The Role of Children and Work-from-Home in Gender Labor Market Asymmetries:

Evidence from the COVID-19 Pandemic in Latin America *

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Abstract

Asymmetry in childcare responsabilities is one of the main reasons behind gender gaps in the labor market. In that context, the ability to work from home may alleviate the hindrances of women with children to participate in the labor market. We study these issues in Latin America, a region with wide gender gaps, in the framework of a major shock that severely affected employment: the COVID-19 pandemic. In particular, we estimate models of job loss exploiting microdata from the World Bank's high-frequency phone household surveys conducted immediately after the onset of the pandemic. We find that the mitigating effect of working from home on the severity of job losses was especially relevant for women with children. These effects were larger in countries/periods in which the containment measures implemented by governments against the spread of the disease were more stringent. The results are consistent with a plausible mechanism: due to the traditional distribution of childcare responsibilities within the household, women with children were more likely to stay home during school closures, and therefore the ability to work from home was crucial for them to keep their jobs.

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1 Introduction

In 2020 an unexpected shock dramatically affected the lives and jobs of everyone in the world: the COVID-19 pandemic. Latin America was not an exception. In an attempt to contain the spread of the disease, all the governments imposed national lockdowns, school closures, travel restrictions, and social-distancing measures. These measures contributed to saving lives but at the same time they inevitably brought negative consequences in the labor market. The economies of the region experienced an unprecedented increase in job losses, unemployment and income reduction.

One of the asymmetries that were early noticed is that of gender: women were hit harder by the crisis than men (Alon et al. 2021, Viollaz et al. 2022). In particular, job losses were significantly larger among women, implying a setback with respect to the advances of recent decades in terms of gender equality, and also limiting the possibilities of recovery for the economies of the region. The strong negative shock suffered by women and the difficulties in resuming their past work trajectories threatens the United Nations' Sustainable Development Goals (SDGs) of achieving gender equality and promoting sustained economic growth and full employment—goals 5 and 8 of the SDGs.

At least two factors could account for the gap between women and men in the impact of the crisis. The first one is the presence of children at home and the associated childcare activities. Given the long school closures and deeply rooted cultural factors, women are more likely than men to bear the responsibility of childcare, and then suffer the consequences in the labor market. If social norms assign childcare mostly to women, only mothers with the ability to work from home (WFH) might be able to reconcile their labor market activities with their family responsibilities. A second factor that could contribute to explain the gender asymmetry is occupational segregation: if women are employed in sectors more affected by the pandemic and work in occupations that are more difficult to perform from home, the impact would be understandably harsher.

By analyzing behaviors and reactions to an unexpected strong negative shock—the COVID-19 pandemic—this paper makes a contribution to the understanding of some fundamental development issues, such as the hindrances to women labor force participation, the role of social norms and the opportunities open by new technologies. Our analysis is focused on Latin America, a region where labor gender gaps are among the widest in the world, and where the impact of the pandemic has been particularly strong in terms of lives, jobs, incomes and welfare.

We study these issues with the help of one of the most ambitious data sets collected immediately after the onset of the pandemic: the World Bank's high-frequency phone household surveys (HFPS). These surveys were carried out in three waves between May and August 2020 in over 100 countries around the globe, including 13 in Latin America. Variables in the HFPS were harmonized by the World Bank, which helped foster a growing literature (Ballon et al. 2021; Cucagna and Romero 2021; Khamis et al. 2021; Kugler et al. 2021; Mejia-Mantilla et al. 2021).

We contribute to this initiative by carefully codifying the occupation variables in the HFPS, which allows us to construct measures of potential for work from home, a crucial factor to cope with the shock generated by the pandemic and the containment measures. We compute a measure of work from home following the proposal of Dingel and Neiman (2020) based on occupational characteristics from O*NET. Given that in some occupations the possibility of teleworking depends on having internet access, which is far from universal in Latin America, we adjust our individual measures of WFH by taking into account home internet access reported in the HFPS (Garrote-Sanchez et al. 2021).

Our main analysis is based on regression models of job losses. We focus the analysis on the effect of two factors that may account for the severity of the shock: the individual's potential for work from home (WFH) and some sociodemographic characteristics such as gender and number of children at home. We control for several factors and include fixed effects by occupation and by country. We also explore the role of the differences in the stringency of the social-distancing measures across countries and over time.

We first confirm two important results: (1) the impact of the COVID-19 shock was strongly decreasing in the possibility of working from home, and (2) women were more likely to lose their jobs than men. Importantly, we also find that the alleviating effect of WFH on the severity of job losses was especially relevant for women with children. In particular, the coefficient for the interaction between WFH and the dummy for woman is large and statistically significant in the sample of households with children but not among those without children. The result holds when we control for occupation fixed effects, implying that even among women in the same occupation, the ability for WFH was pivotal among those with children. This evidence is consistent with a plausible mechanism: given the traditional intrahousehold distribution of childcare responsibilities in Latin America, women with children were more likely to stay home due to school closures, and therefore the possibility of WFH became very relevant for them to keep their jobs.

Our results can be important to further understand the setbacks in terms of gender equality in the labor market generated by the pandemic and the containment measures, and the role of working from home in that process. Understanding these interactions can be important to speed up the return of women to the labor market.

We organize this paper as follows. Section 2 briefly reviews the literature. Section 3 introduces the data used in the analysis, with special emphasis on the treatment of the occupation variables, and discusses our measure of work from home. Section 4 presents the main results of the paper by assessing the gender asymmetries in the relationship between job losses, the ability to work from home and childcare responsibilities in a regression analysis setting. Section 5 explores potential heterogeneities in the results according to different social-distancing measures applied by countries to cope with the pandemic. We conclude in Section 6 with a discussion of the main findings and the policy implications.

2 Literature Review

The COVID-19 pandemic was a large and unexpected shock on all the economies around the world. The reaction of academia to this unprecedented shock was swift: in a very short time, a prolific literature developed investigating the consequences of the pandemic and the policy measures that were implemented to mitigate its effects.[1]

Our paper is related to five (interrelated) strands of the economic literature on the COVID-19 pandemic. First, there is a large and more general literature on the labor market effects of the shock (Adams-Prassl et al. 2020b; Brodeur et al. 2021; Cajner et al. 2020; Coibion et al. 2020; Koebel et al. 2021). These papers typically find large and asymmetric short-run impacts of the pandemic and the social-distancing measures across countries and sociodemographic groups. A more specific literature looks at the issue of work from home and the ability to teleworking (Adams-Prassl et al. 2022; Dingel and Neiman 2020; Garrote-Sanchez et al. 2021; Gottlieb et al. 2021; Saltiel 2020; Berniell and Fernandez 2021; Delaporte et al. 2021). This line of research highlights the role of WFH in alleviating the impact of the shock, and stresses the asymmetries in the ability to teleworking among socioeconomic groups. A third strand in the literature focuses on gender differences in the impact of the shock (Alon et al. 2021; Alon et al. 2022; Costoya et al. 2021; Adams-Prassl et al. 2020a; Copley et al. 2020; Cucagna and Romero 2021; De Paz et al. 2020). These papers typically find that female workers were among the most negatively impacted in the early stages of the pandemic, and suggest two drivers of this asymmetry: a particularly large fall in the activities in which women were predominantly employed and an increase in caregiving responsibilities.

