Bonacini, Luca; Gallo, Giovanni; Scicchitano, Sergio

Working Paper

Will it be a shecession? The unintended influence of working from home on the gender wage gap related to the COVID-19 pandemic

GLO Discussion Paper, No. 771

Provided in Cooperation with:
Global Labor Organization (GLO)

Suggested Citation: Bonacini, Luca; Gallo, Giovanni; Scicchitano, Sergio (2021) : Will it be a shecession? The unintended influence of working from home on the gender wage gap related to the COVID-19 pandemic, GLO Discussion Paper, No. 771, Global Labor Organization (GLO), Essen

This Version is available at:
https://hdl.handle.net/10419/229149

Will it be a *shecession*? The unintended influence of working from home on the gender wage gap related to the COVID-19 pandemic[*]

Luca Bonacini [a,b], Giovanni Gallo [c,a,b], Sergio Scicchitano [d,b †]

[a] *University of Modena and Reggio Emilia, Italy*

[b] *Global Labor Organization (GLO), Essen, Germany*

[c] *Sapienza University of Rome, Italy*

[d] *National Institute for Public Policies Analysis (INAPP), Italy*

Version: January 2021

Abstract

Working from home (WFH) has become a key factor during the COVID-19 pandemic, especially in countries that have implemented severe social distancing measures. This paper investigates the potential influence of the working from home attitude of occupations on the gender wage gap (GWG) reported by Italian employees, on average and along the distribution. Based on Oaxaca–Blinder decompositions and unconditional quantile regressions, our results show that the GWG is greater among females working in an occupation with a high level of WFH attitude, thus among those more likely to be affected by a (probably) persistent spread of WFH procedures after the COVID-19 pandemic. In addition, we find evidence of both sticky floor and glass ceiling effects for employees with a high WFH attitude and only a sticky floor effect for the group with a low WFH attitude. The positive association revealed between the level of WFH attitude and the GWG appears particularly strong among older and married female employees, as well as among those working in the private sector. Finally, this study confirms that allocating adequate resources to programmes and instruments that aim to achieve gender-related goals is strongly recommended.

Keywords: working from home; gender wage gap; COVID-19; Oaxaca–Blinder decomposition; RIF regressions.

JEL codes: D31; J31; I24.

[*] We thank participants at the International ASTRIL conference (November 2020) for their valuable comments and suggestions. The usual disclaimer applies.

[†] Corresponding author. National Institute for Public Policies Analysis, Corso d'Italia 33, 00198, Rome, Italy. E-mail addresses: s.scicchitano@inapp.org (ORCID id: 0000-0003-1015-7629), luca.bonacini@unimore.it (L. Bonacini), giovanni.gallo@uniroma1.it (G. Gallo). The views expressed in this paper are those of the authors and do not necessarily reflect those of INAPP.

1. Introduction

The COVID-19 crisis has radically changed our daily lives, and working from home (WFH) has become a key factor in these times of pandemic. In fact, this practice allows people to continue working and, at the same time, helps to flatten the curve of COVID-19 infections, that several studies find related to the human behaviour and population characteristics (Aparicio and Grossbard, 2020; Harris, 2020; Qiu, 2020; Aparicio and Grossbard, 2021; Papageorge, 2021). Today, WFH has been imposed as a common working method in various sectors due to the inevitable obligations related to social distancing measures, and it is likely to persist in the short/medium term (Alon et al., 2020a). A recent survey has shown that most employees believe that teleworking (85%) and digital conferencing (81%) will remain important for a long time in the labour market (Baert et al., 2020a).

As a result, many studies have measured the share of workers who can perform their profession from home in the US, Latin American and Caribbean countries, and several European countries (Delaporte and Pena, 2020; Dingel and Neiman, 2020; Gottlieb et al., 2020; Koren and Peto, 2020; Palomino et al., 2020; Restrepo and Zeballos, 2020). Moreover, Mongey at al. (2020) estimate the most significant characteristics of individuals employed in occupations with a high WFH attitude.

Some papers have also examined the consequences of the COVID-19 pandemic on the labour market in terms of gender inequality, highlighting that its impact on women may be higher (Alon et al., 2020a; Cuesta and Pico, 2020). Although women are more likely to work from home than men, the closure of schools makes childcare at home necessary and married women take care of children more often than married men, on average: these elements risk creating a greater burden on working mothers (Alon et al., 2020b). Real-time data on daily lives in the UK confirm that, irrespective of their employment status, women WFH have undertaken more childcare than men in this period of pandemic (Sevilla and Smith, 2020). Similarly, in Italy and in the US most of additional housework and childcare associated with the COVID-19 situation has fallen on women (Del Boca et al., 2020, Zamarro and Prados, 2021).[1] Moreover, due to the pandemic crisis, women are more likely to lose their jobs (Adams-Prassl et al., 2020; Farré et al., 2020) and they are more concerned about suffering an overall negative impact on their careers, with respect to men (Baert et al., 2020b). The share of female workers seems larger in sectors with a higher risk of COVID-19 contagion (Bertocchi, 2020) and those affected by lockdown measures (Hupkau and Petrongolo, 2020). Adams (2020) shows a positive association between female participation in the labour market and female exposure to the risk of contagion, while Besart and Gaurav (2020) emphasize that a larger share of female employment is found in occupations that are intensive in terms of face-to-face interactions.

The pandemic is, however, expected to impact women more severely than men not only through a work/income point of view. For instance, Bertocchi and Dimico (2020) find that among African Americans, women face a much higher probability of death from COVID-19, and Holland et al. (2020) bring attention to the fact that sexual harassment and discrimination can still take place even with remote work.[2] In addition, Flaherty (2020) and Vincent-Lamarre and Sugimoto (2020) argue that females' ability to innovate or contribute to research appears at risk (or has at least narrowed) during the COVID-19 crisis. Gender differences may also be related to the fact that women tend to take the pandemic more seriously and to be more compliant than men (Galasso et al., 2020). Finally, Mohapatra (2020) points out that gender differences in the pandemic's economic impacts are not solely seen in developed countries but are also observed in developing countries. All of

[1] Thomason and Macias-Alonso (2020) argue that caregiving, where women are over-represented, is relevant work as well as underpaid.

[2] It has been shown that the staying at home due to COVID-19 increases domestic violence (Hsu and Henke, 2020).

these pieces of evidence led to the recent introduction of the term 'shecession' to contrast the term 'mancession', which refers to the 2008 crisis in which men were more affected.

The literature, however, still neglects the potential influence that WFH can have on the gender wage gap (GWG). In this article, we argue that the large-scale and (probably) persistent spread of WFH practices implemented due to the current pandemic and related social-distancing measures risks exacerbating the GWG. Specifically, using the unconditional quantile regression method in an Oaxaca–Blinder type decomposition, we estimate whether and to what extent the WFH attitude can influence the GWG at the mean and along the whole wage distribution. To do this, we focus on Italy as an interesting case study because it is both one of the countries most affected by the novel coronavirus and the first Western country to adopt a lockdown of economic activities, forcing employers to allow WFH for a large portion of workers (Barbieri et al., 2020, Bonacini et al., 2021a). In addition, the GWG phenomenon is traditionally a relevant issue in Italy (Picchio and Mussida, 2011; Scicchitano, 2014; Gaiaschi, 2019; Castagnetti et al., 2020).

We use a unique dataset relying on the merging of two sample surveys. The first is the Survey on Labour Participation and Unemployment (INAPP-PLUS) for the year 2018, which provides a large amount of information on the socio-economic conditions of Italian men and women of working age. The second sample survey is the Italian Survey of Professions (ICP) for the year 2013, which contains detailed information of the task-content of occupations at the 5-digit ISCO classification level. The ICP is the Italian equivalent of the US O*NET repertoire and allows building the WFH attitude index recently proposed by Barbieri et al. (2020).

The rest of the article is structured as follows. The next section presents a survey of the current literature on the GWG, with a special focus on the role of WFH, and defines our research questions. Section 3 discusses the datasets we use and provides some descriptive statistics. Section 4 reports the adopted econometric methodology. Section 5 presents the regression results, while Section 6 provides relevant robustness checks. Section 7 concludes with some policy implications.

2. Existing literature and research questions

The economics and sociological literature has investigated the GWG in depth (Eveline and Todd, 2009; Saari, 2013; Dawson, 2014). In a recent paper using different matching techniques, Meara et al. (2020) show that a large number of factors may contribute to the GWG. Some articles underscore that the average GWG is particularly relevant for high hierarchical levels. Bertrand and Hallock (2001) demonstrate that among top executives, women—who represented about 2.5% of the sample—earn about 45% less than men, on average. Jurajda and Paligorova (2009) investigate the average GWG among top- and lower-level managerial employees in Czechia and show that the wage gap among comparable men and women is significant but quite similar across firm hierarchy levels.[3]

Comparing Germany and Austria, Bergmann et al. (2019) point out that in the 'female' sectors, the combination of sectoral income level and different wage-setting mechanisms affects gender wage inequalities. A significant GWG has also been found in a highly prestigious occupation in Sweden, the medical profession, even after controlling for gender differences in specialization (Magnusson, 2016). The average GWG may be also the result of different institutional contexts across European countries (Triventi, 2013).

[3] Rather surprisingly, Balcar and Hedij (2019) show that a manager's gender influences the wage level but not the GWG in Czechia.

Regarding Italy, Biagetti and Scicchitano (2014) demonstrate that the average GWG is higher among managers than among non-managers. Gaiaschi (2019), after controlling for individual characteristics, finds that the wage gap among Italian physicians is equal to about 18%, on average, in favour of men, whereas Castagnetti et al. (2020) highlight that the GWG is insignificant among young employees when they are selected through public contests.

Before the COVID-19 pandemic, some articles evaluated the effect of WFH on wages (Leslie et al., 2012), but there is no clear evidence of an effect of WFH on the GWG. Pigini and Staffolani (2019) point out that teleworkers benefit from a wage premium in Italy, especially if they are male and employed in high-level job positions. Similarly, a positive association between flexible working arrangements or the number of teleworking days and the GWG was found in the UK and the US (Smithson et al., 2004; Pabilonia and Vernon, 2020). In contrast, Weeden (2005) shows that flexible work arrangements are not able to reduce the GWG or the motherhood wage penalty in the US. Still in the US, Gariety and Shaer (2007) find that WFH generates a positive wage premium for both men and women, but no gender gap. Goldin (2015) reports that the American GWG may also be due to a lack of flexibility in work arrangements, particularly in sectors with a higher WFH attitude. Bertrand (2018) argues that since GWGs are mainly related to rewards for long hours, working non-ordinary hours, and inflexible schedules, time flexibility in the labour market may be beneficial for the GWG by reducing all mentioned channels. In addition, through an experiment with Chinese call-centre employees, Bloom et al. (2014) show that telecommuting can be beneficial for the work–life balance. Arntz et al. (2019) show that in Germany, on the one hand, WFH reduces the gender gap in working hours and monthly earnings (because contractual hours increase more among mothers), but on the one other hand, the WFH take-up positively affects hourly wages among fathers but not among mothers, unless they change employers. Recently, in a randomized experiment among Italian workers, Angelici and Profeta (2020) demonstrated that the flexibility of WFH can reduce gender inequalities.

All in all, greater flexibility with respect to time worked may represent the 'last chapter' for gender equality (Goldin, 2014). Thus, having the possible influence of the WFH attitude on income inequality as a reference point, our first research question can be spelled out as follows:

RQ1. Does the working from home (WFH) attitude of occupations reduce or exacerbate the average gender wage gap (GWG)?

In addition, several articles point out that the GWG may change along the whole wage distribution. Comparing eleven European countries, Arulampalam et al. (2007) show the existence of a glass ceiling effect in nine countries and a sticky floor effect in Italy and Spain only.[4] Sticky floor effects seem to be particularly relevant in Mediterranean countries (Nicodemo, 2009), even though these countries tend to show lower levels of the GWG (Aláez-Aller et al., 2011). Del Rıo et al. (2011) highlight that the sticky floor effect is much more significant than the glass ceiling effect in the Spanish labour market. Albrecht et al. (2003) find a strong glass ceiling effect in Sweden. A significant gender gap is also found along the Italian wage distribution (Picchio and Mussida, 2011), which even increased over time (Mussida and Picchio, 2014a). Our second research question can be then formulated accordingly:

RQ2. Does the GWG change along the distribution according to the level of WFH attitude?

[4] There is a glass ceiling effect when the GWG at the 90th percentile is significantly higher than the one estimated at the 50th percentile (i.e. the median). Instead, there is a sticky floor effect when the GWG at the 10th percentile is significantly higher than that estimated at the median.

Finally, some articles show that the GWG may vary by individual, firm, and job characteristics (Johnson and Solon, 1986, Macpherson and Hirsch, 1995). As previously mentioned, the GWG is relevant at high hierarchical levels. Yurtoglu and Zulehner (2009) underscore that the GWG for top managers of publicly listed US firms is larger at the bottom than at the top of the wage distribution. Scicchitano (2014) finds a significant U-shaped pattern in the GWG among managers in Spain. Still for Spain, De la Rica et al. (2008) show a glass ceiling effect for highly educated workers and a sticky floor for less educated ones. Both significant sticky floor and glass ceiling effects are found among managers in the UK (Scicchitano, 2012). Wahlberg (2010) and Chzhen and Mumford (2009) highlight a glass ceiling effect for women in both the private and public sectors in Sweden and the UK, respectively. According to Tyrowicz et al. (2018), the GWG seems to increase over a birth cohort's lifetime, while Cebrián and Moreno (2015) find that the discontinuity in labour trajectories significantly impacts the GWG because women tend to experience more interruptions in employment than men. As for Italy, Biagetti and Scicchitano (2011) report evidence of both significant sticky floor and glass ceiling effects in the Italian managerial labour market, whereas Mussida and Picchio (2014b) point out that the GWG is higher among low-educated workers. Comparing Italy and Spain, Pena-Boquete et al. (2010) show that highly qualified women have greater difficulty accessing high-paid jobs in Italy—especially in the public sector—but not in Spain, where low-skilled females have the greatest difficulties. This suggests the following third research question:

RQ3. Which individual and job characteristics exacerbate the influence of the WFH attitude on the GWG along the distribution?

3. Data and descriptive statistics

To analyse the possible association between WFH attitude and the GWG reported in Italy, we build a unique and innovative dataset borrowing information from two sources that cover characteristics of individuals and their households, jobs (including task-specific content), and firms.

