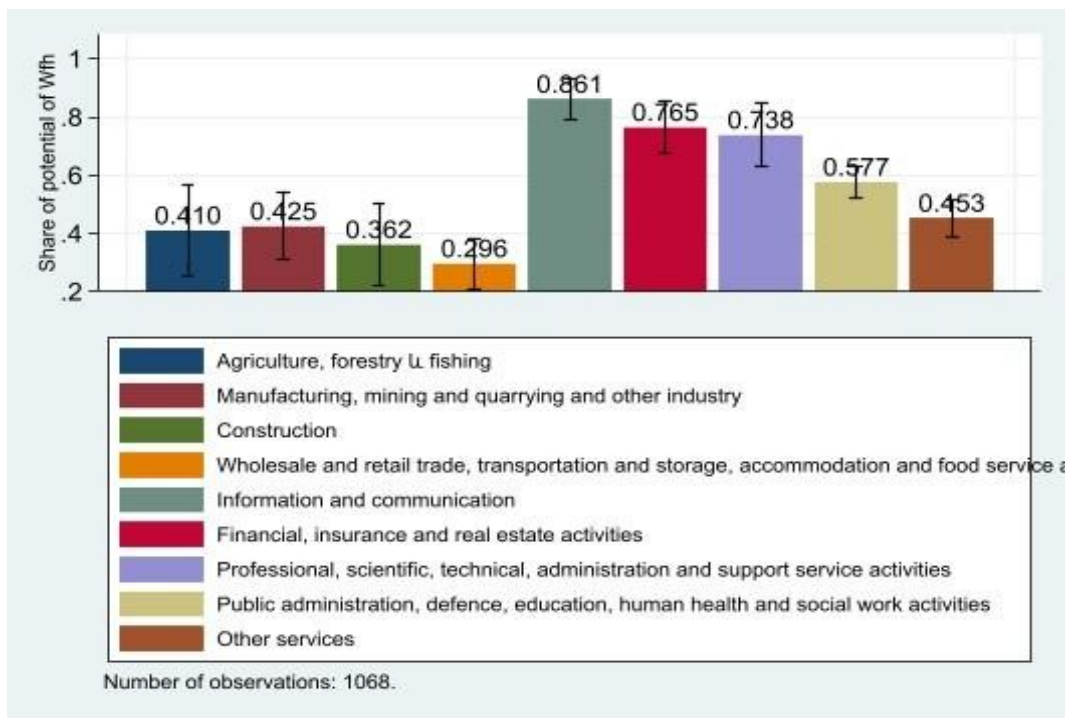
Figure 26: The potential of work from home by capital city and marzes
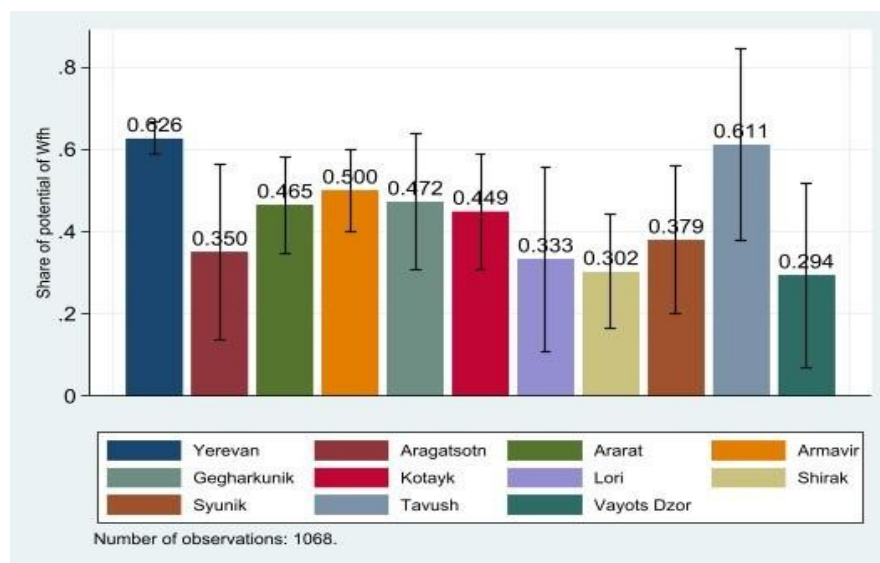
[8] Alipour, JV, Falck, O., Schüller, S. (2020). Germany's Capacities to Work from Home. IZA DP No. 13152

Analysis of Survey Data - "The Socio-economic Consequences of Coronavirus Pandemic in Armenia"

There are 3110 responses[9] and note that it is not about complete responses.For some questions we have missing values. 1700 respondents out of 2781 (61 percent) indicated that they did not lose job in 2020, while the rest, 1081 respondents (39 percent), lost their job. The fraction of respondents who lost the job is quite large and their perceptions whether the lost job is due to coronavirus are displayed in Figure 1. As it can be noted, majority who lost the job indicate that it was definitely or probably due to coronavirus pandemic (71 percent of 1081 responses). More specifically, more than half of therespondents (52.1 percent of 1081 respondents) perceive it was definitely due tocoronavirus pandemic.

Figure 1. Do you think the loss of job was due to coronavirus?
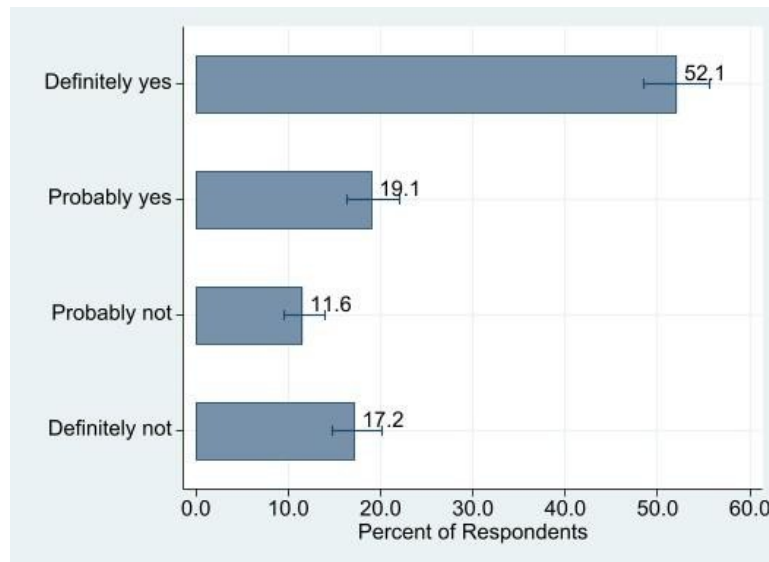
Note: 1,081 observations.

At the same time, significant fraction of lost jobs are main jobs, as depicted in Figure 2. In particular, 73 percent of respondents, who indicate that the loss of job is definitely due to coronavirus pandemic, lost their main job. The respondents were provided with a definition of the main job as the one where they spent most of their working hours per week.

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[9] The age of respondents is restricted to be no lower than 18.

Figure 2. Do you think the loss of job was due to coronavirus and was that your main job?
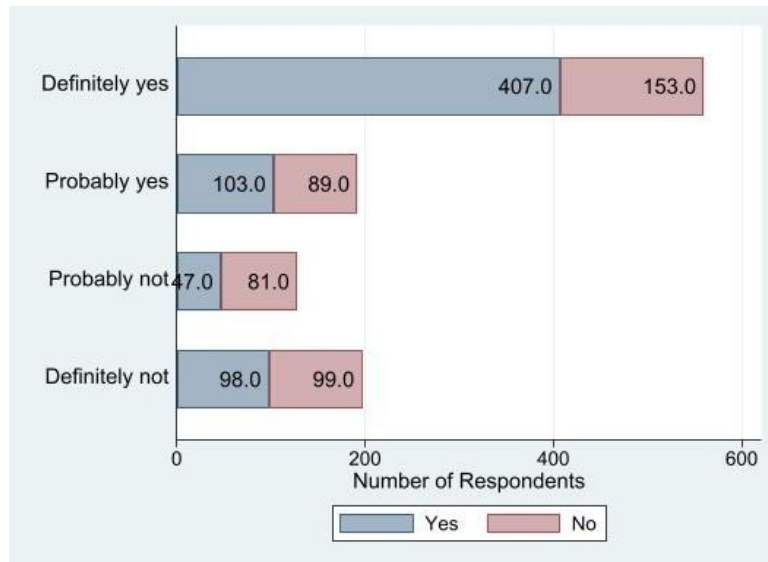
Note: 1080 observations

In the same survey, there is a question asking about the forgone or postponed opportunities of career promotions (salary, position upgrades) which they perceive took place because of the spread of coronavirus and undertaken restrictions. As it can be observed from Figure 3, the 36.4 percent of respondents[10] indicate that the job promotions were forgone (either did not take place or were postponed).

Figure 3. Forgone promotions (salary, position upgrades)
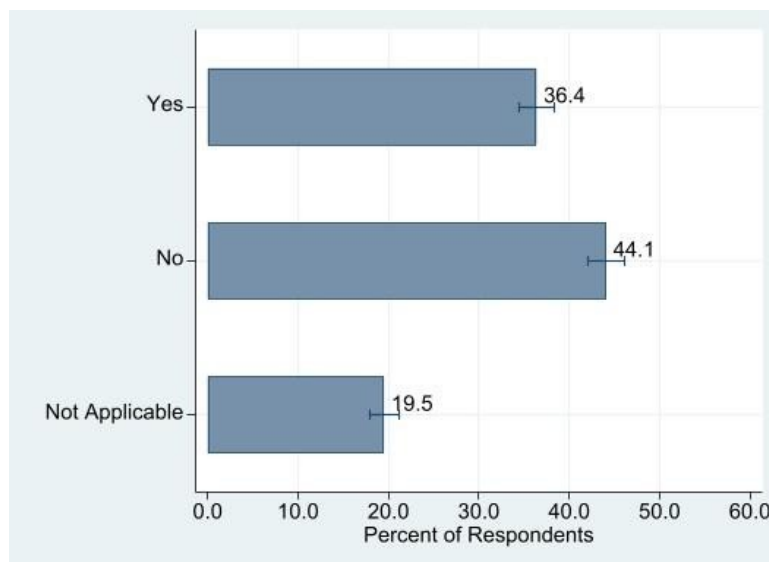
Note: 2465 observations.

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[10] It is 45.2 percent of respondents for whom the question is applicable.

Perceptions of respondents regarding the availability/reduction of vacancies and difficulty to find a job is displayed in Figure 4. Around 36 percent of respondents[11] indicate that because of the spread of coronavirus andundertaken restrictions they observed less availability of vacancies of interest and difficulties to find a job.

Figure 4. Vacancy numbers and difficulty to find a job
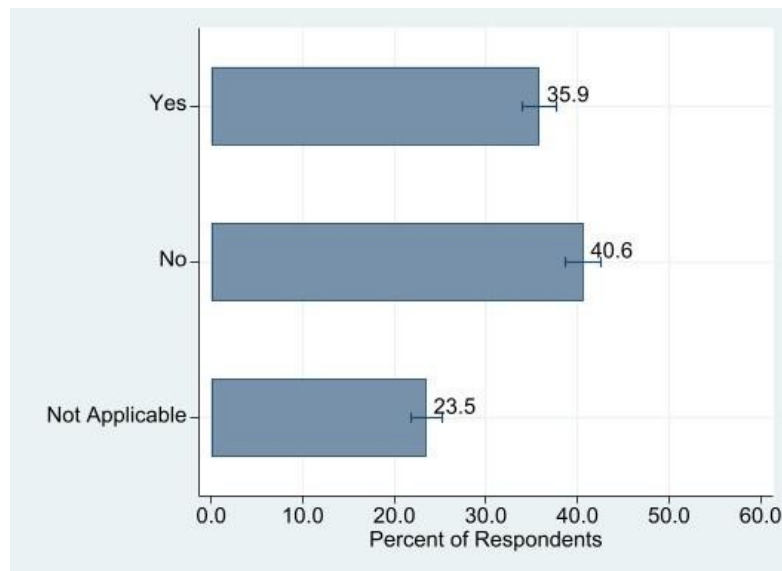
Note: 2465 observations.

The respondents were also asked to compare their anxiety level to the level they experienced before coronavirus spread and undertaken measures. Panel
A. B, C and D of the Figure 5 report the summary of the responses for the anxiety over the accumulated debt, daily expenses and loans, salary/revenue reduction and job loss, respectively. It is worth to highlight that these are self- reported levels.

Overall, the observation is that the anxiety has gone up compared to the pre-coronavirus experiences. It is about quite large fraction of respondents indicating that they are more worried. Meanwhile, we could see from Panel D of the Figure 5 that the fraction of respondents stating an increase in the anxiety about losing the job is relatively lower, but still high.

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[11] It constitutes around 47 percent of the respondents, who have been searching for a job asper their indication of the question to be applicable to them.

Figure 5. Anxiety levels compared to the level experienced before the spread of coronavirus and undertaken measures.