Since the health crisis was global, specific regional studies flourished. In particular, there is a growing literature that examines the impact of the shock in the context of Latin America (Busso et al. 2020; De La Flor et al. 2021; Delaporte et al. 2021; ECLAC 2020; Lustig and Tommasi 2020). These studies find that Latin America was one of the regions hardest hit by the COVID-19 pandemic and the containment measures, with staggering costs in terms of lives, jobs, incomes and welfare.

Finally, there is a literature that studies the impact of the shock exploiting the World Bank's HFPS surveys both around the globe, and specifically in Latin America (Ballon et al. 2021; Cucagna and Romero 2021; Khamis et al. 2021; Kugler et al. 2021; Mejia-Mantilla et al. 2021; Olivieri and Rivadeneira, 2021). The richness of these surveys allows exploring the impact of the shock in the labor market as well as in education, food security and other outcomes.

Our results contribute to this literature by shedding light on how the possibility of teleworking alleviated the initial costs of the crisis, and on the role of WFH and childcare behind the gender asymmetries generated by the pandemic in Latin America. More generally, our paper contributes to a better understanding of the labor market impact

[1] Just as an example, in just 3 months since the pandemic reached Western countries, in March 2020, the prestigious series of the National Bureau of Economic Research had published 106 articles related to COVID-19 while the IZA Institute of Labor Economics had published another 60.

of the pandemic and the social-distancing measures in the specific context of developing countries.

3 Data

Our main source of data is the High-Frequency Phone Surveys (HFPS) conducted by the World Bank in 2020 to assess the impact of the COVID-19 pandemic. In this section we present this data set, explain how we codify the occupation variables, present basic descriptive statistics of job losses, and discuss an index of the individual's potential for work from home.

3.1 The High-Frequency Phone Surveys

One of the reactions to understand the impact of the pandemic was to collect new data, given that regular national household surveys were not well-suited to deal with this novel situation. One of the more ambitious initiatives was led by the World Bank, which implemented or supported several waves of high-frequency phone household surveys in over 100 countries, and harmonized the results. Thirteen Latin American countries participated in the survey: Argentina, Bolivia, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Paraguay, and Peru. These countries represent around 60 percent of the region's population.

The HFPS have a panel structure over three rounds conducted between May and August 2020.[2] The surveys collect information on multiple dimensions, such as changes in employment, access to health and education services, and coping mechanisms to deal with job loss or other shocks related to the pandemic or the measures implemented by governments to mitigate the spread of the disease. The questionnaires also inquired about household knowledge about the disease and the degree of compliance with preventive measures.[3]

In each selected household, only one adult aged 18 and above was interviewed. The same respondent was contacted again in the following rounds. Around 1,000 surveys per country were gathered in the first round, 73 percent in the second, and 70 percent in the third.[4] Survey estimates for each country are representative of individuals aged 18 and above who have an active cellphone number or a landline at home.[5] Also, the survey is representative of households with a landline and for which at least one member has

[2]The first round was conducted between May 8 and June 14, 2020, the second round from June 5 until July 16, and the third round from July 5 until August 25, 2020. In Ecuador there was a fourth round, which was collected between August 15 and 25, 2020.

[3]The COVID-19 monitoring global dashboard provides harmonized indicators across countries in Latin America and the world. For more information on the HFPS, see Mejía-Mantilla et al. (2021).

[4]The sample weights take into account the attrition in the second and third rounds. The weights were calibrated to incorporate population projections of the United Nations Economic Commission for Latin America and the Caribbean (ECLAC). See Mejia-Mantilla et al. (2021).

[5]The sample is based on a dual frame of cellphone and landline numbers generated through a Random Digit Dialing (RDD) process. For a detailed description of sampling and weighting see Flores Cruz (2020).

a cellphone.[6] Tables 1 and 2 present summary statistics of the main variables in the HFPS for the 13 Latin American countries taken together. According to Mejia-Mantilla et al. (2021), compared to national household surveys, individuals in the HFPS sample are somewhat more educated, younger and more likely to reside in urban areas.

The HFPS were extremely useful in the midst of the crisis, when data from national household surveys (NHS) was not available. But, even when these larger surveys became available, the relevance of the HFPS remained high for various reasons. First, the questionnaire of the World Bank surveys was especially tailored to the crisis and includes a large number of specific questions. Second, unlike most NHS, the HFPS are multi-wave panel surveys that allow tracking short-run changes during the pandemic. Finally, the HFPS were uniform across countries (same questionnaire, same time window, etc.), so the comparability of the results and the possibility to construct aggregate regional measures are enhanced compared to the much more heterogeneous national household surveys.

3.2 Occupations

The HFPS dataset includes seven questions on the occupation of a worker: one for the pre-pandemic situation and two in each of its three rounds, one for people who worked the previous week and another for those who did not work but who still have a job. These questions on occupation capture important information on the activities performed by workers, and hence are very useful for the analysis of the labor market, as stressed by the task-based approach (Acemoglu and Autor 2011). Although the HFPS have been used as the main input for several recent papers on the impact of the COVID-19 crisis, to the best of our knowledge, the occupation variables were not considered in those studies. The most likely reason for this neglect is that, in contrast to the rest of the variables in the HFPS, the occupation variables had not been codified before. The responses to the occupation questions are open, and hence difficult to assign to a few categories.

We find 9,223 different answers in all the occupation variables included in the Latin American HFPS. In this study we make an effort to codify these answers in a few categories. To that aim we map the open individual responses to the occupation questions in the HFPS to the 41 groups in the 2-digit International Standard Classification of Occupations version 08 (ISCO-08). The ISCO categorization, proposed by the International Labour Organization (ILO), is currently adopted by most countries in the world, including many in Latin America, to classify the data on occupations collected in surveys, census and administrative records. We select the 2-digit grouping since it provides enough heterogeneity for the analysis, and at the same time avoids problems of lack of observations (Vosters 2018).