First, we use data from the Participation, Labour and Unemployment Survey (PLUS) developed and administered by the Italian National Institute for the Analysis of Public Policies (INAPP), which is based on 45,000 individuals aged 18–74. In particular, we adopt the eighth (and last) wave of this survey, which was collected in 2018 and released in the first half of 2019.[5] The survey provides reliable statistical estimates of labour market phenomena that are rarely or marginally explored by the much more expansive European Labour Force Survey. In addition, it collects a wide range of standard individual characteristics as well as numerous characteristics related to one's household, job, and firm. The INAPP-PLUS survey also provides individual weights to account for the non-response and attrition issues that usually affect sample surveys. Similar to other empirical studies relying on the same dataset (see, among others, Clementi and Giammatteo, 2014; Filippetti et al., 2019; Bonacini et al., 2021b), all descriptive statistics and estimates reported in this analysis are weighted using those individual weights.

Second, to measure the capability to work remotely, we exploit detailed information on the task-content of jobs at the 4-digit occupation level, relying on data from the Survey of Professions (ICP). The ICP survey was last released in 2013 by INAPP and collects information on about 16,000 workers employed in around 800 occupations, according to the 5-digit CP2011 classification (the

[5] One of the key elements of this survey, which is performed through a computer-assisted telephone interviewing (CATI) approach, is the absence of proxy interviews. In other words, to reduce measurement errors and partial non-responses, only survey respondents are reported in the dataset. The questionnaire was distributed to a sample of residents according to a stratified random sampling of the Italian population.

Italian equivalent of the ISCO-08 ILO classification). The ICP survey represents a rather unique source of information on skills, tasks, and work content: it explores the characteristics of occupations through a particularly rich and articulated questionnaire composed of seven sections (i.e. knowledge, skills, attitudes, generalized work activities, values, work styles, and working conditions). Thus, this survey can be used to define the structure of the labour market, the level of technology, and the industrial relations characterising the Italian economy. The ICP is also the Italian equivalent of the American O*Net, being the only survey replicating the O*Net structure in this country.[6] Using ICP variables avoids potential methodological problems that may arise when information related to the US occupational structure (i.e. contained in the US O*Net repertoire) is matched with labour market data referring to different economies. Thus, we take a step forward with respect to recent studies on WFH in Italy (such as Boeri et al., 2020), which use US O*Net data instead and build a sophisticated 'bridge' between US and European (and Italian, in particular) occupations that possibly reflects US-specific labour market conditions. A key point of our dataset is therefore that the analysed task and skill variables directly refer to the Italian labour market.

To develop our analysis, we drop 25,064 people with no occupation (e.g. students, retirees, the unemployed) from the total INAPP-PLUS 2018 sample (45,000 observations). Then, as is usual in empirical studies on the GWG, we apply an age restriction to our sample, further excluding from the analysis individuals not aged 25–64 years old (1,220 observations). We also decided to drop the self-employed from our sample (3,741 observations) because of their strong within-heterogeneity and the potential unclarity in the usage of WFH procedures by this group of workers. Finally, we drop a further 668 observations with missing values in relevant variables. Our analysis sample of employees therefore consists of 14,307 observations.

The ICP survey poses questions that are particularly relevant to evaluate working remotely attitude during the current COVID-19 emergency. To this end, we use the WFH attitude index recently proposed by Barbieri et al. (2020), which is calculated for each 5-digit occupation on a scale of 0 to 100 (from less to more intense). The composite index is computed by taking the average of the following seven questions: i) importance of working with computers; (ii) importance of performing general physical activities (which enters reversely); (iii) importance of manoeuvring vehicles, mechanical vehicles, or equipment (reversely); (iv) requirement of face-to-face interactions (reversely); (v) dealing with external customers or with the public (reversely); (vi) physical proximity (reversely); (vii) time spent standing (reversely). The index was first calculated at the ISCO 5-digit code level and then aggregated at the ISCO 4-digit level to merge this information with our INAPP-PLUS dataset.

Once the WFH capacity index is included in our analysis sample, it ranges from 8.8 to 85.0 and presents a median value of 52.2 and a mean value of 52.4. We defined our variable of interest as a dummy taking a value of 1 (i.e. high level of WFH attitude) for employees reporting a value of the multidimensional index over the sample median and 0 otherwise (i.e. low level of WFH attitude).

With regards to the specification of our variable of interest, we developed several robustness checks on the results of the main analysis. Specifically, we changed the definition of the WFH feasibility variable, making it take a value of 1 over the sample mean (rather than the median) or 60 percent of the sample mean. The results of all these tests highlight the same conclusions as our main analysis, thus confirming its robustness. More details are available upon request to the authors.

[6] The ICP survey ensures representativeness with respect to sector, occupation, firm size, and geographical domain (macro-region). On average, 20 workers per each Italian occupation are included, providing representative information at the 5th digit. Similar to the American O*Net, occupation-level variables in the ICP survey are collected relying on both survey-based worker-level information and post-survey validation by expert focus groups.

3.1. Some descriptive statistics

Table 1 shows that more than half of our sample of employees is composed of men (53.8%), and the logarithm of the annual wage is 9.98, on average. Male workers represent the majority, in absolute terms, looking at both low and high levels of WFH attitude, but females tend to work in occupations with a high WFH attitude relatively more than males (52% versus 45%, respectively).

Table 1 – Sample composition and mean wage by gender and WFH attitude

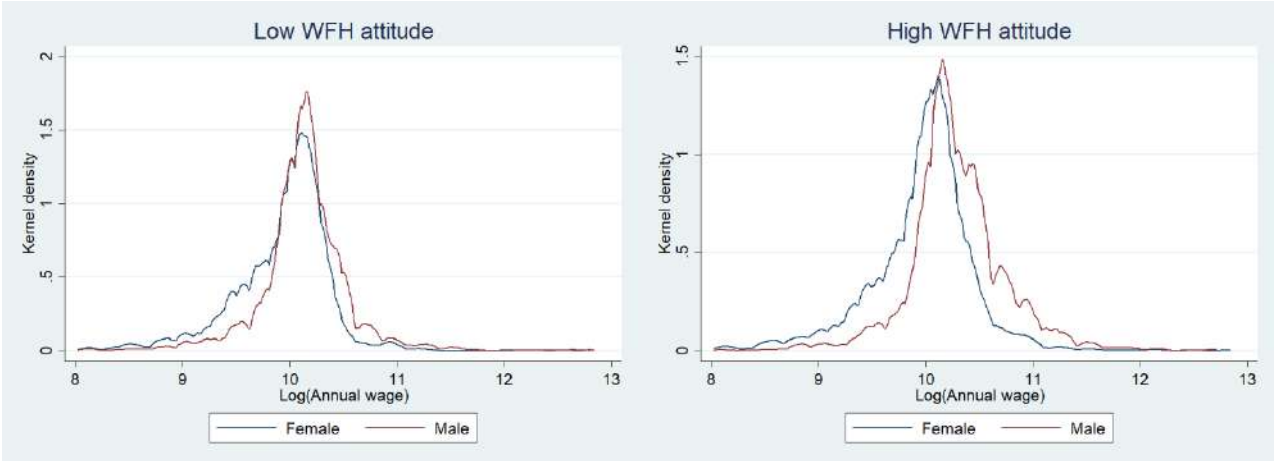
Gender	Level of WFH attitude	Sample composition		Log(annual wage)	
		Obs.	%	Mean	Standard Deviation
Female	Low	3,210	22.4	9.84	0.564
	High	3,411	23.8	9.86	0.634
Male	Low	4,204	29.4	10.03	0.596
	High	3,482	24.4	10.18	0.631
Total		14,307	100.0	9.98	0.622

Notes: Employees with a high WFH attitude level are defined as those reporting a value of the WFH attitude index over the sample median (i.e. 52.2).

As regards the comparison of average wage levels, two noteworthy findings arise from Table 1. First, the average GWG (in favour of male workers) is significant regardless of the level of WFH attitude. Second, working in a profession with a high level of WFH attitude (rather than one with a low WFH attitude level) determines an increase in the average annual income for both men and women, but a relatively greater one for the former. As a result, providing a preliminary answer to *RQ1*, the descriptives in Table 1 highlight that the level of WFH attitude may play a relevant role in exacerbating the average GWG.

Figure 1 plots the kernel estimates of the wage density for male and female employees, distinguishing by the level of WFH attitude. It can be noted that the wage distribution for males is clearly shifted to the right with respect to that of females, especially when looking at workers with a high WFH attitude.

Figure 1 – Wage distribution by gender and level of WFH attitude



Notes: Employees with a high WFH attitude level are defined as those reporting a value of the WFH attitude index over the sample median (i.e. 52.2).

We also perform the non-parametric Kolmogorov–Smirnov (K–S) test to precisely assess the homogeneity of distributions illustrated in Figure 1. The K–S test, which is based on the concept of stochastic dominance, is obtained as the largest discrepancy in the empirical distribution functions of these samples. Specifically, we adopt both the one-sided and two-sided K–S tests. The two-sided

test (KS_2) allows us to determine whether both distributions are identical, while the one-sided test (KS_1) determines whether one distribution dominates the other.

Results of the KS_2 test shown in Table 2 confirm, first of all, that male and female wage distributions are not identical, regardless the level of WFH attitude considered. As for the results of the one-sided test, Table 2 points out that the annual wage distribution of male workers stochastically dominates, at the 1 percent level of significance, the one reported by female workers, again for both levels of WFH attitude. (It should be noted that test statistics are greater when considering employees performing occupations with a high WFH attitude, however.)

Table 2 – Kolmogorov–Smirnov test for comparison of employees by gender and level of WFH attitude

Level of WFH attitude	Test	Combined	Male	Female
Low	KS_2	0.1750 (0.000)		
	KS_1		-0.0039 (0.954)	0.1750 (0.000)
High	KS_2	0.2995 (0.000)		
	KS_1		0.0000 (1.000)	0.2995 (0.000)

Notes: Employees with a high WFH attitude level are defined as those reporting a value of the WFH attitude index over the sample median (i.e. 52.2).

4. Econometric method

The decomposition proposed by Oaxaca (1973) and Blinder (1973) is a very well-known method to analyse discriminatory behaviours. It allows distinguishing the difference between the mean wages of two groups (for example, males and females or natives and immigrants) into a component related to the explanatory variables or endowments ('characteristics or explained effect') and one explained by the differences in the group coefficients ('coefficients or unexplained effect'). However, the method relies on the linearity assumption (Firpo et al., 2018) and only allows estimation at the mean. In this article, Unconditional Quantiles Regressions (UQRs) of Recentred Influence Functions (RIFs) are used to obtain an Oaxaca–Blinder-type detailed decomposition beyond the mean (Firpo et al., 2018).

With respect to the (conventional) quantile regression method developed by Koenker and Bassett (1978), this methodology is able to estimate the effects on an outcome variable distribution that is not conditioned by the set of covariates included in the model (Fortin et al., 2011). Thus, we can directly compare income differences between men and women at different points on the distribution without imposing a path dependence in the gap estimation at different quantiles (Gaeta et al., 2018). Moreover, using the method proposed by Firpo et al. (2009), we can add relevant covariates in the model without altering the interpretation of estimated coefficients on the distributional statistic, such as the mean or a quantile.

The UQR technique involves the calculation of the RIF, which is defined as

$$\mathrm{RIF}(y; v, F) = v(F) + \mathrm{IF}(y; v, F) = v(F) + \lim_{t \downarrow 0} \frac{v\left((1-t)F + t\Delta_y\right) - v(F)}{t},$$

where F is the distribution function of the outcome variable y (i.e. the logarithm transformation of the annual gross wage), $v(F)$ denotes a distributional statistic, and the $\mathrm{IF}(y; v, F)$ is the influence function initially introduced by Hampel (1974). According to Firpo et al. (2009), once the values of $\mathrm{RIF}(y; v, F)$ are computed for all observations, the effects of a marginal change in the distribution

of the variable of interest (i.e. gender) on the distributional statistic $v(F)$ can be estimated through a simple OLS. Using the UQR method, we can account for demographic and economic characteristics that may differ across the two genders and lead to potential biases in marginal influences. We regressed RIFs on the variable of interest and a vector X of relevant covariates including demographic characteristics of the individual and his household (i.e. age group, education level, migration status, marital status, household size, presence of minors, municipality size, and macro-region of residence) and job characteristics (i.e. job contract, public servant, occupation skill level, and activity sector dummies). Specifically, we add the occupation skill level of employees to control for skill heterogeneity, as suggested by Picchio and Mussida (2011) and Leonida et al. (2020). More details on variables included in the model are provided in Tables A.1 and A.2. The resulting effect on wage distribution statistics is generally labelled the 'unconditional partial effect', 'policy effect', or 'counterfactual effect' in the literature (Firpo et al., 2009; Rothe, 2010; Chernozhukov et al., 2013; Choe and Van Kerm, 2018; Gallo and Pagliacci, 2020).

In the final step, as in the standard two-fold Oaxaca–Blinder decomposition, the GWG is decomposed into two components: an endowment component and a coefficients component. We repeat this methodology for the two groups of employees with low and high WFH attitude levels in order to estimate if and to what extent both the GWG and the characteristics effect are higher among individuals with a high WFH attitude. Furthermore, we explore heterogeneous effects of our main analysis by relevant individual and job characteristics of employees (i.e. age group, marital status, and occupational sector) to assess whether the potential association between the GWG and WFH attitude varies across some subgroups of our sample.[7]

As a robustness check, we consider the possibility that reported differences between workers with low and high levels of WFH attitude may be related to potential selection issues. We therefore implement an inverse probability weighting (IPW) estimator as proposed by Di Nardo et al. (1996) and Firpo (2007). In addition, as is usual in empirical analyses on the topic, we replicate our results excluding part-timers from the analysis and controlling for the number of weekly working hours to test whether the potential impact of these two factors on the analysed gender gap in annual wage levels is significant. The results of all robustness checks are illustrated in Section 6.

5. Results

Table 3 reports estimates of the average GWG for the analysed sample of employees decomposing these between the explained and unexplained components. The estimated GWG appears strongly significant and positive (i.e. in favour of men), thus confirming the preliminary evidence shown in Section 3.1, even when controlling for relevant individual and job characteristics of employees. The characteristics component, however, represents 22% of the total GWG, while most of the gender gap is related to unobserved characteristics and, perhaps, to some type of discrimination.