Panel A. Anxiety about the accumulated debts
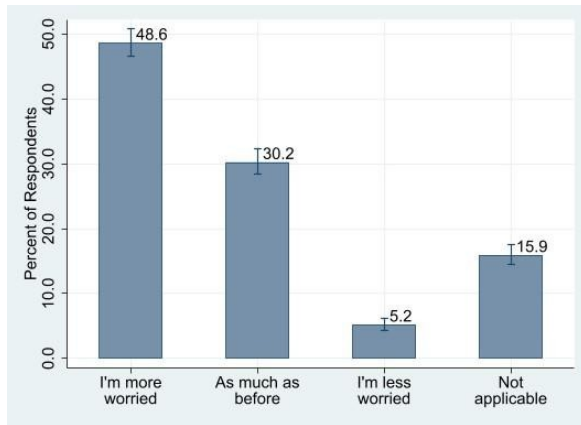
Panel B. Anxiety about daily expenses, loans
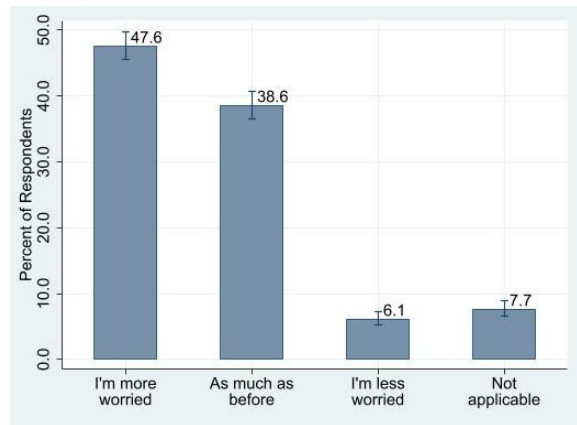
Panel C. Anxiety about salary/revenue reduction
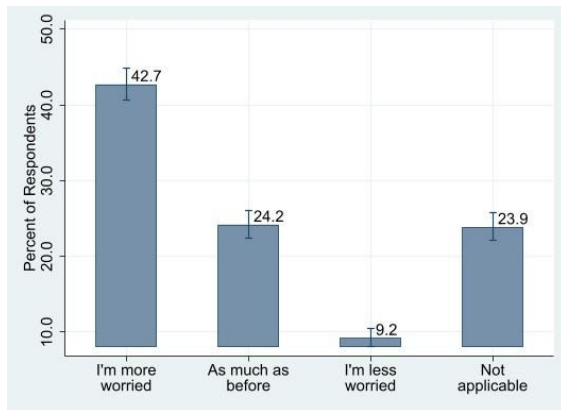
Panel D. Anxiety about job loss
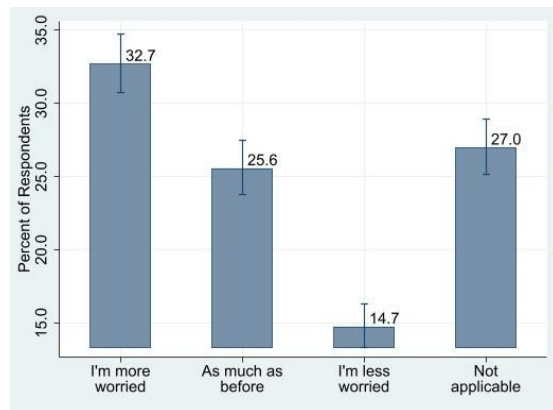
Chapter 2

Work from home: resilience in times of Covid-19

Abstract

Using the unique features of a country-level representative survey we were able to unfold important characteristics of work from home, and possible effects WfH and related platform technologies have had in mitigating COVID-19 crisis outcomes. Similarly to European countries, we find that women have more WfH engagement (Eurostat, 2020) and potential, as well as willingness to WfH. We also find that WfH has mitigated the negative effects of COVID-19 on the personal financial position and the salary income.As one would expect, we also find that higher education, income, urban residency, and being an employee are all positively correlated with actual WfH.

1   Introduction

Work from home (WfH) and the possibility to utilize new technologies for finding a job or short-term paid work might be a way to mitigate COVID-19 driven negative shock in the economy. As figure 1 demonstrates for Euro area countries, the pre-existing larger prevalence of work from home is correlated with the lower unemployment rate in the 3rd quarter of 2020. Obviously, the extent to which WfH can be an option depends on a number of issues, such as various parameters describing the job, as well as workers' skills, family situation, and willingness to work from home.

In this paper, we identify workers' profile who are more probable to work from home and measure the extent to which WfH eases the negative consequences of COVID-19 on the personal financial situation and working income. In addition, we provide some descriptive evidence on WfH potential and its utilization, as well as investigate the willingness and productivity of WfH.

Figure 1: Work from home and unemployment
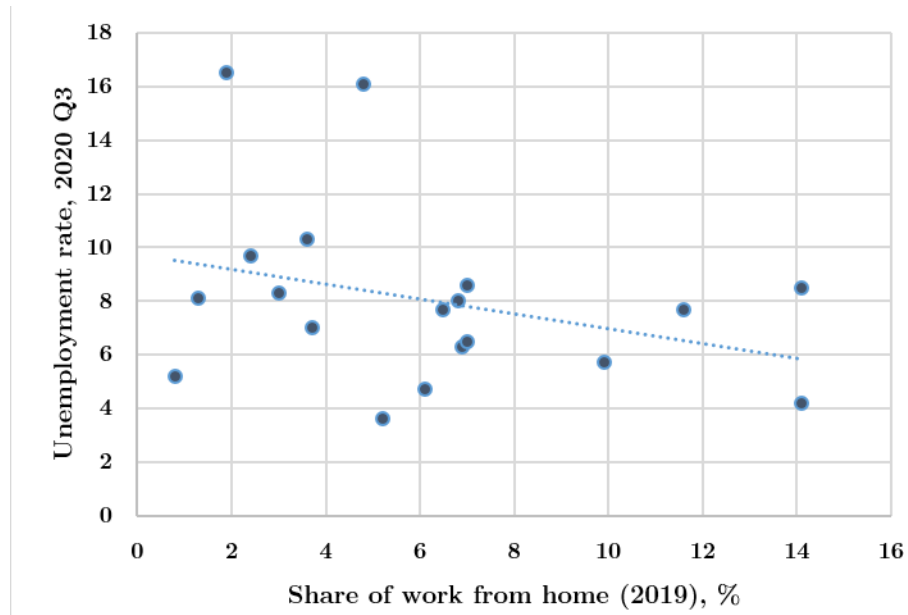
Source: Eurostat

According to Gottlieb et al. (2020), there is a major gap between developed and developing countries in terms of WfH capacity. This is explained by many factors, such as differences in occupation structures and skill content (Dicarlo et al. 2016) or infrastructure. Our study focuses on Armenia, a post-Soviet developing country which was severely hit by COVID-19. In the Summer of 2020 Armenia was among the top ten countries in the world in terms of COVID-19 cases per capita. Obtaining evidence on WfH from a developing country that should have utilized its WfH capacity to the highest possible rate is important to capture understudied differences between developed and developing countries.

The questions we are trying to address are also important from policy perspective. Understanding the characteristics that make WfH possible, as well as knowing to what extent WfH eases the pressure from the crisis can be used to better organize assistance programs. Given that the economic crisis will persist, WfH can be an option also after the acute phase of COVID-19, as it can come with reduced business costs. In this regard, the understanding of the factors that contribute to higher willingness to take on WfH and factors positively affecting WfH productivity are of central issue.

To investigate the mentioned questions we have collected data via self-administered electronic survey. Participants were invited by randomly sent SMS and around fifteen hundred complete responses were received ensuring country-level representatives of the data. We apply a series of binary and ordinal outcome models focusing on certain variables of interest - gender and self-reported characteristics of the job, among others. Probit estimator is used to predict a WfH status or binary choices, while the ordinal logistic regressions are used to obtain Likert type scale outcomes. The causality is claimed only if it is implied by the structural construction of the model.

We obtain a number of noteworthy results, which contribute to the ongoing research on work from home and related aspects. First, controlling for the sector of employment, work schedule flexibility and some demographic variables we obtain that female workers are 12-15 percentage points more probable to be actually working from home at the time of the survey. Moreover, women are about 10 percentage points more willing to work from home,if such an opportunity arises. Second, we find that the perceived productivity of WfH is positively associated with the flexible work schedule. Third, WfH mitigates the negative effectof COVID-19 epidemics both in terms of general financial situation as well as when consideringlabor income only. Finally, we do not find any evidence that utilization of modern job search tools, such as on-location and web-based platforms, positively impacts the respondents during the COVID-19 epidemic.

Our work contributes to two strands of literature - the one that deals with the working from home and alternative work environment arrangements in general, and the second with the impact of COVID-19 on working conditions and welfare. There are alternative approaches in the literature that try to pin down types of work potentially implementable from home. Dingel and Neiman (2020) use US survey data on occupations to construct work from home feasibility measure for each occupation. The advantage of this approach is that it uses objec- tive characteristics of the jobs and correlates quite well with actual WfH patterns. The main shortcoming is that it is tailored to the US. Saltiel (2020) overcomes this by applying a similar approach to developing countries. The alternative to surveys applied in the US, in this case, is the World Bank's STEP - a standardized study on Skills Toward Employability and Productivity implemented in various countries. The predicted WfH is verified for data on Brazil and Costa-Rica. Our paper builds on this finding as it also compares actual vs potential WfH

capacity. But the methodology we apply to come up with potential WfH capacity follows alternative path and relies on self-reported information.[1] It is more similar to Alipour et al. (2020). In this study, surveyed employees answer a question on whether they would agree to work from home if the employer grants such an opportunity, and the work is considered impossible to be carried out from home if the respondent chooses that option as a response. Our study adopts slightly different approach and construct the WfH potential variable usingthe response on 0-100% scale about the degree to which the work can be carried out from home. In addition, we select a threshold above which the work can be considered eligiblefor WfH using the response to the same question for those who actually to work from home. We also verify the estimates by Saltiel (2020), which were made for Armenia. However, one should keep in mind that their basis is 2011 data which has a risk of being outdated giventhe drastic improvement in connectivity in the country last decade.

Our paper is also contributing to the literature on the productivity of WfH.

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[1]This can be actually verified if we try to classify our data on occupations on 2 digit scale.

2 Methodology

We pursue 2 main objectives. First, we try to understand the individual's features and her job that makes the wfh reality. On top of that, we dig deeper into people's readiness to work from home and factors that affect the productivity of such an arrangement. Our second direction is about testing a hypothesis about whether WfH itself and modern job matching technologies - online platforms matching service providers and clients - anyhow help mitigate the negative consequences of COVID-19.

Before embarking on our main regression analysis, we also provide detailed descriptive evidence about actual and untapped potential of WfH in Armenia. In particular, we derivea measure using self-reported statement on the extent of work that can be carried out from home. The respondents had to choose on a scale from 0% (none of the work can be carried out from home) and 100% (the whole work can be carried out from home). Then we usethe actual work from home information to obtain the percentage threshold beyond which ajob can be considered feasible to be implemented from home. Here we take a conservative approach, and our baseline cut-off excludes the bottom 25% of actually working from home who have reported lower than 80% WfH capacity. Thus, for all those respondents who have reported 80% WfH capacity, the dummy variable on potential WfH (P_i) takes value of 1and zero otherwise. For a given category under consideration, the rate of potential WfH is obtained by adding together observations with potential WfH (P_i) equal to one and those actually working from home (A_i) and dividing by total employment in that category (which includes commuting workers (C_i)). Category i can stand for gender, firm size, sector of activity, employment status and any other distinguishing parameter of interest:

$$\text{WfH Potential}_i = \frac{P_i + A_i}{P_i + A_i + C_i} \quad (1)$$

Given the dichotomous and categorical nature of our outcomes of interest, we deploy probit and ordered logit regressions, as follows:

$$\text{Prob(WfH Actual} = 1) = \Phi(\beta_0 + \beta_1 Edu_i + \beta_2 Female_i + \beta_3 X_i + e_i) \quad (2)$$

$$\text{Prob(Y} = 1) = \Phi(\beta_0 + \beta_1 WfHCapacity + \beta_2 Edu_i + \beta_3 Female_i + \beta_4 X_i + u_i) \quad (3)$$

where Y is willingness to WfH or productivity of WfH, $\Phi()$ is the standard normal distribution function, WfHCapacity $\in [0; 100]$ is the stated share of the work that can also be carried out

from home. X is the vector of other demographic and job related control variables, including set of industry dummies.

3 Data

The data for this study was collected via a self-administered online form survey during the September and December months of 2020.The participants were randomly invited via SMS to take part in the study. Respondents were chosen through proportionate stratified random sampling from Yerevan and all other marzes of the country. Overall, 2155 valid questionnaires were submitted.[2] The response rate was around 2%.

The following figure summarizes distribution of the respondents by labor market status at the time of the survey. For the purposes of this study, we have considered unemployed those who at the time of the survey did not have a job but were actively looking for it and were ready to take up one if available.

