Article:
Brown, S. orcid.org/0000-0002-4853-9115, Popli, G. orcid.org/0000-0003-2919-2627 and Sasso, A. orcid.org/0000-0001-8909-926X (2022) Decomposing the gender reservation wage gap in Italy : a regional perspective. Journal of Regional Science, 62 (2). pp. 499-540. ISSN 0022-4146

https://doi.org/10.1111/jors.12574

Decomposing the Gender Reservation Wage Gap in Italy: A Regional Perspective

Sarah Brown[a], Gurleen Popli[a] and Alessandro Sasso[b*]

[a] Department of Economics, University of Sheffield, UK
[b] ScHARR, University of Sheffield, UK

Abstract: We investigate the determinants of the reservation wage gap between unemployed men and women, using data from the Italian Labour Force Survey. We conduct detailed decomposition analysis at the mean and at different percentiles of the reservation wage distribution using the Recentered Influence Function regression approach. Given the regional differences in labour market participation and employment rates across Italy, we focus on regional differences in the gender reservation wage gap. We find evidence of a positive gender reservation wage gap, which is highest in the South, with men reporting higher reservation wages across all regions and at all percentiles of the reservation wage distribution. The decomposition results suggest that, while a large part of the gender gap in reservation wages is explained by personal characteristics such as education and age, a significant portion of the gap is explained by different job preferences (especially commuting and working time preferences) between men and women. We also find evidence of differences in the relative effects of personal, household and job characteristics across regions, and at different percentiles of the reservation wage distribution.

JEL Codes: J31, J64, R23
Keywords: Decomposition; Gender; Recentered Influence Function (RIF) regression; Reservation Wages

Acknowledgements: We thank the Italian National Institute of Statistics for providing the Italian Labour Force Survey. We are particularly grateful to the editor and three reviewers for constructive comments and advice. We are also grateful to Enrico Vanino for valuable comments. All responsibility for the analysis and interpretation of these data lies with the authors.

* Corresponding author: email a.sasso@sheffield.ac.uk

August 2021

1. Introduction

Despite the increase in female labour force participation in all OECD countries, women are still less likely than men to participate in the labour force. Female labour force participation in OECD countries at 64.6% is approximately 16 percentage points lower than that for men at 80.4% (OECD, 2018a). Furthermore, as compared to men, once in the labour force, women are less likely to find a job, are more likely to be employed in low-skilled jobs and work fewer hours (OECD, 2018b). Among OCED countries, the labour force participation rate of Italian females at 56.2% is particularly low, with the gender gap in labour force participation between Italian men and women being 19 percentage points. The employment rate of women in Italy is also lower (49.5% in 2018) than the female employment rate in OECD countries (61% in 2018). In 2017, the World Economic Forum (WEF) ranked 144 countries based on the Global Gender Gap Index, which quantifies the magnitude of gender disparities in terms of participation levels, salaries, and access to high-skilled employment: Italy was in the 97th position, being one of the lowest OECD countries in this ranking (WEF, 2017).

In addition, Italy is one of the OECD countries with the largest regional disparities in terms of employment and labour force participation rates. Furthermore, such differences have been increasing since the 2008 financial crisis and are particularly marked for female labour market outcomes (OECD, 2020). For example, in 2018, labour force participation for women was 64.8% in the North of the country, 62.5% in the Centre and only 41.6% in the South of Italy. Employment rates exhibit a similar pattern (see Figure A1 in the Appendix). The Bank of Italy has estimated that an increase in the female employment rate to meet the Lisboa target of 60% in each of the Italian macro-regions would lead to an increase in national GDP of between 6.5% and 9.2% (Profeta and Casarico, 2010).

We focus on one particular factor that might help to explain gender differences in the transition out of unemployment and into employment, namely reservation wages. In theoretical

models of job search, individuals choose employment over non-employment by comparing the wage offers they receive with their reservation wage, the lowest wage at which they are willing to work. Specifically, we explore the determinants of the gender reservation wage gap in Italy by conducting decomposition analysis. Decomposition methods have been used extensively to account for earnings differentials between men and women. These methods are very useful in quantifying the contribution of different factors to observed differences and provide a valuable indication of the particular hypothesis and explanations that can account for observed differences, for details of the benefits and limitations of decomposition methods, see Fortin et al. (2011). It is surprising that this approach has not been adopted for Italy, as it may help to explain the reasons behind the large gap in employment rates between males and females. We conduct detailed decomposition analysis at the mean and at different percentiles of the reservation wage distribution using the Recentered Influence Function regression approach. Furthermore, given the regional differences in labour market participation and employment rates across Italy, especially between the South and the other regions, an important part of our contribution lies in exploring the regional heterogeneity in the gender reservation wage gap as well as how the effects of personal, household and job characteristics vary across regions.

Using data from the Italian Labour Force Survey, we find that the reservation wage distributions for males and females are the most similar in terms of shape and position in the North of Italy, although, as in the case of the whole of Italy, the distribution for males is more centred on the mean. For the Centre and the South of Italy, more differences are apparent both by gender and across regions in terms of both the relative position and shapes of the distributions. This is particularly pronounced in the South. Mean reservation wages for women are lower compared to men in all regions, with the gender gap being highest in the South and lowest in the North (see Figure A3 in the Appendix). Given the distinct differences in the reservation wage distributions by region, in order to explore such differences in detail, we

firstly conduct our decomposition analysis for Italy as a whole, controlling for region, and we then conduct separate analysis by region, specifically: Northern Italy; Central Italy; and Southern Italy.

We find evidence of a positive reservation wage gap in all regions of Italy, with men reporting higher reservation wages than women. Furthermore, much of the regional variation in the gender reservation wage gap is driven by higher variation, by region, in female reservation wages, with women in the South reporting, on average, the lowest reservation wages. Across different quantiles, the gender reservation wage gap is found to be larger at the lower part of the distribution, with more variation across regions being apparent at the 10^{th} and 50^{th} percentiles (with the largest gap found in the South) compared to the 90^{th} percentile. Personal characteristics such as education are important in explaining the gap across the different percentiles, with the share of education in explaining the gender gap increasing as we move up the reservation wage distribution. This is particularly pronounced in the South. Finally, commuting and working time preferences are found to be important in explaining the gender gap across all percentiles of the reservation wage distribution.

2. Literature Review

Since the concept of the reservation wage plays a key role in understanding the transition into employment, a number of empirical studies have explored the determinants of reservation wages using data from OECD countries such as the US, Australia and the UK (e.g. Feldstein and Poterba, 1984; Hui, 1991; Blackaby et al., 2007; and Le Barbanchon et al., 2021). These studies have found that an individual's reservation wage depends on regional unemployment rates, the level of unemployment benefit, and personal characteristics such as gender, nationality and education. With respect to gender, using data from Germany and the UK, respectively, Prasad (2003) and Brown et al. (2011) show that the determinants of reservation wages vary with gender, which might reflect males and females valuing the time spent in

family-related activities differently since the reservation wage represents the opportunity cost of supplying labour (Caliendo et al., 2017). Finally, empirical studies have shown that reservation wages are lower in regions with relatively high unemployment rates. Factors influencing an individual's reservation wage are likely to vary across regions given that job opportunities are heterogeneously distributed across regions, and labour markets are subject to frictions (e.g. the cost of moving to other regions and information imperfections). Several studies have acknowledged the importance of accounting for regional differences when studying job search behaviours (Moretti, 2011). For example, Manning and Petrangolo (2017) have shown that UK labour markets are very local as the attractiveness of jobs to applicants falls sharply with distance. Despite such findings, there are a limited number of studies focusing on gender and regional differences in reservation wages, which may reflect a shortage of data on reservation wages. Reservation wages are of particular interest for Italy, being, as discussed above, a country with a relatively low female employment rate and large regional differences in female employment rates.

Italy has been historically characterized by regional disparities between the prosperous North and the economically poorer South, which has resulted in large-scale internal migration, with much of the flow being unidirectional, going from the South to the North. The main period of internal migration was from the 1950s to the 1970s, followed by relatively low migration in the 1980s, with migration flows increasing in the mid-1990s. However, the scale of internal migration has dropped dramatically over time, with the annual migration flows falling from 290,000 per year in the mid-1960s to 40,000 in the early 1970s, and to 19,000 in the mid-1990s (Fachin, 2007; Fratesi and Percoco, 2014). The earlier migration flows saw some reduction in the regional differences over time. However, the disparities in regional GDP, the returns to human capital, and unemployment levels have persisted. The low rates of internal migration have been attributed to high mobility costs and inefficiencies in the job matching process (Faini

et al., 1997), the North-South housing price differential (Cannari et al., 2000), and the growth in disposable income enabling families to support unemployed members and thereby reducing the incentive to migrate (Fachin, 2007).

Italy has also been characterized by centralized wage setting mechanisms since the early 1990s, where sector wide wages are set at the National level, which acts as a wage floor, with the firms within a sector having the option to offer wages above the National minimum for the sector, in response to local collective bargaining and labour market conditions. This has resulted in firms in the South paying wages close to the National wage floor required by law, whereas, in the North and Centre, firms often pay wages above the National recommended levels in response to local labour markets (Dell'Aringa and Pagani, 2005; Devicienti and Pacelli, 2008). While the regional labour markets are not strictly segmented, the low rates of internal migration combined with large regional disparities endorse the importance of conducting regional labour market analysis.

Cultural, institutional, and economic factors are likely to play an important role in explaining gender differences in employment in Italy, at both the country and the regional level. Italian families have a more traditional division of tasks compared to some OECD countries, whereby females are generally responsible for household chores and caring for relatives (Ongaro, 2002). According to OECD (2021) time use survey data, women in OECD countries, on average, spend 4 hours and 24 minutes on unpaid work, with men spending half the time at 2 hours and 15 minutes a day; where unpaid work includes housework, shopping, child and adult care, volunteering, and other unpaid work. Women in Italy spend 5 hours and 6 minutes a day on unpaid work, 42 minutes more a day than the OECD average for women, with men in Italy spending the same as the average for men in OECD countries. Furthermore, there are regional differences in family life within Italy, with the southern regions of the country being more conservative (Micheli, 2012). Such a division in family duties may constrain the time that

Italian women can dedicate to labour market activities. Using time use survey data, Anxo et al. (2011) show that for Italy, employed women in couples with young children (0 to 5 years) spend, on average, 20 hours a week on paid work and women with children aged 5 to 16 years, on average, spend 30 hours a week on paid work. In contrast, employed men in couples with children, independent of the age of the children, spend, on average, 45 hours a week on paid work.

There is a lack of family-friendly policies in Italy, which makes reconciliation between household responsibilities and working difficult. For example, the provision of childcare for children younger than three is extremely limited, and only 15% of children have access to government-funded nurseries (Istat, 2014). According to Del Boca (2002), there also exists regional variability in the availability of childcare, with a higher supply of facilities for children under three in the Northern regions (around 15%) and the Central regions (11%) compared with Southern regions (less than 5%). Furthermore, the presence of private nurseries in the country is also very limited, and their costs are unaffordable for most families (Chiuri, 2000). The lack of family-friendly policies in Italy may mean that unemployed females located at the bottom of the reservation wage distribution have stronger preferences for non-wage attributes such as time flexibility.