[7] We explore the heterogeneous effects of our main analysis distinguishing by additional employee characteristics such as education level, macro-area of residence, and economic sector of activity. In these cases as well, some significant differences in the association between WFH attitude and the GWG along the distribution occur across groups of employees. However, for the sake of brevity, we prefer to report these results in the Appendix (Figures A.1–A.3).

Table 3 – Estimates and decomposition of the average GWG

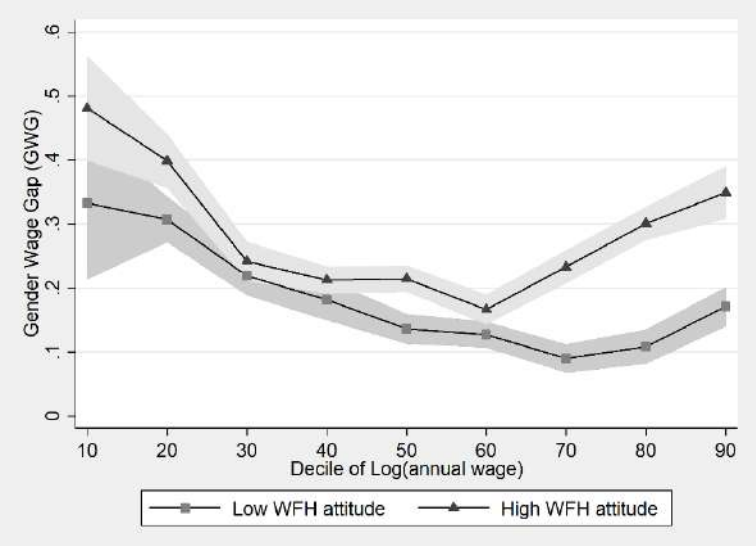
Group of employees	Difference	Explained	%	Unexplained	%
Total sample	0.249***	0.055***	22.1	0.194***	77.9
High WFH attitude	0.316***	0.127***	40.2	0.189***	59.8
Low WFH attitude	0.195***	0.037**	19.0	0.159***	81.0

*Notes: *** p<0.01, ** p<0.05, * p<0.1. The table presents coefficients of the variable of interest (i.e. being male) only. Complete estimates for the pooled sample are provided in Tables A.3–A.5. Employees with a high WFH attitude level are defined as those reporting a value of the WFH attitude index over the sample median (i.e. 52.2).*

Distinguishing by the level of WFH attitude, we observe that the GWG is significant at the 1 percent level in both groups of employees, but the average GWG is greater among those in an occupation with a high level of WFH attitude. Therefore, in order to provide an answer to *RQ1*, Table 3 further confirms that the WFH attitude plays an important role in exacerbating existing gender gaps in wages. Nonetheless, looking at the decomposition outcomes, the higher share of GWG explained by selected covariates among employees with a high WFH attitude seems to suggest that females performing these professions tend to have a smaller endowments component than the others in the 'low attitude' group.

Figure 2 highlights that, on the one hand, the estimated GWG is always significant and positive along the wage distributions of both groups of employees and, on the one other hand, that the GWG is overall higher among employees with a high WFH attitude, especially in the right tail of the distribution. The latter evidence answers our *RQ2* question, shedding light on a peculiar association between the GWG and WFH attitude along the wage distribution.

Figure 2 – Estimate of the GWG along the distribution by level of WFH attitude

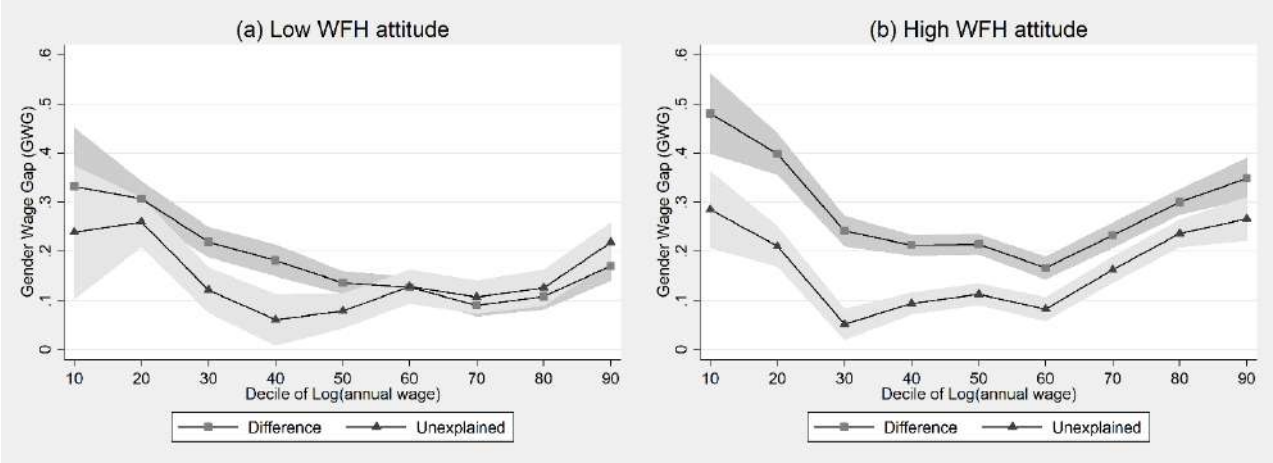


Notes: The shaded area reports confidence intervals at the 95% level. The figures present coefficients of the variable of interest (i.e. being male) only. Complete estimates for the pooled sample are provided in Tables A.3–A.5. Employees with a high WFH attitude level are defined as those reporting a value of the WFH attitude index over the sample median (i.e. 52.2).

Furthermore, the GWG is U-shaped for employees with a high WFH attitude and L-shaped for those with a low WFH attitude. In fact, while the first decile is significantly different from the 5th decile at the 5 percent level for both groups of employees, the 9th decile is significantly different from the median among employees with a high WFH attitude only. Therefore, we find indications of both sticky floor and glass ceiling effects for employees with a high WFH attitude, and only a sticky floor effect for the group with a low WFH attitude.

As additional evidence that females performing professions with a low level of WFH attitude present a bigger endowments component, Figure 3 points out that the estimated GWG for this category of employees is mainly unexplained, except for estimates in the third, fourth, and fifth deciles of the wage distribution. In contrast, the unexplained component represents about half of the total GWG along the distribution of employees with a high WFH attitude, but here also it increases notably on the right side of the wage distribution.

Figure 3 – Decomposition of the estimated GWG along the distribution by level of WFH attitude



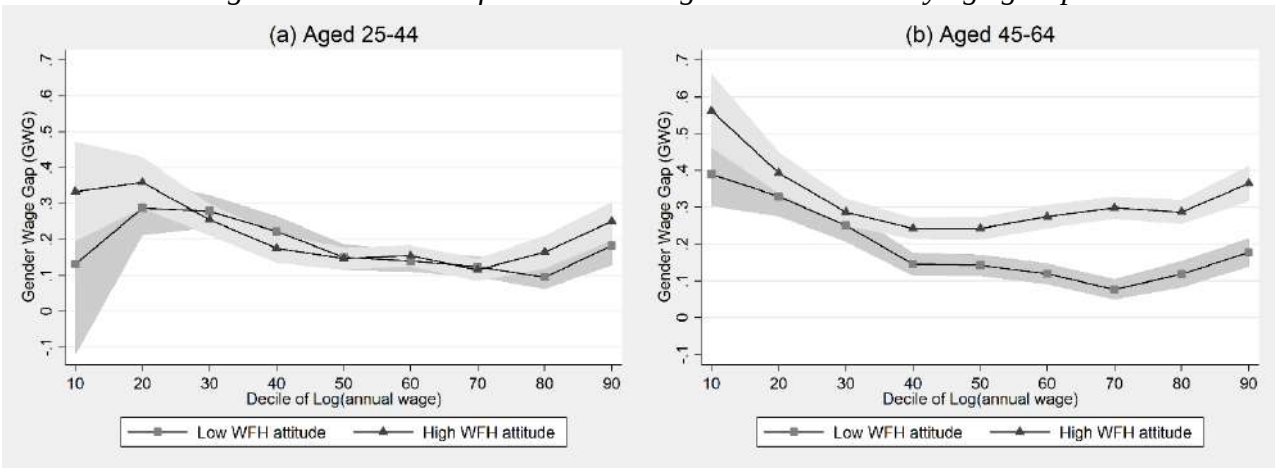
Notes: Shaded areas report confidence intervals at the 95% level. The figures present coefficients of the variable of interest (i.e. being male) only. Complete estimates for the pooled sample are provided in Tables A.3–A.5. Employees with a high WFH attitude level are defined as those reporting a value of the WFH attitude index over the sample median (i.e. 52.2).

5.1. Heterogeneous effects

The results illustrated in the previous section highlight that different levels of WFH attitude reflect significantly different values of the GWG along the wage distribution through a positive association. In this section, we now explore heterogeneous effects of our main analysis by relevant individual and job characteristics of employees (i.e. age group, marital status, and occupational sector) to assess whether the above-mentioned association varies across some subgroups of our sample.

Figure 4 shows that the level of WFH attitude seems to affect the estimated GWG along the wage distribution among older employees (i.e. aged 45–64 years old), whereas no significant difference occurs among younger employees. It should be noted that although it is always statistically significant at the 1 percent level, the GWG appears smaller among younger employees when comparing those working in an occupation with a high WFH attitude, and the GWG is even insignificant at the first decile of the wage distribution for those aged 25–44 with a low WFH attitude.

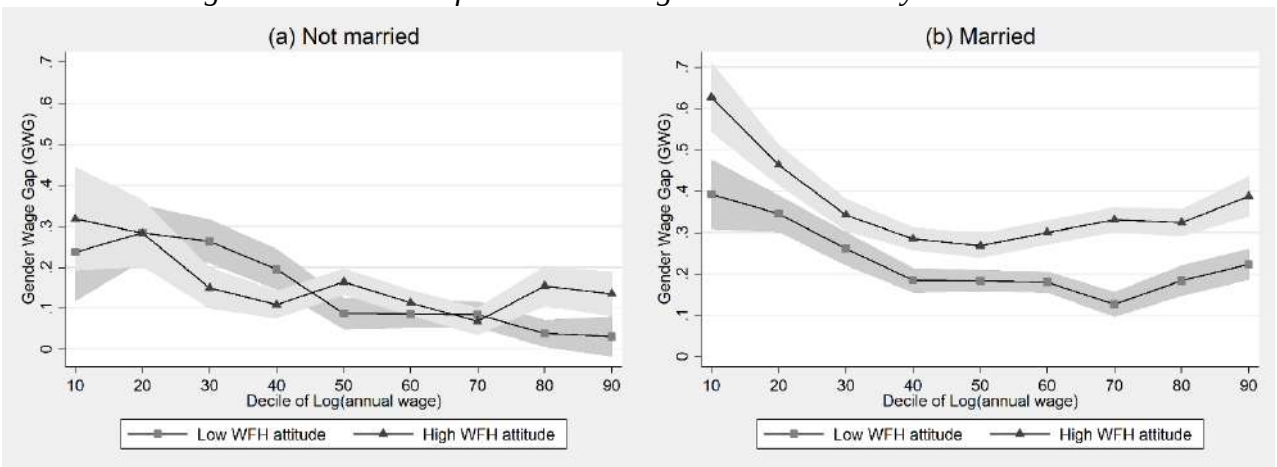
Figure 4 – Estimate of the GWG along the distribution by age group



Notes: Shaded areas report confidence intervals at the 95% level. The figures present coefficients of the variable of interest (i.e. being male) only. Employees with a high WFH attitude level are defined as those reporting a value of the WFH attitude index over the sample median (i.e. 52.2).

Looking at heterogeneous effects by marital status (Figure 5), two interesting findings emerge. First, when comparing unmarried male and female employees (and controlling for relevant covariates), the GWG appears much smaller than that reported by married employees. Second, high levels of WFH attitude clearly exacerbate the GWG (in favour of men) along the whole wage distribution among married employees only, while the association is more ambiguous when looking at unmarried employees. In particular, in the latter case, the GWG is significantly greater for those in a profession with a high WFH attitude at the median and the eighth decile only, while the GWG is even significantly smaller at the third and fourth deciles of the wage distribution.

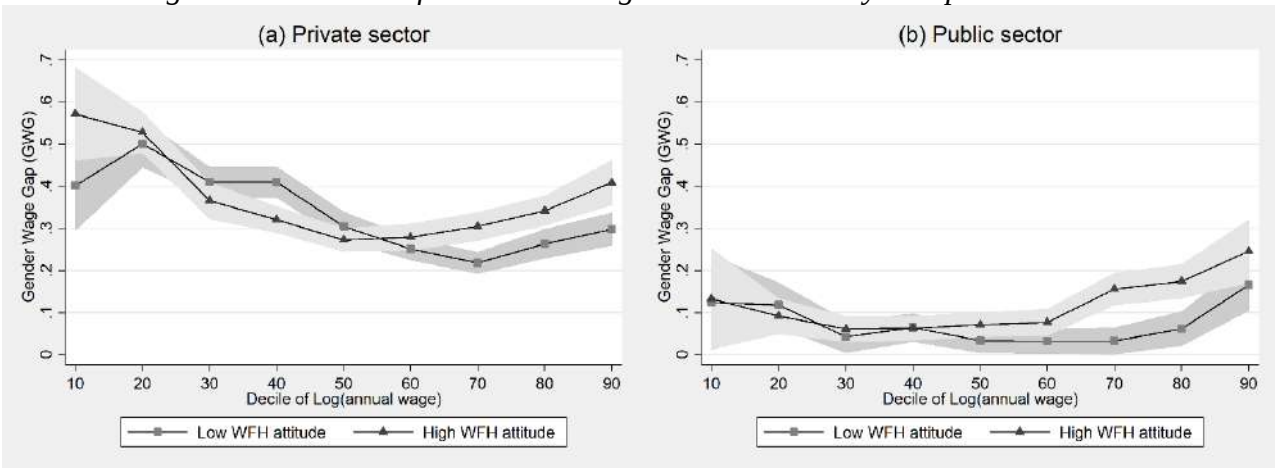
Figure 5 – Estimate of the GWG along the distribution by marital status



Notes: Shaded areas report confidence intervals at the 95% level. The figures present coefficients of the variable of interest (i.e. being male) only. Employees with a high WFH attitude level are defined as those reporting a value of the WFH attitude index over the sample median (i.e. 52.2).