Figure 2: Market status of the respondents at the time of survey
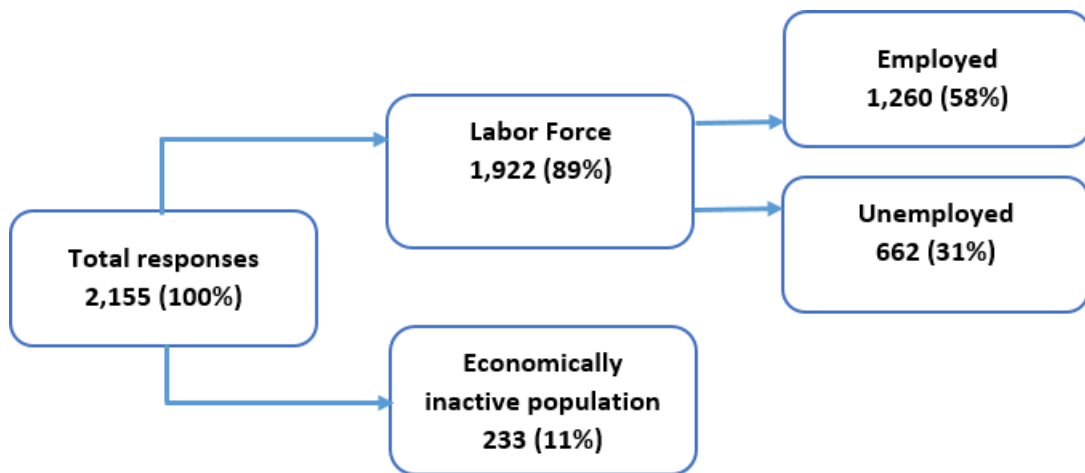
This pattern somewhat differs from official statistics. In particular, labor force participation and unemployment are much lower. The latter might be due to methodological differences in granting unemployed status to those not having paying job at the moment. Given that Labor Force Survey utilizes a more rigorous approach (multi-question filters), the source of difference can be the mentioned one. Another possibility is possible selection issues, given

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[2]The analysis has been conducted on working age population, excluding younger than 18 and older than 75.

that the survey was conducted among the population using smartphones. This might provide a skewed view by including more active, educated and relatively younger respondents.

While our main areas of interest are related to work from home, most of the analysis is clustered around employed individuals. This also mitigates the concerns about possible wrong allocation of respondents between unemployed and inactive status. Among employed, 70% are formally employed, 6% are employers. The remaining 24% are either informal employees or self-employed.

In terms of work conditions, we see that furloughed respondents (4.5%), respondents who changed the job (4.6%) or started to work from home (13.5%) comprise the tangible part as compared with pre-covid emergency situation declaration on March 16, 2020. According to Figure 3, only 56% continued to commute to work as before, yet another 15 percent didn't identify any specific condition.

Figure 3: Work conditions of the respondents at the time of survey
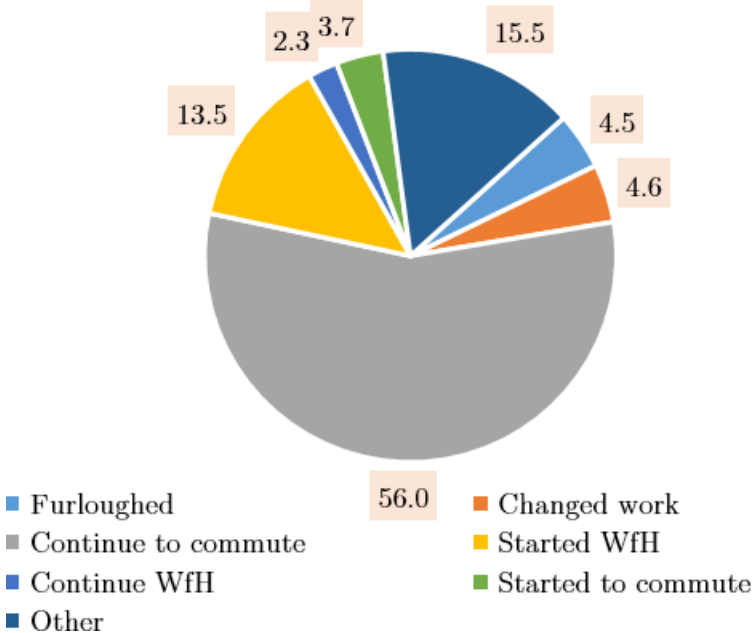
The potential of WfH, as described in the methodology section, was retrieved based on the respondents' own evaluation of the proportion of work that can be carried out from home. Among those actually working from home, the average (median) share of work possible to be carried out from home was 85% (95%), as compared to the 30% (15%) among those who

continued to commute. Using a threshold value of 80%, we have obtained the subset of work that can potentially be considered eligible for work from home. The difference between actual WfH shares and potential shares can be considered unused potential. In the Figure 4, we have summarized the actual and potential WfH for a number of individual, family, and firm characteristics of the workers. Similar to Alipour et al.'s (2020) findings for Germany, female tend to WfH more (both actual and potential). Also, WfH potential is higher for people with higher education and higher income (ibid). The results reported by employment status and formality instead confirm the observations made by Gotlieb et al. (2020) on Armenia using STEP data. But unlike this study, which utilizes 2011 data, almost a decade later, the potential WfH has increased considerably. Interestingly, this contrasts with the results that the same authors obtain on Brazil and Costa-Rica, where they compare the potential with actual outcomes (using 2020 data again). In their case, predicted (potential) WfH is closer to actual WfH.

Figure 4: Actual and potential WfH by various breakdowns
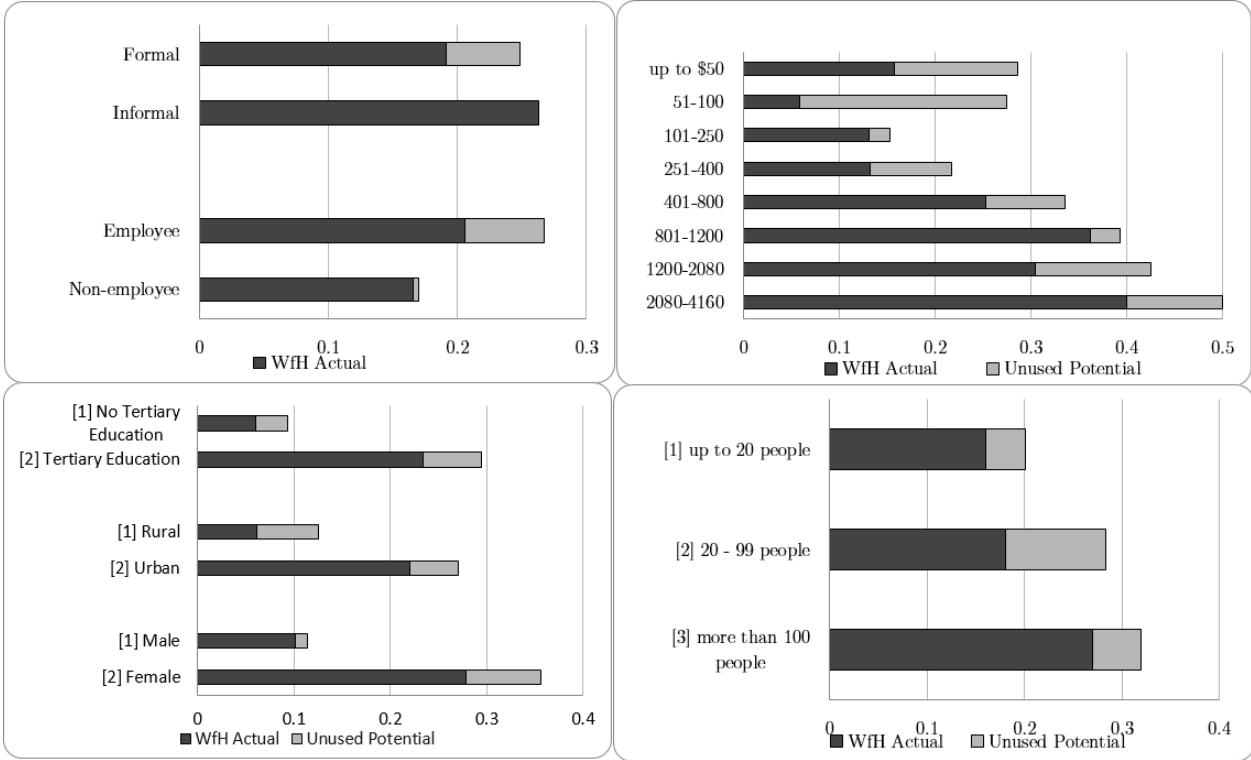
Figure 5 presents the same information by the sectors of economic activity. Here we observe some unexpected results. While we see that actual and potential WfH rates are relatively close (as it was also evident from Figure 4 and which confirms prior findings in the literature), transport, administrative services and agriculture report unexpectedly high work from home rate.

Here we also report descriptive statistics of the variables used in the analysis but not anyhow presented so far. This list includes respondents' demographic characteristics, job features, and other controls. But more importantly, it contains the additional outcome variables that we analyze in the next section - the willingness to WfH, WfH productivity and the COVID-19 impact on the individuals' well-being. In particular, we see that, if offered, 78 percent of the respondents would agree to work from home if such an opportunity was available to them. The median value of WfH productivity corresponds to high level, and the mean is somewhere between as productive as at work and more productive. Among other interesting observations that could be made from Summary statistics table is the relatively low importance of remittances for the households under consideration (on average 11 percent of family budget and median is zero) and that about 5.5% of respondents have an experience of procuring job (short term work) via online platforms, such as online taxis or delivery platforms. In general, the effect of COVID-19 had negatively impacted the finances of 67% of the respondents, whereas among wage earners this rate was much lower, 17% (it is essential to highlight here that the last statement does not take into account the lost jobs).

Figure 5: Work from home: actual vs potential by industries
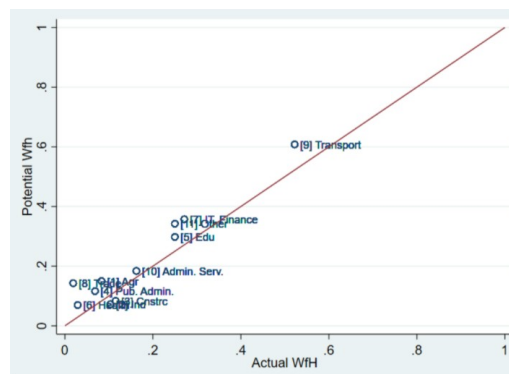
Table 1: Summary statistics

VARIABLES	(1) N	(2) mean	(3) sd	(4) p50	(5) min	(6) max
Capacity to WfH	1,091	38.65	37.95	30	0	100
Remittances Importance	1,814	11.94	24.90	0	0	100
Age	1,754	34.32	10.09	32	18	69
Flexible work	1,148	0.223	0.416	0	0	1
Female	1,754	0.578	0.494	1	0	1
Urban	1,748	0.765	0.424	1	0	1
Education	1,733	2.622	0.540	3	1	3
Children	1,723	0.641	0.480	1	0	1
HH Income Group	1,246	1.773	0.884	2	1	4
Worry to lose job	1,418	3.020	1.416	3	1	5
Worry on wage cut	1,372	3.121	1.444	3	1	5
Married	1,705	0.628	0.484	1	0	1
Actual WfH	859	0.198	0.399	0	0	1
Productivity of WfH	230	3.343	1.140	4	1	5
Ready to WfH	373	0.780	0.415	1	0	1
Online Platform Job	1,769	0.0554	0.229	0	0	1
Informal job	1,244	0.133	0.339	0	0	1
Waged employee	1,244	0.756	0.430	1	0	1
Covid non-negative impact on finance	2,138	0.335	0.472	0	0	1
Covid non-negative impact on salary	851	0.833	0.373	1	0	1

Note: Education is of three levels: 1 - Basic, 2 - Secondary or vocational, 3 - Higher; Household Income group: 1 - low, 2 - lower middle, 3 - upper middle, 4 - high; Worry to lose job (wage cut): 1 - Everyday, 2 - Almost everyday, 3 - sometimes, 4 - Rarely,5 - Never; Productivity of WfH: 1 - Lowest (not productive at all), 5 - Highest (very productive).

4 Results

Our first results are concerned with the factors affecting actual WfH. As Table 2 presents, education and female dummy have a robust and statistically significant effect on the probability of actually working from home. There is no much variation across industries (marginal effects are not significant and are not reported), but working in Yerevan considerably increases the probability of WfH. The fact of having flexible schedule does have positive, though marginally significant effect on actual WfH.