Finally, it is important to acknowledge that, although traditional job search models focus on the transition of unemployed individuals into employment, Blackaby et al. (2007) show that inactive individuals respond to employment incentives in a similar way to the unemployed, indicating that reservation wages can help explain not only movements from unemployment to employment but also into the labour force. Hence, a growing number of contributions recognise that the distinction between the unemployed and inactive may not necessarily be as clear-cut as previously assumed in the labour economics literature and that some of those traditionally labelled as inactive do actually want to work (see, for example,

Blackaby et al., 2007, and Brown et al., 2010). Hence, the economically inactive are a very diverse group, who vary in their level of labour market attachment. Due to data limitations, we are unable to consider the inactive but it may be the case that due to the cultural, institutional, and economic factors described above, Italian women are likely to be in the inactive group with less labour market attachment. Hence, it may be the case that the distinction between unemployment and inactivity may be more clear-cut for women in Italy than in other countries. This remains an important area for future research subject to data availability.

Following Brown et al. (2011), which is the only study that has used decomposition methods to analyse the gender reservation wage gap, we initially use the same decomposition techniques, as introduced by Oaxaca (1973) and Blinder (1973) (referred to as the OB method from here on). However, a key limitation of this method is that it only decomposes the difference in reservation wages at the mean. Existing studies have found that in Southern European countries, where the labour force participation of females is relatively low, women are often segregated into occupations with low degrees of responsibility and remuneration, compared to men (see de la Rica et al., 2008, for Spain and Casadio et al., 2008, for Italy). As a result, females (especially the low educated) tend to be in occupations at the lower part of the wage distribution, which typically captures entry-job wages. Similar findings were first reported by Polacheck (1981), who found that, due to societal discrimination in the distribution of family responsibilities, women in the US self-select into occupations where the cost of career interruption is low.

In this context, while looking at the mean offers a good insight into gender gaps in reservation wages, it is of particular interest to analyse gender gaps at different parts of the reservation wage distribution. To conduct detailed decomposition at different quantiles of the reservation wage distribution, we estimate the Recentered Influence Function (RIF) regression proposed by Firpo et al. (2009). Hence, in addition to contributing to the literature on the gender

reservation wage gap by exploring the case of Italy, we make a wider contribution to the reservation wage literature by introducing the RIF approach to this area, which we discuss in detail in the next section

3. Decomposition Methods

The reservation wage determination equation is defined as:

$$y_{ig} = X_{ig}\beta_g + \varepsilon_{ig} \tag{1}$$

where g is the group indicator (w for women and m for men); y_{ig} is the log reservation wage, expressed in real terms, of individual $i \in g$; X_{ig} is the vector of explanatory variables including a constant; β_g is the vector of coefficients for the returns to all elements in X_{ig}; and ε_{ig} is the error term.

Following the OB method, under the assumptions of linearity and zero-conditional mean errors, the gender reservation wage gap can be expressed as:

$$\underbrace{\bar{y}_m - \bar{y}_w}_{\Delta^{\mu}} = \underbrace{(\bar{X}_m - \bar{X}_w)\hat{\beta}_m}_{\Delta_X^{\mu}} + \underbrace{\bar{X}_w(\hat{\beta}_m - \hat{\beta}_w)}_{\Delta_S^{\mu}} \tag{2}$$

where $\bar{y}_m$ and $\bar{y}_w$ are the means of the log real reservation wages for men and women, respectively; $\bar{X}_m$ and $\bar{X}_w$ are the sets of covariate averages for the two groups; and $\hat{\beta}_m$ and $\hat{\beta}_w$ are the parameters of the regression models estimated for males and females separately, including a constant.

The left-hand side of equation (2), Δ^{μ}, provides the mean gap in the log reservation wages of males and females. The first term on the right-hand side of equation (2), Δ_X^{μ}, represents the component of the gap in the mean attributable to the differences in the observed characteristics between the two groups, the 'composition effect' or the explained part. The second term, Δ_S^{μ}, captures the difference in the mean resulting from the difference in the expected returns to the observed characteristics, the 'structural effect' or the unexplained part, which is usually interpreted in the context of wages as discrimination. However, in the case of

reservation wages, the unexplained component is more likely to reflect perceived rather than actual discrimination. The reference group for the twofold discrimination used here is male. The aggregate structural and composition effects in equation (2) can be expressed in terms of sums of the explanatory variables, which yield the contribution of characteristics to the total log reservation wage gap as follows,

$$\bar{y}_m - \bar{y}_w = \sum_{k=1}^{K} (\bar{x}_m^k - \bar{x}_w^k)\hat{\beta}_m^k + \sum_{k=1}^{K} \bar{x}_w^k (\hat{\beta}_m^k - \hat{\beta}_w^k) \quad (3)$$

where $\bar{x}_m^k$ is the mean of the k^{th} component of the vector X_m and $\hat{\beta}_m^k$ is the corresponding coefficient, $\bar{x}_w^k$ and $\hat{\beta}_w^k$ are defined similarly.

Although the OB method has been used extensively to explore the gender wage gap, Brown et al. (2011) focusing on the UK is the only study which has used this method to analyse the gender reservation wage gap. While the OB method is a useful starting point, as stated above, its key limitation is that it only decomposes the difference in reservation wages at the mean. Several studies have focused on going beyond mean decomposition, albeit not in the context of reservation wages, the key methods being the reweighting method proposed by Dinardo et al. (1996) and the conditional quantile regression based methods proposed by Machado and Mata (2005) and Melly (2005). The detailed decomposition via the Machado and Mata (2005) method is computationally very intensive. However, Melly (2005) proposed a computationally less intensive way to conduct detailed decomposition. However, while these methods look beyond the mean for aggregate decomposition between the composition effect and the structural effect, similar to equation (2), detailed decompositions using these methods are path dependent (Fortin et al., 2011).

To obtain the detailed decomposition at different quantiles of the reservation wage distribution, we estimate the Recentered Influence Function (RIF) regression proposed by Firpo et al. (2009). The RIF for the θ-quantile (q_θ), $\theta \in (0,1)$, of y_{ig} is given as:

$$RIF(y_g, q_\theta) = q_\theta + [\theta - d_{g,\theta}]/f_{Y_g}(q_\theta) \quad (4)$$

where, to keep notation simple, we suppress the index i for the individual; $f_{Y_g}(q_\tau)$ is the density function of y_g computed at the quantile q_θ and $d_{g,\theta}$ is a dummy variable taking the value of one if $y_g \leq q_\theta$ and zero otherwise. The $RIF(y_g, q_\theta)$ has the following two properties: (i) its expectation is the actual θ-quantile, $E_y[RIF(y_g, q_\theta)] = q_\theta$; and (ii) the expectation of the conditional RIF, when conditioning on the vector X_g, is also the actual θ-quantile, $E_X\left[E_y[RIF(y_g, q_\theta)|X_g]\right] = q_\theta$. Following Fortin et al. (2011), the RIF is assumed to be a linear function of the covariate vector X_g such that,

$$RIF(y_g, q_\theta) = X_g\beta_g^\theta + v_g^\theta \quad (5)$$

where β_g^θ is the vector of coefficients for the θ-quantile, and v_g^θ is the error term. Given properties (i) and (ii), equation (5) is also referred to as the unconditional quantile regression, which is estimated separately for men and women.

The difference in the θ-quantile reservation wage for men and women, $q_{\theta,m} - q_{\theta,w}$, can then be decomposed as follows:

$$\underbrace{q_{\theta,m} - q_{\theta,w}}_{\Delta^\theta} = \underbrace{(\bar{X}_m - \bar{X}_w)\hat{\beta}_m^\theta}_{\Delta_X^\theta} + \underbrace{\bar{X}_w\,[\hat{\beta}_m^\theta - \hat{\beta}_w^\theta\,]}_{\Delta_S^\theta} \quad (6)$$

The left-hand side of equation (6), Δ^θ, yields the gap in the log reservation wages of males and females at the θ^{th}-quantile. The first term on the right-hand side, Δ_X^θ, is the composition effect at the θ^{th}-quantile, and the second term, Δ_S^θ, is the structural effect at the θ^{th}-quantile. Similar to the OB method, equation (6) can be used to obtain detailed decomposition, such as:

$$q_{\theta,m} - q_{\theta,w} = \sum_{k=1}^{K}(\bar{x}_m^k - \bar{x}_w^k)\hat{\beta}_m^{\theta,k} + \sum_{k=1}^{K}\bar{x}_m^k(\hat{\beta}_m^{\theta,k} - \hat{\beta}_w^{\theta,k}) \quad (7)$$

Decomposition based on the RIF is path independent, and OB decomposition is a special case of this decomposition when the RIF is evaluated at the mean of y_g. The RIF regressions can be

biased as the assumption of linearity holds true only locally. To correct for specification error, the RIF regression can be combined with the Dinardo et al. (1996) reweighting function. This yields the specification error and the reweighting error, separately from the composition and the structural effects, respectively. For details of the specification and reweighting errors, see Fortin et al. (2011). We have estimated models with both the specification and reweighting errors. However, as these were insignificant and very close to zero, we do not report them (they are available on request).

4. Data

The estimation sample

Our decomposition analysis is based on the cross-section Italian Labour Force Survey (LFS), which is conducted by the Italian National Institute of Statistics (Istat) and has provided information on the Italian labour market since 2004. In this survey, the population of interest comprises all members of 280,000 households, which are randomly selected annually from the Italian population registers. The sampling design of the LFS is two-stage stratified cluster sampling, with stratification of Municipalities, corresponding to the third level of Nomenclature of Territorial Units for Statistics (NUTS-3), the administrative division used by the European Union, in the first stage and households in the second stage. Sample weights are not used in this study, as the standard errors are clustered at the household level. Solon et al. (2015) show that weighting may reduce the precision of the estimates when the individual-level error terms are clustered within a group. We first perform a Breusch-Pagan test and, having failed to reject the null hypothesis of homoscedasticity, we report robust standard errors. We focus on four cross-sections (2009, 2010, 2011, and 2012), which include information for 79,834 unemployed individuals, living in 71,217 households. The surveys for these four years include a question to elicit the monthly reservation wages of the unemployed, specifically, '*what is the lowest monthly (net) amount of money that you would be willing to accept to start*

a new job?' The reservation wage question is only asked to the unemployed and is only available for these four cross-sections.

In general, previous empirical studies on other countries have analysed the reservation wage, measured as the minimum hourly rate that an individual would be willing to accept for a new job. However, the Italian LFS only allows the construction of a monthly measure of the reservation wage, as individuals were not asked how many hours per month they were willing to work for this wage. For this reason, we focus our analysis on individuals aged between 16 and 64 looking for full-time employment and individuals with no preference concerning their working hours, controlling for working time preference. As a robustness check, we have conducted our analysis for the sample of individuals aged between 16 and 64 looking for full-time employment only. Our findings are robust to focusing on this group of individuals.