Finally, comparing employees in the private and public sectors, Figure 6 highlights that having an occupation with a high level of WFH attitude increases the estimated GWG (especially on the right side of distribution) for both groups of employees, but levels of the GWG overall appear much lower among public servants. The latter evidence is actually expected as public contests tend to reduce the bargaining power of individuals as well as potential discrimination at the moment of hiring (Fournier and Koske, 2013).

Figure 6 – Estimate of the GWG along the distribution by occupational sector



Notes: Shaded areas report confidence intervals at the 95% level. The figures present coefficients of the variable of interest (i.e. being male) only. Employees with a high WFH attitude level are defined as those reporting a value of the WFH attitude index over the sample median (i.e. 52.2).

In conclusion, estimates of heterogeneous effects of our main analysis suggest that the positive association revealed between the level of WFH attitude and the GWG can significantly differ according to some individual and job characteristics. As regards *RQ3*, however, not all considered characteristics exacerbate the association between WFH attitude and the GWG as, for instance, it clearly happens only among older and married employees.

6. Robustness checks

In this section, we present some robustness checks on the main results reported in the paper. The subsequent analysis concerns the sample definition, the inclusion of weekly working hours in the vector of covariates, and the potential selection bias related to WFH attitude.

First, given the greater use of part-time contracts by females and the fact that part-timers tend to have a lower annual wage than full-time employees, we decided to further restrict our sample by including full-time employees only (11,359 observations). Results of this sensitivity analysis are shown in Figure A.4. As expected, the GWG is lower than that estimated in the main analysis along the whole distribution, and especially along the left tail. Nevertheless, Figure A.4 confirms our main conclusions: the GWG among employees with a high WFH attitude is higher than that observed among those in a profession with a low WFH attitude, except for the bottom part of the distribution and at the median.

Second, we checked the robustness of our results by replacing the part-time dummy variable with the actual number of weekly working hours in the adopted vector of covariates. In this sensitivity analysis, we focus on the unexplained component of employees with a high or low WFH attitude since the total difference remains overall the same (Figure A.5). Also in this case, the results of the robustness check confirm our main findings. The only exceptions are the third and fourth deciles in panel (a) of Figure A.5 and the seventh and the eighth deciles in panel (b) of Figure A.6, where the difference between the estimated GWG and the unexplained component is not statistically significant anymore at the 5 percent level.

Finally, we assessed whether the results of our main analysis are affected by a potential selection bias in WFH attitude. To this end, we implement a non-parametric framework through which we control for the mentioned potential bias. Specifically, we adopt the Inverse Probability Weighting

(IPW) estimator proposed by Di Nardo et al. (1996) and Firpo (2007). This method is structured in two stages. In the first stage, we use a Probit model where the dependent variable is the dummy 'High WFH attitude' and the vector of covariates is the same as in our main econometric analysis (see Section 4). In the second stage, weighting each observation by the conditional probability of performing a profession with a high WFH attitude, we estimate quantile regressions for two counterfactual distributions: one if every employee has a high WFH attitude and another one if every employee has a low WFH attitude. In other words, the method allows us to reweight observations in the analysed sample according to their probability of having a high level of WFH attitude, keeping all other characteristics constant (Leonida et al., 2020, Scicchitano et al., 2020). Results of the Oaxaca-RIF regressions with weights resulting from the IPW methodology are reported in Figure A.6. While the estimated GWG remained overall the same among employees with a high WFH attitude, the GWG for those with a low WFH attitude is higher at both the bottom and the top of the distribution (with respect to the one illustrated in Figure 2). As a consequence, differences in the GWG between employees with high and low WFH attitudes decrease, but they are still significant at the 5 percent level between the third and eighth decile of the wage distribution (except for the fourth).

7. Conclusions

Much research points out that the COVID-19 epidemic appears to have increased gender inequalities in the labour market in the short-term in several ways. As the scientists studying the effects of working from home (WFH) effects on gender inequality have found unclear results (Arntz et al., 2019), the present global situation strongly calls for new and clearer results on this topic. To this end, our paper shows that the current transition towards a 'new normal' in the post COVID-19 labour market is not gender neutral and risks exacerbating the already existing and significant gender wage gap (GWG). Our paper contributes to the literature finding that the current crisis may have negative implications for women even when the pandemic is over. In fact, many companies have already faced significant fixed costs to adapt technologies, human capital, and production processes to WFH, and it is more than likely that they will never want to go back (Brynjolfsson et al., 2020). It is therefore possible that gender inequalities related to WFH procedures will remain also in the medium–long run (Baert et al., 2020a). We propose new evidence on the influence that the attitude (or feasibility) of professions being performed remotely, defined through the index recently proposed by Barbieri et al. (2020), has on the GWG reported by Italian employees, on average and along the wage distribution.

Relying on a unique dataset based on the merging of INAPP-PLUS 2018 data and those obtained by the ICP 2013 survey, and by means of the estimation of unconditional quantile regressions in an Oaxaca–Blinder-type decomposition framework, our study provides three notable findings. First, our results show that there is a significant GWG in the Italian labour market (mostly unexplained despite the relevant individual and job characteristics controlled) and that this wage gap is greater among females in an occupation with a high level of WFH attitude. Second, we find evidence of both sticky floor and glass ceiling effects for employees with a high WFH attitude and only a sticky floor effect for the group with a low WFH attitude, which, however, presents the biggest endowments component. Third, we observe that the positive association revealed between the level of WFH attitude and the GWG seems to be particularly severe among older and married female employees, as well as those working in the private sector.

While it is not straightforward to give a definitive explanation for the significant U-shaped pattern in the GWG reported especially by employees with a high level of WFH attitude, and thus the ones who will be more affected by a (probably) persistent spread of WFH procedures after the COVID-

19 pandemic, we can suggest two possible explanations consistent with these findings. On the one hand, Italy tends to rank low in quantitative indices regarding the conditions for work and family reconciliation with respect to many other developed countries, and particularly for the culture-related dimension (OECD, 2001; Matysiak and Węziak-Białowolska, 2016). Moreover, it has been shown that countries with less generous work–family policies may push women to prefer family care to a career when compared to men, especially at lower levels of the wage distribution (Arulampalam et al., 2007; Yurtoglu and Zulehner, 2009). Childcare availability is crucial for the reconciliation of family and work for mothers (Del Boca and Wetzels, 2008) and for the labour market participation of mothers (Del Boca et al., 2005; Del Boca and Vuri 2007). Both aspects play a key role in Italy, where the coverage rate of formal childcare and female labour market participation are persistently below the European average (Figari and Nazarani, 2020). On the other hand, it is also well known that idiosyncratic, sociological, and cultural reasons may play key roles in discrimination against women, especially those with high-skilled jobs (Baldwin et al., 2001; Gregory, 1990; Kulich, 2007), and thus probably the same ones working in occupations with a high WFH attitude.

In conclusion, as we move up along the income distribution (and although other reasons may also be found to be relevant), we may consider gender stereotypes as relevant factors in discrimination against women, which then become invisible ceilings and cause the revealed glass ceiling effect. A long-lasting persistence of WFH procedures—which seems to significantly exacerbate the GWG—then corroborates the importance of removing economic and cultural barriers to women's full participation and career development in the labour market.

In this context, policies aimed at both improving work–family reconciliation and tackling gender stereotypes in society appear necessary worldwide and, in particular, in countries exhibiting similar issues to Italy. For instance, the adoption of a minimum wage at the national level (currently under discussion in Italy) can reduce the sticky floor effect, as well as the phenomenon of the working poor. Moreover, greater subsidising of public childcare is expected to reduce gender inequalities (Del Boca et al., 2018, Del Boca et al., 2020). Significant assistance to help bear these social policies and investments may come from the Next Generation European Union funds. In fact, in response to the pandemic and its social and economic consequences, the European Commission's May 2020 proposal declares that '*at least 25% of spending contributing to climate action, and measures to support gender equality and non-discrimination are all necessary for a balanced recovery package*'.[8] Also in this case, however, initial doubts regarding a preliminary tendency to leave women out have already arisen (Klatzer and Rinaldi, 2020). For this reason, and for concerns emerging from our empirical results, it will be important and strongly recommended for future research to analyse the effects of allocating adequate resources from these European funds to programmes that aim to achieve gender-related goals.

References

Adams, R. B. (2020). Gender Equality in Work and COVID-19 Deaths. *Covid Economics*, 16, 23-60

Adams-Prassl, A., Boneva, T., Golin M., & Rauh C. (2020). Inequality in the Impact of the Coronavirus Shock: Evidence from Real Time Surveys. *IZA Discussion Paper*, 13183.

[8] See https://ec.europa.eu/commission/presscorner/detail/en/qanda_20_935

Aláez Aller, R., Longás García, J.C., and Ullibarri Arce, M. (2011). Visualising Gender Wage Differences in the European Union. *Gender, Work & Organization*, doi:10.1111/j.1468-0432.2009.00469.x

Albrecht, J., Bjorklund, A., & Vroman, S. (2003). Is there a glass ceiling in Sweden?. *Journal of Labor Economics*, 21(1), 145-177.

Alon, T., Doepke, M., Olmstead-Rumsey, J., & Tertilt, M. (2020a). This Time It's Different: The Role of Women's Employment in a Pandemic Recession. *CEPR Discussion Paper* ,15149

Alon, T., Doepke, M., Olmstead-Rumsey, J., & Tertilt, M. (2020b). The impact of COVID-19 on gender equality. *National Bureau of Economic Research*, 26947

Angelici, M., & Profeta, P. (2020). Smart-working: Work flexibility without constraints. *CESifo Working Paper*, 8165

Aparicio, A., & Grossbard, S. (2020). Intergenerational residence patterns and COVID-19 fatalities in the EU and the US. *Economics & Human Biology*, 39, 100934.

Aparicio, A., & Grossbard, S. (2021). Are COVID fatalities in the US higher than in the EU, and if so, why?. *Rev Econ Household*, https://doi.org/10.1007/s11150-020-09532-9

Arntz, M., Sarra, B. Y., & Berlingieri, F. (2019). Working from Home: Heterogeneous Effects on Hours Worked and Wages. *ZEW - Centre for European Economic Research Discussion Paper,* 19-015

Arulampalam, W., Booth, A.L., & Bryan, M.L. (2007). Is there a glass ceiling over Europe? Exploring the gender pay gap across the wage distribution. *Industrial and Labor Relations Review*, 60(2), 163-186

Baert, S., Lippens, L., Moens, E., Sterkens, P., & Weytjens, J. (2020a). The COVID-19 crisis and telework: A research survey on experiences, expectations and hopes. *GLO Discussion Paper*, 532

Baert, S., Lippens, L., Moens, E., Sterkens, P., & Weytjens, J. (2020b). How do we think the COVID-19 crisis will affect our careers (if any remain)?. *GLO Discussion Paper*, 520

Balcar, J., & Hedija, V. (2019). Influence of female managers on gender wage gap and returns to cognitive and non-cognitive skills. *Gender Work Organ*, 26, 722– 737

Baldwin, M.L., Butler, R.J., & Johnson, W. (2001). A hierarchical theory of occupational segregation and wage discrimination. *Economic Inquiry*, 39(1), 94-110.

Barbieri, T., Basso, G., & Scicchitano, S. (2020). Italian Workers at Risk during the COVID-19 Epidemic. *GLO Discussion Paper*, 513

Bergmann, N., Scheele, A., & Sorger, C. (2019). Variations of the same? A sectoral analysis of the gender pay gap in Germany and Austria. *Gender Work Organ*, 26, 668– 687

Bertocchi, G. (2020). COVID-19 susceptibility, women, and work. *VoxEU.org*, 23

Bertocchi, G., & Dimico, A. (2020). COVID-19, race, and redlining. *CEPR Discussion Paper*, 15013

Bertrand, M. (2018). Coase lecture: the glass ceiling. *Economica*, 85(338), 205–231

Bertrand, M., & Hallock, K. (2001). The gender gap in top corporate jobs. *Industrial and Labor Relations Review*. 55, 1–21

Besart, A., & Gaurav, N. (2020). When face-to-face interactions become an occupational hazard: Jobs in the time of COVID-19. *Economics Letters*, https://doi.org/10.1016/j.econlet.2020.109648

Biagetti, M., & Scicchitano, S. (2011). A note on the gender wage gap among managerial positions using a counterfactual decomposition approach: sticky floor or glass ceiling?. *Applied Economics Letters*, 18(10), 939-943

Biagetti, M., & Scicchitano, S. (2014). Estimating the Gender Pay Gap in the Managerial and non Managerial Italian Labor Market. *Economics Bulletin*, 34(3), 1846-1856

Blinder, A. (1973). Wage discrimination. Reduced form and structural estimates. *Journal of Human Resources*, 8(4), 436-455

Bloom, N., Liang, J., Robertsand, J., & Ying, Z. J. (2015). Does working from home work? Evidence from a Chinese experiment. *The Quarterly Journal of Economics*, 130(1), 165-218

Boeri, T., Caiumi, A., & Paccagnella, M., (2020). Mitigating the work-security trade-off. *Covid Economics*, 2, 60-66

Bonacini, L., Gallo, G., & Patriarca, F. (2021a). Identifying policy challenges of COVID-19 in hardly reliable data and judging the success of lockdown measures. *Journal of Population Economics*, 34(1), 275-301

Bonacini, L., Gallo, G., & Scicchitano, S. (2021b). Working from home and income inequality: risks of a 'new normal' with COVID-19. *Journal of Population Economics*, 34(1), 303-360

Brynjolfsson, E., Horton, J. J., Ozimek, A., Rock, D., Sharma, G., & TuYe, H. Y. (2020). Covid-19 and remote work: An early look at U.S. data. *NBER Working Paper*, 27344.