Those who commute to work were asked whether they would be ready to accept an offer to WfH. Restricting our attention to those whose job is such that WfH is not excluded, we find that readiness of WfH depends on the self-reported extent capacity of WfH for that particular job. Thus, 10 points increase (on 100 point scale) in the possibility of WfH, increases the probability to accept the WfH offer by 2-3 percentage points. As it was the case with the actual WfH, willingness to WfH is 8-11 percentage points higher among female. Interestingly, having children at home (one or more) negatively affects one's readiness to WfH. To investigate the heterogeneity of children effect on men and women we interact the child dummy with Female dummy. As column 4 of Table 3 shows, the negative sign is mostly coming from female respondents with children in the household. Thus, women without children have an even higher willingness to take on WfH (14%) compared with 8-9% of women in general.

We also investigate the factors impacting the productivity of WfH. Obviously, this part of the analysis is derived from the least number of observations as this question was relevant only for the subset of those actually working from home. As Table 4 presents, still, the job's WfH capacity is the major predictor of the productivity. The income of the household (or the correlated with income higher education and being located in Yerevan) also positively affects WfH productivity. We also see that flexible work schedule has much more pronounced positive effect on productivity of WfH, rather than on probability of WfH (Table 2). In other words, flexible work determines the productivity of WfH rather than the probability of WfH.

The final part of our analysis concerns with the impact of COVID-19 on well-being and possible mitigating effects of WfH. We also focus on the possible effect of modern technologies in employment, in particular online platform work, in terms of its role in mitigating the negative effects of COVID-19. We consider two possible outcome variables in this part - the financial well-being of the respondent and employment income. In particular, we estimate

binary outcome models where the positive outcome (outcome = 1) is when the financial position or the salaries have remained the same or increased. The negative outcome (outcome = 0) is when there was actually a downward shift. The results of Table 5 demonstrate that WfH actually mitigates the negative effects of COVID-19, whereas the platform workhas no effect on the financial position and marginally negative effect on salaries. Moreover,the positive channel of WfH seems to be working stronger for men. Another interesting observation is the negative effect of a flexible schedule on both financial position and salary.

Table 2: Factors affecting actual work from home (marginal effects, probit)

VARIABLES	(1) model1	(2) model2	(3) model3	(4) model4
Education	0.183***	0.184***	0.156***	0.144***
	(0.040)	(0.040)	(0.041)	(0.048)
Age	-0.002	-0.003*	-0.003	-0.002
	(0.002)	(0.002)	(0.002)	(0.002)
Female	0.146***	0.153***	0.142***	0.118***
	(0.028)	(0.028)	(0.029)	(0.032)
Children			-0.059	-0.042
			(0.041)	(0.043)
Married			0.065*	0.055
			(0.038)	(0.040)
Urban			0.226***	0.092
			(0.059)	(0.069)
Flexible work	0.065*	0.086**	0.063*	0.046
	(0.034)	(0.034)	(0.037)	(0.042)
Informal job	0.016	0.071	-0.039	-0.008
	(0.045)	(0.047)	(0.071)	(0.068)
Waged employee		0.027		
		(0.035)		
Yerevan				0.183***
				(0.039)
Observations	812	812	755	651
Industry controls	Yes	Yes	Yes	Yes

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 3: Factors affecting willingness to work from home (marginal effects, probit)

VARIABLES	(1) model1	(2) model2	(3) model3	(4) model4
Capacity to WfH	0.003***	0.002***	0.003***	0.003***
	(0.001)	(0.001)	(0.001)	(0.001)
Age	-0.001	0.001	-0.000	-0.001
	(0.003)	(0.003)	(0.003)	(0.003)
Married	0.050	0.122	0.085	0.079
	(0.066)	(0.078)	(0.071)	(0.071)
Female	0.115**	0.088*	0.082*	0.142*
	(0.045)	(0.049)	(0.049)	(0.084)
Children	-0.084	-0.196**	-0.152*	-0.090
	(0.075)	(0.086)	(0.080)	(0.108)
Corona awareness	0.074	0.042	0.052	0.057
	(0.076)	(0.087)	(0.086)	(0.086)
Yerevan	-0.002	0.001	-0.004	-0.006
	(0.045)	(0.049)	(0.048)	(0.049)
Worry to lose job		-0.023		
		(0.019)		
Worry on wage cut			-0.026	-0.026
			(0.018)	(0.018)
Female # Child				-0.089
				(0.103)
Observations	338	298	293	293

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4: Factors affecting productivity at work from home (ordered logit)

VARIABLES	(1) model1	(2) model2	(3) model3	(4) model4
Capacity to WfH	0.025***	0.028***	0.028***	0.028***
	(0.008)	(0.007)	(0.007)	(0.007)
HH Income Group	0.344*			
	(0.209)			
Female	0.141	0.410	0.377	0.356
	(0.333)	(0.306)	(0.318)	(0.322)
Children	0.140	-0.188	-0.087	-0.064
	(0.307)	(0.269)	(0.275)	(0.278)
Flexible work	1.064**	0.981***	1.008**	1.180**
	(0.442)	(0.358)	(0.416)	(0.476)
Education	0.791	1.087**	1.310**	1.292**
	(0.557)	(0.492)	(0.574)	(0.578)
Yerevan	0.494	0.723*	0.733*	0.725*
	(0.425)	(0.415)	(0.409)	(0.408)
Size of Company			0.107	0.068
			(0.197)	(0.193)
Waged employee				0.434
				(0.442)
Observations	166	219	210	210
Industry controls	Yes	Yes	Yes	Yes

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5: Factors affecting well-being due to COVID-19 (marginal effects, probit)

VARIABLES	(1) Finance	(2) Finance	(3) Salary	(4) Salary
Online Platform Job	-0.087	-0.084	-0.099*	-0.097*
	(0.076)	(0.076)	(0.055)	(0.055)
Actual WfH	0.144***	0.235***	0.057	0.124*
	(0.046)	(0.089)	(0.037)	(0.072)
Female	0.044	0.064	0.008	0.021
	(0.038)	(0.042)	(0.029)	(0.032)
Female # WfH		-0.120		-0.088
		(0.103)		(0.084)
Children	-0.117***	-0.118***	-0.055*	-0.056*
	(0.036)	(0.036)	(0.029)	(0.029)
Flexible work	-0.120**	-0.117**	-0.096***	-0.094***
	(0.047)	(0.048)	(0.035)	(0.035)
Education	0.061	0.058	-0.017	-0.018
	(0.042)	(0.042)	(0.032)	(0.032)
Remittances Importance	-0.001	-0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)
Urban	0.006	0.006	0.022	0.022
	(0.053)	(0.053)	(0.042)	(0.041)
Observations	798	798	705	705
Industry controls	Yes	Yes	Yes	Yes

Standard errors in parentheses

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

5 Conclusion

Using the unique features of a country-level representative survey we were able to unfold important characteristics of work from home, and possible effects WfH and related platform technologies have had in mitigating COVID-19 crisis outcomes.

Similarly to European countries, we find that women have more WfH engagement (Eurostat, 2020) and potential, as well as willingness to WfH. We also find that WfH has mitigated the negative effects of COVID-19 on the personal financial position and the salary income. Other facilitating technologies for job finding, like online platforms (e.g. Uber or Upwork) did not have any positive role, if not negative. As one would expect, we also find that higher education, income, urban residency, and being an employee are all positively correlated with actual WfH.

Chapter 3

Covid19 and Career Perspectives

Anticipation and Adaptive Expectations

Summary

This study aims to analyse the expectations and the anxieties of the general public connected to the labour market and their future career prospects. The Covid19 did not only enter the public health sector but also shattered much of the economy. Labour market was not an exception, but rather one under large pressure. Furthermore, the pressure is not only short term but also transfers to the long term issues (Baert, et al., 2020).

Thus, one of the understudied aspects of Covid19 in general is the anticipatory changes of the labour market participants about the future due to the pandemic. Given that it may have a large effect on the efficacy of fiscal policy (through the marginal propensity to consume and the like), this study identifies the causes of negative anticipatory expectations. For instance, the study identifies various demographic groups that are the most vulnerable to Covid19 from the point of view of career and labour market pessimism (e.g. young urban population outside of Yerevan).

Furthermore, this study highlights the fact that most of the labour market and career expectations are adaptive in their nature, and the experiential factors have the highest potency of determining them, thus hinting at a policy actively supporting the current labour market for the future gains.

Data and Descriptive Statistics

The Avedisian Center for Business Research and Development at the Manoogian College of Business and Economics of the American University of Armenia has conducted mobile online surveys. The one large survey was broken down into two smaller surveys to reduce completion time, which is crucial with online surveys. The surveys were the same in the demographic section, while in the other sections questions were mainly different. These two surveys were titled "The Impact of Coronavirus Pandemic on the Labor Market in Armenia" and "The Socio-economic Consequences of Coronavirus Pandemic in Armenia" (American University of Armenia, 2020) and covered all of Armenia.

The surveys were conducted by filling out a questionnaire through an online platform. The potential respondents got an invitation to participate in an online survey through SMS

massages. Respondents were chosen through proportionate stratified random sampling from Yerevan and all other marzes of the country. This study is based on the survey "The Socio-economic Consequences of Coronavirus Pandemic in Armenia" (3110 responses from population with age above 18 years, out of which 2048 answered the questionnaire completely) and analyses the expectations and anxieties that the population has towards the career and their labour market participation.

Labour market experience in the data

Only about 60 percent of the respondents indicated that they did not lose a job in 2020, while the rest (1081 out of 2781 respondents) reported to have lost a job. The fraction of respondents who lost the job is quite large and their perceptions whether the lost job is due to coronavirus are displayed[1] in Figure 1. As it can be noted, the majority who lost the job indicate that it was definitely or probably due to coronavirus pandemic (71 percent of 1081 responses). More specifically, more than half of the respondents (52.1 percent of 1081 respondents) perceive it was definitely due to coronavirus pandemic.

Figure 1. Do you think the loss of a job was due to coronavirus?
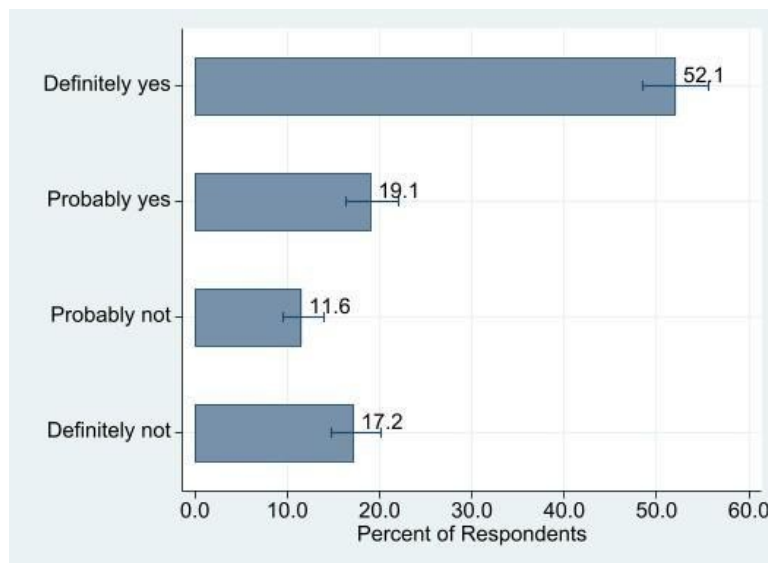
Note: 1,081 observations.

At the same time, a significant fraction of lost jobs are main jobs, as depicted in Figure 2. In particular, 73 percent of respondents, who indicate that the loss of jobs is definitely due to the coronavirus pandemic, lost their main job. The respondents were provided with a definition of the main job as the one where they spent most of their working hours per week.

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[1] In this and other figures of this document 95 percent confidence intervals are also shown. Hereinafter, limits of the confidence intervals are computed using logit transformation.

Figure 2. Do you think the loss of a job was due to coronavirus and was that your main job?
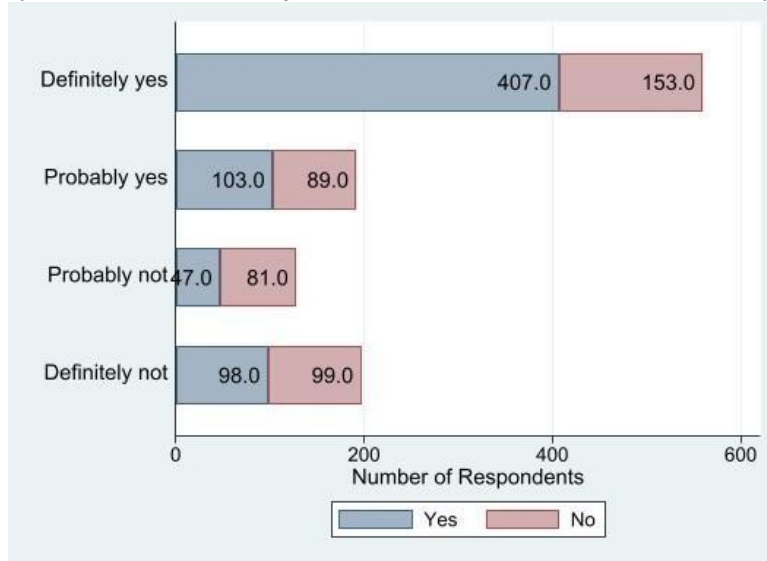
Note: 1080 observations

There is a question asking about the forgone or postponed opportunities of career promotions (salary, position upgrades) which they perceive took place because of the spread of coronavirus and undertaken restrictions. As it can be observed from Figure 3, the 36.4 percent of respondents[2] indicate that the job promotions were forgone (either did not take place or were postponed).