The codifying of the occupation variables in the HFPS implies a painstaking process of assigning each answer to an ISCO group, following the guidelines of the ISCO codebook, which includes specific information of the names, characteristics and activities of each

[6] To address the non-random selection of households, country teams that fielded the HFPS generated household sampling weights that seek to correct for this issue. We use these weights in all our analyses.

occupation. In particular, we use the Spanish version of the codebook, consistent with the official language of the 13 Latin American countries included in the analysis. We were able to match 98 percent of the answers to the HFPS surveys to an ISCO group.[7]

Figure A.1 in the On-line Appendix shows the share of respondents in each of the ten occupation groups in the 1-digit ISCO classification before the start of the pandemic. On average, for all countries, the group with the largest share is Services and Sales Workers (21 percent) followed by Professionals (19 percent), Elementary Workers (14 percent), and Craft and Related Trades Workers (12 percent). There are some groups with a share between 6 and 9 percent (Technicians and Associate Professionals; Clerical Support Workers; Skilled Agricultural, Forestry and Fishery Workers; and Plant and Machine Operators and Assemblers). Finally, the number of observations is small for Managers (3 percent) and negligible for Armed Forces Occupations (0.27 percent).

3.3 Comparison with National Household Surveys

In this section we compare the structure of occupations in the HFPS before the pandemic with the one constructed with microdata drawn from national household surveys (NHS). To that aim we take advantage of the Socioeconomic Database for Latin America and the Caribbean (SEDLAC), a large project of harmonization of national household surveys that has been carried out by CEDLAS-UNLP and The World Bank since 2002. In particular, we use the NHS of the 13 Latin American countries included in the HFPS project for circa 2019.

The occupation variables are already codified in the household surveys by the national statistical offices although, unfortunately, the codification is not uniform across countries.[8] Latin American countries use different systems of occupation codes: they use different versions of the ISCO classification or even their own codes (e.g. Argentina). In order to have a unique classification we converted the occupation codes of each country to the 2-digit ISCO 08 using official crosswalks.

Once we have the occupations in the two data sets (HFPS and NHS) grouped following the same classification (2-digit ISCO 08), we proceed to compare the resulting structure of occupations. In particular, we compare the structure for the pre-pandemic occupation question in the HFPS with the structure in the 2019 NHS. Figure A.1 shows the results for the 1-digit grouping. The shares of workers in each group are similar across data sets, with two noticeable exceptions. Compared to the NHS, there is an over-representation of professionals and an under-representation of workers in skilled agricultural and elementary occupations in the HFPS. Figure A.2 shows that the under-representation in the latter group occurs mainly among the agricultural, forestry and fishery laborers.[9] These biases are consistent with the findings of Mejia-Mantilla et al. (2021) regarding the bias of

[7] The codes that carry out the matching are available upon request.

[8] The occupation variables have not been codified yet in the SEDLAC project.

[9] The severity of the problem varies across countries. In Colombia, for example, there is very little difference between the share of elementary workers that arises from both sources.

the HFPS sample towards more educated and urban households: a typical limitation in phone surveys given the difficulties in reaching rural workers. Naturally, these biases should be kept in mind when looking at aggregate statistics, but they are not necessarily a significant problem when we carry out the analysis at the individual level, as in our regression analysis.

3.4 Job Losses

Our main variable of interest is job losses during the COVID-19 pandemic. We focus on permanent job losses, defined as situations where the respondent was working before the pandemic but is not working at the time of the interview and does not have a job to return to.

For simplicity, in this section we construct a binary indicator for "any job loss" that equals one if the worker suffered a job loss in any of the 3 waves compared to the pre-pandemic situation. For those who had a job prior to the pandemic, column (1) in Table 3 shows the percentage who lost their job in waves 1, 2, or 3 of the HFPS. Job losses were very large; the share of workers who lost their job in this very short time window was around 30 percent on average in the region. There are heterogeneities across countries, from 18 percent in Argentina to 47 percent in Colombia.

We are particularly interested in the heterogeneities of the impact of the crisis across socioeconomic characteristics, such as gender. Columns 2 and 3 of Table 3 show that job losses were larger for women than for men in all countries, and the gender gaps were as high as 22 percentage points in Paraguay. Also, job losses were larger for the youth (columns 4 and 5 of Table 3) and for the unskilled (columns 6 to 8 of Table 3) in all the countries. Taking into account the pre-pandemic occupation, non-salaried workers experienced larger job losses in most countries (columns 9 and 10 of Table 3).

Figure A.3 shows job losses by occupation classified with the 1-digit ISCO. Job losses varied from 15 and 16 percent for managers and professionals, respectively, to 37 percent for machine operators and assemblers, and up to more than 50 percent for workers in elementary jobs. Since the ISCO classification sorts occupations by job complexity, from managers to elementary workers (Vosters 2018), Figure A.3 suggests that job losses were decreasing in the complexity of the job. In the following section, we work with the 41 groups of the 2 digit ISCO classification, which implies a richer analysis.

3.5 An Index for Work from Home

In order to analyze whether the differential impact of the pandemic was related to the potential for remote work in the pre-pandemic situation, we construct a variable for potential for work from home. We proceed in two steps; first we construct a measure of WFH at the occupation level (Dingel and Neiman 2020), and then adjust this measure for home internet access using the answers to the HFPS (Garrote-Sanchez et al. 2021).

The first step follows the widely used methodology of Dingel and Neiman (2020).

They construct a variable of WFH at the occupation level using data on occupational characteristics from O*NET for the U.S. Some of these characteristics are suggestive of the difficulties of working from home (e.g. working directly with the public, outdoor activity, exposed to the weather). When at least one of these characteristics is assessed as "important" or "very important", the occupation is classified as not compatible with WFH.

Occupations in O*NET are classified according to the Standard Occupational Classification (SOC) System. The next step in the methodology is to map the results in the SOC-8 digits classification to the 2-digit ISCO classification, the one used in this paper.[10] The number of groups in the latter classification is smaller, so for each ISCO category we typically have several SOC occupations. As a result of this, our variable for WFH at the 2-digit occupation level is not a binary variable but a share: the share of SOC occupations included in an ISCO category that are compatible with WFH.

Some of the occupations that can be carried out at home require access to internet, a service that is not universal in Latin America. Given this concern, we adjust the measure of WFH for home internet access taking advantage of a relevant question in wave 1 of the HFPS (Garrote-Sanchez et al. 2021). We proceed in two steps. First, for each ISCO category we calculate the share of SOC occupations that require internet to be executed ($ShrY$) and the share of occupations that do not ($ShrN$).[11] Then, the share that requires internet is adjusted by home internet access at the individual level recorded in the first wave of the HFPS ($Internet$). Formally,

$$WFH_{ij} = WFH_j.ShrN_j + WFH_j.ShrY_j.Internet_i. \quad (1)$$

Where i labels the individual and j her occupation. Notice that by adjusting for home internet access the index of WFH at the occupation level j becomes an index defined at the individual level. Figure A.4 shows the distribution of the WFH index at the individual level for each country before the pandemic. The distributions differ across countries because of the differences in their occupational structures. For instance, the occupational structure in Ecuador or Guatemala is much less compatible with remote work than that of Argentina or Chile.