Castagnetti, C., Rosti, L., Töpfer, M. (2020). Discriminate me — If you can! The disappearance of the gender pay gap among public-contest selected employees in Italy. *Gender Work Organ*, 27(6), 1040-1076

Cebrián, I., & Moreno, G. (2015). The Effects of Gender Differences in Career Interruptions on the Gender Wage Gap in Spain. *Feminist Economics*, 21(4), 1-27,

Chernozhukov, V., Fernández-Val, I., & Melly, B. (2013). Inference on counterfactual distributions. *Econometrica*, 81(6), 2205–2268

Choe, C., & Van Kerm, P. (2018). Foreign workers and the wage distribution: what does the influence function reveal?. *Econometrics*, 6(3), 41

Chzhen, Y., & Mumford, K. A. (2009). Gender Gaps across the Earnings Distribution in Britain: Are Women Bossy Enough?. *IZA Discussion Papers*, 4331

Clementi, F., & Giammatteo, M. (2014), The labour market and the distribution of earnings: an empirical analysis for Italy. *International Review of Applied Economics*, 28(2), 154–180

Cuesta, J., & Pico, J. (2020). The Gendered Poverty Effects of the COVID-19 Pandemic in Colombia. *Eur J Dev Res*, https://doi.org/10.1057/s41287-020-00328-2

Dawson, T. (2014). Collective Bargaining and the Gender Pay Gap. *Gender, Work and Organization*, doi:10.1111/gwao.12043

De la Rica, S., Dolado, J., & Llorens, V. (2008). Ceilings or floors? Gender wage education in Spain. *Journal of Population Economics*, 21(3), 751-776

Del Boca, D., & Vuri, D. (2007). The Mismatch between Employment and Child Care in Italy: the Impact of Rationing. *Journal of Population Economics*, 20(4), 805-832

Del Boca, D., & Wetzels, C. (2008). *Social Policies labour Markets and Motherhood*. Cambridge: Cambridge University press

Del Boca, D., Locatelli, M., & Vuri, D. (2005). Child-care Choices by working mothers: The case of Italy. *Review of Economics of Household*, 3 (4), 453-477

Del Boca, D., Monfardini, C., & See, S. G. (2018). Government education expenditures, pre-primary education and school performance: a cross-country analysis. *IZA Discussion Paper*, 11375

Del Boca, D., Oggero, N., Profeta, P., Rossi M. (2020). Women's and men's work, housework and childcare, before and during COVID-19. *Rev Econ Household*, https://doi.org/10.1007/s11150-020-09502-1

Del Rıo, C., Gradın, C. & Canto, O. (2011). The measurement of gender wage discrimination: the distributional approach revisited. *Journal of Economic Inequality* 9(1), 57-86

Delaporte, I., & Peña, W. (2020). Working From Home Under COVID-19: Who Is Affected? Evidence From Latin American and Caribbean Countries. *GLO Discussion Paper*, 528

Di Nardo, J., Fortin, N., & Lemieux, T. (1996). Labour market institutions and the distribution of wages 1973-1992. A semiparametric approach. *Econometrica*, https://doi.org/10.2307/2171954

Dingel, J. I., & Neiman, B. (2020). How many jobs can be done at home?. *Journal of Public Economics*, https://doi.org/10.1016/j.jpubeco.2020.104235.

Eveline, J., & Todd, P. (2009). Gender Mainstreaming: The Answer to the Gender Pay Gap?. *Gender, Work & Organization*, doi:10.1111/j.1468-0432.2007.00386.x.

Farré, L., Fawaz, Y., Gonzalez, L., & Graves, J. (2020). How the COVID-19 Lockdown Affected Gender Inequality in Paid and Unpaid Work in Spain. *IZA Discussion Papers*, 13434

Figari, F., & Narazani, E. (2020). The joint decision of female labour supply and childcare in Italy under costs and availability constraints. *Econ Polit*, https://doi.org/10.1007/s40888-019-00160-w

Filippetti, A., Guy, F., & Iammarino, S. (2019). Regional disparities in the effect of training on employment. *Regional Studies*, 53(2): 217–230

Firpo, S. (2007). Efficient semiparametric estimation of quantile treatment effects. *Econometrica*, 75(1), 259–276

Firpo, S., Fortin, N., & Lemieux, T. (2009). Unconditional Quantile Regressions. *Econometrica*, 77(3), 953-973

Firpo, S., Fortin, N., & Lemieux, T. (2018). Decomposing wage distributions using recentered influence function regressions. *Econometrics*, 6(2), 28

Flaherty, C. (2020). No room of one's own: Early journal submission data suggest COVID-19 is tanking women's research productivity. *Inside Higher Ed*, 21

Fortin, N., Lemieux, T., & Firpo, S. (2011). Decomposition Methods in Economics. *Handbook of Labor Economics*, 4, 1-102

Fournier, J. M., & Koske, I. (2013). Public employment and earnings inequality: An analysis based on conditional and unconditional quantile regressions. *Economics Letters*, 121(2), 263-266

Gaeta, G. L., Lubrano Lavadera, G. & Pastore, F. (2018). Overeducation Wage Penalty among Ph.D. Holders: An Unconditional Quantile Regression Analysis on Italian Data. *IZA Discussion Papers*, 11325

Gaiaschi, C. (2019). Same job, different rewards: The gender pay gap among physicians in Italy. *Gender Work Organ*. https://doi.org/10.1111/gwao.12351

Galasso, V., Pons, V., Profeta, P., Becher, M., Brouard, S., & Foucault, M. (2020). Gender differences in COVID-19 related attitudes and behavior: Evidence from a panel survey in eight OECD countries. *Proceedings of the National Academy of Sciences of the United States of America*, 117(44), 27285–91

Gallo, G., Pagliacci, F. (2020). Widening the gap: the influence of 'inner areas' on income inequality in Italy.

Econ Polit, 37, 197–221

Gariety, B. S., & Shaer, S. (2007). Wage differentials associated with working at home. *Monthly Lab. Rev.*, 130, 61-67

Goldin, C (2014). A grand gender convergence: Its last chapter. *American Economic Review*, 104(4), 1091–1119

Goldin, C. (2015). How to achieve gender equality. *Milken Institute Review*, 3, 24–33

Gottlieb, C., Jan, G., & Poschke, M. (2020). Working from home across countries. *Covid Economics*, 8, 70–91

Gregory, A. (1990). Are women different and why are women thought to be different? Theoretical and methodological perspectives. *Journal of Business Ethics*, 9, 257–66

Harris, J.E. Data from the COVID-19 epidemic in Florida suggest that younger cohorts have been transmitting their infections to less socially mobile older adults. Rev Econ Household 18, 1019–1037 (2020). https://doi.org/10.1007/s11150-020-09496-w

Holland, K. J., Cortina, L. M., Magley, V. J., Baker, A. L., & Benya, F. F. (2020). Don't let covid-19 disrupt campus climate surveys of sexual harassment. *Proceedings of the National Academy of Sciences*, 117(40), 24606-24608

Hsu, L. C., & Henke, A. (2020). COVID-19, staying at home, and domestic violence. *Rev Econ Household*, https://doi.org/10.1007/s11150-020-09526-7

Hupkau, C., & Petrongolo, B. (2020). Work, care and gender during the covid-19 crisis. *Covid Economics*, 54, 1-28

Johnson, G., & Solon, G. (1986). Estimates of the Direct Effects of Comparable Worth Policy. *American Economic Review*, 76(5), 1117-25

Jurajda, S., & Paligorova, T. (2009). Czech female managers and their wages. *Labour Economics*, 16, 342–51

Klatzer, E., & Rinaldi, A. (2020). "#nextGenerationEU" Leaves Women Behind. Gender Impact Assessment of the European Commission Proposals for the EU Recovery Plan. Preliminary study commissioned by The Greens/EFA Group in the European Parliament.

Koenker, R., & Bassett, G. (1978). Regression quantiles. *Econometrica*, 46(1), 33–50

Kulich, C., Ryan, M.K. & Haslam, S.A. (2007). Where is the romance for women leaders? Gender effects on the romance of leadership and performance-based pay. *Applied Psychology: An International Review*, 56(4), 582-601

Koren, M., & Peto, R. (2020). Business disruptions from social distancing. *Covid Economics*, 2, 13-31

Lamarre, P. V., Sugimoto C. R., & Lariviere V. (2020). The decline of women's research production during the coronavirus pandemic. Nature index. https://www.natureindex.com/news-blog/decline-women-scientist-research-publishing-production-coronavirus-pandemic. Accessed 15 January 2021.

Leonida, L., Marra, M., Scicchitano, S., Giangreco, A., & Biagetti, M. (2020). Estimating the wage premium to supervision for middle managers in different contexts: evidence from Germany and the UK. *Work, Employment & Society*. https://doi.org/10.1177/0950017020902983

Leslie, L. M., Manchester, C. F., Park, T.-Y., & Mehng, S. A. (2012). Flexible work practices: A source of career premiums or penalties?. *Academy of Management Journal*, 55(6), 1407-1428

Macpherson, D., & Hirsch, B. (1995). Wages and Gender Composition: Why Do Women's Jobs Pay Less?. *Journal of Labor Economics*, 13(3), 426-71

Magnusson, C. (2016). The gender wage gap in highly prestigious occupations: a case study of Swedish medical doctors. *Work, Employment and Society*, 30(1), 40–58.

Matysiak, A., & Węziak-Białowolska, D. (2016). Country-Specific Conditions for Work and Family Reconciliation: An Attempt at Quantification. *Eur J Population*, https://doi.org/10.1007/s10680-015-9366-9

Meara, K., Pastore, F., & Webster, A. (2020). The gender pay gap in the USA: a matching study. *J Popul Econ*, https://doi.org/10.1007/s00148-019-00743-8

Mohapatra, S. (2020). Gender differentiated economic responses to crises in developing countries: insights for COVID-19 recovery policies. *Rev Econ Household*, https://doi.org/10.1007/s11150-020-09512-z

Mongey, S., Pilossoph, L., & Weinberg. A., (2020). Which Workers Bear the Burden of Social Distancing Policies?. *NBER Working Paper*, 27085

Mussida, C., & Picchio, M. (2014a). The trend over time of the gender wage gap in Italy. *Empirical Economics*, 46(3), 1081-1110

Mussida, C., & Picchio, M. (2014b). The gender wage gap by education in Italy. *The Journal of Economic Inequality*, 12(1), 117-147

Nicodemo, C. (2009). Gender Pay Gap and Quantile Regression in European Families. *IZA Discussion Papers*, 3978

Oaxaca, R. (1973). Male-female wage differentials in urban labor markets. *International Economic*

Review, 14(3), 693-709

OECD (2001). OECD Employment Outlook 2001. *OECD Publishing*, https://doi.org/10.1787/empl_outlook-2001-en

Pabilonia, S. W., Vernon, V. (2020). Telework and Time Use in the United States. *GLO Discussion Paper*, 546

Papageorge, N.W., Zahn, M.V., Belot, M. et al. (2021). Socio-demographic factors associated with self-protecting behavior during the Covid-19 pandemic. *J Popul Econ*. https://doi.org/10.1007/s00148-020-00818-x

Pena-Boquete, Y., De Stefanis, S. & Fernandez-Grela, M. (2010). The distribution of gender wage discrimination in Italy and Spain: a comparison using the ECHP. *International Journal of Manpower*, 31(2), 109-137

Palomino, J. C., Rodriguez, J. G., & Sebastian, R. (2020). Wage inequality and poverty effects of lockdown and social distancing in europe. *European Economic Review*, https://doi.org/10.1016/j.euroecorev.2020.103564

Picchio, M., & Mussida, C. (2011). Gender wage gap: A semi-parametric approach with sample selection correction. *Labour Economics*, 18, 564–578.

Pigini, C., & Staffolani, S. (2019). Teleworkers in Italy: who are they? Do they make more?. *International Journal of Manpower*, 40(2), 265-285.

Qiu, Y., Chen, X., & Shi, W. (2020). Impacts of social and economic factors on the transmission of coronavirus disease 2019 (COVID-19) in China. *J Popul Econ*, https://doi.org/10.1007/s00148-020-00778-2

Restrepo, B.J., Zeballos, E. The effect of working from home on major time allocations with a focus on food-related activities. Rev Econ Household 18, 1165–1187 (2020). https://doi.org/10.1007/s11150-020-09497-9

Rothe, C. (2010). Nonparametric estimation of distributional policy effects. *Journal of Econometrics*, 155(1), 56–70

Saari, M. (2013). Problem Representations of Equal Pay. Gender. *Work and Organization*, doi:10.1111/j.1468-0432.2011.00554.x

Scicchitano, S. (2012). The male–female pay gap across the managerial workforce in the United Kingdom: a semi-parametric decomposition approach. *Applied Economics Letters*, 19(13), 1293-1297

Scicchitano, S. (2014). The gender wage gap among Spanish managers. *International Journal of Manpower*, 35(3), 327-344

Scicchitano, S., Biagetti, M., & Chirumbolo, A. (2020). More insecure and less paid? The effect of perceived job insecurity on wage distribution. *Appl Econ*, 52(18):1998–2013

Sevilla, A., & Smith, S. (2020). Baby steps: The gender division of childcare during the COVID19 pandemic, CEPR Discussion Paper, DP14804

Smithson, J., Lewis, S., Cooper, C., & Dyer, J. (2004). Flexible Working and the Gender Pay Gap in the Accountancy Profession. *Work, Employment and Society*, 18(1), 115–135.

Tyrowicz, J., van der Velde, L., & van Staveren, I. (2018). Does Age Exacerbate the Gender-Wage Gap? New Method and Evidence From Germany, 1984–2014. *Feminist Economics*, 24(4), 108-130.