Figure 3. Forgone promotions (salary, position upgrades)
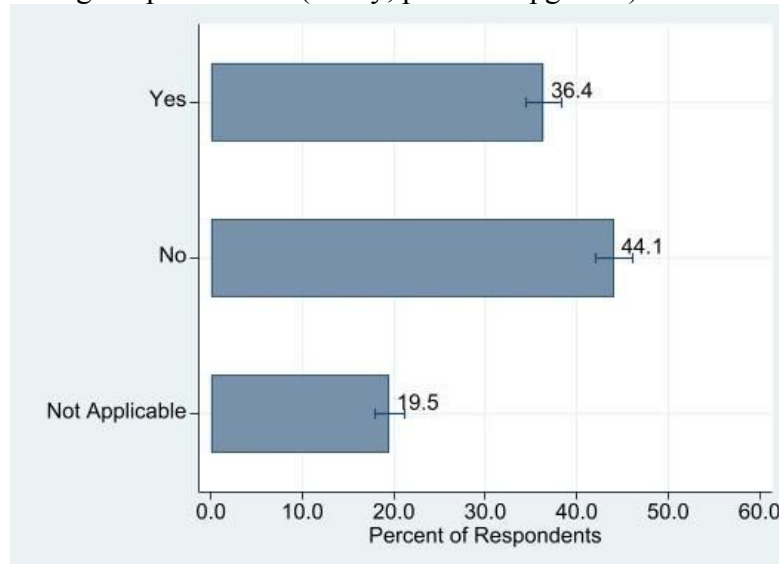
Note: 2465 observations.

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[2] It is 44.3 percent of respondents for whom the question is applicable.

Perceptions of respondents regarding the availability/reduction of vacancies and difficulty to find a job is displayed in Figure 4. Around 36 percent of respondents[3] indicate that because of the spread of coronavirus and undertaken restrictions they observed less availability of vacancies of interest and difficulties to find a job.

Figure 4. Vacancy numbers and difficulty to find a job
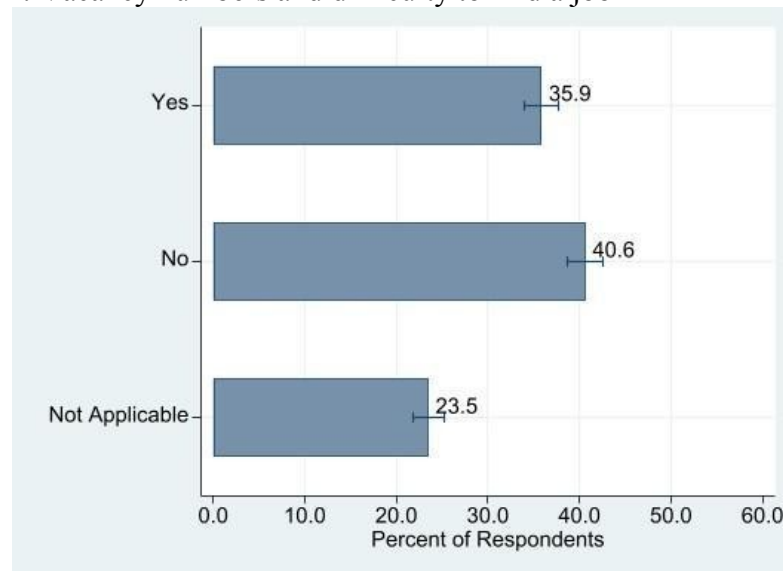
Note: 2465 observations.

Anxiety and expectations in the data

Figure 5 draws respondents' expectations of short term effects of Covid19 before quarantine ends on January 11. The majority of respondents expect the possibility of earnings drop (55.5% of respondents), job loss (42.5% of respondents), postponed promotions (47.8% of respondents), and decrease in the number of attractive job vacancies (51.7%) of respondents to be likely or very likely.

Figure 6 displays the responses on long term effects of Covid19. As for the long-term expectations about Covid19, assuming pandemic is overcome, 19% of the respondentsfully agree that there will be a permanent salary reduction, 13% fully agree that therewill be career damage and 18% fully agree that there will be missed opportunities infuture jobs.

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[3] It constitutes around 48 percent of the respondents, who have been searching for a job as per their indication of the question to be applicable to them

Figure 5. Short term expectations of Covid19 (before Quarantine ends)
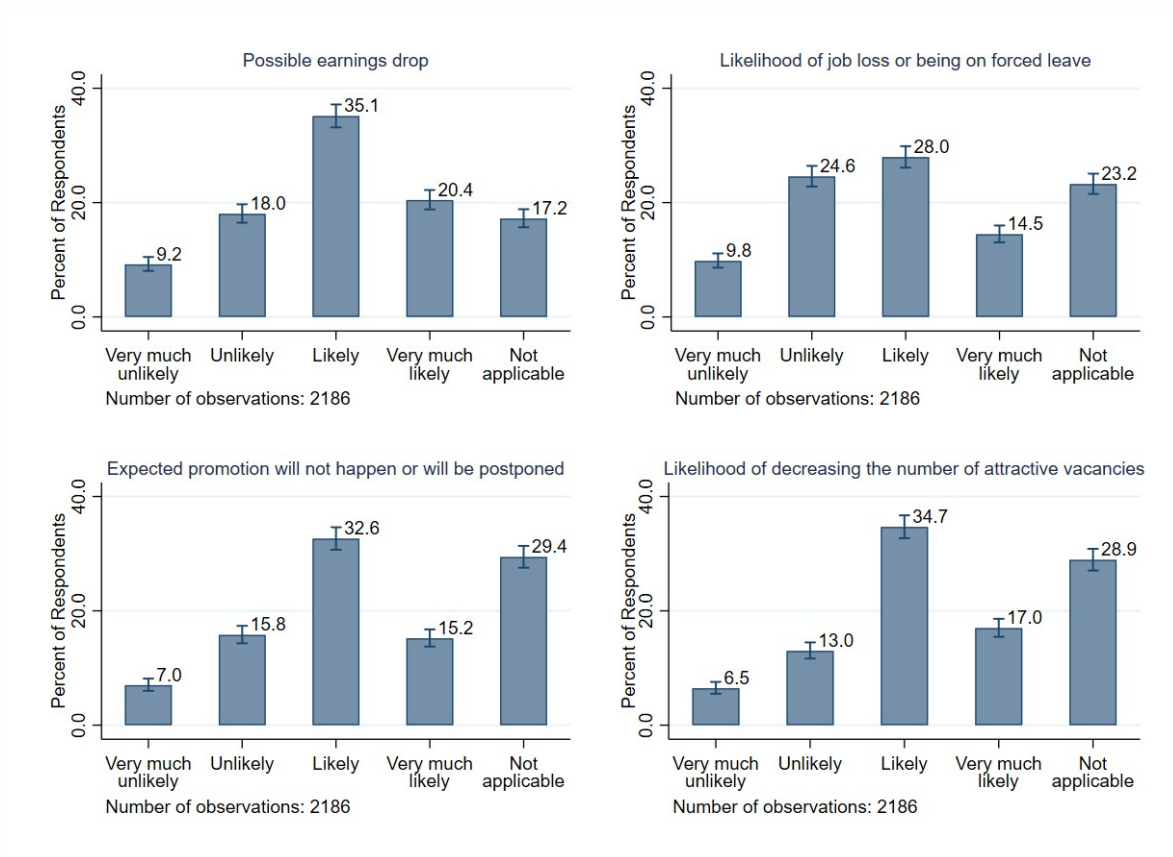
Figure 6. Long term expectations of Covid19 effects.
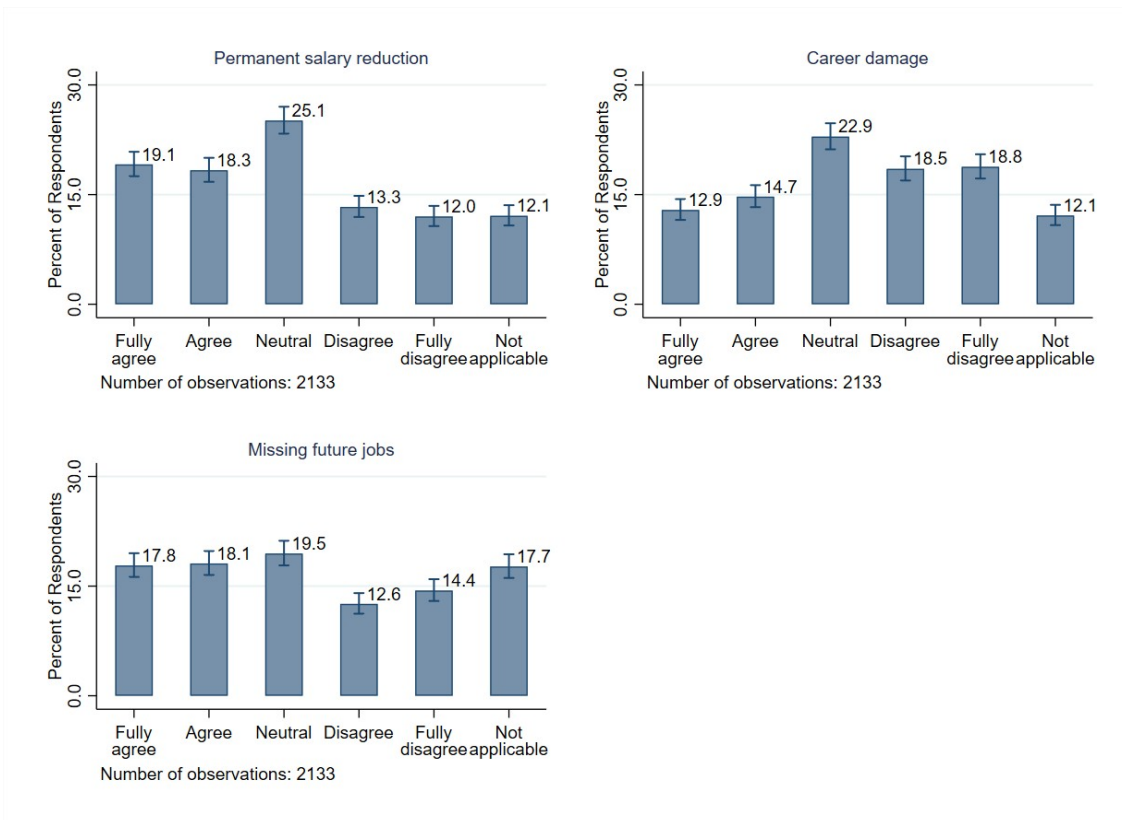
Figure 7. Level of anxiety on the effects of Covid19.
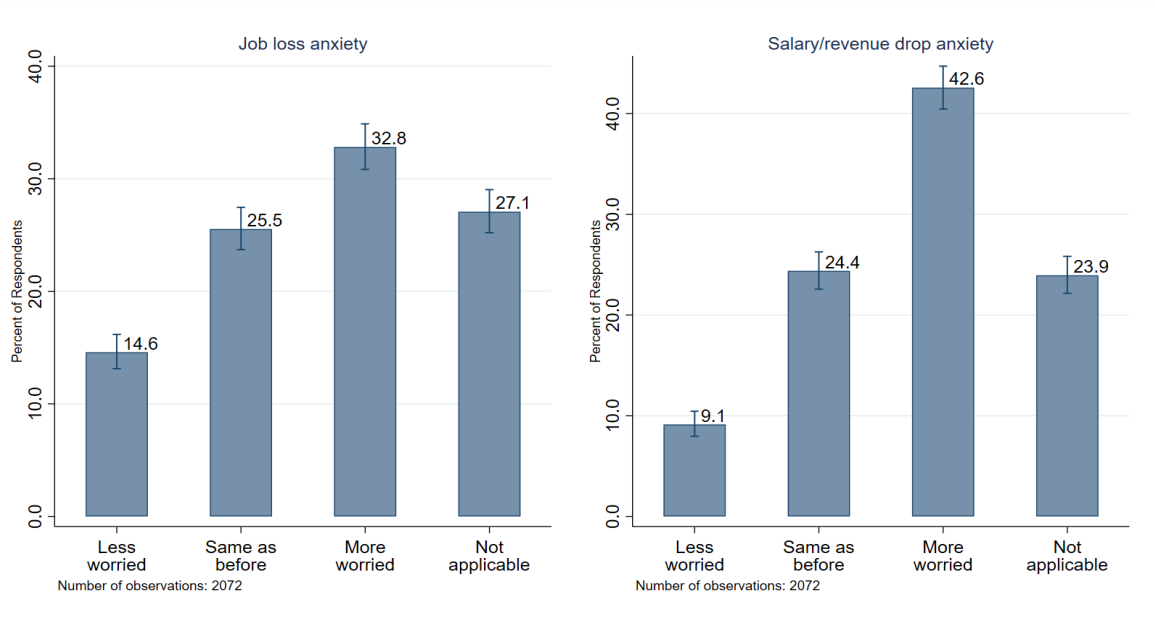
Figure 7 displays the level of anxiety the respondents had toward the effects of Covid19 on job loss and salary drop, the majority of the respondents are more worriedabout how these Covid19 will affect their jobs or salaries. 32.8% and 42.5% of the respondents have declared that they are more worried about job loss and salary droprespectively, after Covid19. There are 14.8% of the respondents who are less worriedto lose their jobs and 9.4 who are less worried to have a salary drop after Covid19. This might be because certain job types and skills have had a major demand during the Covid19 period and hence the employees have felt less pressure of losing their jobs or having a salary drop.

