

Who lost the most? Distributive effects of COVID-19 pandemic

Carmen Aina ¹ Irene Brunetti ² Chiara Mussida ³ Sergio Scicchitano ²

¹DiSEI, University of Piemonte Orientale

²INAPP, National Institute for Public Policies Analysis

³DiSES, Cattolica University

Jean Monnet Workshop - 11 May 2021

Aim and research questions

Aim:

We analyze the effect of COVID-19 pandemic on the wage distribution in Italy by using quarterly data in the time span from the first quarter of 2019 to second quarter of 2020, at the turn of the crisis.

Research questions:

What is the actual effect of the pandemic along the wage distribution?

To what extent both the actual level of remote working and the capacity to working from home, as a possible long-lasting solution, can influence the wage distribution?

What categories of workers (i.e. women) and economic sectors are suffering more than others?

Motivation:

- ▶ Italy is one of the countries most affected by the pandemic. As of March 2021:
 - ▶ the seventh country in the world for cumulative cases with about 3.2 million cases.
 - ▶ the sixth for number of deaths with about 103 thousand.
 - ▶ the first Western country to adopt severe lockdown measures on March 11, 2020.
- ▶ Significant labour market consequences, namely fall in employment, drop in unemployment and growth in the number of inactive.
- ▶ The incidence of absolute poverty grows both in terms of households and individuals.
- ▶ Before the pandemic, Italy had the lowest share of teleworkers across European countries.

The economic literature that empirically investigates the effects of the COVID-19 pandemic on the labor market is exploding (for a survey Brodeur et al. (2020)).

- ▶ Wildman (2020) finds a positive correlation between income inequality and COVID-19 incidence,
- ▶ Clark et al. (2020) using longitudinal data from France, Germany, Italy, Spain, and Sweden find a reduction in relative inequality between January and September 2020,
- ▶ Lemieux et al. (2020) investigate the impact of the pandemic on the Canadian labor market and show that half of job losses are related to workers in the bottom earnings quartile.

- ▶ Several papers aim at classifying the jobs that can be performed at home, so as to determine what workers might have been less impacted by social distancing measures, mobility restrictions, and risks of contagion (Baker, 2020; Boeri et al., 2020; Dingel and Neiman, 2020; Gottlieb et al., 2020; Hensvik et al., 2020; Holgersen et al., 2020; Mongey et al., 2020; Yasenov, 2020).
- ▶ The COVID-19 consequences are larger on women (Alon et al., 2020a; 2020b, Cuesta and Pico, 2020, Del Boca et al., 2020).
- ▶ A positive shift in WFH capacity will favor older, high-educated, and high-paid workers (Bonacini et al., 2021).

A unique dataset relying on the merging of two Italian labour market surveys:

- ▶ the Labour Force Survey (LFS) drawn from the National Institute of Statistics: cross-sectional quarterly data (2019Q1-2020Q2) for the sample of individuals in the interval age 15-64
- ▶ the Italian Survey of Professions conducted by INAPP which contains detailed information of the task-content of occupations at the 5-digit ISCO and allows us building the Remote Working attitude classification level.

The two datasets are combined to obtain data on employment dynamics, individual characteristics, labour market variables, including both the actual and the capacity to WFH.

DATA

Dependent variable and control variables

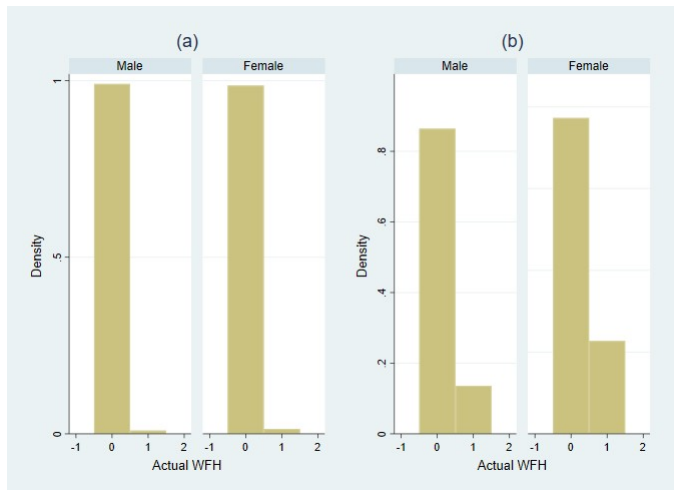
Dependent variable: monthly net wage of employees in the respondent's main job, corrected for part-time.

Explanatory variables:

- ▶ gender,
- ▶ education,
- ▶ geographical area of residence,
- ▶ citizenship,
- ▶ marital status and household type,
- ▶ characteristics of the job (contract type, occupation, sector of economic activity (ATECO 2 digit)),
- ▶ actual WFH and WFH capacity.

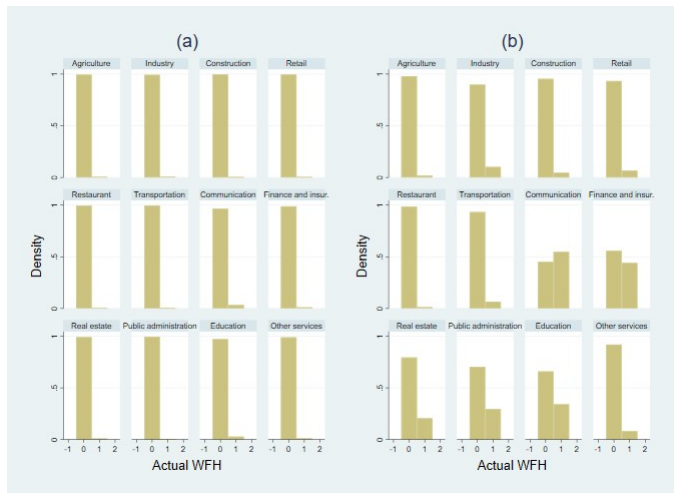
Actual WFH by gender

before (panel a) and during the pandemic (panel b)



Actual WFH by sector

before (panel a) and during the pandemic (panel b)



We correct for the sample selection into the labour market by implementing the two-stage estimation strategy (Heckman (1979) and Buchinsky (1998)).