Hence, we exclude 9,420 individuals looking for part-time employment only, as the concept of part-time employment is not explicitly defined in terms of hours, which prohibits the construction of a comparable measure of the reservation wage for those looking for part-time jobs. Italian law defines full-time contracts as those including 40 weekly hours of work (see Legislative Decree 66/2003 Art.3c.2). Another important reason for excluding those seeking part-time work is to make our main results as comparable as possible between men and women. If we include those seeking part-time work, it is more likely that we will violate the common support assumption that underlies most decomposition methods (Fortin et al., 2011). Specifically, the number of men seeking part-time work only, at 533, is very small. However, since excluding individuals looking for part-time work may bias the results, as an additional robustness check, we have conducted the analysis focusing on the entire sample of unemployed individuals, controlling for part-time or full-time preference with no preference as the base category. The results are robust to these changes.

Finally, we exclude an additional 19,090 individuals who were looking for a job either as self-employed or employed, and 194 individuals in retirement age. The sample was reduced to 36,868 observations after allowing for missing values (13,649 missing values relate to the reservation wage question, 958 to other covariates).

To summarise, our analysis is based on 36,868 observations of which 22,049 individuals are looking for full-time employment and 14,819 have no preference concerning their working hours. Hence, our focus lies on comparing unemployed males and females at a given point in time rather than a comparison with those in employment. It is important to acknowledge that the sample of unemployed individuals who report reservation wages may differ from individuals in employment. Those in employment may have had a lower reservation wage at a previous point in time prior to their spell of employment in order to facilitate their entry into employment. However, we do not observe the reservation wages of the employed prior to their spell of employment as panel data is currently not available for Italy. Indeed, they may have entered employment straight from university of college rather than transitioning from unemployment.

The reservation wage distribution

The estimated kernel densities of the log real monthly reservation wages for the 16,258 females and 20,610 males in the sample are shown in the top left-hand side panel, 'Italy', of Figure 1. Regional differences in reservation wages might to some extent reflect differences in the living costs across different regions (see Murillo-Huertas et al., 2020; Weinand and Von Auer, 2020). To reduce the effect of differences in living costs across regions, we deflate the reservation wages using the consumption price index for Italy provided by the Istat for the 20 NUTS-2 level regions using 2010 as the base year. We use the price index at the NUTS-2 level, as the price index at the further disaggregated level, i.e. NUTS-3 level, is not available for all regions of Italy. The average monthly reservation wage in our sample of 36,868 unemployed

individuals is €951, with that for males and females being €1014 and €869, respectively. Using the EUR/GBP exchange rate provided by the European Central Bank on 1st July 2010, the average reservation wage was equivalent to £833.7 for males and to £714.5 for females. The average reservation wage for the sample of males and females was equivalent to £812.3. The reservation wage distribution for unemployed males is more centred on the mean (6.9) as compared to females, whose distribution is more skewed to the right. One possible explanation for the different shapes of the reservation wage distributions between unemployed males and females may be the existence of gender discrimination and female segregation into low paid occupations, as discussed above.

When using decomposition methods based on RIF regression, it is important to check for 'heaping' in the reservation wage distribution, i.e. observations clustered at specific values of the distribution. Studies focusing on the decomposition of the wage distribution have shown that potential measurement error may be induced by heaping of observations around, for example, the minimum wage. This may be less pronounced in the case of reservation wages. Further, there is no single legal minimum wage in Italy. Nevertheless, given the important role of regional collective bargaining in Italy, as discussed in Section 2, we performed the following checks. First, we plotted the distribution of reservation wages in levels, without kernel fitting (see Figure A4 in the Appendix). We do not identify any significant heaping in the distribution, other than at round numbers, as expected. Second, we estimated several decomposition models using different bandwidths for the kernel function, and the results were robust to these changes.

Given our particular focus on the regional aspect of reservation wages in Italy, the other three panels of Figure 1 present the reservation wage distributions by region. The North comprises the North-West regions of Piemonte, Lombardia, Valle d'Aosta, and Liguria, and the North-East regions of Trentino Alto Adige, Veneto, Friuli Venezia Giulia, and Emilia Romagna. The Centre comprises the regions of Toscana, Umbria, Marche, and Lazio. The

South includes the regions of Abruzzo, Molise, Campania, Basilicata, Puglia, Calabria and the 'Islands' of Sicilia and Sardegna.

There are well-established regional differences in Italy, reflected in regional GDP and industrial composition (OECD, 2020; Eurostat, 2020; Banca d'Italia, 2018). Northern Italy is the most developed and productive region of the country. It is the second largest manufacturing sector in all of Europe with a concentration of medium and large firms. Central Italy is the second most prosperous region of the country, with a concentration of small and medium firms, and the tourism sector plays a significant role in the region's economy. In the South, the primary sector is important, with 63% of the cultivated land in Italy located in this region. There are regional differences in the quality and availability of infrastructure (such as roads, railways, telecommunications, ports, water, electricity and airports) as well. The regional (at NUTS-2 level) index of infrastructure for 2004, taking Italy as 100, ranks Liguria (Northern Italy) and Lazio (Central Italy) as the top two regions with index values of 191.2 and 146.2 respectively, and Basilicata (Southern Italy) is ranked as the lowest with the index value of 38.6 (Table 2 in Aiello et al., 2014). For further context, regional differences in the contribution to GDP per capita and per capita net wealth of households for Italy are shown in Figure A2, in the Appendix.

Explanatory variables

Our choice of explanatory variables is based on the existing literature. Reservation wages have been found to be related to personal characteristics, such as gender, age, nationality, and education (Jones, 1988; Hui, 1991; Haurin and Sridhar, 2003; Brown et al., 2010). We control for age categories as follows: '16-23', '24-29', '30-39', '40-49', and 'over 50' years old. We distinguish between Italian nationals (the omitted category), individuals whose nationality is not Italian but are from within the European Union (EU) (Foreign EU) and individuals from a country outside the EU (Foreign NEU). We also control for the highest level of education

attained: low education (the reference category) denotes individuals with no formal education, primary education (usually attained at the age of 10) or a junior high school certificate (usually between ages 11 and 14); secondary school refers to people whose highest level of education attained is either a vocational diploma (3 years after junior high school) or a high school diploma (typically attained at the age of 19); and, finally, high education comprises individuals with a university degree (Bachelor, Masters or PhD).

Household composition has also been found to affect reservation wages (see Prasad, 2003; Brown et al., 2011). We control for the number of dependent children aged between 0 and 3 years and the number of children between 4 and 16 years old, separately. In related literature, co-resident adults have been found to affect the labour force participation of women, the effect of which is ambiguous depending on whether such individuals provide informal help with tasks usually carried out by women, such as household chores and caring for other relatives, or whether they require assistance themselves (Pagani and Marenzi, 2008). Hence, we control for the number of relatives in the household, excluding the partner and dependent children.

The reservation wage may also depend on the financial resources available in the family, such as the partner's and other relatives' earnings (Prasad, 2003). Since the LFS does not provide information on household income, we include the number of other individuals in the household and the partner's employment status, where we control for: having an employed or self-employed partner; having an unemployed or inactive partner, and the reference category comprises those unemployed individuals without a partner living in the household.

Following Brown and Taylor (2015), we construct an index of job search intensity, which indicates the number of types of job search actions undertaken in the four weeks prior to the interview: contacted a public job agency; applied to participate in an open competition exam (this relates to public sector employment); examined job vacancies in the newspapers;

put advertisements in newspapers or responded to advertisements; applied for/sent CV for a job in a private company; recommended by friends or relatives to potential employers; used the internet; contacted a private job agency; undertook other actions. The job search index ranges from 1 to 7, and is distributed as follows: 13% undertook one job search activity; 19% undertook two job search activities; 21% undertook three job search activities; 19% undertook four job search activities; 15% undertook five job search activities; 9% undertook six different job search activities; and less than 4% undertook at least seven job search activities.

Previous studies by Lancaster and Chesher (1983) and Prasad (2003) have found that the reservation wage depends on the level of unemployment benefit. In Italy, only workers who have lost their jobs may receive unemployment benefit and, in most cases, the duration of such benefit is only one year. We only have information relating to the receipt rather than the level of unemployment benefit. Receipt of unemployment benefit may be correlated with other explanatory variables such as age, unemployment duration, and not having previous job experience, which are included in the model. To avoid multicollinearity issues, we use a set of three controls that together account for unemployment benefit ineligibility. Following van Ophem et al. (2011), the first control, 'never worked', denotes individuals without previous work experience. The second control, 'long term unemployment', indicates whether an individual has been looking for a job for more than 12 months. The control, 're-enter', denotes individuals with previous work experience who were inactive before they started to look for a job. As a robustness check, we have estimated a specification omitting these three controls and controlling for receipt of unemployment benefit. We find that our results are unchanged.

Following Sestito and Viviano (2011), three sets of dummy variables are used to control for job preferences. Firstly, we control for whether job-seekers were exclusively looking for a permanent job. Second, we control for whether job-seekers express a preference for working time, with the dummy variable 'no working time preference' taking the value of 1 if no

preference is stated, and the value of 0 for those seeking full-time employment. Thirdly, a set of four controls is used to indicate whether the individual expressed a preference for a job anywhere in Italy or in Europe (Italy commuting, Europe commuting, respectively), within a daily reachable distance (close commuting), or did not want to commute outside of the town of residence (no commuting). Given the regional differences in the infrastructure in Italy, it is possible that the differences in travel-to-work preferences might reflect variation in the availability and quality of transport infrastructure across and/or within regions. A set of dummy variables '2009', '2010', '2011', and 2012 is included to control for the year of interview.

Finally, in our analysis of Italy as a whole, we include a set of dummy variables to account for regional differences at the twenty NUTS-2 levels, the administrative division of the country used by the European Union. Details of the NUTS-2 regions are given in Table A1 in the Appendix. When we conduct separate analyses for Northern Italy, Central Italy and Southern Italy, we control for the NUTS-2 regions within each of these three regions. The three region classification is used by Istat to report official statistics. Using a lower regional classification would be problematic for the decomposition analysis given that the sample sizes for some regions are small.

In Table 1A, we present summary statistics by gender for the explanatory variables. There are some gender differences in the composition of our sample by age, with, for example, a relatively high proportion of unemployed women in the age range 24 to 29 and 30 to 39 years and a lower proportion of unemployed women aged 50 and over. Interestingly, unemployed women are, on average, more highly educated than unemployed men, suggesting under-utilisation of educated (and potentially highly productive) women in the Italian economy. As expected, women are much more likely to have a partner who is in employment. Other notable gender differences include the relatively high proportion of women who have either never worked before or are re-entrants to the labour force after a period of inactivity. A high

proportion of women indicate no preference over working time, but do have a preference for 'no commuting'. The sample is characterised by a higher proportion of men in the South and the Islands as compared to women. This pattern is reversed in the other regions.