4 Job Losses, Work from Home and Childcare

Our main interest is to assess the relationship between job losses and the potential for working from home of the pre-pandemic occupation and whether this relationship differs by gender. Figure 1 shows the correlation across countries between the share of workers who lost their jobs and the WFH index. In the first panel—wave 1—a clear negative

[10] We follow Bonavida-Foschiatti and Gasparini (2020) for this step.

[11] We follow Garrote-Sanchez et al. (2021) and define the share of SOC occupations within each 2-digit ISCO occupation that requires internet using information from O*NET on the importance and frequency of computer and email use.

association between WFH and job losses is observed for both women and men.[12] In other words, the initial impact of the crisis implied more job losses for countries where the occupational structure was less compatible with remote work, both for male and female workers. While this pattern persists for women in the following waves of the survey, for men the relationship between job losses and WFH loses strength and virtually disappears in the third wave. Figure 2 shows that a similar pattern arises from an individual-level analysis, i.e., the correlation between the probability of job loss and the individual WFH index is stronger for women, suggesting that the possibility of working from home was more decisive in preventing job losses for women than for men.

At least two mechanisms can account for the differential importance of WFH between men and women. One is related to gender differences in childcare responsibilities, which fall mostly on women as we mentioned above. Given the allocation of these responsibilities and the school closures during the pandemic,[13] the only way for women with young children to continue working was to do it from home. Therefore the possibility of working from home would be more relevant to avoid job losses for women with young children than for men or women without children.

Another mechanism arises from the occupational segregation by gender that characterizes labor markets. Then, if the possibility of doing remote work was key to keep a job during the lockdown, the fact that men and women work in different occupations that differ in the potential of WFH could also explain gender differences in job losses.

We explore these hypotheses using the following regression model.

$$\begin{aligned} JobLost_{icw} &= \alpha + \gamma Women_{icw} + \psi WFH_{ic0} \\ &+ \phi WFH_{ic0} \times Women_{icw} + \delta X'_{icw} + \lambda_c + \theta_w + \epsilon_{icw}. \end{aligned} \tag{2}$$

$JobLost_{icw}$ is an indicator that takes the value 1 if individual i from country c lost her job in wave w relative to the pre-pandemic period; $Women_{icw}$ indicates whether individual i is a woman and WFH_{ic0} is the WFH index adjusted by home internet access corresponding to the job that individual i had before the pandemic;[14] the interaction between $Women_{icw}$ and WFH_{ic0} allows for gender differences in the effect of WFH on job losses; vector X'_{icw} includes education attainment, age and squared age, and whether the individual was a salaried worker or self-employed before the pandemic, which allows controlling for job stability and other characteristics not related with the content of tasks,

[12] Moreover, the ability to work from home is larger for women than for men in all countries which is in line with evidence presented for other countries (Gottlieb et al. 2021, Saltiel 2020).

[13] The number of days schools were fully closed is much larger in Latin America (average of 158 by March 2021) than in developed countries (52 in Western Europe and 0 in North America) (UNICEF, 2021).

[14] Our preferred specification includes this adjusted index that captures at the individual level the combined effect of both the characteristics of the occupation and the availability of technology at home on the ability to do teleworking. We also estimate models including separately the unadjusted WFH index and household internet access. All our main results hold.

such as time flexibility;[15] the model also controls for household size and includes wave dummies (θ_w) as well as country fixed effects (λ_c).

We estimate model 2 using the sample of individuals who were employed before the pandemic. Column 1 in Table 4 reports the results.[16] The estimated coefficient for the WFH index is negative and significant, indicating that, even after controlling for all other variables, there is a negative association between the possibilities of doing remote work and the probability of losing a job during the pandemic. The coefficient of the dummy $Women$ is positive and statistically significant, while the interaction of this variable and WFH is negative and also highly significant. This implies that while women were more likely to lose their jobs during the pandemic than men, having a job that can be done from home largely offsets that disadvantage. For instance, women with jobs incompatible with remote work (WFH = 0) were almost 11 percentage points more likely to lose their jobs during the pandemic than men with similar characteristics including similar jobs in terms of WFH. However, if we compare similar women and men in jobs fully compatible with remote work, women were only 2.8 percentage points more likely than men to lose their jobs during the pandemic. This result is in line with our previous discussion: the possibility of working from home was more important for women than for men in helping avoid job losses.

Next, we explore the role of the presence of children at home. We therefore add to the model an indicator of the presence of children aged between 5 and 18 in the household, its interaction with the dummy $Women$, and the number of children in the household.[17] Column 2 in Table 4 shows the results that indicate that women with children at home were more likely to lose their jobs than men with similar characteristics who also have children at home.

In order to understand whether any differential role of WFH by gender is explained by childcare needs at home we run model 2 separately for households with and without children and report the results in columns 3 and 4 in Table 4. Notice that the coefficient of the interaction between WFH and gender is negative, large in absolute value and very significant only in households with children, while in households without children the coefficient is still negative but smaller in absolute value and not statistically significant. This implies that the role of WFH in avoiding female job losses occurs mainly in households

[15] Unfortunately, the HFPS does not have information on hours worked. However, from other sources (e.g., SEDLAC) we know that self-employment exhibits a greater dispersion of weekly working hours than salaried work.

[16] Tables A.1 and A.2 in the On-line Appendix show the results of estimating other more parsimonious specifications that gradually add controls. Models in Table A.1 explore conditional gender differences in the probability of experiencing job losses. The results indicate that the probability of job losses is 7.7 percentage points higher for women than for men with similar characteristics—i.e., same age, education, country, etc. Models in Table A.2 add the WFH index as a regressor. Given everything else, workers in jobs fully compatible with remote work (WFH = 1) are around 8.5 percentage points less likely to have lost their jobs during the pandemic than workers in jobs incompatible with remote work (WFH = 0).

[17] The HFPS does not allow for a more complete characterization of the composition and structure of the household. For instance, we do not have information for children younger than 5. However, studies for developed countries have found that the changes in the labor market gender gaps during the pandemic are mainly explained by the group having school-age children (Alon et al. 2021; Fairlie et al. 2021).

with children, possibly due to childcare needs. For instance, in households with children, women with jobs incompatible with remote work were almost 14 percentage points more likely to lose their jobs than men with similar characteristics and whose jobs were also incompatible with remote work. In contrast, in households without children the difference is only 5 percentage points.

To check the robustness of the results, Table A.3 in the On-line Appendix reports the results for a model that includes fixed effects by region. The estimates confirm our previous findings.[18]

Next, we evaluate whether the mechanism underlying the gender differences in the impact of WFH on job losses is related to occupational segregation by gender. For this, we estimate a variant of model 2 that includes fixed effects by pre-pandemic occupation using the 2-digit ISCO classification. Table 5 reports these results. The coefficient associated to the interaction between gender and WFH is still negative and significant in the sample of households with children, which means that even among women in the same occupation, those with children were the ones for whom the ability for WFH was pivotal. This suggests that our results are probably not driven by gender differences in occupational structure but more likely by childcare needs.