Explaining short-term career expectations

In our study four main lines of career-related expectation have been identified: Losing job, losing part of salary, losing career advancement, losing better openings. In each case the respondents had to choose an answer suitable to their situation based on a Likert scale (the options were 'very unlikely', 'unlikely', 'likely', 'very likely' and 'inapplicable' to the question 'how likely are each of the following') with the timing being till the end of the covid-related quarantine (at the moment of the survey January 11, though extension was generally expected). Results are presented in Table 1.

Two of the larger effects that increased the perception of the possibility to **lose a job** were (a) already having had an experience of losing a job to Covid19 and (b) having a bank loan. While the first can mostly be viewed as an exercise in adaptive expectations, the later is probably a proxy for the expected realisation for Murphy's law or a result of negative moods in general. Among the most potent factors that worked in the direction of decreasing the job-loss expectations are the trust towards the government and parliament - probably expecting a paternalistic and omnipotent government. Further, even working for a public company made people expect less of a possibility of being laid off. Same holds true for larger companies. The 'pessimism' goes down with the age, and with the self-assessed happiness level. However, the largest contributor to less pessimistic expectations is time (and it is natural that with little time remaining till the end of the quarantine, the smaller the chances of being fired during that period).

As in the case of losing a job, people tend to give higher probability to **losing income** if they have lost their job to Covid19 or have a bank loan. Further, as before a trust in the government more than halves the probability of expecting income loss among the respondents. And the odds to claim a high probability of losing income during the quarantine period is about one third less for the females compared to mails. Substantially decreased probability of thinking of income loss is observed among the workers of IT, finance and educational sectors (possibly indicating larger security in relatively more stable industries that are characterised with high labour market competition).

The effect of lost jobs, bank loans, and the trust in government in the case of the claimed possibility of **hampering career advancement** is similar to the previous cases. Lost job more than doubles the odds, loans bring about 50% more chance, and the trust almost halves the probability of expecting problems with career advancement (in the questionnaire the wording specifically asks whether 'expected career advancement - increase in position, salary, etc. - will not happen or will be indefinitely postponed').

Age (2.8% per year) decreases the probability of expecting problems with career advancement. Two possible competing scenarios can be serving as explanations: (a) less career advancement is expected with advanced age (and thus less problems) though the 'not applicable' option has been available to people to opt out; (b) advanced age is related to the experience and thus more experience, however, controls for experience with current firm are highly statistically insignificant (though in expected direction). Further, even a control for prime career advancement ages (35 to 45 yo) does not produce statistically significant explanation (though as expected negative contribution is predicted).

Somewhat unexpectedly hampered career advancement is expected more (odds ratio 1.5) once the respondent has been a recipient of one of the Covid19-related government support programmes. This result has been discussed by Aslanyan, Baghdasaryan, & Shakhmuradyan (2021) and attributed to adaptive negative expectations.

The last from the list of career related problems that this study addresses is the **availability of new relevant job openings** (the wording specifically asks whether 'expected reduction in interesting/relevant new openings or impossibility of finding new job' till the end of the Covid19 related quarantine). The results are in the same line as before with lost jobs, bank loans, and the receipt of government support increasing the negative expectations; while trust in the government and working for the public employer decreasing the negative expectations. Further increases in negative expectations are connected to small-sized employers (up to 50 employees) and in the transportation sector (with odds over-9 times higher).

Explaining Momentary Career Anxiety

The study asked two questions to check whether the respondents are worried about losing their jobs or getting a reduction in the salary compared to pre-Covid19 period. The questions come after the respondents had a chance to think about their career expectations for the quarantine and post-Covid19 and after the request to evaluate their level of happiness. Results are presented in Table 2.

Thus, people who have experienced Covid-related job hardships/losses doubles the anxiety about **possible job loss**. Moreover, females show increased anxiety, as do urban populations outside of Yerevan (as the towns outside of Yerevan provide rather tight labour markets). Further, respondents working in a sector connected to agriculture are 4 times more likely to worry about losing their jobs. This could possibly be a result of a high export share as well as high transportation costs (and requirements) of agriproducts.

The **anxiety about salary reduction** is once again doubled with experiences in Covid19-related job hardships. However, those claiming to have savings are much less probable to claim increased anxiety. Further, even if increased job-loss anxiety is controlled for, savings are a potent and significant factor (both statistically and logically) for decreasing salary-reduction anxiety. The least probable among the workers to claim increased worries about salary reduction are those working with daily contracts.

Explaining Long-term Career Prospects

Next in this study we turn to evaluating the sentiments of the respondents on their future (once Covid19 is under full control) long-term expectations about the labour market and the career prospects. People were asked whether they think that because of the Covid19, even once it is over, they will face (a) problems with finding a job, and negative effects on (b) the salaries and (c) future career. Results are presented in Table 3.

Thus, once again (probably, due to adaptive expectations) the respondents fear **long-term job-finding problems** if they have already experienced job hardships because of Covid19. Trust in government, though less potent than before, still decreases the pessimism related to the job-finding perspectives. The pessimism decreases also with the size of the current employer, with employment in an organisation with over 250 employees increasing the hopes well above double. However, as before non-Yerevan urban respondents, ceteris paribus, have a 60% higher chance of having a more pessimistic view on the long term job-findingendeavors. Similarly, Covid19-induced labour market hardship also brings increased **pessimism to future salary perspectives** for the respondents. Furthermore, females are more optimistic (perhaps due to already extant salary glass-ceiling), as are those who trust the government, or have savings (though the role of the savings for the long-term salary perspective may not be very clear, and possibly works as a proxy for some hidden individual characteristics).

Finally, the expectations of the **Covid19 effects on the entire future career span** is analysed based on a direct survey question where the respondents were asked to select on a Likert scale their level of agreement whether Covid19 will have lasting negative impact on the entire career of the respondent. Again, the negative job market experience is one of the largest predictors for pessimism (odds ratio 1.7), and the trust in the government contributes majorly to optimism (odds ratio .65). As could be expected, non-Yerevan urban population express the most dire expectations for Covid19's effect on career, given the fragile labour market that they possess.

Long-term Career Prospects and Current Anxieties

In order to understand how the increased current anxieties affect the perceptions for the long-term career prospects, 4 different increased anxiety measures were used (the anxiety is defined based on the answers where the respondents claim to be more worried about an issue at the moment compared to pre-Covid19 past). Results in Table 3.

All three measures of long-term labour market perspectives - market tightness, lowered salaries, and overall career prospects - are much better (statistically[4]) explained with the mentioned anxieties.

As could be expected, those who are worried about the possibility of losing their job soon also **predict long-term labour market tightness** (odds are 2.4). Further, those who are worried that they may soon have a salary reduction are more likely to also predict tight markets; the same is true for those who anticipate possible debt payment issues (odds are 1.8). However, there is no connection between those who predict that they may have a problem of financing daily expenses and those who predict long-term labour market tightness. Two experiential factors that, even after controlling for various anxieties, still contribute to the explanation of the long-term labour market tightness are the size of the employing organisation and Covid19-induced job market hardship experience. Thus, working for a large organisation (over 250 employees) decreases the chances of claiming higher pessimism for labour market prospects by over three times; while those who have experienced the labour market hardship already have a 40% higher chance[5].

Again, current anxiety about salary reduction predicts **expectation of lower salaries in the future** (odds are 2.5). Expected problems with daily expenses, debt repayments, and also possibility of losing a job predict a long-term decrease in salaries. Once, the anxieties are included into the model, almost all other variables lose any significance. However, as before, experienced job market hardship holds the potential of explaining the long-run trends (odds being 1.4).

Job loss, wage loss and debt payment anxieties proved to be potent factors in explaining **expected long-term career prospects**. However, as opposed to the cases above, many other factors still retain explanatory power. Thus, higher education doubles the chances of positive expectations for future careers. So does the trust in the government (odds 0.67 or 50% increase), while the non-Yerevan urban status increases the chances of dire expectations (odds 1.6). And finally, experienced job market hardship yet again predicts higher pessimism (odds 1.5).

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[4] Double to quadruple pseudo-R2 for ordered logit
[5] Though this results holds only with a 12% chance of a mistake.

Demographics and Career Perspectives

Gender

Females have rather different labour market participation patterns in some cases (Ezzedeen & Ritchey, 2009), and also tend to have different patterns of anxieties. Little is known in the literature about the career and Covid19 relation for the females (with small exceptions and early pioneers being Oleschuk (2020) and Guan et al. (2020)). This study will devote more attention to understanding the gender issue in Covid19-induced career and labour market anticipations and anxieties. For instance, as was already discussed above, females tend to be more anxious about job loss but more optimistic about future salary expectations.

Age

Age and the labour market have complicated never-linear relationships, more so when a crisis like Covid19 pandemic hits them both. At this stage age has received only superficial attention in this study and more work needs to be done.

Urbanism

Urban dwellers are more probable to think that they will face negative consequences in future. The rural population is probably more secure in agriculture (given the dominance of subsistence agriculture). Thus, non-Yerevan urban respondents, ceteris paribus, have a higher chance of having a more pessimistic view on almost every aspect of the labour market present and future performance.

Income

Income works in the expected direction: those from the families that have high income tend to be more optimistic about the present and the future. However, individual income does not show any explanatory power. More explorative data analysis is needed for understanding the issue.

Firm size

In most of the cases, employees of larger firms felt more secure about their present and future. Perhaps a separate study can be devoted to understanding the phenomenon. (A literature survey can be found at Autin et al., 2020)

Anticipation and Adaptive Expectations

Throughout the analysis the experiential factor proved to be the most important determinant for almost each and every issue studied. Future studies will concentrate on that issue the most.

Table 1. Short term expectations	Possible Job-place Loss		Possible Salary Drop		Possible Career Immobility		Possible Tighter Market	
Age	0.988	0.173	1.001	0.904	0.978	0.015	0.995	0.610
Gender (f)	0.884	0.432	0.663	0.008	1.030	0.857	0.862	0.406
Higher education	1.185	0.449	1.076	0.735	1.170	0.504	1.427	0.148
Savings	1.039	0.810	0.910	0.538	0.901	0.522	0.839	0.317
Bank loan	2.135	0.000	1.782	0.001	1.429	0.057	1.493	0.061
Public servant	0.887	0.514	0.846	0.356	0.996	0.981	0.707	0.096
Recipient of government support	1.246	0.157	0.198	0.071	1.503	0.015	1.434	0.040
Job hardship during Covid19	2.050	0.000	1.562	0.013	2.340	0.000	1.797	0.004
Trust in government	0.552	0.000	0.423	0.000	0.567	0.000	0.593	0.002
Full time employee	0.758	0.446	0.633	0.166	0.857	0.677	0.911	0.798
Employment per diem	1.425	0.475	0.886	0.797	1.403	0.541	0.941	0.905
Small employer (<50 people)	1.091	0.774	1.397	0.245	1.030	0.926	2.354	0.011
Large employer (>250 people)	0.790	0.504	0.935	0.840	0.846	0.651	1.706	0.175
Urban population	1.325	0.176	0.964	0.853	1.263	0.278	1.362	0.175
Yerevan residency	0.858	0.388	1.122	0.501	0.899	0.560	0.765	0.177
Other socio-demographic, regional, temporal, etc. controls	Yes		Yes		Yes		Yes	

The table provides odds ratios (and associated p-values) from an ordered *logit* model

Table 2. Short term anxiety	Job-place Loss Anxiety		Salary Drop Anxiety	
Age	1.009	0.292	1.006	0.489
Gender (f)	1.341	0.070	1.233	0.202
Higher education	1.349	0.219	1.080	0.762
Savings	1.006	0.969	0.692	0.023
Bank loan	1.338	0.126	1.364	0.107
Public servant	1.081	0.678	1.222	0.303
Recipient of government support	1.110	0.524	1.129	0.464
Job hardship during Covid19	2.130	0.000	2.033	0.001
Trust in government	0.798	0.134	0.766	0.086
Full time employee	0.711	0.360	0.501	0.081
Employment per diem	0.695	0.502	0.335	0.056
Small employer (<50 people	0.989	0.973	1.486	0.219
Large employer (>250 people)	0.885	0.739	1.364	0.399
Urban population	1.507	0.056	0.945	0.793
Yerevan	1.128	0.511	1.271	0.206
Other socio-demographic, regional, temporal, ect. controls	Yes		Yes	