Table 1B presents summary statistics by gender split by those seeking full time work and those with no preference over working time. There are some differences across the samples. Men and women who prefer full-time work are more likely to have no partner or an employed partner, relative to men and women who indicate no preference for working time. Similarly, for both men and women, those who have no preference for working time are more likely to be long-term unemployed and re-entrants into the labour force.

5. Results

Decomposition at the mean

In Tables 2A and 2B, we report the results for the decomposition of the gender reservation wage gap using the OB method for the four samples: Italy, the Centre, the North, and the South. For completeness, Tables A2 and A3 in the Appendix present the results from OLS regressions of the reservation wage equation split by gender for the whole of Italy and the Centre (Table A2) and the North and South of Italy (Table A3). The findings tie in with the existing literature; for example, reservation wages are increasing in age, education and job search activity, and those who state that they have no working time preference have lower reservation wages relative to those seeking full-time employment. Further, in order to investigate the potential issue of sample selection bias from a statistical perspective, we have re-estimated the analysis presented in Tables A2 and A3 using a standard Heckman selection model using the variables relating to the number of children to identify the first stage equation, which captures the probability of being unemployed relative to being employed. The Inverse Mills Ratio term is found to be statistically insignificant in the second stage reservation wage equation suggesting that such bias is not problematic here.

The gender reservation wage gap clearly varies across regions. For the whole country (see Table 2A), men, on average, report 16 percentage points higher reservation wages than women, whilst in the South (see Table 2B), the least prosperous area, the reservation wages of unemployed men are almost 19 percentage points higher than that of their female counterparts. In contrast, in Northern and Central Italy, the differences are 13.1 and 15.1 percentage points, respectively. The proportion of the reservation wage gap explained by observed characteristics also differs by region, accounting for 23.8% in the Centre, 20.6% in the South, and 19.8% in the North, compared to 20.6% of the gap being explained for Italy as a whole. Correspondingly, the unexplained component is lower in the Centre (76.2 %) than in Southern (79.4%) and Northern Italy (80.2%).

Turning to personal characteristics and how their effects vary by region, about 4.4% of the gap in reservation wages is explained by the age category '50 and over' for the whole of Italy. There are relatively few women in this age category and, given the positive and high returns to age, if there were more women in this age category, the reservation wage gap would be lower. There is limited regional variation in the contribution of this age category to explaining the gender reservation wage gap, ranging from 3.1% in the North to 4.6% in the South. The highest contribution to the unexplained gap is made by the age category 40 to 49 years old, at 3.1%. If women in this age category had the same returns as men in this age category, then the reservation wage gap would have been lower by 3.1% for all of Italy, with the gap decreasing by almost 5.3% in Central Italy and 2.6% in the South. This may reflect lower wage expectations for women aged over 40 as earning trajectories over the life course are likely to be steeper for men.

Given that women in the sample have, on average, higher levels of education relative to men, the distribution of education across genders has an equalising effect on the reservation wage gap. If unemployed women had the same levels of education as unemployed men, the

reservation wage gap would be even higher by 6.3%. This increase would be larger in the South (7.9%) compared to the North and the Centre, where the total gap would have increased by 3.8% and 5.3%, respectively. For the unexplained components, education has a larger share in the unexplained gap, which accounts for a reduction in the gender reservation wage gap. For the whole of Italy, at the mean, -10% of the gap is due to education, i.e. if women had the same returns to education as men, then the gap would have been 10% higher. Similarly, the gender reservation wage gap would also increase if unemployed women had the same returns to education as unemployed men, with a relatively large increase in the Centre (13.9% of the total gap) compared to Northern (11.5%) and Southern Italy (8.5%).

Considering the whole of Italy, having a partner (i.e. summing up the employed and non-employed partner coefficients) explains 1.3% of the reservation wage gap. This ranges from -1.5% in the North to 5.3% in the South as compared to the base category (having no partner). However, while having an employed partner increases the reservation wage gap, having an unemployed partner decreases the gap. The proportion of women in our sample without a partner is highest in the South at 60.3%, compared to 49.8% in the Centre and 45.6% in the North. In contrast, for men, this percentage is the same across the regions, at 52%. For the unexplained component, if women had the same association between reservation wages and having a partner, then the total gap would have been 18.4% lower. This proportion is highest in the Centre (23.8%) and lowest in the South (14.8%). Such findings are likely to reflect cultural factors such as Italian men usually being the primary breadwinners in Italian families. Further, as discussed above, these cultural factors are likely to vary across regions.

Interestingly, having a preference for a permanent job and the job search index do not seem to play an important role in explaining differences in the gender reservation wage gap. For all of Italy, the share of the job search index in the unexplained gap is small at -1.3%. However, this share runs from -13.7% in the North to 3.7% in the South. Similarly, expressing

a preference for short-distance commuting does not account for any variation in the gender reservation wage gap. On the other hand, being willing to commute anywhere in Italy or Europe together explain 13.8% of the gender reservation wage gap for the whole of Italy, with little regional variation observed. The unexplained component for commuting in Italy is negative (i.e. women have larger coefficients than men) in all regions but this effect is only statistically significant in the South. The unexplained component for commuting in Europe is positive in all regions (i.e. men have larger coefficients than women), while overall, for the whole country, this is statistically significant at the 10% level, at the regional level this is not statistically significant.

Having no working time preference explains 6.9% of the gender reservation gap at the national level, ranging from 15.2% in the Centre to 11.5% and 3.75 in the North and the South Italy, respectively. A significantly higher number of women report having no preference over working time. Given a large and a negative coefficient for this variable in the reservation wage regressions, if less women (or more men) reported no preference over working time, the gender reservation gap would have been lower. The unexplained component related to no working time preference is also positive at the national and the regional level, as women have a larger negative coefficient for this variable relative to men.

The set of three variables capturing unemployment benefit ineligibility is the largest contributor to the unexplained gap. For example, if women were ineligible for unemployment benefit and had the same returns to this characteristic as men then the gender reservation wage gap would be much higher. This is not surprising as the coefficients for inactivity, no work experience, and long term unemployment for women are much smaller in magnitude relative to that of men and, moreover, are often statistically insignificant.

Overall, the analysis reveals that the gender reservation wage gap varies significantly across regions, with the South, the least prosperous region, being characterised by the largest

gap. Furthermore, there are distinct differences in the effects of the observed characteristics on the gender reservation wage gap across regions, which are particularly apparent for the effects of personal characteristics such as age, education and household composition. In terms of job preferences, preferences over commuting distances and working time appear to be important. The results relating to commuting preferences reveal an additional regional dimension to the gender reservation wage gap.

Quantile decompositions

In our quantile analysis, following the existing literature, we report and discuss the results at the 10th, 50th and the 90th percentiles only, the results for the other percentiles are available on request. On exploring different points across the reservation wage distribution, it is apparent that there are significant differences across regions. For example, at the 10th percentile, for the whole country, the observed gender reservation wage gap is 37.4% (Table 3A), which varies from 25.1% in the Centre (Table 3B), 26.6% in Northern Italy (Table 3C) to 38.2% in the South (Table 3D). At the other end of the reservation wage distribution, at the 90th percentile, for the whole country, the gender reservation wage gap is 11.5% (Table 3A), which varies from 10.3% in Central Italy (Table 3B) and 10.5% in the North (Table 3C) to 12.5% in the South (Table 3D). The observed gap decreases monotonically moving up the distribution of the reservation wages nationally and for Southern and Central Italy; for Northern Italy, the gap is smallest at the median. Thus, the gender reservation wage gap is found to be larger in the lower half of the reservation wage distribution, with more variation across regions being apparent at the 10th and 50th percentiles compared to at the 90th percentile.

On decomposing the gap, for all of Italy, the explained portion increases from 11% at the 10th percentile to 24.3% at the 90th percentile. A similar pattern is observed for Northern (13.5% to 21%) and Southern (11.8% to 22.4%) Italy, although the extent of the increase is less pronounced in the former region. In Central Italy, interestingly, the explained portion

remains largely similar at the 10th and 90th deciles, at 26.4% and 27.2% respectively, with the explained portion falling to 13.9% at the 50th percentile, indicating that the influence of the observed characteristics in explaining the reservation wage gap varies considerably across regions. The unexplained component at the 10th percentile is, in absolute terms, 0.184 in the Centre and 0.337 in the South. This corresponds to approximately €108 and €207, respectively, which is quite a large difference, especially for low paid jobs.

With respect to the main factors contributing to explaining the gender gap across the entire reservation wage distribution, education plays an important role throughout the reservation wage distribution. Specifically, for all of Italy, education explains -1.9% at the 10th percentile and -11.3% at the 90th percentile. Furthermore, the role of education in explaining the gender reservation wage gap clearly varies by region. For example, in the North, education explains -1.5% at the 10th percentile increasing to -6.7% at the 90th percentile. In contrast, in the South, education explains -2.4% at the 10th percentile increasing to the relatively large proportion of -16% at the 90th percentile. Similarly, age is important throughout the reservation wage distribution, with an increase in the proportion explained being apparent moving up the distribution for the whole of Italy, as well as for the three regions. Although having a non-employed partner is important throughout the reservation wage distribution, interestingly, this particular characteristic explains more at the median than at either the 10th or the 90th percentiles, for all of Italy, and, at least as much or more, for the three regions analysed separately. Hence, although the effects of some characteristics vary by region, there are other characteristics where the effects are relatively consistent across regions.

With respect to commuting preferences, for all of Italy, at the 10th percentile, expressing a preference for commuting within Italy explains a larger share of the gap, relative to expressing a preference for commuting within Europe. This pattern reverses at the 90th percentile, where having a preference for commuting within Europe explains a larger share of the gap relative to

having a preference for commuting within Italy. This pattern holds for the South. For Northern and Central Italy, having a preference for commuting within Italy and for commuting within Europe explain a similar proportion of the reservation wage gap at the 10th percentile, whereas at the 90th percentile, having a preference for commuting within Europe explains a considerably higher proportion of the gap as compared to expressing a preference for commuting within Italy.

The other important factor in explaining the gender reservation gap is the variable capturing no preference for working time. For all of Italy, this variable explains a similar proportion of the gap at the 10th percentile (5.1%) and at the 90th percentile (5.2%). However, there are different patterns across regions. For Southern Italy, the explained proportion increases along the reservation wage distribution varying from 2.4% at the 10th percentile to 4% at the 90th percentile. In Central Italy, interestingly, the explained portion is much larger at the 10th percentile, 19.9%, relative to 10.4% at the median and 8.7% at the 90th percentile. For the North of Italy, the explained proportion remains lower at the 10th and 90th deciles, 10.2% and 7.6%, respectively, compared to 15.2% at the median.