Finally, we explore whether results differ across countries according to their pre-pandemic gender-equality status. To that aim we classify countries into two groups according to the value of the 2019 UNDP gender-equality index: higher or lower than the median for Latin America. Interestingly, Table 6 suggests that the protection from job loss for women with children arising from the ability to work from home was only relevant in low gender-inequality societies. One possible conjecture behind this result is that in more conservative societies, social norms are so rigid that the possibility of doing remote work is not enough to prevent the loss of employment of women who had to stay at home to care for their children.

5 Heterogeneities According to Social-Distancing Measures

This section explores potential heterogeneities in the previous results depending on the social-distancing measures adopted by the countries in our sample. We start by describing the indices that we use to capture government policies in this regard.

5.1 The Stringency Index

Immediately after the onset of the pandemic governments around the world imposed strong measures aimed at containing the spread of the disease, including lockdowns, travel restrictions, school closures, and various social-distancing measures. The socioeconomic impact of the pandemic is expected to be affected by the stringency of these measures.

[18] It would also have been relevant to check the robustness of the results after controlling for the pre-pandemic industry, but unfortunately this variable has 60 percent missing observations in the HFPS.

Economies in which these non-pharmaceutical interventions were stricter probably experienced a stronger shock, at least in the short run, than those where the containment measures were less rigorous.

Measuring the stringency of the policy reactions to the pandemic is however a tricky task as it involves all sorts of data and aggregation issues. In this section we use the Stringency Index of the Oxford COVID-19 Government Response Tracker (OxCGRT). The OxCGRT collects information on policy measures that governments have taken to tackle COVID-19. The different policy responses cover more than 180 countries and are coded into 23 indicators, recorded on a scale to reflect the extent of government action. This initiative, explained and documented in Hale et al. (2021), has become the most widely used database of the containment measures taken around the world.[19]

The Stringency Index of the OxCGRT records the strictness of lockdown-style policies that restrict people's behavior. It is calculated using all ordinal containment and closure policy indicators, plus an indicator recording public information campaigns. The index is computed as a simple average of the 9 following indicators rescaled to a maximum of 100: school closing, workplace closing, cancel of public events, restrictions on gatherings, close of public transport, stay-at-home requirements, restrictions on internal movement, international travel controls, and public information campaigns.[20] The index and each component reflect the presence and intensity of the measures in each country over time.

5.2 The Stringency Index and Job Losses by Gender

To assess the role of the policy reactions to the pandemic we incorporate the stringency index and the interactions with WFH and gender into model 2. Table 7 reports the results, which confirm—once again—that women were more likely to lose their jobs, especially women with children (see columns 1 and 3 of Table 7). Naturally, social distancing

[19] For instance, see Bakker and Goncalves (2021); OECD (2020); De la Vega and Gasparini (2021); Neidhöfer and Neidhöfer (2020).

[20] The definitions of the indicators are the following. (1) *School closing*: 0=no measures; 1=recommend closing or all schools open with alterations resulting in significant differences compared to non-COVID-19 operations; 2=require closing (only some levels or categories); 3=require closing all levels. (2) *Workplace closing*: 0 =no measures; 1=recommend closing (or recommend work from home) or all businesses open with alterations resulting in significant differences compared to non-COVID-19 operation; 2=require closing (or work from home) for some sectors or categories of workers; 3=require closing (or work from home) for all-but-essential workplaces.(3) *Cancel public events*: 0=no measures; 1=recommend canceling; 2=require canceling. (4) *Restrictions on gatherings*: 0=no restrictions; 1=restrictions on very large gatherings (the limit is above 1000 people); 2=restrictions on gatherings between 101-1000 people; 3=restrictions on gatherings between 11-100 people; 4=restrictions on gatherings of 10 people or fewer.(5) *Close public transport*: 0=no measures; 1=recommend closing (or significantly reduce volume/route/means of transport available); 2=require closing (or prohibit most citizens from using it). (6) *Stay at home requirements*: 0=no measures; 1=recommend not leaving house; 2=require not leaving house with exceptions for daily exercise, grocery shopping, and 'essential' trips; 3=require not leaving house with minimal exceptions. (7) *Restrictions on internal movement*: 0=no measures; 1=recommend not to travel between regions/cities; 2=internal movement restrictions in place. (8) *International travel controls*: 0=no restriction; 1=screening arrivals; 2=quarantine arrivals from some or all regions; 3=ban arrivals from some regions; 4=ban on all regions or total border closure.(9) *Public information campaigns*: 0=no COVID-19 public information campaign; 1=public officials urging caution about COVID-19; 2=coordinated public information campaign.

measures have been an important driver of job losses during the pandemic (the coefficient of the stringency index is large, positive, and statistically significant), but the possibility of working from home played a key role in mitigating the impact of the shock (the coefficient of the interaction between WFH and the stringency index is negative and statistically significant). Moreover, and in line with our previous results, we find that the mitigating effect of the WFH index was more important for women than for men (the interaction between WFH, the stringency index and gender is negative and statistically significant). For instance, with the strictest social-distancing measures (Stringency = 100), the probability that a woman loses a job fully compatible with remote work (WFH = 1) was 16 percentage points lower (a 34 percent reduction) than that of a woman with a job non-compatible with remote work (WFH = 0). For men, the possibility of doing remote work only implied a decrease in the probability of job loss of 7 percentage points (a 17 percent reduction).

Finally, we evaluate the individual role of some of the components of the stringency index, such as the restriction to stay at home (columns 4 to 6 of Table 7), school closing (columns 7 to 9) and workplace closing (columns 10 to 12). In all cases the results are similar —probably because the social-distancing measures are highly correlated—: all these measures are associated with job losses, while the possibility of remote work was key in mitigating the impacts, especially for women with children.

6 Concluding Remarks

The COVID-19 pandemic has been a huge unexpected shock on the lives of people around the world. Many have lost their jobs, suffered income reductions, or had to change occupations to cope with the new situation. In this paper we explore these issues in Latin America by exploiting an unusual rich survey carried out immediately after the onset of the pandemic: the World Bank's high-frequency phone household surveys (HFPS). In particular, by codifying the occupation variables in these surveys we are able to construct a variable for potential for work from home (WFH) and analyze the role of this factor in explaining the heterogeneous impacts of the shock, in particular in the asymmetries between women and men.

Our analysis leads to some interesting results. First, we confirm that the impact of the COVID-19 shock was (i) harder for women and (ii) strongly decreasing in the ability of doing work from home. More important, we find that the mitigating effect of WFH on the severity of the impact was especially relevant for women with children. These effects were larger in those countries/periods in which the containment measures implemented by governments against the spread of the disease were more stringent. Our results are consistent with a plausible mechanism: due to the traditional distribution of childcare responsibilities within the household, women with children were more likely to stay home during school closures, and therefore the ability to work from home was crucial for them to keep their jobs.