At the second stage, we estimate the selectivity-corrected model.

We provide different specifications of the model:

- ▶ with and without the interaction between COVID-19 indicator and the sectors of activity,
- ▶ with and without the interaction between the actual and potential WFH measures.

Estimates are also run on gender sub-samples.

Results: all sample

	(I)			(II)		
	10th	median	90th	10th	median	90th
COVID-19	-0.075*** (0.004)	-0.021*** (0.002)	-0.011** (0.005)	-0.114*** (0.010)	-0.031*** (0.003)	-0.029*** (0.005)
WFH	0.077*** (0.005)	0.040*** (0.003)	0.045*** (0.007)	0.052*** (0.007)	0.034*** (0.004)	0.044*** (0.010)
Female	-0.080*** (0.005)	-0.072*** (0.002)	-0.037*** (0.004)	-0.079*** (0.003)	-0.072*** (0.002)	-0.035*** (0.004)
COVID19*Agriculture				0.104*** (0.035)	0.023** (0.011)	0.022 (0.014)
COVID19*Construction				-0.012 (0.012)	0.010* (0.006)	0.020** (0.010)
COVID19*Retail				-0.229*** (0.033)	-0.066*** (0.010)	0.011 (0.019)
COVID19*Restaurant				-0.085*** (0.022)	-0.016** (0.008)	-0.004 (0.014)
COVID19*Transportation				0.071*** (0.012)	0.023*** (0.005)	0.017 (0.012)
COVID19*Communication				0.060*** (0.023)	0.006 (0.006)	0.001 (0.020)
COVID19*Finance and Insurance				0.091*** (0.017)	0.014 (0.011)	0.004 (0.014)
COVID19*Real estate				0.081*** (0.020)	0.030*** (0.006)	0.053*** (0.015)
COVID19*Public administration				0.111*** (0.011)	0.021*** (0.007)	0.019 (0.011)
COVID19*Education				0.102*** (0.010)	0.029*** (0.005)	0.033*** (0.010)
COVID19*Other services				0.103*** (0.016)	0.026*** (0.007)	0.047** (0.023)

Standard errors in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Results

all sample with interaction Covid-19*WFH

	(I)			(II)		
	10th	median	90th	10th	median	90th
COVID-19	-0.084*** (0.004)	-0.021*** (0.002)	-0.009* (0.005)	-0.116*** (0.008)	-0.031*** (0.004)	-0.026*** (0.008)
WFH	0.038*** (0.009)	0.044*** (0.004)	0.069*** (0.012)	0.038*** (0.007)	0.045*** (0.005)	0.070*** (0.010)
COVID-19*WFH	0.071*** (0.011)	-0.006 (0.006)	-0.039** (0.016)	0.023** (0.009)	-0.019*** (0.006)	-0.044*** (0.014)
N. observations	214.148					

Standard errors in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Results

gender sub-samples

- ▶ Regardless the gender, employees in the industry sector have been equally affected during COVID-19, while workers in the public administration, education and transportation sectors have obtained a wage premium,
- ▶ only men in the lowest tail of the distribution working in the restaurant sector experienced a wage decrease during pandemic,
- ▶ males in the agriculture sector benefited from the pandemic across the entire wage distribution, conversely women only in the 10th quantile,
- ▶ women have received wage reward during pandemic over the whole distribution in the other services sector, instead men strictly in the bottom tail.

Robustness checks

	(I)			(II)		
	10th	median	90th	10th	median	90th
	<i>Panel A - All</i>					
WFH capacity index	0.042*** (0.003)	0.044*** (0.002)	0.048*** (0.003)	0.041*** (0.003)	0.044*** (0.002)	0.048*** (0.003)
	<i>Panel B - Females</i>					
WFH capacity index	0.048*** (0.005)	0.055*** (0.002)	0.062*** (0.004)	0.045*** (0.004)	0.055*** (0.003)	0.062*** (0.004)
	<i>Panel C - Males</i>					
WFH capacity index	0.042*** (0.003)	0.039*** (0.003)	0.043*** (0.004)	0.041*** (0.003)	0.039*** (0.002)	0.043*** (0.004)

Standard errors in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Summary and conclusions

By investigating the effects of the COVID-19 pandemic on the whole labor income distribution in Italy, we find that:

- ▶ COVID-19 pandemic has been more pronounced at the lowest quantiles of the labor income distribution,
- ▶ workers that benefit from WFH receive a wage premium, and this advantage persists during the pandemic for workers at the bottom of the distribution,
- ▶ workers in retail and restaurant face the highest wage penalty,
- ▶ women on the long run may benefit more from WFH opportunities.

Summary and conclusions

Policy implications

To avoid that the current crisis will exacerbate pre-existing inequalities in the Italian labour market, it is necessary to:

- ▶ regulate the labour market with a well-established short-time work scheme,
- ▶ introduce long-term policies able to solve potential knowledge gaps (i.e. education policies),
- ▶ implement childcare facilities and financial support to households with children to reconcile family and work for mothers and to allow the adoption of remote working.

Thank you for your attention!

carmen.aina@uniupo.it

i.brunetti@inapp.org

chiara.mussida@unicatt.it

s.scicchitano@inapp.org