Turning to the main factors affecting the unexplained gap, for all of Italy, education accounts for a large share of the unexplained gap, specifically, -7% at the 10th percentile, -16.5% at the median, and -10.4% at the 90th percentile. In addition, there are some notable regional differences. For all regions, education forms a larger proportion of the unexplained gap at the median, ranging from -12.7% in the South to -24.9% and -31.5% in Central and Northern Italy, respectively. These figures suggest that for Northern Italy, at the 10th and the 90th percentiles, if women had the same returns to education as men, then the reservation wage gap would have been 9.4% and 12.4% higher, respectively. At the median, the gap would have been 31.5% larger, which is much higher than our findings at the mean for the same region, i.e. 11.5% higher. In the South, at the median, if women had the same returns to education as men,

the reservation wage gap would have been 12.7% higher, which is similar to the findings at the mean for this region.

The variation in the unexplained gap related to having an employed partner also increases moving up the reservation wage distribution, but not monotonically for all regions, similar to education, ranging from 4.8% to 14.8% across the distribution for all of Italy. For the Centre and the South, the proportions are slightly lower, but, as in the case for the whole of Italy, the proportions lie within a similar range across the entire distribution. In contrast, for the North, the proportions range from 12% at the 10th percentile to 26% at the median and -22.9% at the 90th percentile. Finally, turning to the job search index, for all of Italy, this variable goes from having almost no significant contribution to the unexplained gap at the bottom end of the reservation wage distribution (specifically, -2.1% at the 10th percentile and 1.4% at the median) to a significant contribution of -14.8% at the 90th percentile. However, when analysing the regions separately, the contribution of the job search index interestingly ranges from -8.7% in the Centre to -34.3% in the North at the 90th percentile, thereby once again highlighting the importance of analysing the effects across different parts of the reservation wage distribution, rather than solely looking at the effects at the mean.

We also observe significant variation in the proportion of the unexplained gap that can be attributed to indicating no working time preference, across both the reservation wage distribution and the regions of Italy. At the 90th percentile, the proportion of the unexplained gap attributable to this variable is low and statistically insignificant for Central and Northern Italy, whereas, for Southern Italy, the contribution is 11.2%. At the median for all regions, the contribution of no working time preference is positive and statistically significant, ranging from 7.5% for the South to 19.2% for the North. At the 10th percentile, the proportion of the unexplained gap attributed to this variable ranges from a statistically insignificant contribution

of 0.8% in the South to statistically significant contributions of -17.1% in the Centre and 15.4% in the North.

To summarise, our findings suggest that the gender reservation wage gap is larger at the bottom of the reservation wage distribution, with variation across regions being particularly apparent at the 10^{th} and 50^{th} percentiles, and that it is mainly due to a larger unexplained component. Our findings suggest that if individual characteristics were the same, women would have lower returns to those characteristics at the bottom of the reservation wage distribution. In the case of reservation wages, the unexplained component may reflect perceived discrimination being greater at this part of the reservation wage distribution. Indeed, such perceptions may be based on actual labour market discrimination. For example, the 2012 National Survey, Excelsor, on hiring forecasts of Italian enterprises showed that employers more often prefer to hire men as they are "considered more suitable to carry out a job". It is important to acknowledge that our findings do not suggest that certain groups of men do not face any discrimination but rather that perceived labour market discrimination is greater for women. Furthermore, as noted above, evidence suggests that occupational segregation leads to a concentration of women in low paid jobs. Moreover, Caliendo et al (2017) found evidence that unemployed women anticipate discrimination in the labour market and lower their reservation wages accordingly. Such evidence ties in with the literature on actual wages, which supports the existence of a sticky wage floor, i.e. a larger gender gap at the bottom of the wage distribution, see Mussida and Picchio (2008) for Italy and de la Rica et al. (2008) for Spain. Specifically, de la Rica et al. (2008) focus on the fact that females are more likely to suffer from career interruptions, due to household responsibilities and an absence of public policies to reconcile work and family. In this context, employers believe that women may leave employment faster than men and they offer lower wages to women in order to offset training costs, in occupations where specific training is needed to perform a job. As a result, females

(especially when low educated) tend to be found in occupations that are located at the lower part of the wage distribution.

Mussida and Picchio (2014) investigated the factors behind the gender wage gap in Italy and found evidence of a 'sticky floor', i.e. a larger gap at the bottom of the wage distribution. They proposed an additional explanation to de la Rica et al (2008). They noted that, given the lack of affordable childcare services and time-flexible jobs in Italy, the labour supply of women to the firm is usually less elastic than that for men due to stronger preferences for nonwage job characteristics such as close commuting distances and time flexibility. Hence, employers may exploit the different gender-specific supply elasticities and use discriminatory practices to pay lower wages to women. These practices are particularly likely to emerge at the bottom of the wage distribution where, for example, family budget constraints are more likely to be binding and family child care is the most likely affordable option.

6. Conclusion

Reducing gender differences in labour market outcomes remains one of the most pressing challenges for developed economies. The achievement of equal opportunities between men and women has been found to favour economic growth (Kabeer and Natali 2013; ILO, 2017). For example, existing studies suggest that increased participation of women in the labour market has several beneficial effects including enhancing productivity (Del Boca and Locatelli, 2006; Casarico and Profeta, 2009, 2010; Campa et al, 2010; ILO, 2017). For Italy, Casarico and Profeta (2010) have estimated that the entry of 100,000 women into the labour market would increase GDP by 0.28 percentage points per year, allowing the government to increase public spending by 30%, which could be used to fund public services such as nurseries and nursing homes to alleviate the pressure from domestic responsibilities.

We find evidence of a positive gender reservation wage gap in all regions of Italy, with men reporting higher reservation wages relative to women. Furthermore, much of the regional

variation in the gender reservation wage gap is found to be driven by regional variation in female reservation wages, with women in the South reporting, on average, the lowest reservation wages. Across different quantiles, the gender gap is found to be larger at the lower part of the reservation wage distribution, with more variation across regions being apparent at the 10th percentile (with the largest gap found in the South) compared to the 90th percentile.

When we decompose the gender gap, at the mean, a significant part of the reservation wage gap is explained by personal characteristics such as age and education. Furthermore, the share explained by these two factors is found to increase moving up the reservation wage distribution. For example, if there were more woman aged over 50 in the labour force, the gender reservation wage gap would have been lower. On the other hand, if unemployed women had the same level of education as men with the same expected returns to education, the reservation wage gap would have been much higher. The gender reservation wage gap also partially reflects the fact that a higher share of women prefer short-distance commuting. This is consistent with the findings of Mussida and Picchio (2014) for Italy, Daymont and Andrisani (1984) for the US, and Sandow (2008) for Sweden. There are regional differences in the relative importance of various factors as well, with commuting choices being as important as education in explaining the gender gap in the South, which may reflect the relatively poor infrastructure in the South making commuting, for example, more challenging.

Regional differences in Italy are well-established, with the North being the richest and the South being the poorest. These regional differences exist not only in terms of regional GDP, infrastructure, and the net wealth of the households but also in the cultural factors and the public resources available to households, with the latter potentially having important consequences for female labour force participation. Given such regional and cultural differences in Italy, some policy implications can be drawn from our results.

First, preferences for non-wage attributes may partly explain the different labour force participation and employment rates between men and women in Italy. The availability of flexible hours, for example, may help women reconcile family and work. Part-time employment is one way in which women are able to reconcile family and work. In Italy, 32% of women were in part-time employment in 2018, which compares to 36% in the UK. We are unable to analyse individuals seeking part-time work for the reasons discussed above. This remains an interesting future area of research subject to the necessary data becoming available.

Second, the typical characteristics of Italian women located at the lower part of the reservation wage distribution (such as low education, more co-resident dependent children and relatives, and having no previous working experience) may make them more susceptible to discrimination in the labour market. Public policies aimed at increasing the employment rates of females, such as such as investing in subsidised childcare and care for the elderly, should pay particular attention to these women. Finally, our finding that many observed characteristics have distinct effects across different parts of the reservation wage distribution as well as across different regions indicates the importance of developing appropriate regional economic and public policy.

Finally, it is important to acknowledge the important effects of the Covid-19 pandemic on the labour market participation of women in Italy. In terms of future research, it is clear that the Covid-19 pandemic has had a dramatic impact on the labour market in many countries via the various lock-down measures imposed. In Italy, sectors such as hospitality, tourism and retail, which employ a large proportion of women and also have widespread use of temporary contracts, have been particularly affected by the lock-down restrictions. Going forward, it will be important to explore whether the easing of restrictions will encourage Italian women to return to the labour market given the relatively low labour market participation of Italian women pre-pandemic and how this will influence both reservation wages and actual wages.

Moreover, inactivity rates are particularly high amongst women in Italy; for example, reaching 47% in the second quarter of 2020. Such figures suggest that policy interventions may be required to encourage female labour market participation in Italy in the post pandemic era.

References

Albareto, G., Bronzini, R., Caprara, D., Carmignani, A., and Venturini, A. (2008). The Real and Financial Wealth of Italian Households by Region. Bank of Italy Temi di Discussione (Working Paper) No. A, 3.

Aiello, F., Pupo, V., and Ricotta, F. (2014). Explaining total factor productivity at firm level in Italy: Does location matter? *Spatial Economic Analysis*, 9(1), 51-70.

Anxo, D., Mencarini, L., Pailhé, A., Solaz, A., Tanturri, M. L., & Flood, L. (2011). Gender differences in time use over the life course in France, Italy, Sweden, and the US. *Feminist Economics*, 17(3), 159-195.

Banca d'Italia. (2018). Turismo in Italia. Numeri e Potenziale di Sviluppo. Available at: www. bancaditalia.it/pubblicazioni/collana-seminari-convegni/2018-0023/rapporto_turismo_ finale_convegno.pdf.

Blackaby, D., Latreille, P., Murphy, P., O'Leary, N., and Sloane, P. (2007). An Analysis of Reservation Wages for the Economically Inactive. *Economics Letters*, 97(1), 1-5.

Blinder, A. S. (1973). Wage Discrimination: Reduced Form and Structural Estimates. *The Journal of Human Resources*, 8(4), 436–455.

Brown, S., Roberts, J., and Taylor, K. (2010). Reservation Wages, Labour Market Participation and Health. *Journal of the Royal Statistical Society, Series A*, 173(3), 501-529.

Brown, S., Roberts, J., and Taylor, K. (2011). The Gender Reservation Wage Gap: Evidence form British Panel Data. *Economics Letters*, 113(1), 88-91.

Brown, S., and Taylor, K. (2015). The Reservation Wage Curve: Evidence from the UK. *Economics Letters*, 126(C), 22-24.

Caliendo, M., Lee, W., and Mahlstedt, R. (2017). The Gender Wage Gap and the Role of Reservation Wages: New Evidence for Unemployed Workers. *Journal of Economic Behavior and Organization*, 136, 161-173.