Our results provide evidence consistent with a relevant policy lesson highlighted in other studies (e.g. Ballon et al. 2021): stringent lockdowns and closures helped save lives but at the same time led to substantial welfare losses, a fact that should be seriously taken into account in the design of the optimal policy response to these types of shocks.

That working women are among those most affected by the shock implies a setback with respect to the advances of recent decades in terms of gender equality and limits the possibilities of recovery for the economies of the region. In particular, the strong negative shock suffered by women threatens the SDGs of achieving gender equality and promoting sustained economic growth and full employment. Our results help to understand the difficulties generated by the pandemic and the containment measures. A better understanding of the changes and adjustments brought about by the pandemic is important to accelerate the return of women to the labor market. The longer re-entry takes, the more serious the consequences will be for the future working conditions of women.

In most Latin American families, caregiving and home-production responsibilities still rely disproportionately on women. Our results suggest that traditional gender roles may have played a key role on the impact of the pandemic on women's labor market outcomes. Given the long school closures during the pandemic and the traditional distribution of responsibilities across genders within households, women carried most of the extra burden imposed by the pandemic, and then suffered the consequences in the labor market. By drawing attention to the asymmetric impacts of the pandemic, this paper contributes to making visible the consequences of these deeply rooted behaviors in our societies. The return of women to the labor market will need to be accompanied by policies that help modify traditional gender roles including, for instance, public childcare centers and longer and gender-balanced parental leaves.

Finally, our results are also important to highlight the critical role of the ability to work from home. The pandemic showed the relevance of expanding connectivity and promoting digital skills. Although the pandemic will eventually end, the demand for workers with technological skills likely underwent a permanent shift, increasing the need for policies that facilitate or promote the acquisition of digital skills that help improve the employability of the most vulnerable workers and their chances to move towards better jobs.

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Tables and Figures

Table 1: Descriptive statistics of demographic variables

	Mean and SD
Male	0.48
	(0.50)
Age	41.84
	(15.97)
Max edu: Primary	0.20
	(0.40)
Max edu: Secondary	0.44
	(0.50)
Max edu: Tertiary	0.37
	(0.48)
Household size	4.40
	(2.49)
Children (5-18) at HH	0.59
	(0.49)
Number of children (5-18)	1.20
	(1.38)
HH used internet services last week	0.58
	(0.49)

Notes: Mean and standard deviations using the three waves of the HFPS and survey weights.

Table 2: Descriptive statistics of labor market variables

	Wave 0	Wave 1	Wave 2	Wave 3
Worked last week	0.73	0.42	0.32	0.33
	(0.44)	(0.47)	(0.47)	(0.46)
Employed not working: temporally absent		0.24	0.14	0.11
		(0.43)	(0.34)	(0.31)
Wage employee	0.63	0.60	0.58	0.57
	(0.48)	(0.49)	(0.49)	(0.5)
Lost job in wave 1 respect to:	0.16			
	(0.37)			
Lost job in wave 2 respect to:	0.17	0.41		
	(0.37)	(0.49)		
Lost job in wave 3 respect to:	0.16	0.44	0.27	
	(0.37)	(0.5)	(0.44)	

Notes: Mean and standard deviations using survey weights.

Table 3: Any job loss by country and characteristics of workers and their pre-pandemic jobs

	Total	Gender		Age groups		Education level			Employment type	
		Women	Men	Young	Adults	Primary	Secondary	Tertiary	Wage employees	Other
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Argentina	17.9	23.3	13.6	37.2	16.4	27.4	22.9	12.1	13.3	25.6
Bolivia	29	32.4	26.4	46.7	26.3	41.6	31.9	24.1	25.9	32.4
Chile	21.4	24.0	19.7	44.6	20.6	30.8	27.1	12.8	18.6	31.3
Colombia	46.9	53.2	41.5	48.4	46.8	49.3	53.9	35.4	45.2	49.2
Costa Rica	25.3	37.0	16.0	33.2	24.1	32.3	23.3	15.3	21.7	30.3
Dominican Rep.	29.4	41.8	20.2	42.0	27.2	32.6	35.0	15.9	30.1	28.0
Ecuador	36.9	38.8	35.5	53.2	33.7	54.4	37.2	17.1	40.6	30.7
El Salvador	26	28.1	24.0	35.9	24.0	37.9	27.6	15.8	23.2	30.7
Guatemala	26.3	32.3	21.7	37.6	24.2	36.6	27.9	21.0	25.7	27.1
Honduras	31.9	41.8	24.5	34.3	31.6	40.2	37.3	20.0	31.5	32.5
Mexico	23.9	30.2	19.2	36.8	22.7	34.9	28.8	15.7	24.1	23.6
Paraguay	20.9	33.8	11.6	44.2	16.1	29.0	21.4	15.7	19.2	22.9
Peru	38.1	39.8	36.8	57.0	35.1	53.8	47.6	30.1	37.3	39.0
Latin America	29.7	35.3	25.3	44.1	28.0	40.3	34.8	20.4	28.0	32.3

Notes: Share reporting a job loss in wave 1, wave 2 or wave 3. Job loss defined with respect to the pre-pandemic situation. Young includes individuals aged 18 to 24. Adults includes individuals aged 25 or more.

Table 4: Probability of job loss, potential for working from home and gender

VARIABLES	(1)	(2)	(3) HH no children	(4) HH with children
Work from home	-4.965	-5.529	-9.435	-2.305
	(2.390)**	(2.446)**	(3.907)**	(2.680)
Women	10.762	6.820	5.218	13.603
	(1.839)***	(2.531)***	(3.090)*	(2.064)***
WFH X Women	-7.960	-6.934	-2.723	-10.652
	(3.469)**	(3.467)**	(5.411)	(4.188)**
Age	-2.240	-2.248	-2.687	-1.770
	(0.307)***	(0.308)***	(0.507)***	(0.415)***
Age sqrt.	0.025	0.025	0.031	0.019
	(0.004)***	(0.004)***	(0.005)***	(0.005)***
Primary education = 1	8.941	8.813	8.433	9.497
	(1.553)***	(1.518)***	(2.518)***	(1.937)***
Secondary education = 1	5.973	5.768	3.808	7.128
	(1.354)***	(1.315)***	(2.352)	(1.359)***
Wave = 2	-0.366	-0.373	1.580	-1.684
	(0.795)	(0.794)	(1.245)	(1.006)*
Wave = 3	-0.279	-0.251	1.495	-1.456
	(1.029)	(1.028)	(1.854)	(1.180)
Employee (pre COVID) = 1	0.792	0.845	-0.107	1.441
	(1.093)	(1.113)	(2.260)	(1.224)
Household size	-0.219	-0.282	-0.422	-0.165
	(0.174)	(0.207)	(0.500)	(0.230)
Children at HH = 1, Yes		-2.917		
		(1.722)*		
Child at HH X Women		5.905		
		(2.260)***		
Number of children 5-18 yrs old		0.336		0.194
		(0.477)		(0.476)
Observations	21,989	21,989	8,074	13,915
R-squared	0.071	0.073	0.073	0.077
Country FE	Yes	Yes	Yes	Yes