Thomason, B., & Macias-Alonso, I. (2020). Covid-19 and raising the value of care. *Gender Work Organ*, https://doi.org/10.1111/gwao.12461

Triventi, M. (2013). The gender wage gap and its institutional context: a comparative analysis of European graduates. *Work, Employment and Society*, 27(4), 563–580

Yurtoglu, B. B., and Zulehner, C. (2009). Sticky Floors and Glass Ceilings in Top Corporate Jobs. *Austrian Institute of Economic Research*, Vienna, http://dx.doi.org/10.2139/ssrn.1470860

Wahlberg, R. (2010). The gender wage gap across the wage distribution in the private and public sectors in Sweden. *Applied Economic Letters*, 17(15), 1465–8

Weeden, K. A. (2005). Is there a flexiglass ceiling? Flexible work arrangements and wages in the United States. *Social Science Research*, 34(2), 454-482

Zamarro, G., & Prados, M. J. (2021) Gender differences in couples' division of childcare, work and mental health during COVID-19. *Rev Econ Household*, https://doi.org/10.1007/s11150-020-09534-7

Appendix

Table A.1 – Variable descriptions and sample composition

Variable	Description	Sample composition	
		Mean	Std. Dev.
Log(annual wage)	Continuous variable representing the logarithm transformation of the annual gross wage. All recentred influence functions on distributional statistics are based on this variable.	9.983	0.622
High WFH attitude	Binary variable reporting the level of WFH attitude. The WFH attitude is measured, for each occupation at the 4-digit ISCO classification level, through a composite index recently introduced by Barbieri et al. (2020). This index, which ranges from 0 to 100, relies on replies to seven questions in the ICP 2013 survey questionnaire regarding, for instance, the importance of performing physical activities, the importance of working with computers, and the requirement of face-to-face interactions. This binary variable is equal to 1 for those with an index value over the sample median (i.e. 52.2) and 0 otherwise.	0.482	0.500
Male	Binary variable taking the value of 1 for females and 0 for males.	0.538	0.499
Aged 25–35	Binary variables representing the age group of individuals. The reference category is 'Aged 36–50'.	0.204	0.403
Aged 51–64		0.329	0.470
Low education level	Binary variables representing the highest education level achieved. The education level is 'Low' for those who have attained a lower secondary education level (or lower), while it is 'High' for those who have obtained a university degree (or higher). The reference category is composed of those who have obtained a high school diploma, thus achieving an upper secondary education level.	0.464	0.499
High education level		0.224	0.417
Italian-born	Binary variable taking the value of 1 for those having Italy as their country of birth and 0 otherwise.	0.979	0.144
Single person	Binary variables reporting the marital status. The reference category is 'Married'.	0.358	0.480
Divorced/widowed		0.071	0.257
Household size = 2	Binary variables representing household size. The reference category is 'Single person' (or Household size = 1).	0.202	0.401
Household size = 3		0.283	0.450
Household size = 4		0.291	0.454
Household size = 5 or more		0.083	0.276
Adult children	Binary variables reporting the age of the youngest child in the family. The reference category is 'No children'.	0.255	0.436
Children 3–17		0.289	0.453
Children 0–2		0.054	0.226
Very small municipality	Binary variables representing the size of the municipality of residence. A 'Very small municipality' has a number of inhabitants lower than 5,000, a 'Small municipality' has a number of inhabitants between 5,000 and 20,000, a 'Big municipality' has 50,000–250,000 inhabitants, and a 'Metropolitan city' has 250,000 or more inhabitants. The reference category is 'Medium municipality' (between 20,000–50,000 inhabitants).	0.206	0.404
Small municipality		0.329	0.470
Big municipality		0.167	0.373
Metropolitan city		0.139	0.346
North	Binary variables representing the macro-region of residence. The reference category is 'Centre'.	0.538	0.499
South		0.248	0.432
Full-time open-ended worker	Binary variables representing the type of job contract. The reference category is 'Temporary worker'.	0.695	0.461
Part-time open-ended worker		0.153	0.360
Public servant	Binary variable taking the value of 1 for employees working in the public sector and 0 otherwise.	0.300	0.458
Low skill level	Binary variables representing the occupation skill level according to the ISCO-08 classification. The 'Low skill level' is represented by the elementary occupations (ISCO-08 ninth level), the 'Average skill level' includes those classified from the fourth to the eighth ISCO-08 level, the 'High skill level' is for technicians and associate professionals (ISCO-08 third level), and the 'Very high skill level' contains the most qualified professions (i.e. managers and professionals). The reference category is 'Average skill level'.	0.082	0.274
High skill level		0.154	0.361
Very high skill level		0.210	0.408

Table A.2 – Sample composition and mean annual wage by economic sector of activity

Economic sector of activity	Sample composition		Log (annual wage)	
	Mean	**Std. Dev.**	**Mean**	**Std. Dev.**
A - Agriculture	0.024	0.153	9.79	0.644
B - Extraction	0.006	0.077	10.14	0.920
C - Manufactory	0.168	0.374	10.07	0.535
D - Energy, Gas	0.016	0.127	10.20	0.645
E - Water, Waste	0.005	0.068	10.14	0.883
F - Construction	0.029	0.167	9.97	0.666
G - Trade	0.098	0.298	9.87	0.643
H - Transportation	0.049	0.216	10.03	0.661
I - Hotel, restaurants	0.035	0.184	9.76	0.682
J - Information, comm.	0.040	0.196	10.07	0.581
K - Finance, Insurance	0.038	0.191	10.17	0.592
L - Real estate	0.003	0.053	9.96	0.588
M - Professional services	0.062	0.241	9.97	0.673
N - Other business services	0.040	0.196	10.02	0.535
O - Public administration	0.070	0.254	10.06	0.584
P - Education	0.124	0.329	10.02	0.549
Q - Health	0.105	0.307	9.96	0.621
R - Sport, recreational activities	0.012	0.109	9.86	0.686
S - Other services	0.068	0.252	9.78	0.694
T - Household activities	0.008	0.087	9.63	0.483
U - International organizations	0.002	0.046	10.13	0.562

Table A.3 – Full estimates of the GWG at the mean and along the distribution (total sample of employees)

Component	Variables	Mean	q(10)	q(20)	q(30)	q(40)	q(50)	q(60)	q(70)	q(80)	q(90)
Overall	Male	10.098***	9.667***	9.954***	10.038***	10.108***	10.179***	10.238***	10.305***	10.435***	10.566***
	Female	9.850***	9.307***	9.595***	9.784***	9.932***	9.948***	10.055***	10.164***	10.230***	10.357***
	Difference	0.249***	0.361***	0.359***	0.254***	0.176***	0.231***	0.183***	0.141***	0.205***	0.209***
	Explained	0.055***	0.091***	0.089***	0.127***	0.076***	0.048***	0.025***	0.017**	-0.001	0.001
	Unexplained	0.194***	0.270***	0.270***	0.127***	0.099***	0.183***	0.158***	0.124***	0.206***	0.209***
Explained	Aged 25-35	-0.002**	-0.001	-0.001	-0.002**	-0.002**	-0.003***	-0.002***	-0.002***	-0.002***	-0.003***
	Aged 51-64	0.000	-0.000	-0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Low education level	-0.020***	-0.027***	-0.013**	-0.020***	-0.014***	-0.018***	-0.017***	-0.014***	-0.018***	-0.016***
	High education level	-0.017***	-0.010**	-0.012***	-0.012***	-0.012***	-0.014***	-0.015***	-0.014***	-0.016***	-0.029***
	Local	0.000	-0.002	-0.000	0.002**	0.001**	0.001	0.000	0.000	0.001**	0.000
	Single person	0.002	-0.001	0.002	0.004*	0.001	0.001	0.001	0.001	0.002	0.001
	Divorced/widowed	-0.000	-0.003	-0.000	0.001	0.001	0.001	0.000	-0.001	-0.001*	-0.002
	Household size = 2	0.001	0.003	0.002	0.001	0.000	0.000	0.001	0.001	0.001	-0.000
	Household size = 3	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Household size = 4	0.001	0.003	0.002	0.001	0.000	0.000	0.001	0.001	0.001	0.000
	Household size = 5 or more	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Adult children	-0.006**	-0.009	-0.010***	-0.005*	-0.004**	-0.002	-0.003**	-0.004**	-0.006***	-0.007***
	Children 3-17	-0.003***	-0.005*	-0.005**	-0.004***	-0.002**	-0.001*	-0.002**	-0.001**	-0.002**	-0.002**
	Children 0-2	0.000	0.000	0.000	0.000	0.000	-0.000	0.000	0.000	0.000	0.001
	Very small municipality	0.000	-0.000	-0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Small municipality	0.000	0.001	0.000	0.000	-0.000	0.000	-0.000	-0.000	0.000	-0.000
	Big municipality	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.000	0.000
	Metropolitan city	0.000	0.002	0.001	0.000	0.000	-0.000	-0.001	-0.001*	-0.001	-0.001*
	North	-0.003**	-0.005**	-0.004**	-0.004***	-0.002***	-0.002***	-0.001**	-0.001**	-0.001**	-0.001*
	South	-0.003**	-0.005	-0.006***	-0.003**	0.000	-0.000	-0.000	0.000	-0.001	-0.001
	Full-time open-ended worker	0.095***	0.191***	0.137***	0.125***	0.071***	0.059***	0.048***	0.040***	0.033***	0.029***
	Part-time open-ended worker	0.001	-0.066***	-0.011	0.030***	0.029***	0.026***	0.017***	0.010***	0.012***	0.017***
	Public servant	-0.014***	-0.015*	-0.021***	-0.017***	-0.012***	-0.013***	-0.012***	-0.009***	-0.007***	0.003
	Skill level 1	-0.002	-0.005	-0.003	-0.002	-0.001	-0.001	-0.000	-0.000	-0.000	0.000
	Skill level 3	0.001	-0.001	-0.000	0.001	0.002***	0.002***	0.002***	0.003***	0.002***	0.001*
	Skill level 4	-0.010***	0.001	0.000	-0.003	-0.008***	-0.012***	-0.015***	-0.014***	-0.018***	-0.021***
	Economic sector dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Unexplained	Aged 25-35	-0.002	-0.009	-0.004	0.001	0.002	0.007	0.005	-0.008*	-0.010*	-0.004
	Aged 51-64	0.009	0.081***	0.022**	-0.001	-0.001	-0.004	-0.004	-0.001	-0.004	-0.001
	Low education level	0.007	-0.031	0.008	0.033***	0.014*	0.025***	0.023***	-0.019**	-0.008	-0.020**
	High education level	-0.003	-0.004	-0.009**	-0.008**	-0.004	-0.008***	-0.009***	0.003	0.008**	0.004
	Local	0.130	0.988*	0.148	-0.088	-0.046	0.025	0.041	0.048	0.023	-0.053
	Single person	-0.063***	-0.000	-0.023	-0.028**	-0.021**	-0.024***	-0.024***	-0.069***	-0.079***	-0.057***
	Divorced/widowed	-0.005	-0.020*	-0.003	-0.000	0.000	0.001	-0.000	-0.003	-0.005**	-0.005*
	Household size = 2	0.003	0.020	0.017*	0.006	0.006	0.001	0.004	-0.002	-0.002	-0.011
	Household size = 3	0.006	0.027	0.018	0.005	0.004	0.002	0.007	0.001	0.003	0.001
	Household size = 4	0.014	0.032	0.021	0.006	0.007	0.005	0.014*	0.011	0.018*	0.015
	Household size = 5 or more	0.008	0.003	0.006	0.006	0.004	0.005*	0.007***	0.009***	0.011***	0.012**
	Adult children	-0.010	0.010	-0.018*	-0.003	0.001	-0.000	-0.002	-0.003	-0.007	-0.001
	Children 3-17	-0.028**	0.032	-0.026**	-0.020*	-0.004	-0.006	-0.008	-0.011	-0.017	-0.015
	Children 0-2	-0.002	0.011	0.005	0.004	0.005**	0.003*	0.002	-0.006***	-0.006**	-0.008**
	Very small municipality	0.010	-0.003	-0.007	0.003	0.009*	0.010**	0.007	0.012**	0.014**	0.011
	Small municipality	0.007	-0.003	-0.013	-0.004	0.004	-0.000	0.003	0.008	0.009	0.012
	Big municipality	0.009	0.021	0.003	0.002	0.001	0.004	0.004	0.000	0.003	0.009
	Metropolitan city	0.002	0.004	0.001	-0.001	0.001	-0.001	-0.003	0.000	0.004	0.003
	North	-0.012	0.003	-0.047***	-0.045***	-0.026***	-0.021**	-0.007	0.023**	0.039***	0.019
	South	-0.002	-0.085**	0.020**	0.005	-0.008	-0.003	-0.004	0.001	0.013*	0.011
	Full-time open-ended worker	-0.121***	0.167	-0.258***	-0.280***	-0.111***	-0.091***	-0.052***	-0.037*	-0.006	-0.023
	Part-time open-ended worker	-0.007*	-0.070***	-0.014***	0.000	0.002	0.003**	0.001	-0.001	0.001	0.006**
	Public servant	-0.023***	0.014	-0.028***	-0.028***	-0.022***	-0.028***	-0.026***	-0.027***	-0.027***	-0.018**
	Skill level 1	0.014***	0.041**	0.023***	0.009**	0.004	0.002	0.000	-0.004	-0.006***	-0.001
	Skill level 3	0.012**	0.033**	0.009	0.009*	0.004	0.003	0.001	0.008*	0.010**	0.008
	Skill level 4	0.010*	0.013	0.005	0.005	-0.002	-0.008**	-0.014***	0.011**	0.006	0.019***
	Constant	0.231*	-0.951	0.376***	0.505***	0.272***	0.277***	0.202***	0.182**	0.224***	0.326***
	Economic sector dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

*Notes: *** p<0.01, ** p<0.05, * p<0.1. The table presents coefficients of the variable of interest (i.e. being male) only.*

Table A.4 – Full estimates of the GWG at the mean and along the distribution (employees with a low WFH attitude)