Campa, P., Casarico, A., and Profeta, P. (2010). Gender Culture and Gender Gap in Employment. CESifo Economic Studies, 57(1), 156-182.

Cannari, L., Nucci, F., and Sestito, P. (2000). Geographic Labour Mobility and the Cost of Housing: Evidence from Italy. *Applied Economics*, 32(14), 1899-1906.

Casadio, P., Lo Conte, M., and Neri, A. (2008). Balancing Work and Family in Italy: New Mothers' Employment Decisions after Childbirth. Bank of Italy Temi di Discussione (Working Paper) No. 684.

Casarico, A., and Profeta, P. (2009). Uguaglianza di Genere e Sistemi Pensionistici: Aspetti Critici e Prospettive per l'Italia. Studi e Note di Economia, 14(3), 491-513.

Casarico, A., and Profeta, P. (2010). Donne in Attesa: L'Italia delle Disparità di Genere, Egea: Milano.

Chiuri, M. (2000). Quality and Demand of Child Care and Female Labour Supply in Italy. *LABOUR*, 14(1), 97-118.

de la Rica, S., Dolado, J., and Llorens, V. (2008). Ceilings or floors? Gender Wage Gaps by Education in Spain. *Journal of Population Economics*, 21(3), 777-778.

Daymont, T. and Andrisani, P. (1984). Job Preferences, College Major, and the Gender Gap in Earnings. *The Journal of Human Resources*, Vol. 19 (3), 408-428.

Del Boca, D. (2002). The Effect of Child Care and Part Time Opportunities on Participation and Fertility Decisions in Italy. *Journal of Population Economics*, 5(3), 549-573.

Del Boca, D., and Locatelli, M. (2006). The Determinants of Motherhood and Work Status: A Survey. IZA Discussion Paper No. 2414.

Dell'Aringa, C., and Pagani, L. (2005). Regional Wage Differentials and Collective Bargaining in Italy. *Rivista Internazionale di Scienze Sociali*, 267-287.

Devicienti, F., Maida, A., and Pacelli, L. (2008). The Resurrection of the Italian Wage Curve. *Economics Letters*, 98(3), 335-341.

Dinardo, J., Fortin, N. and Lemieux, T. (1996). Labor Market Institutions and the Distribution of Wages, 1973-1992: A semiparametric Approach. *Econometrica*, 64, 1001-1044.

Eurostat (2020). Regional Statistics, available at: https://ec.europa.eu/eurostat/web/regions/data/database, accessed on 30-01-2020.

Fachin, S. (2007). Long-run Trends in Internal Migrations in Italy: a Study in Panel Cointegration with Dependent Units. *Journal of Applied Econometrics*, 22(2), 401-428.

Faini, R., Galli, G., Gennari, P., and Rossi, F. (1997). An Empirical Puzzle: Falling Migration and Growing Unemployment Differentials among Italian Regions. *European Economic Review*, 41(3-5), 571-579.

Feldstein, M., and Poterba, J. (1984). Unemployment Insurance and Reservation Wages. *Journal of Public Economics*, 23(1), 141-167.

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

Fortin, N., Lemieux, T. and Firpo, S. (2011). Decomposition Methods in Economics, in O. Ashenfelter and D. Card, eds., Handbook of Labor Economics, Amsterdam: North-Holland, Vol. IV.A: 1-102.

Fratesi, U., and Percoco, M. (2014). Selective Migration, Regional Growth and Convergence: Evidence from Italy. *Regional Studies*, 48(10), 1650-1668.

Haurin, D., and Sridhar, K. (2003). The Impact of Local Unemployment Rates on Reservation Wages and the Duration of Search for a Job. *Applied Economics*, 35(13), 1469-1476.

Hui, W. (1991). Reservation Wage Analysis of Unemployed Youths in Australia. *Applied Economics*, 23(8), 1341-1350.

International Labour Organization (ILO) (2017). World Employment and Social Outlook: Trends for Women 2017. International Labour Office: Geneva, available at: http://www.ilo.org.

Istat (2014). L'offerta Comunale di Asili Nido e Altri Servizi Socio-Educativi per la Prima Infanzia, available at: http://www.istat.it/it/archivio/129403.

Istat (2018.) Rilevazione sulle Forze di Lavoro: Informazioni sulla Rilevazione, Istat:Roma, available at https://www.istat.it/

Jones, S. (1988). The Relationship between Unemployment Spells and Reservation Wages as a Test of Search Theory. *The Quarterly Journal of Economics*, 103(4), 741-765.

Kabeer, N., and Natali, L. (2013). Gender Equality and Economic Growth: Is there a Win-Win? IDS Working Papers, 417, 1-58.

Lancaster, T., and Chesher, A. (1983). An Econometric Analysis of Reservation Wages. *Econometrica*, 51(6), 1661-1676.

Le Barbanchon, T., Rathelot, R. and Roulet, A. (2019). Gender Differences in Job Search: Trading off Commute against Wage. *The Quarterly Journal of Economics*, 136(1), 381-426.

Machado, J., and Mata, J. (2005). Counterfactual Decompositions of Changes in Wage Distributions Using Quantile Regression. *Journal of Applied Econometrics*, 20(4), 445-465.

Manning, A., and Petrangolo, B. (2017). How Local Are Labor Markets? Evidence from a Spatial Job Search Model. *American Economic Review*, 107(10), 2877-2907.

Micheli, G. A. (2012). Two Strong Families in Southern Europe? Re-examining the Geography of Kinship Regimes Stemming from the Reciprocity Mechanisms between Generations. *European Journal of Population/Revue Européenne de Démographie*, 28(1), 17-38.

Melly, B. (2005). Decomposition of Differences in Distribution using Quantile Regression. *Labour Economics*, 12(4), 577-590.

Moretti, E. (2011). Local Labor Markets, in O. Ashenfelter and D. Card, eds., Handbook of Labor Economics, Amsterdam: North-Holland, Vol. IV.A: 1237–1313.

Murillo-Huertas, I. P., Ramos, R., and Simon, H. (2020). Revisiting interregional wage differentials: New evidence from Spain with matched employer-employee data, *Journal of Regional Science*, 60 (2), 296-347

Mussida, C., and Picchio, M. (2014). The Gender Wage Gap by Education in Italy. *The Journal of Economic Inequality*, 12(1), 117-147.

Oaxaca, R. (1973). Male-Female Wage Differentials in Urban Labor Markets. *International Economic Review*, 14(3), 693–709.

OECD (2018a). Labour Force Statistics (LFS), by Sex and Age Indicators, available at https://stats.oecd.org/

OECD (2018b). Family Database, available at: www.oecd.org/els/family/database.htm.

OECD (2020). Regional Database, Theme: Regional Statistics, available at: http://dotstat/wbos/, accessed on 30-01-2020.

OECD (2021). Time Use Data: https://stats.oecd.org/Index.aspx?DataSetCode=TIME_USE (accessed in June 2021).

Ongaro, F. (2002). Explanatory and Socio-Economic Factors to Understand the Low Fertility Rates in Italy: Implication for Research. Paper presented at the 41st Conference of the Italian Statistical Society, 5 – 7 June.

Pagani, L., and Marenzi, A. (2008). The Labor Market Participation of Sandwich Generation Italian Women. *Journal of Family and Economic Issues*, 29(3), 427-444.

Prasad, E. (2003). What Determines the Reservation Wages of Unemployed Workers? New Evidence from German Micro Data. IZA Discussion Paper No. 694.

Polacheck, S. (1981). Occupational Self-Selection: A Human Capital Approach to Sex Differences in Occupational Structure. *Review of Economics and Statistics*, 63(1), 60-69.

Powell, G. (1999). Handbook of Gender & Work, London: Sage Publications.

Rogerson, R., Shimer, R., and Wright, R. (2005). Search-Theoretic Models of the Labor Market: A Survey. *Journal of Economic Literature*, 43(4), 959-988.

Sestito, P., and Viviano, E. (2011). Reservation Wages: Explaining Some Puzzling Regional Patterns. *LABOUR*, 25(1), 63-88.

Sandow, E. (2008). Commuting Behaviour in Sparsely Populated Areas: Evidence From Northern Sweden. *Journal of Transport Geography*, vol. 16 (1), 14-27.

Solon, G., Haider, S. J., and Wooldridge, J. M. (2015). What are we weighting for? *Journal of Human Resources*, vol. 50(2), 301-316.

van Ophem, H., Hartog, J., and Berkhout, P. (2011), Reservation Wages and Starting Wages. IZA Discussion Paper No. 5435.

Weinand, S., and von Auer, L. (2020). Anatomy of regional price differentials: evidence from micro-price data, *Spatial Economic Analysi*s, 15(4), 413-440.

World Economic Forum (WEF) (2017). The Global Gender Gap Report 2017. Switzerland: World Economic Forum.