Notes: Estimates based on a linear probability model. Sample includes people who were employed pre-pandemic. The dependent variable takes the value 1 when the person lost the job in wave w. For ease of interpretation we multiply the dependent variable by 100. Standard errors clustered at the occupation * internet access * country level in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 5: Probability of job loss, potential for working from home and gender. Including 2-digit ISCO fixed effects

VARIABLES	(1)	(2)	(3) HH no children	(4) HH with children
Work from home	-14.986	-15.670	8.487	-24.953
	(6.105)**	(6.240)**	(7.887)	(9.672)**
Women	9.090	5.113	4.682	11.784
	(1.927)***	(2.432)**	(3.153)	(2.283)***
WFH X Women	-6.578	-5.458	-4.100	-9.049
	(3.667)*	(3.633)	(5.662)	(4.543)**
Age	-2.224	-2.227	-2.686	-1.782
	(0.306)***	(0.309)***	(0.436)***	(0.423)***
Age sqrt.	0.025	0.025	0.031	0.019
	(0.004)***	(0.004)***	(0.005)***	(0.005)***
Primary education = 1	3.808	3.825	3.616	4.491
	(1.977)*	(1.920)**	(3.138)	(2.369)*
Secondary education = 1	3.397	3.262	1.028	5.130
	(1.445)**	(1.399)**	(2.693)	(1.494)***
Wave = 2	-0.345	-0.353	1.516	-1.693
	(0.788)	(0.787)	(1.222)	(0.994)*
Wave = 3	-0.334	-0.304	1.135	-1.411
	(0.997)	(0.996)	(1.729)	(1.181)
Employee (pre COVID) = 1	0.619	0.579	0.296	0.774
	(1.088)	(1.108)	(2.020)	(1.300)
Household size	-0.261	-0.314	-0.488	-0.175
	(0.180)	(0.211)	(0.497)	(0.229)
Children at HH = 1, Yes		-3.302		
		(1.716)*		
Child at HH X Women		5.917		
		(2.203)***		
Number of children 5-18 yrs old		0.399		0.225
		(0.478)		(0.471)
Observations	21,989	21,989	8,074	13,915
R-squared	0.085	0.087	0.112	0.093
Country FE	Yes	Yes	Yes	Yes
ISCO pre-pandemic FE	Yes	Yes	Yes	Yes

Notes: Estimates based on a linear probability model. Sample includes people who were employed pre-pandemic. The dependent variable takes the value 1 when the person lost the job in wave w. For ease of interpretation we multiply the dependent variable by 100. Regressions include 2-digit ISCO fixed effects. Standard errors clustered at the occupation * internet access * country level in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 6: Probability of job loss by pre-pandemic Gender Inequality Index

	Low Gender Inequality Index in 2019				High Gender Inequality Index in 2019			
	(1)	(2)	(3) HH no children	(4) HH with children	(5)	(6)	(7) HH no children	(8) HH with children
Work from home	-5.608	-6.004	-13.216	0.513	-2.336	-2.879	5.099	-9.746
	(2.671)**	(2.745)**	(4.135)***	(2.853)	(5.211)	(5.130)	(8.902)	(5.889)*
Women	9.525	6.644	4.874	12.677	14.29	7.490	7.856	15.805
	(2.105)***	(2.977)**	(3.623)	(2.253)***	(3.598)***	(4.667)	(5.775)	(4.106)***
WFH X Women	-6.378	-5.702	-0.103	-11.613	-13.27	-11.79	-14.361	-7.661
	(3.888)	(3.956)	(5.879)	(4.953)**	(7.440)*	(7.203)	(12.729)	(7.335)
age2	-2.085	-2.060	-2.581	-1.544	-2.786	-2.906	-3.607	-2.334
	(0.348)***	(0.342)***	(0.592)***	(0.449)***	(0.627)***	(0.620)***	(0.873)***	(0.763)***
Age sqrt.	0.0227	0.022	0.029	0.016	0.0336	0.0352	0.044	0.027
	(0.00389)***	(0.004)***	(0.006)***	(0.005)***	(0.00775)***	(0.00768)***	(0.010)***	(0.010)***
Primary education = 1	9.683	9.765	8.393	10.755	7.621	6.999	6.271	8.252
	(2.103)***	(2.040)***	(3.037)***	(2.663)***	(2.183)***	(2.211)***	(4.732)	(2.748)***
Secondary education = 1	5.597	5.580	5.381	5.808	7.408	6.857	-0.818	10.872
	(1.671)***	(1.593)***	(2.791)*	(1.490)***	(2.161)***	(2.242)***	(3.807)	(2.784)***
Wave = 2	-0.660	-0.683	1.547	-2.256	0.464	0.444	1.634	-0.230
	(0.954)	(0.951)	(1.416)	(1.193)*	(1.456)	(1.454)	(2.512)	(1.863)
Wave = 3	-0.251	-0.246	2.326	-2.096	-0.336	-0.305	-1.465	-0.050
	(1.316)	(1.310)	(2.249)	(1.517)	(1.436)	(1.435)	(2.414)	(1.800)
Employee (pre COVID) = 1	0.347	0.370	0.063	0.652	1.841	1.964	-0.751	3.303
	(1.374)	(1.402)	(2.747)	(1.542)	(1.675)	(1.692)	(3.092)	(1.919)*
Household size	-0.251	-0.207	-0.014	-0.171	-0.127	-0.582	-1.297	-0.047
	(0.205)	(0.241)	(0.625)	(0.261)	(0.322)	(0.342)*	(0.760)*	(0.456)
Children at HH=1, Yes		-2.661				-3.971		
		(1.916)				(3.520)		
Children at HH X Women		4.572				9.353		
		(2.502)*				(4.675)**		
Number of children 5-18 yrs old		-0.010		-0.015		1.476		0.740
		(0.559)		(0.549)		(0.830)*		(0.904)
Observations	13,212	13,212	5,327	7,885	8,777	8,777	2,747	6,030
R-squared	0.059	0.060	0.070	0.061	0.079	0.084	0.091	0.095
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