Component	Variables	Mean	q(10)	q(20)	q(30)	q(40)	q(50)	q(60)	q(70)	q(80)	q(90)
Overall	Male	10.034***	9.573***	9.896***	9.976***	10.080***	10.138***	10.198***	10.236***	10.333***	10.508***
	Female	9.839***	9.240***	9.588***	9.757***	9.898***	10.001***	10.071***	10.146***	10.225***	10.337***
	Difference	0.195***	0.333***	0.308***	0.219***	0.182***	0.136***	0.127***	0.090***	0.108***	0.171***
	Explained	0.037**	0.094**	0.047**	0.098***	0.121***	0.058***	-0.001	-0.017	-0.018	-0.048***
	Unexplained	0.159***	0.239***	0.260***	0.121***	0.061**	0.079***	0.128***	0.107***	0.126***	0.219***
Explained	Aged 25-35	-0.001	-0.001	-0.000	-0.001	-0.001	-0.001	-0.001	-0.001	-0.000	-0.000
	Aged 51-64	-0.001	0.001	0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.002
	Low education level	-0.030***	-0.058***	-0.016*	-0.028***	-0.032***	-0.019***	-0.022***	-0.024***	-0.023***	-0.030***
	High education level	-0.021***	-0.023**	-0.015***	-0.013***	-0.022***	-0.013***	-0.014***	-0.013***	-0.011***	-0.009**
	Local	-0.000	-0.003	-0.001	0.004**	0.005**	0.002*	0.001	0.000	-0.000	0.001
	Single person	0.000	-0.015	-0.002	0.002	0.001	0.001	0.002	0.003*	0.002	0.003
	Divorced/widowed	0.000	0.003	0.000	0.002	0.002	0.001	0.001	0.000	-0.000	-0.001
	Household size = 2	0.001	0.003	0.001	0.000	-0.000	0.000	0.000	0.000	0.000	0.000
	Household size = 3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Household size = 4	0.002	0.006	0.003	0.001	0.001	0.001	0.000	0.001	0.001	0.001
	Household size = 5 or more	0.002	0.006	0.002	0.001	0.002	0.001	0.001	0.001	0.001	0.001
	Adult children	-0.004	-0.008	-0.006	-0.001	-0.002	-0.005	-0.004	-0.009***	-0.008***	-0.011***
	Children 3-17	-0.001	-0.003	-0.002	-0.002	-0.002	-0.001	-0.001	-0.001	-0.001	-0.001
	Children 0-2	0.001	0.001	0.000	0.000	0.000	0.000	-0.000	0.001	0.001	0.001
	Very small municipality	-0.000	-0.002	-0.001	0.000	0.001	0.001	0.001	0.000	0.000	-0.000
	Small municipality	0.000	0.001	0.001	0.000	-0.001	-0.000	0.000	-0.000	0.000	-0.000
	Big municipality	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	0.000	-0.000
	Metropolitan city	0.001	0.001	0.002	0.001	0.002	0.001	-0.000	-0.001	-0.001	-0.000
	North	-0.002	-0.005	-0.003	-0.003	-0.004	-0.002	-0.001	-0.001	-0.000	-0.000
	South	-0.001	-0.007	-0.004*	-0.001	0.001	0.001	0.000	0.000	0.000	-0.000
	Full-time open-ended worker	0.071***	0.152***	0.093***	0.092***	0.094***	0.054***	0.037***	0.034***	0.029***	0.020***
	Part-time open-ended worker	0.008	-0.023	-0.004	0.037***	0.053***	0.034***	0.026***	0.015***	0.008***	0.009***
	Public servant	-0.033***	-0.041**	-0.040***	-0.034***	-0.046***	-0.029***	-0.027***	-0.026***	-0.026***	-0.017***
	Skill level 1	0.001	0.010	0.002	-0.002	-0.002	-0.003	-0.005**	-0.003*	-0.004**	-0.003*
	Skill level 3	-0.003	0.003	-0.000	-0.004	-0.005	-0.007***	-0.008***	-0.010***	-0.009***	-0.007***
	Skill level 4	-0.044***	-0.035	-0.021*	-0.022**	-0.030***	-0.035***	-0.047***	-0.050***	-0.042***	-0.052***
	Economic sector dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Unexplained	Aged 25-35	-0.025*	-0.072*	-0.020	-0.013	-0.009	-0.009	0.001	-0.009	-0.020***	-0.017**
	Aged 51-64	-0.016	0.047	0.013	-0.016	-0.024**	-0.013	-0.010	-0.016*	-0.030**	-0.045***
	Low education level	0.030	-0.023	-0.002	0.046**	0.059***	0.026*	0.031**	0.015	-0.008	0.011
	High education level	-0.004	-0.007	-0.006*	-0.005**	-0.009***	-0.003	-0.004**	-0.002	0.001	0.007
	Local	0.110	0.937	0.218*	-0.122	-0.168*	-0.052	0.014	0.023	0.021	-0.044
	Single person	-0.064**	0.102	-0.008	-0.004	-0.005	-0.013	-0.020	-0.051***	-0.079***	-0.071***
	Divorced/widowed	-0.008	-0.018	-0.003	0.003	0.003	0.003	0.003	0.002	-0.001	-0.005
	Household size = 2	-0.002	0.028	0.016	0.003	0.003	0.011	0.002	-0.002	-0.004	0.010
	Household size = 3	0.029	0.112*	0.031*	0.013	0.024	0.026**	0.015	0.004	0.016	0.032**
	Household size = 4	0.052**	0.142**	0.046**	0.031**	0.039**	0.036***	0.020**	0.012	0.023*	0.053***
	Household size = 5 or more	0.014	0.034	0.010	0.009	0.014**	0.010**	0.008**	0.006	0.011**	0.021***
	Adult children	-0.018	0.016	-0.007	0.005	0.001	-0.002	-0.005	-0.010	-0.010	-0.004
	Children 3-17	-0.056***	-0.004	-0.030	-0.026*	-0.027*	-0.015	-0.015	-0.020*	-0.030**	-0.031**
	Children 0-2	-0.005	0.004	0.006	0.004	0.005	0.006*	0.003	-0.002	-0.013***	-0.011**
	Very small municipality	0.013	0.015	-0.005	0.004	0.009	0.012	0.011*	0.009	0.013	0.017*
	Small municipality	0.020	0.049	-0.009	0.005	0.020	0.005	-0.000	0.010	0.009	0.023
	Big municipality	0.008	0.025	0.004	0.010	0.010	0.001	0.002	0.002	-0.007	0.004
	Metropolitan city	0.004	0.014	0.001	0.001	0.004	0.001	-0.002	-0.005	-0.004	0.004
	North	-0.028	-0.103	-0.052**	-0.051***	-0.077***	-0.041***	-0.019	0.018	0.042**	0.036*
	South	-0.016	-0.069	0.016	-0.005	-0.013	-0.018**	-0.008	-0.001	-0.001	0.004
	Full-time open-ended worker	-0.120**	-0.027	-0.183***	-0.236***	-0.261***	-0.109***	-0.063***	-0.068***	-0.063**	-0.055*
	Part-time open-ended worker	-0.006	-0.086***	-0.017***	0.002	0.008**	0.005**	0.004**	0.002	-0.002	0.001
	Public servant	-0.019**	-0.007	-0.022**	-0.023***	-0.032***	-0.018***	-0.020***	-0.020***	-0.019***	-0.023***
	Skill level 1	-0.014*	-0.024	-0.008	-0.005	-0.005	-0.003	0.004	-0.003	-0.003	-0.004
	Skill level 3	0.010**	0.021	0.008*	0.006*	0.005	0.002	0.000	0.001	0.007*	0.006
	Skill level 4	0.002	0.004	-0.001	0.003	-0.000	-0.004	-0.008***	-0.004	0.007*	0.006
	Constant	0.295*	-0.723	0.261	0.441***	0.427***	0.238**	0.180**	0.233***	0.314***	0.301***
	Economic sector dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

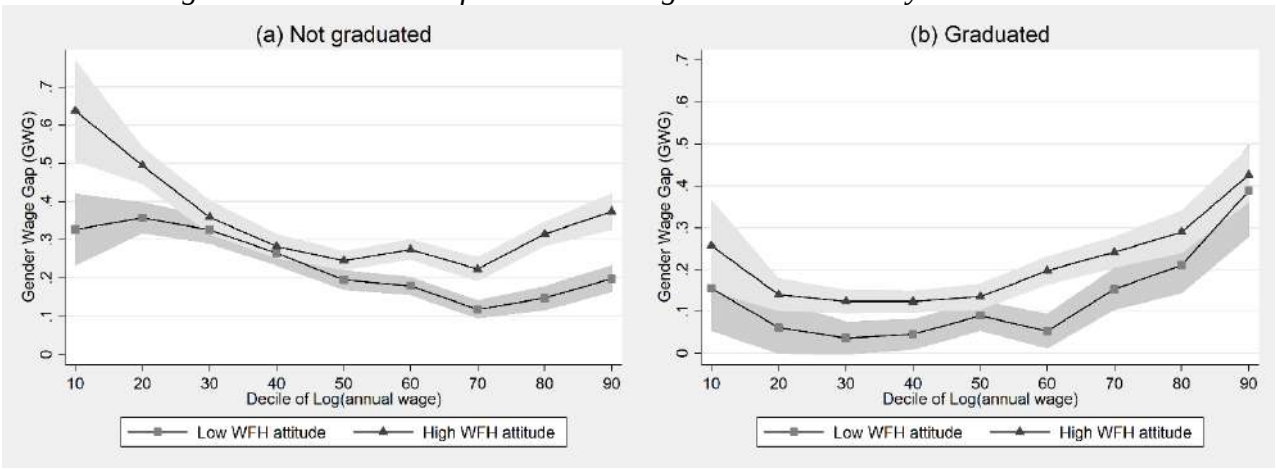
*Notes: *** p<0.01, ** p<0.05, * p<0.1. The table presents coefficients of the variable of interest (i.e. being male) only. Employees with low WFH attitude level are defined as those reporting a value of the WFH attitude index below the sample median (i.e. 52.2).*

Table A.5 – Full estimates of the GWG at the mean and along the distribution (employees with a high WFH attitude)

Component	Variables	Mean	q(10)	q(20)	q(30)	q(40)	q(50)	q(60)	q(70)	q(80)	q(90)
Overall	Male	10.175***	9.762***	9.999***	10.057***	10.162***	10.229***	10.265***	10.414***	10.550***	10.769***
	Female	9.860***	9.281***	9.600***	9.815***	9.949***	10.015***	10.099***	10.181***	10.249***	10.420***
	Difference	0.316***	0.481***	0.399***	0.242***	0.212***	0.214***	0.166***	0.233***	0.301***	0.349***
	Explained	0.127***	0.196***	0.188***	0.190***	0.119***	0.102***	0.084***	0.070***	0.064***	0.082***
	Unexplained	0.189***	0.285***	0.210***	0.051***	0.094***	0.113***	0.082***	0.163***	0.236***	0.267***
Explained	Aged 25-35	-0.004***	-0.003	-0.003	-0.003**	-0.003***	-0.005***	-0.005***	-0.005***	-0.005***	-0.006***
	Aged 51-64	-0.000	-0.004	-0.002	-0.001	0.000	0.001	0.001	0.001	0.001*	0.003**
	Low education level	-0.002	-0.002	-0.002	-0.002	-0.001	-0.002	-0.002	-0.002	-0.002	-0.003
	High education level	-0.008***	-0.001	-0.006***	-0.007***	-0.006***	-0.008***	-0.008***	-0.009***	-0.011***	-0.015***
	Local	-0.000	-0.002	0.000	-0.001	0.000	0.000	0.000	0.000	0.000	0.000
	Single person	0.003	0.006	0.007	0.007**	0.002	-0.000	-0.002	-0.001	0.001	0.000
	Divorced/widowed	-0.001	-0.002	-0.001	-0.001	-0.000	0.001	0.000	-0.001	-0.002	-0.002
	Household size = 2	0.001	0.005	0.001	0.002	0.000	0.001	0.001	0.001	0.001	-0.001
	Household size = 3	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.001	-0.000
	Household size = 4	0.000	0.000	-0.000	0.000	-0.000	0.000	0.001	0.001	0.001	-0.000
	Household size = 5 or more	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	0.000
	Adult children	-0.006**	-0.011*	-0.009**	-0.007**	-0.004**	-0.001	-0.001	-0.001	-0.004**	-0.002
	Children 3-17	-0.004**	-0.007	-0.006*	-0.005**	-0.002*	-0.001	-0.001	-0.001	-0.003**	-0.003
	Children 0-2	0.000	0.000	-0.000	0.000	0.000	-0.000	0.000	0.000	0.000	0.000
	Very small municipality	-0.000	-0.000	0.000	-0.000	-0.000	-0.000	-0.000	-0.001	-0.000	-0.000
	Small municipality	-0.000	-0.000	-0.000	-0.000	0.000	0.000	0.000	0.000	0.000	-0.000
	Big municipality	-0.000	-0.000	0.000	0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	Metropolitan city	-0.000	0.001	0.000	-0.000	0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	North	-0.004**	-0.007**	-0.005**	-0.005**	-0.003**	-0.003***	-0.002**	-0.003***	-0.002**	-0.002*
	South	-0.004**	-0.008	-0.009**	-0.006***	-0.002	-0.000	-0.001	0.001	-0.001	-0.002
	Full-time open-ended worker	0.124***	0.262***	0.194***	0.165***	0.092***	0.076***	0.064***	0.054***	0.045***	0.054***
	Part-time open-ended worker	-0.012	-0.119***	-0.030	0.014	0.020***	0.019***	0.013***	0.010***	0.015***	0.022***
	Public servant	-0.001	0.000	-0.001	-0.001	-0.001	-0.001	-0.001	-0.000	-0.000	0.000
	Skill level 1	0.030***	0.099***	0.051***	0.026***	0.011***	0.004**	0.001	0.000	-0.002	-0.003
	Skill level 3	0.006	0.008	0.006	0.004	0.008**	0.009***	0.009***	0.009***	0.011***	0.015***
	Skill level 4	0.006***	-0.001	-0.002	0.000	0.003***	0.007***	0.009***	0.009***	0.011***	0.017***
	Economic sector dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Unexplained	Aged 25-35	0.027**	0.043	0.015	0.014	0.004	0.013**	0.003	-0.001	0.003	0.021*
	Aged 51-64	0.045***	0.107***	0.041**	0.033***	0.017**	0.012	0.026**	0.035***	0.021*	0.044**
	Low education level	-0.007	-0.008	-0.001	-0.002	-0.002	0.009	-0.005	-0.009	-0.006	-0.010
	High education level	-0.004	0.015	-0.015	-0.007	-0.006	-0.014***	-0.003	0.004	-0.006	0.011
	Local	0.318	0.553	-0.049	0.187	0.088	0.085	0.177**	0.191**	0.122	0.113
	Single person	-0.053**	-0.058	-0.047**	-0.054***	-0.038***	-0.028**	-0.044***	-0.052***	-0.054***	-0.033
	Divorced/widowed	-0.002	-0.009	-0.003	-0.003	-0.004*	-0.003	-0.003	-0.003	-0.007**	-0.006
	Household size = 2	0.011	0.042	0.017	0.008	-0.003	-0.003	-0.001	-0.005	-0.010	-0.014
	Household size = 3	-0.017	-0.016	-0.007	-0.012	-0.020**	-0.018*	-0.015	-0.019	-0.014	-0.020
	Household size = 4	-0.024	-0.039	-0.021	-0.019	-0.020*	-0.019*	-0.002	0.003	-0.003	-0.019
	Household size = 5 or more	0.003	-0.005	0.003	0.004	0.000	0.000	0.009**	0.009*	0.005	0.009
	Adult children	0.001	-0.022	-0.024	-0.008	-0.004	0.006	0.006	0.005	-0.003	0.024
	Children 3-17	0.007	0.025	-0.008	-0.005	0.003	0.009	0.009	0.005	-0.008	0.026
	Children 0-2	-0.000	0.006	0.006	0.004	0.002	0.004*	0.000	-0.001	-0.004	-0.004
	Very small municipality	0.009	-0.012	-0.007	0.001	0.005	0.007	0.009	0.009	0.005	0.007
	Small municipality	-0.005	-0.050	-0.019	-0.008	0.002	0.000	0.006	0.009	-0.002	-0.009
	Big municipality	0.007	0.003	-0.005	-0.008	0.002	0.005	0.007	0.008	0.005	0.002
	Metropolitan city	0.000	-0.004	-0.003	-0.001	0.005	-0.001	0.006	0.005	0.007	-0.013
	North	0.005	-0.007	-0.031	-0.032**	-0.015	-0.023**	0.006	0.010	0.010	0.041*
	South	0.017	-0.026	0.023	0.017*	0.005	-0.001	0.009	0.005	0.005	0.028*
	Full-time open-ended worker	-0.095*	-0.007	-0.242***	-0.301***	-0.124***	-0.075***	-0.047*	-0.006	-0.025	-0.033
	Part-time open-ended worker	-0.008	-0.043***	-0.015***	-0.002	0.001	0.001	-0.000	0.000	0.002	0.008**
	Public servant	-0.016	0.027	-0.021	-0.038***	-0.030***	-0.035***	-0.040***	-0.036***	-0.039***	-0.030
	Skill level 1	0.008*	0.011	0.011***	0.006***	0.003**	0.001	0.001	0.002	0.002	0.006
	Skill level 3	0.008	0.009	0.002	0.020*	0.011	0.009	0.005	0.007	-0.003	-0.024*
	Skill level 4	0.012	0.006	0.016	0.021**	0.011*	-0.006	0.004	0.009	-0.003	0.011
	Constant	-0.017	-0.238	0.588**	0.246	0.225**	0.190*	-0.041	-0.021	0.252**	0.172
	Economic sector dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