Figure 1 – Distributions of log monthly real reservation wages, by region

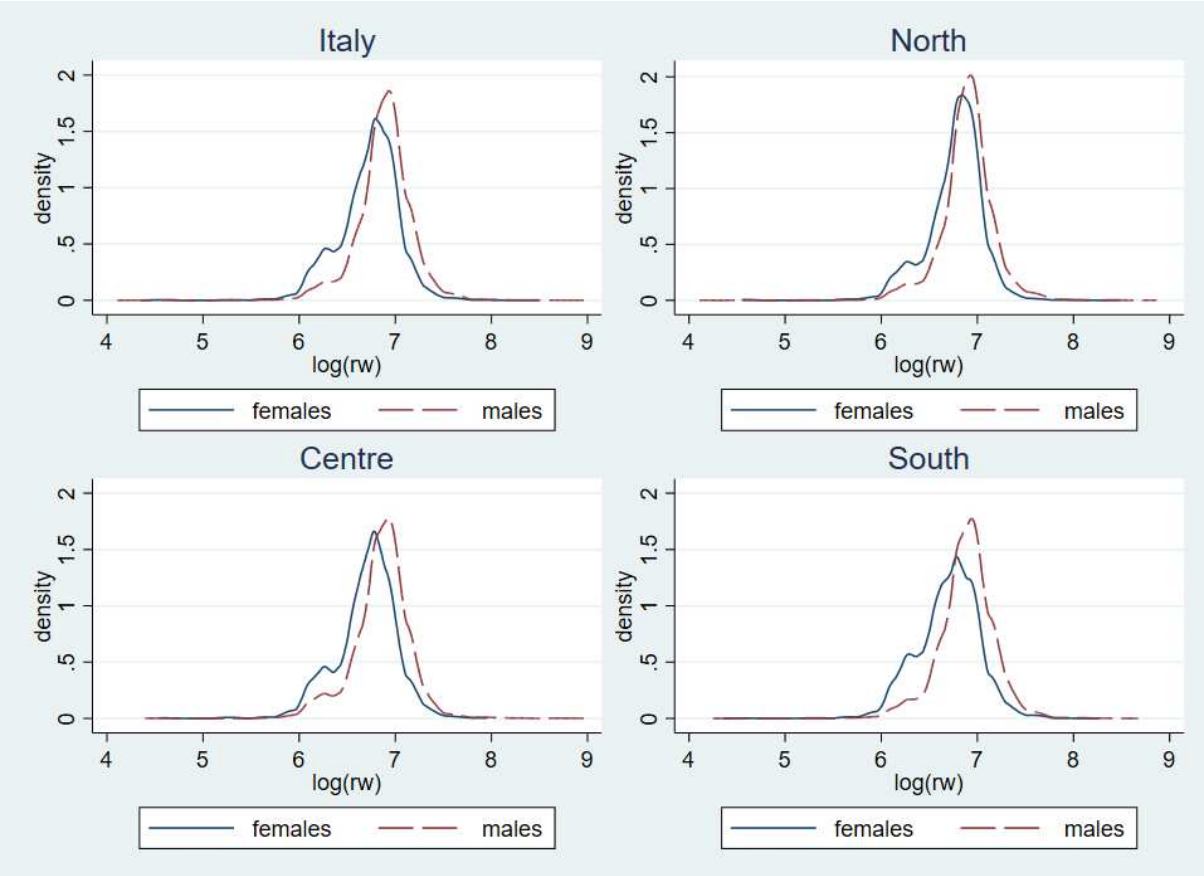

Table 1A - Summary statistics of explanatory variables by gender

Sample	Unemployed females				Unemployed males			
Variable	**Mean**	**SD**	**Min**	**Max**	**Mean**	**SD**	**Min**	**Max**
Children (0-3 years old)	0.12	0.38	0	3	0.13	0.41	0	3
Children (4-16 years old)	0.25	0.58	0	3	0.25	0.59	0	3
Other adults	1.44	1.31	0	5	1.52	1.30	0	5
Job search index	3.45	1.64	1	7	3.39	1.66	1	7
Variable		**%**				**%**		
Age 16-23		23.4%				23.1%		
Age 24-29		20.1%				16.8%		
Age 30-39		27.5%				24.3%		
Age 40-49		21.3%				21.6%		
Age over 50		10.0%				15.8%		
Italian citizen		82.4%				83.6%		
Foreign EU		6.0%				3.5%		
Foreign Non EU		11.6%				12.9%		
Low education		40.3%				55.4%		
High school		45.3%				38.2%		
High education		14.4%				6.4%		
Non-employed partner		9.7%				22.9%		
Employed partner		28.7%				16.5%		
No partner		52.7%				52.8%		
Permanent work		2.8%				3.8%		
Never worked		30.9%				20.9%		
Long-term unemployed		43.1%				42.9%		
Re-enter		54.7%				37.4%		
Only full-time		52.5%				65.6%		
No working time preference		47.5%				34.4%		
No commuting		17.5%				8.4%		
Close commuting		68.9%				65.6%		
Any commuting Italy		8.9%				16.9%		
Any commuting Europe		4.6%				9.1%		
Northern Italy		39.8%				36.3%		
Central Italy		16.6%				13.9%		
Southern Italy and Islands		43.6%				49.8%		
2009		24.0%				23.8%		
2010		23.5%				23.6%		
2011		23.6%				23.8%		
2012		29.0%				28.9%		
Observations		16,258				20,610		

Table 1B - Summary statistics of explanatory variables by gender and type of job sought

Type of job sought	Full-time only								No preference							
Sample	Unemployed females				Unemployed males				Unemployed females				Unemployed males			
Variable	**Mean**	**SD**	**Min**	**Max**	**Mean**	**SD**	**Min**	**Max**	**Mean**	**SD**	**Min**	**Max**	**Mean**	**SD**	**Min**	**Max**
Children 0-3 years old	0.11	0.36	0	3	0.15	0.42	0	3	0.13	0.40	0	3	0.11	0.37	0	3
Children 4-16 years old	0.23	0.55	0	3	0.26	0.60	0	3	0.28	0.60	0	3	0.22	0.57	0	3
Other adults	1.49	1.32	0	5	1.47	1.30	0	5	1.40	1.30	0	5	1.62	1.31	0	5
Job search index	3.50	1.67	1	7	3.45	1.67	1	7	3.39	1.60	1	7	3.28	1.64	1	7
Variable		**%**				**%**				**%**				**%**		
Age 16-23		24.4%				22.0%				22.4%				25.2%		
Age 24-29		21.4%				16.9%				18.6%				16.8%		
Age 30-39		27.1%				25.2%				28.1%				22.6%		
Age 40-49		19.9%				22.2%				22.9%				20.5%		
Age over 50		9.8%				15.1%				10.3%				17.0%		
Italian citizen		81.1%				82.5%				83.8%				85.9%		
Foreign EU		6.9%				3.7%				5.0%				3.1%		
Foreign Non EU		12.0%				13.8%				11.2%				11.1%		
Low education		39.3%				55.1%				41.4%				56.0%		
High school		44.6%				38.2%				46.0%				38.2%		
High education		16.1%				6.7%				12.6%				5.8%		
Non-employed partner		9.2%				23.7%				10.2%				21.4%		
Employed partner		25.7%				17.0%				32.0%				15.4%		
No partner		55.5%				51.5%				49.7%				55.3%		
Permanent work		3.2%				4.2%				2.3%				3.1%		
Never worked		31.1%				19.4%				30.7%				23.8%		
Long-term unemployed		41.7%				41.1%				44.6%				46.3%		
Re-enter		52.6%				35.4%				57.1%				41.0%		
No commuting		17.2%				8.4%				17.9%				8.3%		
Close commuting		67.8%				66.1%				70.2%				64.7%		
Any commuting Italy		9.8%				16.5%				7.8%				17.5%		
Any commuting Europe		5.2%				8.9%				4.0%				9.4%		

Table 1B - Summary statistics of explanatory variables by gender (continued)

Type of job sought	Full-time only		No preference	
Sample	Unemployed females	Unemployed males	Unemployed females	Unemployed males
Northern Italy	43.4%	39.5%	35.9%	30.3%
Central Italy	14.8%	13.4%	18.7%	14.8%
Southern Italy and Islands	41.8%	47.1%	45.5%	54.9%
2009	25.3%	25.8%	22.5%	19.9%
2010	25.2%	25.5%	21.7%	20.0%
2011	24.3%	23.4%	22.8%	24.4%
2012	25.3%	25.3%	33.0%	35.6%
Observations	8,537	13,512	7,721	7,098

Table 2A - Oaxaca decomposition; dependent variable: (log) reservation wage

Sample	Italy				Central Italy			
Overall decomposition		%				%		
Males	6.884***				6.851***			
Females	6.724***				6.700***			
Difference	0.160***				0.151***			
Explained	0.033***	20.6%			0.036***	23.8%		
Unexplained	0.127***	79.4%			0.115***	76.2%		
Detailed decomposition	Explained	%	Unexplained	%	Explained	%	Unexplained	%
Personal characteristics								
Age 24-29	-0.002***	-1.3%	0.003	1.9%	-0.001	-0.7%	0.004	2.6%
Age 30-39	-0.003***	-1.9%	0.003	1.9%	-0.002*	-1.3%	0.007	4.6%
Age 40-49	0.000	0.0%	0.005**	3.1%	-0.003*	-2.0%	0.008	5.3%
Age over 50	0.007***	4.4%	0.003**	1.9%	0.007***	4.6%	0.007**	4.6%
Foreign EU	0.002***	1.3%	-0.001	-0.6%	0.003***	2.0%	0.001	0.7%
Foreign Non EU	-0.001***	-0.6%	-0.005***	-3.1%	-0.002	-1.3%	-0.006*	-4.0%
Education	-0.010***	-6.3%	-0.016***	-10.0%	-0.008***	-5.3%	-0.021**	-13.9%
Household composition								
Employed partner	-0.008***	-5.0%	0.023***	14.4%	-0.007***	-4.6%	0.024***	15.9%
Non-employed partner	0.010***	6.3%	0.007***	4.4%	0.006***	4.0%	0.012***	7.9%
Other components	0.000	0.0%	0.021***	13.1%	-0.000	0.0%	0.020*	13.2%
Labour market factors								
Permanent job	0.001***	0.6%	-0.001	-0.6%	0.000	0.0%	-0.000	0.0%
Job search index	-0.000***	0.0%	-0.002	-1.3%	-0.000	0.0%	-0.002	-1.3%
Other	0.006***	3.8%	-0.024***	-15.0%	0.006***	4.0%	-0.036***	-23.8%
No working time preference	0.011***	6.9%	0.014***	8.8%	0.023***	15.2%	0.007	4.6%
Travel-to-work preference								
Close commuting	-0.002***	-1.3%	0.006	3.8%	-0.001	-0.7%	0.008	5.3%
Commuting Italy	0.012***	7.5%	-0.003**	-1.9%	0.006***	4.0%	-0.003	-2.0%
Commuting Europe	0.010***	6.3%	0.001*	0.6%	0.009***	6.0%	0.001	0.7%
Region	0.000	0.0%	0.016**	10.0%	0.000	0.0%	-0.042***	-27.8%
Year	-0.000	0.0%	0.014***	8.8%	-0.001	-0.7%	0.009	6.0%
Constant			0.063***	39.4%			0.116***	76.8%
Observations			36,868				5,566	

NOTES: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Sample = individuals looking for a job excluding those looking for part-time work only. Reference categories: 1. Age: 16-23 years old; 2. Nationality: Italian; 3. Partner's employment status: no cohabiting partner; 4. Travel-to-work preference: no commuting; 5. Region: Lombardia (Samples Italy and Northern Italy); Lazio (Central Italy); Sicilia (Southern Italy). The following explanatory variables were grouped: a. Education: high school; high education (reference: low education); b. Other household components: number of dependent 0-3 year-old children, number of dependent 4-16 year-old children; number of other adults; c. Other labour market factors: never worked, long-term unemployed, re-enter; d. Region: this includes all 20 NUTS-2 level regions, excluding the reference category. Year: 2010; 2011; 2012 (reference: 2009). Table A1 in the Appendix presents the full results from the reservation wage equation.