The table provides odds ratios (and associated p-values) from an ordered *logit* model

Table 3. Long-term expectations

	Missing future jobs				Permanent salary reduction				Career Damage			
	a		b		c		d		e		f	
Age	0.984	0.072	0.011	0.317	0.995	0.532	1.001	0.958	0.994	0.426	0.995	0.570
Gender (f)	1.019	0.902	0.906	0.599	0.775	0.071	0.802	0.204	0.922	0.564	0.964	0.832
Higher education	0.761	0.233	0.695	0.164	0.718	0.129	0.653	0.809	0.714	0.124	0.500	0.007
Savings	0.800	0.155	0.886	0.518	0.757	0.051	0.897	0.538	0.823	0.170	0.996	0.983
Bank loan	1.246	0.233	0.926	0.748	1.074	0.668	0.767	0.247	1.080	0.642	0.927	0.737
Public servant	0.914	0.692	0.822	0.368	1.152	0.405	1.054	0.797	0.854	0.349	0.772	0.203
Recipient of government support	1.118	0.472	0.234	0.168	0.884	0.377	0.909	0.574	0.781	0.080	0.822	0.250
Job hardship during Covid19	1.665	0.006	1.407	0.117	2.041	0.000	1.401	0.095	0.170	0.002	1.543	0.033
Trust in government	0.757	0.057	0.171	0.862	0.738	0.020	0.981	0.904	0.646	0.001	0.109	0.015
Full time employee	1.089	0.805	1.035	0.931	0.763	0.373	1.522	0.272	0.891	0.702	1.049	0.899
Employment per diem	1.291	0.600	0.920	0.889	1.331	0.530	2.107	0.184	0.805	0.617	0.583	0.322
Small employer (<50 people)	0.516	0.018	0.355	0.002	0.986	0.958	0.581	0.104	0.828	0.485	0.569	0.080
Large employer (>250 people)	0.399	0.006	0.292	0.002	0.819	0.528	0.481	0.053	0.794	0.461	0.582	0.144
Urban population	1.568	0.033	1.500	0.101	1.128	0.515	1.010	0.965	1.434	0.054	1.620	0.030
Yerevan	1.114	0.548	1.088	0.693	1.081	0.634	0.966	0.863	0.862	0.361	0.714	0.091
Debt repayment anxiety			2.129	0.000			1.455	0.058			1.764	0.004
Daily payment anxiety	No		1.075	0.740	No		1.817	0.003	No		1.116	0.588
Losing job anxiety			2.376	0.000			1.746	0.005			2.195	0.000
Wage loss anxiety			2.266	0.000			2.496	0.000			1.790	0.005
Other socio-demographic, regional, temporal, ect. controls	Yes		Yes		Yes		Yes		Yes		Yes	

The table provides odds ratios (and associated p-values) from an ordered *logit* model

Chapter 4

Willingness to Get Vaccinated Against COVID-19: A Survey Data

The paper examines the willingness to get vaccinated against COVID-19 and its association with individual characteristics and perceptions. The analysis uses data from a nationally representative survey conducted in Armenia. The willingness to get vaccinated displays expected patterns by employment, gender, education, marital status, insurance, trust towards the health system and information measure.

1. Introduction

The World Health Organization (WHO) declared COVID-19 a pandemic in March 2020. It is a major challenge to the health and economic situation of people around the world. The herd immunity could be achieved with vaccination programs, without requiring a large number of the people in the country to be infected. The alternative is a large number of people getting infected, which means there will be potentially high numbers of deaths. The burden on the health systems is evident, which are notdesigned to have capacity to treat patients when majority of population gets infectedand need treatment at the same time. The issue is even more pronounced in the lessdeveloped countries. Obviously, the vaccination program is more desirable.

Due to the emergency state of the COVID-19 pandemic, and the worries surroundingit, which were related to both health and economic state of the countries, the COVID19 vaccines have been developed in a very short period of time. However, having thevaccine does not mean automatically that it will be used. People could have worriesand doubts about the safety of the vaccine and if too many individuals hesitate aboutbeing vaccinated, the general immunity may not be reached (Neumann-Böhme et al.,2020).

This paper aims to investigate the attitude of people towards COVID-19 vaccination inArmenia, which was severely affected by the coronavirus disease. For that purpose a nationally representative survey was conducted, which, among others, also

includes a question on willingness to get vaccinated, if vaccine available. The potential respondents got an invitation to participate in an online survey through SMS massages. Respondents were chosen through proportionate stratified random sampling from Yerevan and all other marzes of Armenia.

We investigate in this paper how individual characteristics and perceptions are associated with the willingness to get vaccinated. Running logistic regressions, we find that the willingness to get vaccinated displays expected patterns by employment,gender, education, marital status, insurance, trust towards the health system and information measure.

This paper contributes to the ongoing literature by studying the factors associated with the willingness of getting vaccinated against COVID-19. In that regard it is similarto Mullahy (1999) which examines the micro-determinants for the decision to get theinfluenza vaccine. Note that it is about the actual decision, while ours is about the intentions to get vaccinated and in the highly uncertain circumstances, where there are also concerns about the vaccine safety itself. Nuscheler and Roeder(2016) consider vaccination decision as an investment decision where the time and risk preferences play a role. We also took such approach and preliminary results ofthe analysis show that neither time nor risk preferences have explanatory power (wedo not report the results of that analysis in this paper).

Another contribution of this paper is a general description of the current state of willingness to get vaccinated, using survey data, specifically for people living in Armenia, a developing country significantly affected by COVID-19 pandemic. The paper in that regard relates to Neumann-Böhme et al. (2020), which report and discuss the general willingness to get vaccinated in European countries, consideringdata from representative surveys.

The reminder of the paper is organized as follows. The data has been described in section 2, along with graphs displaying the current state of how willing are individualsto get vaccinated. In section 3 the methodology used to estimate the factors that affect the willingness to get vaccinated has been described along with an explanation

of the variables. In section 4 the results are reported and discussed. Section 5 concludes.

2. Graphical Analysis of Data

The sample consists of 3179 respondents. Among them, 2962 respondents answeredthe question of whether they are willing to take a vaccine or not, when the vaccine against COVID-19 is available. As displayed in Figure 1, the 25.7% of the respondents express willingness to get vaccinated, 34.6% are not willing to and the remaining 39.7% are unsure.

Figure 1. Willingness to get vaccinated against COVID-19, if vaccine available.
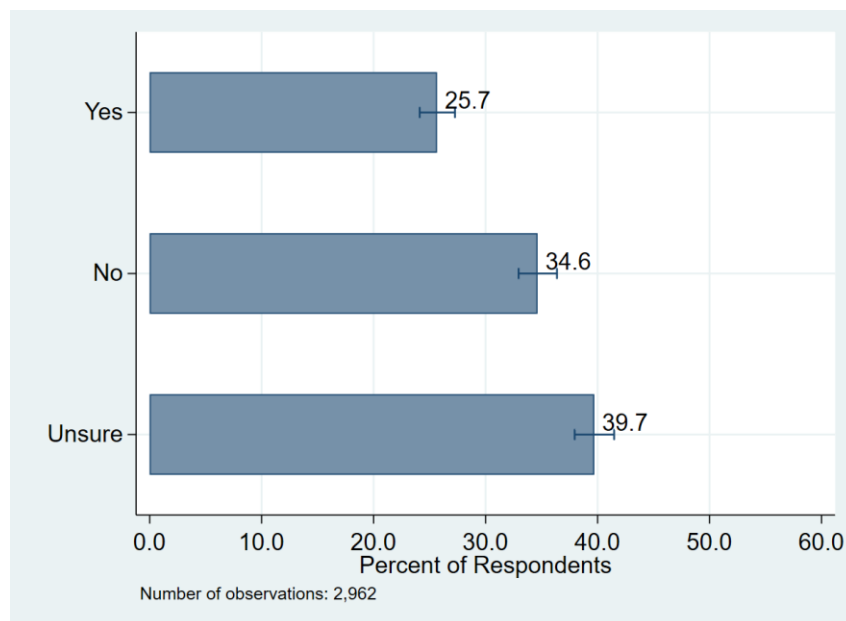
On a more detailed level, there is a noticeable difference in willingness to accept vaccine across genders and age groups. The respondents of the survey have been 58.99% females and 41.01% males. Looking at the responses of willingness to take a vaccine, the group of people who are willing to take a vaccine consists of 46.88% females and 53.12% of males, among the people who have declined to take a vaccine,62.20% are females against the 37.80% males. So the willingness of males to be vaccinated is more than women. In the group of people who are unsure of taking thevaccine, 64.09% are female and 35.91% are male.

Categorizing by age group and gender, the most willing group to take vaccine are males between the ages of 18-24 followed by males aged between 25-29. The least

willing group to take vaccine are females aged between 30-44 and the most uncertain respondents are females between age 25-29. Figure 2 illustrates the willingness to accept vaccine based on age and gender.

Figure 2. Willingness to be vaccinated against COVID-19 by gender and age groups specified.
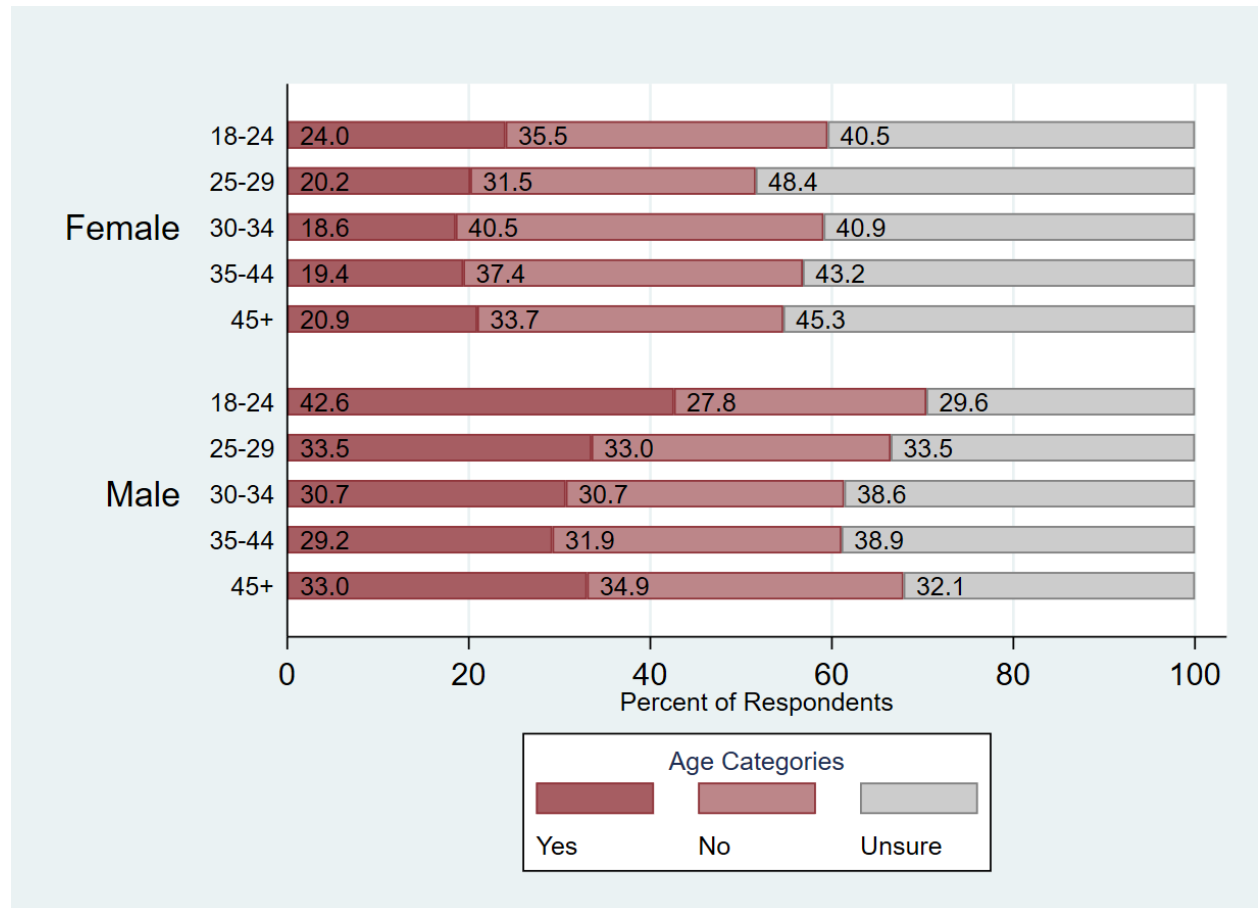
When the respondents indicate that they are not willing to be vaccinated or are unsure about it, they are next asked to choose a reason for that. The main reason ofconcerns based on the responses to the survey is the potential side effects of the vaccination. Other reasons of refusal or uncertainty over being vaccinated are that some of the respondents perceive that the coronavirus is not dangerous for their health or they believe that the proves of curing COVID-19 must be left to nature. Thisis closely followed by the reason that the respondents are against any type of vaccine. Figure 3 displays the general concerns over being vaccinated and it is quitein line with the findings of research conducted for many European countries (Neumann-Böhme et al. 2020).