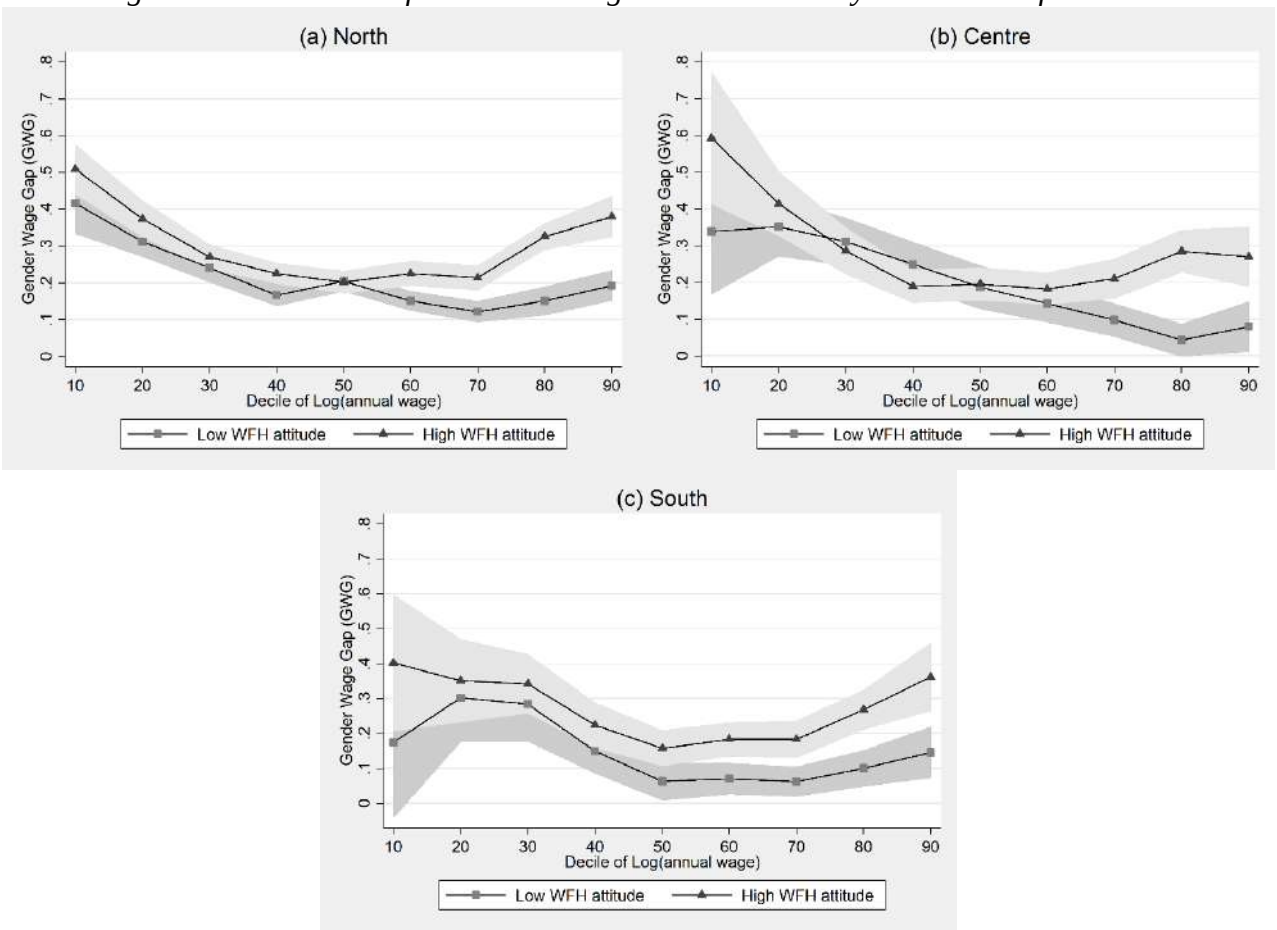
*Notes: *** p<0.01, ** p<0.05, * p<0.1. The table presents coefficients of the variable of interest (i.e. being male) only. Employees with a high WFH attitude level are defined as those reporting a value of the WFH attitude index over the sample median (i.e. 52.2).*

Figure A.1 – Estimate of the GWG along the distribution by education level



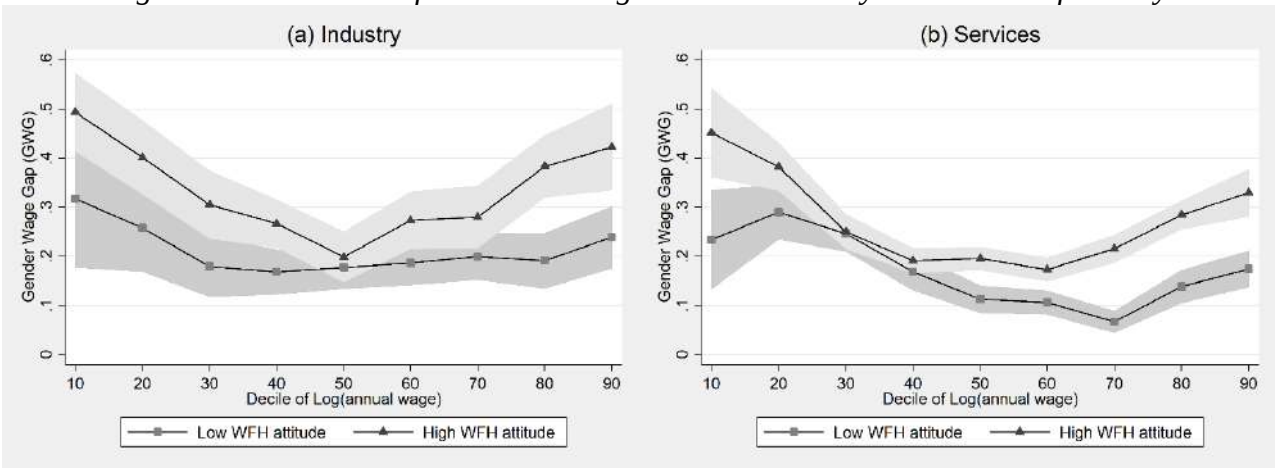
Notes: The shaded area reports confidence intervals at the 95% level. The figures present coefficients of the variable of interest (i.e. being male) only. Employees with a high WFH attitude level are defined as those reporting a value of the WFH attitude index over the sample median (i.e. 52.2).

Figure A.2 – Estimate of the GWG along the distribution by macroarea of residence



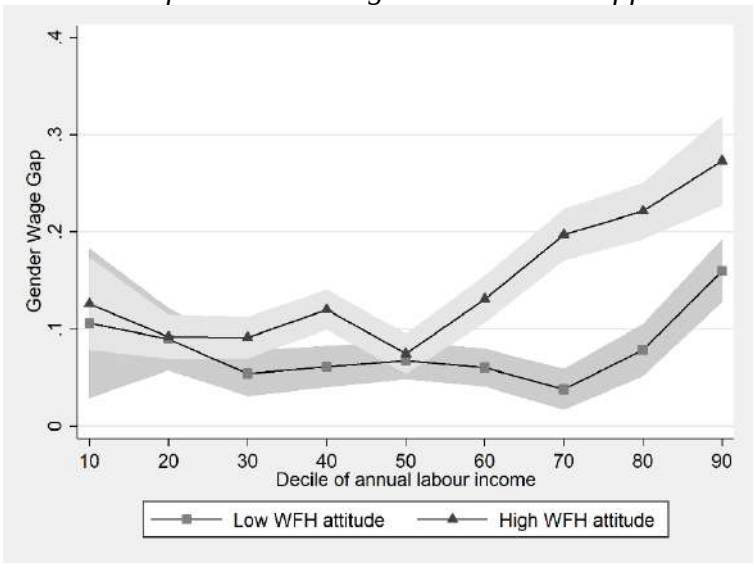
Notes: The shaded area reports confidence intervals at the 95% level. The figures present coefficients of the variable of interest (i.e. being male) only. Employees with a high WFH attitude level are defined as those reporting a value of the WFH attitude index over the sample median (i.e. 52.2).

Figure A.3 – Estimate of the GWG along the distribution by main sector of activity



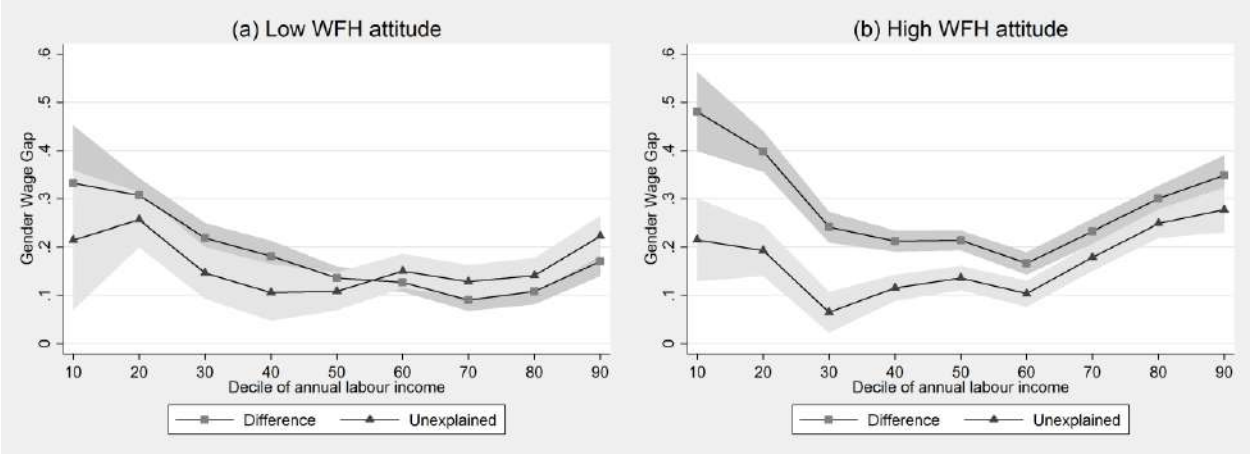
Notes: The shaded area reports confidence intervals at the 95% level. The figures present coefficients of the variable of interest (i.e. being male) only. Employees with a high WFH attitude level are defined as those reporting a value of the WFH attitude index over the sample median (i.e. 52.2). Estimates are not implemented for the Agriculture sector because of the small number of available observations.

Figure A.4 – Estimate of the GWG along the distribution of full-time workers



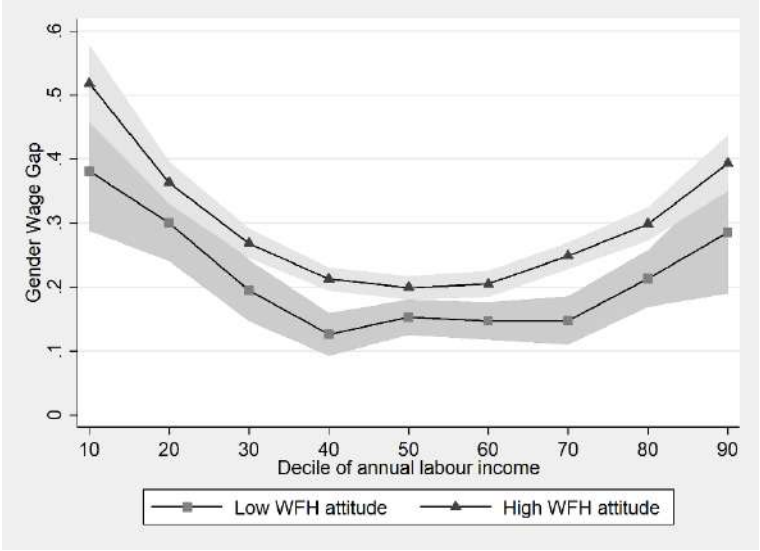
Notes: The shaded area reports confidence intervals at the 95% level. The figures present coefficients of the variable of interest (i.e. being male) only. Employees with a high WFH attitude level are defined as those reporting a value of the WFH attitude index over the sample median (i.e. 52.2).

Figure A.5 – Decomposition of the estimated GWG along the distribution by level of WFH attitude (with weekly working hours as covariate)



Notes: The shaded area reports confidence intervals at the 95% level. The figures present coefficients of the variable of interest (i.e. being male) only. Employees with a high WFH attitude level are defined as those reporting a value of the WFH attitude index over the sample median (i.e. 52.2).

Figure A.6 – IPW estimates of the GWG along the distribution by level of WFH attitude



Notes: The shaded area reports confidence intervals at the 95% level. The figures present coefficients of the variable of interest (i.e. being male) only. Employees with a high WFH attitude level are defined as those reporting a value of the WFH attitude index over the sample median (i.e. 52.2).