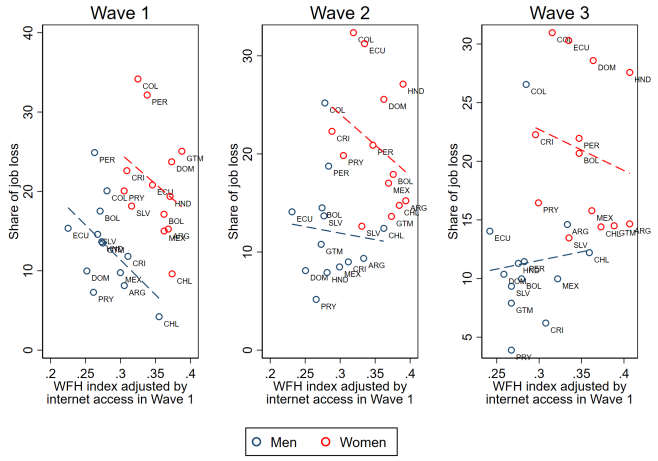
Notes: Estimates based on a linear probability model. Sample includes people who were employed pre-pandemic. The dependent variable takes the value 1 when the person lost the job in wave w. For ease of interpretation we multiply the dependent variable by 100. Group of low (high) Gender Inequality Index in 2019 defined as countries having an index $\leq$ ($>$) to the cross-country median value. Standard errors clustered at the occupation * internet access * country level in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 7: Probability of job loss and intensity of social-distancing measures.
Stringency Index

VARIABLES	(1)	(2) No child	(3) With child	(4)	(5) No child	(6) With child	(7)	(8) No child	(9) With child	(10)	(11) No child	(12) With child
Women	6.923	5.671	13.515	6.732	5.592	13.242	6.746	5.199	13.521	6.986	5.762	13.539
	(2.507)***	(3.092)*	(2.036)***	(2.467)***	(3.004)*	(1.995)***	(2.528)***	(3.078)*	(2.051)***	(2.454)***	(2.981)*	(1.975)***
WFH X Stringency	-0.068	-0.107	-0.035									
	(0.029)**	(0.049)**	(0.032)									
WFH X Stringency X Women	-0.088	-0.048	-0.124									
	(0.041)**	(0.067)	(0.048)***									
Stringency	0.392	0.200	0.488									
	(0.126)***	(0.227)	(0.154)***									
Age	-2.247	-2.685	-1.771	-2.244	-2.679	-1.773	-2.249	-2.686	-1.769	-2.247	-2.687	-1.770
	(0.307)***	(0.506)***	(0.416)***	(0.307)***	(0.509)***	(0.415)***	(0.308)***	(0.506)***	(0.415)***	(0.308)***	(0.507)***	(0.416)***
Age sqrt.	0.025	0.031	0.019	0.025	0.030	0.019	0.025	0.031	0.019	0.025	0.031	0.019
	(0.004)***	(0.005)***	(0.005)***	(0.004)***	(0.005)***	(0.005)***	(0.004)***	(0.005)***	(0.005)***	(0.004)***	(0.005)***	(0.005)***
Primary education = 1	8.748	8.462	9.382	8.960	8.779	9.526	8.835	8.500	9.495	8.838	8.600	9.437
	(1.509)***	(2.517)***	(1.937)***	(1.501)***	(2.490)***	(1.927)***	(1.519)***	(2.518)***	(1.938)***	(1.507)***	(2.518)***	(1.928)***
Secondary education = 1	5.722	3.850	7.035	5.901	4.097	7.160	5.787	3.865	7.116	5.809	3.981	7.090
	(1.304)***	(2.335)*	(1.357)***	(1.301)***	(2.339)*	(1.345)***	(1.318)***	(2.356)	(1.359)***	(1.299)***	(2.328)*	(1.349)***
Wave = 2	0.698	2.044	-0.279	0.269	2.623	-1.228	-0.283	1.387	-1.433	-0.091	1.807	-1.407
	(0.912)	(1.336)	(1.176)	(0.945)	(1.460)*	(1.157)	(0.810)	(1.261)	(1.026)	(0.824)	(1.236)	(1.068)
Wave = 3	1.523	2.213	0.918	0.749	2.946	-0.685	0.044	0.818	-0.624	0.066	1.688	-1.113
	(1.321)	(2.489)	(1.580)	(1.186)	(2.107)	(1.391)	(1.060)	(1.668)	(1.288)	(1.117)	(2.076)	(1.287)
Employee (pre COVID) = 1	0.889	-0.096	1.514	0.836	-0.167	1.462	0.833	-0.128	1.417	0.859	-0.125	1.475
	(1.105)	(2.250)	(1.220)	(1.106)	(2.259)	(1.217)	(1.114)	(2.254)	(1.221)	(1.109)	(2.254)	(1.221)
Household size	-0.288	-0.419	-0.178	-0.285	-0.417	-0.175	-0.282	-0.419	-0.169	-0.286	-0.417	-0.175
	(0.207)	(0.499)	(0.230)	(0.207)	(0.499)	(0.230)	(0.207)	(0.500)	(0.229)	(0.207)	(0.500)	(0.230)
Children at HH = 1, Yes	-2.924			-2.920			-2.917			-2.922		
	(1.719)*			(1.720)*			(1.724)*			(1.720)*		
Child at HH X Women	5.922			5.983			5.911			5.920		
	(2.253)***			(2.247)***			(2.263)***			(2.252)***		
Number of children 5-18 yrs old	0.331		0.191	0.336		0.198	0.336		0.198	0.331		0.190
	(0.478)		(0.477)	(0.476)		(0.476)	(0.477)		(0.475)	(0.478)		(0.477)
WFH X Stay home order				-0.082	-0.132	-0.042						
				(0.038)**	(0.062)**	(0.042)						
WFH X Stay home order X Women				-0.116	-0.067	-0.159						
				(0.054)**	(0.087)	(0.062)**						
Stay home order				0.161	0.231	0.123						
				(0.061)***	(0.101)**	(0.072)*						
WFH X School closing							-0.056	-0.094	-0.025			
							(0.025)**	(0.040)**	(0.028)			
WFH X School closing X Women							-0.069	-0.028	-0.106			
							(0.036)*	(0.055)	(0.043)**			
School closing							0.088	-0.093	0.191			
							(0.069)	(0.157)	(0.071)***			
WFH X Work closing										-0.074	-0.118	-0.038
										(0.034)**	(0.057)**	(0.036)
WFH X Work closing X Women										-0.109	-0.063	-0.150
										(0.047)**	(0.075)	(0.053)***
Work closing										0.072	0.072	0.067
										(0.032)**	(0.057)	(0.037)*
Observations	21,989	8,074	13,915	21,989	8,074	13,915	21,989	8,074	13,915	21,989	8,074	13,915
R-squared	0.073	0.073	0.078	0.072	0.072	0.077	0.073	0.072	0.077	0.073	0.072	0.077
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Estimates based on a linear probability model. Sample includes people who were employed pre-pandemic. The dependent variable takes the value 1 when the person lost the job in wave w. For ease of interpretation we multiply the dependent variable by 100. Standard errors clustered at the occupation * internet access * country level in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Figure 1: Job loss and the work-from-home index (WFH) by wave and gender



Notes: Share reporting a job loss in wave 1, wave 2 and wave 3. Job loss defined with respect to the pre-pandemic situation.

Figure 2: Job loss and the work-from-home index (WFH) by wave