Figure 3. Reasons to be unsure or to refuse COVID-19 Vaccine.
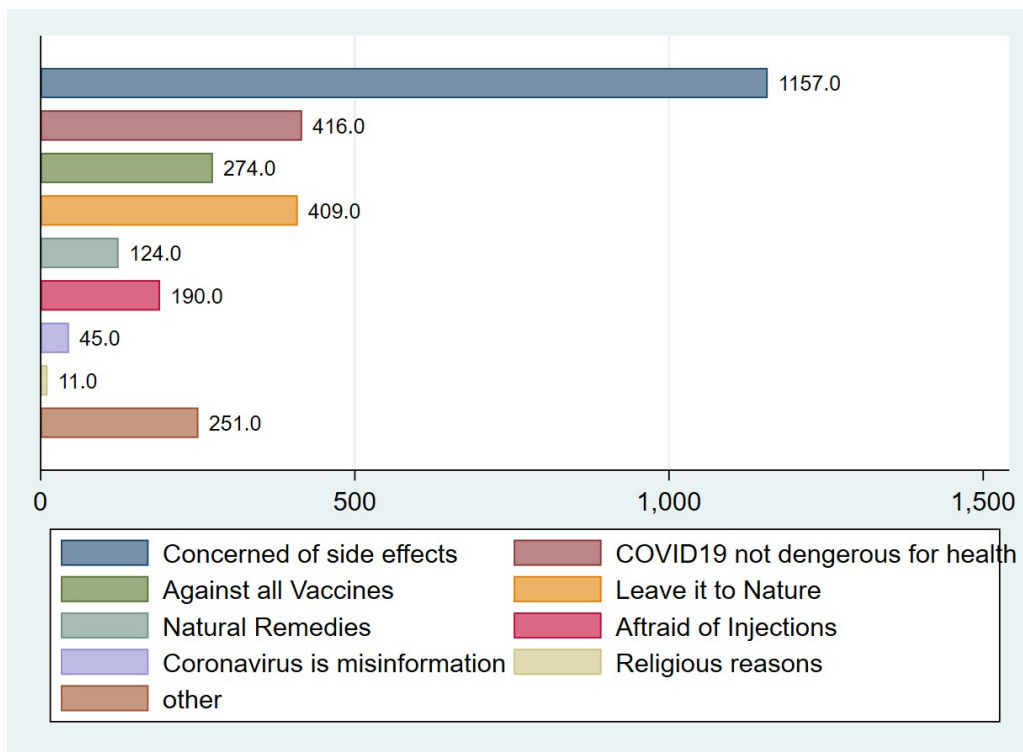
To be more specific, we have also categorized the reasons of concerns based on gender. Once again, the main concern about the vaccine is the side-effects, both for males and females.

Figure 4. Reasons of concerns by gender
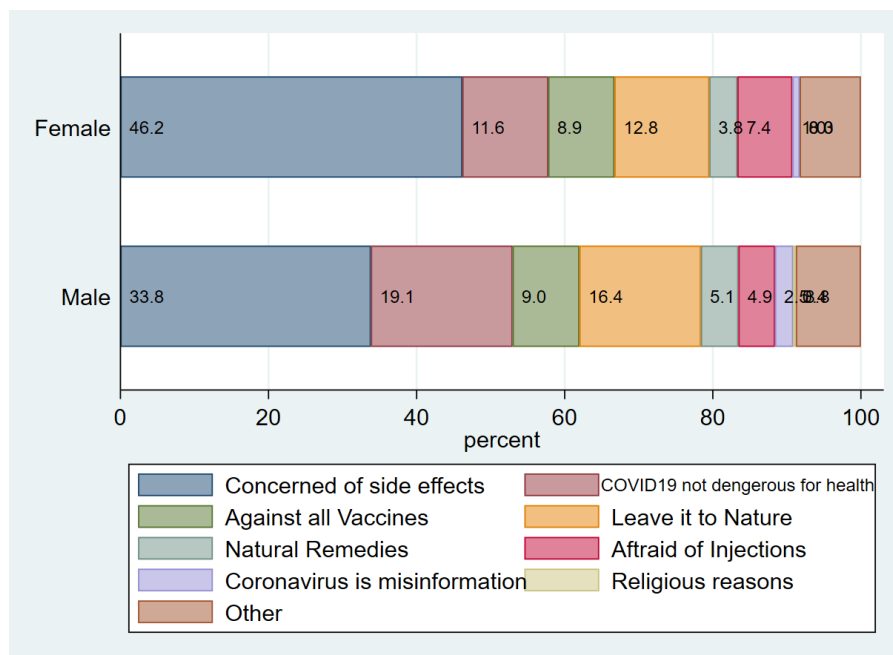
3. Descriptive Statistics and Methodology

The dependent variable *Vaccinate* is a binary variable that has the value 1 if respondent answered positively to the question: "*Will you be ready to get coronavirus vaccine once available*?" and 0, otherwise. Given the binary nature of the outcome variable we run logistic regressions.

Table 1 details the variables under consideration and Table 2 provides the descriptive statistics of the data. We consider number of control variables, categorizing them into groups. In particular, under risk factors we consider the age and health, the latter is a self-reported indicator. The average age in data is 33. Table two provides descriptive statistics for considered age categories. Around 32 percent of respondents rated their health level as very good. Also, we consider in the risk factor group those working in the health care and social service sectors. However, note that it constitutes only around 4 percent of respondents and around 7.4 percent of those who have work and answered the question on the work sector. As for labor market status, around 56 percent of respondents indicate having a paid job.

Considering other demographic factors, 41 percent of respondents are men, 58 percent of respondents indicate holding bachelor's or higher degree. 63 percent are married. 25 percent have health insurance. Income of 82 percent of respondents (out of 1502) is in the range of 120001 – 192000 AMD. 70 percent of respondents reside in urban area. Regarding the trust towards the health system the average is for neutrality, but with a closer look 80 percent have indicated the trust varying from full trust to neutrality. The 63 percent of respondents consider as being good or very good informed about the coronavirus disease. Around 41 percent of respondents indicate having coronavirus infected people who have been in their close contacts.

Table 1: Variables and their descriptions

Variables	Description
	Dependent Variable
VACCINATE	1 if the person is willing to take COVID19 vaccine, 0 else
	Control variables
Risk Factors	
HEALTH	1 if self-rated health is very good, 0 else
AGE	1 If the age of the individual falls in the range specified (five categories: 16-24; 25-29; 30-34; 35-44; 45+), 0 else
HEALTH CARE	1 if health care and social service worker, 0 else
Labor Market	
EMPLOYED	1 if has a paid job, 0 else
Other deomographics	
MALE	1 if the respondent is male, 0 if female.
UNIVERSITY DEGREE	1 if the individual holds bachelor's or a higher degree, 0 else.
MARRIED	1 if the respondent is married, 0 else
INSURED	1 if the respondent has a health insurance, 0 else
INCOME	nine categories for income ranging from 0 to 2000000+AMD
HH SIZE	Household size
CHILDREN	1 if has children, 0 else
URBAN	1 if the respondent lives in the urban area, 0 else
STUDENT	1 if the respondent is a student, 0 else
Trust towards health sytem	
TRUST HEALTH SYSTEM	Ordinal variable. Fully trust (1); Do not trust at all (5).
Information measures	
SUBJINFO	1 if feels very good or good informed about the coronavirus disease,0 else
Contact with Covid-19 infected people	
COVID cases around	1 if had infected people in close contact, 0 else

Table 2. Descriptive statistics

VARIABLES	N	mean	sd	min	max
VACCINATE	2,959	0.257	0.257	0	1
HEALTH	3,051	0.318	0.318	0	1
AGE (16-24)	2,099	0.205	0.205	0	1
AGE (25-29)	2,099	0.205	0.205	0	1
AGE (30-34)	2,099	0.209	0.209	0	1
AGE (35-44)	2,099	0.247	0.247	0	1
AGE (45+)	2,099	0.133	0.133	0	1
HEALTH CARE	3,160	0.0364	0.0364	0	1
EMPLOYED	3,160	0.511	0.511	0	1
MALE	2,099	0.410	0.410	0	1
UNIVERSITY DEGREE	2,081	0.579	0.579	0	1
MARRIED	2,075	0.629	0.629	0	1
INSURED	3,047	0.250	0.250	0	1
INCOME	1,502	3.242	3.242	1	9
HH SIZE	2,075	4.821	4.821	1	16
CHILDREN	2,074	0.641	0.641	0	1
URBAN	2,090	0.697	0.697	0	1
STUDENT	2,099	0.121	0.121	0	1
TRUST HEALTH SYSTEM	2,349	2.518	2.518	1	5
SUBJINFO	3,107	0.631	0.631	0	1
COVID cases around	2,891	0.408	0.408	0	1

4. Results

Given the binary nature of the outcome variable we run logistic regressions. As the outcome variable includes also an unsure answer option, we report the results for two cases. First model sets outcome variable to 0 for those who were unsure whether they would take vaccine or not, while the second one considers it as a missing value. We do this for the robustness purposes.

The estimation results are displayed in Table 3. The estimated odds ratios are reported to facilitate the interpretation of results. A value above one indicates that agiven covariate increases the likelihood of willingness to get vaccinated, while a value below one decreases it. The further the value is from one, the stronger the association. In all regressions, potential heteroskedasticity of residuals is accountedfor by reporting the robust standard errors.

Table 3: Estimation results

Variables	(1)	(2)
HEALTH	0.866	0.622***
	(0.123)	(0.104)
AGE (25-29)	0.907	0.967
	(0.191)	(0.241)
AGE (30-34)	0.750	0.599*
	(0.168)	(0.158)
AGE (35-44)	0.745	0.653
	(0.171)	(0.176)
AGE (45+)	0.806	0.663
	(0.203)	(0.199)
HEALTH CARE	1.190	1.171
	(0.338)	(0.389)
EMPLOYED	0.685**	0.751*
	(0.101)	(0.129)
MALE	2.038***	2.133***
	(0.272)	(0.331)
UNIVERSITY DEGREE	0.654***	0.714*
	(0.097)	(0.127)
MARRIED	0.590***	0.629**
	(0.116)	(0.148)
INSURED	1.367**	1.487**
	(0.197)	(0.260)
INCOME	1.057	1.004
	(0.054)	(0.060)
HH SIZE	1.009	1.012
	(0.041)	(0.046)
CHILDREN	1.223	1.307
	(0.263)	(0.339)
URBAN	0.858	0.906
	(0.136)	(0.175)
STUDENT	1.227	1.095
	(0.279)	(0.289)
TRUST HEALTH SYSTEM	0.737***	0.647***
	(0.041)	(0.040)
SUBJINFO	1.281*	1.429**
	(0.175)	(0.233)
COVID cases around	1.117	1.147
	(0.151)	(0.184)
Constant	0.854	2.882**
	(0.323)	(1.289)
Marz F.E.	Yes	Yes
Observations	1,470	904
Wald chi2	129.6	120.9
Prob > chi2	0	0
Pseudo R2	0.0792	0.108

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Estimation results show that there is a significant association between willingness to get vaccination and employment, gender, education, marital status, insurance, trust towards the health system and information measure. Specifically, the male respondents are more likely to accept the vaccination if available. Also, the respondents who are better informed about the disease (as indicated by their self- assessment) are more likely to take the vaccine. Having insurance is anothercovariate which is positively associated with the willingness to accept the vaccination. The other listed covariates decrease the likelihood of willingness to get vaccination. In particular, employed individuals have less likelihood of accepting the vaccination, as well as married ones. Education, i.e. holding bachelor's or higher degree, decreases the likelihood of acceptance of vaccine and it might probably be due to concerns about the safety of vaccine. The trust towards the health system turns out to be a significant covariate and implies that lower trust reduces the likelihood of willingness to accept the vaccine. The results are meaningful and in linewith expectations. Further, when assessing the robustness of the results to consideration of unsure responses as missing ones in model 2 (number of observations declines from 1470 to 904), we see that results generally remain the same. The only exception is the health indicator which now is significant and impliesthat the very good health is associated with lower likelihood of readiness to get vaccinated. One of age categories also turns to be significant in model 2.

5. Conclusion

The paper examined the willingness to get vaccinated against COVID-19 and its association with individual characteristics and perceptions. The analysis used data from a nationally representative survey conducted in Armenia. The willingness to get vaccinated displays expected patterns by employment, gender, education, marital status, insurance, trust towards the health system and information measure.

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