Table 2B - Oaxaca decomposition; dependent variable: (log) reservation wage

Sample	Northern Italy				Southern Italy and Islands			
Overall decomposition		%				%		
Males	6.894***				6.885***			
Females	6.764***				6.697***			
Difference	0.131***				0.189***			
Explained	0.026***	19.8%			0.039***	20.6%		
Unexplained	0.105***	80.2%			0.150***	79.4%		
Detailed decomposition	Explained	%	Unexplained	%	Explained	%	Unexplained	%
Personal characteristics								
Age 24-29	-0.001***	-0.8%	0.001	0.8%	-0.004***	-2.1%	0.007**	3.7%
Age 30-39	-0.004***	-3.1%	0.002	1.5%	-0.003***	-1.6%	0.003	1.6%
Age 40-49	0.001	0.8%	0.004	3.1%	0.001*	0.5%	0.005	2.6%
Age over 50	0.004***	3.1%	0.004	3.1%	0.008***	4.2%	0.002	1.1%
Foreign EU	0.001***	0.8%	0.000	0.0%	0.003***	1.6%	-0.003***	-1.6%
Foreign Non EU	-0.006***	-4.6%	-0.007***	-5.3%	0.001	0.5%	-0.003***	-1.6%
Education	-0.005***	-3.8%	-0.015***	-11.5%	-0.015***	-7.9%	-0.016***	-8.5%
Household composition								
Employed partner	-0.006***	-4.6%	0.023***	17.6%	-0.009***	-4.8%	0.021***	11.1%
Non-employed partner	0.004***	3.1%	0.006***	4.6%	0.019***	10.1%	0.007***	3.7%
Other components	-0.001**	-0.8%	0.024***	18.3%	0.001	0.5%	0.016*	8.5%
Labour market factors								
Permanent job	0.001***	0.8%	0.000	0.0%	0.001***	0.5%	-0.002***	-1.1%
Job search index	-0.000	0.0%	-0.018	-13.7%	-0.001***	-0.5%	0.007	3.7%
Other	0.005***	3.8%	-0.011**	-8.4%	0.008***	4.2%	-0.035***	-18.5%
No working time preference	0.015***	11.5%	0.010**	7.6%	0.007***	3.7%	0.015***	7.9%
Travel-to-work preference								
Close commuting	-0.001***	-0.8%	0.001	0.8%	-0.002***	-1.1%	0.004	2.1%
Commuting Italy	0.007***	5.3%	0.000	0.0%	0.015***	7.9%	-0.006**	-3.2%
Commuting Europe	0.009***	6.9%	0.001	0.8%	0.010***	5.3%	0.001	0.5%
Region	0.002***	1.5%	-0.010	-7.6%	0.000	0.0%	0.030***	15.9%
Year	0.001**	0.8%	0.014*	10.7%	-0.001	-0.5%	0.015**	7.9%
Constant			0.075***	57.3%			0.082***	43.4%
Observations	13,962				17,340			

NOTES: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. See notes to Table 2A. Table A2 in the Appendix presents the full results from the reservation wage equation.

Table 3A - Oaxaca decomposition based on RIF; dependent variable: (log) reservation wage; region: Italy

Quantile	**10th**				**50th**				**90th**			
Overall decomposition	**Tot**	**%**			**Tot**	**%**			**Tot**	**%**		
Males	6.610***				6.915***				7.180***			
Females	6.235***				6.776***				7.065***			
Difference	0.374***				0.139***				0.115***			
Explained	0.041***	11.0%			0.025***	18.0%			0.028***	24.3%		
Unexplained	0.334***	89.3%			0.113***	81.3%			0.086***	74.8%		
Detailed decomposition	**Exp**	**%**	**Unexp**	**%**	**Exp**	**%**	**Unexp**	**%**	**Exp**	**%**	**Unexp**	**%**
Personal characteristics												
Age 24-29	-0.004***	-1.1%	0.005	1.3%	-0.002***	-1.4%	-0.000	0.0%	-0.001***	-0.9%	0.001	0.9%
Age 30-39	-0.005***	-1.3%	0.007	1.9%	-0.003***	-2.2%	-0.001	-0.7%	-0.002***	-1.7%	-0.004	-3.5%
Age 40-49	0.000	0.0%	0.004	1.1%	0.000	0.0%	0.001	0.7%	0.000	0.0%	-0.004	-3.5%
Age over 50	0.008***	2.1%	0.001	0.3%	0.006***	4.3%	0.002*	1.4%	0.006***	5.2%	0.001	0.9%
Foreign EU	0.002***	0.5%	-0.001	-0.3%	0.002***	1.4%	0.000	0.0%	0.002***	1.7%	-0.000	0.0%
Foreign Non EU	-0.001***	-0.3%	0.001	0.3%	-0.001***	-0.7%	-0.003***	-2.2%	-0.001***	-0.9%	-0.005***	-4.3%
Education	-0.007***	-1.9%	-0.026***	-7.0%	-0.007***	-5.0%	-0.023***	-16.5%	-0.013***	-11.3%	-0.012**	-10.4%
Household composition												
Employed partner	-0.006***	-1.6%	0.018***	4.8%	-0.007***	-5.0%	0.018***	12.9%	-0.004***	-3.5%	0.017***	14.8%
Non-employed partner	0.009***	2.4%	0.005**	1.3%	0.009***	6.5%	0.007***	5.0%	0.006***	5.2%	0.007***	6.1%
Other components	0.001*	0.3%	0.034***	9.1%	0.000	0.0%	0.016***	11.5%	-0.000	0.0%	0.019***	16.5%
Labour market factors												
Permanent job	0.001***	0.3%	-0.001*	-0.3%	0.001***	0.7%	-0.001*	-0.7%	0.001***	0.9%	-0.001	-0.9%
Job search index	-0.000**	0.0%	-0.008	-2.1%	-0.001***	-0.7%	0.002	1.4%	0.000	0.0%	-0.017*	-14.8%
Other	0.008***	2.1%	-0.021**	-5.6%	0.005***	3.6%	-0.019***	-13.7%	0.004***	3.5%	-0.025***	-21.7%
No working time preferences	0.019***	5.1%	0.024***	6.4%	0.009***	6.5%	0.015***	10.8%	0.006***	5.2%	0.007*	6.1%
Travel-to-work preferences												
Close commuting	-0.004***	-1.1%	0.026	7.0%	-0.001**	-0.7%	-0.016***	-11.5%	-0.001**	-0.9%	0.004	3.5%
Commuting Italy	0.013***	3.5%	-0.002	-0.5%	0.008***	5.8%	-0.007***	-5.0%	0.011***	9.6%	-0.005***	-4.3%
Commuting Europe	0.008***	2.1%	0.003*	0.8%	0.006***	4.3%	-0.001*	-0.7%	0.013***	11.3%	0.002	1.7%
Region	0.001	0.3%	-0.006	-1.6%	0.001**	0.7%	0.028***	20.1%	0.001**	0.9%	0.010	8.7%
Year	0.000	0.0%	0.031***	8.3%	-0.000	0.0%	-0.076***	-54.7%	-0.000	0.0%	-0.006	-5.2%
Constant			0.242***	64.7%			0.171***	123.0%			0.098***	85.2%
Observations	36,868				36,868				36,868			

NOTES: Bootstrapped standard errors (500 replications) were used to compute the p-value. Statistical significance levels: *** p<0.01, ** p<0.05, * p<0.1. See Notes to Table 2A.

Table 3B - Oaxaca decomposition based on RIF; dependent variable: (log) reservation wage; region: Central Italy

Quantile	**10th**				**50th**				**90th**			
Overall decomposition	**Tot**	**%**			**Tot**	**%**			**Tot**	**%**		
Males	6.501***				6.883***				7.143***			
Females	6.250***				6.709***				7.040***			
Difference	0.251***				0.173***				0.103***			
Explained	0.066***	26.3%			0.024***	13.9%			0.028***	27.2%		
Unexplained	0.184***	73.3%			0.149***	86.1%			0.075***	72.8%		
Detailed decomposition	**Exp**	**%**	**Unexp**	**%**	**Exp**	**%**	**Unexp**	**%**	**Exp**	**%**	**Unexp**	**%**
Personal characteristics												
Age 24-29	-0.002	-0.8%	0.010	4.0%	-0.001	-0.6%	0.001	0.6%	-0.000	0.0%	-0.000	0.0%
Age 30-39	-0.005	-2.0%	0.024	9.6%	-0.003*	-1.7%	0.009	5.2%	-0.001	-1.0%	0.003	2.9%
Age 40-49	-0.005*	-2.0%	-0.002	-0.8%	-0.004*	-2.3%	0.012*	6.9%	-0.003*	-2.9%	0.010	9.7%
Age over 50	0.010***	4.0%	0.006	2.4%	0.007***	4.0%	0.008**	4.6%	0.006***	5.8%	0.007	6.8%
Foreign EU	0.004*	1.6%	0.000	0.0%	0.003***	1.7%	0.002	1.2%	0.003**	2.9%	0.000	0.0%
Foreign Non EU	-0.002	-0.8%	0.002	0.8%	-0.001	-0.6%	-0.007**	-4.0%	-0.001	-1.0%	-0.003	-2.9%
Education	-0.006	-2.4%	-0.014	-5.6%	-0.004**	-2.3%	-0.043***	-24.9%	-0.009***	-8.7%	-0.004	-3.9%
Household composition												
Employed partner	-0.002	-0.8%	0.006	2.4%	-0.007***	-4.0%	0.024***	13.9%	-0.003	-2.9%	0.011	10.7%
Non-employed partner	0.006***	2.4%	0.016**	6.4%	0.005***	2.9%	0.010***	5.8%	0.003	2.9%	0.009***	8.7%
Other components	-0.002	-0.8%	-0.008	-3.2%	-0.000	0.0%	0.027**	15.6%	-0.001	-1.0%	0.025*	24.3%
Labour market factors												
Permanent job	0.000	0.0%	-0.000	0.0%	0.000	0.0%	-0.001	-0.6%	0.000	0.0%	0.002	1.9%
Job search index	-0.000	0.0%	-0.033	-13.1%	-0.000	0.0%	0.015	8.7%	-0.000	0.0%	-0.009	-8.7%
Other	0.010*	4.0%	-0.063**	-25.1%	0.004**	2.3%	-0.029***	-16.8%	0.002	1.9%	-0.026*	-25.2%
No working time preferences	0.050***	19.9%	-0.043**	-17.1%	0.018***	10.4%	0.027***	15.6%	0.009***	8.7%	0.005	4.9%
Travel-to-work preferences												
Close commuting	-0.002	-0.8%	0.008	3.2%	-0.000	0.0%	-0.004	-2.3%	-0.000	0.0%	0.020	19.4%
Commuting Italy	0.006	2.4%	-0.002	-0.8%	0.004**	2.3%	-0.003	-1.7%	0.009***	8.7%	-0.005	-4.9%
Commuting Europe	0.007***	2.8%	0.002	0.8%	0.005***	2.9%	0.001	0.6%	0.014***	13.6%	0.003	2.9%
Region	-0.002	-0.8%	-0.026	-10.4%	0.001	0.6%	-0.056***	-32.4%	0.001	1.0%	-0.020	-19.4%
Year	-0.001	-0.4%	0.090***	35.9%	-0.002	-1.2%	-0.032**	-18.5%	-0.000	0.0%	-0.003	-2.9%
Constant			0.211**	84.1%			0.187***	108.1%			0.053	51.5%
Observations	5,566				5,566				5,566			

NOTES: Bootstrapped standard errors (500 replications) were used to compute the p-value. Statistical significance levels: *** p<0.01, ** p<0.05, * p<0.1. See Notes to Table 2A.

Table 3C - Oaxaca decomposition based on RIF; dependent variable: (log) reservation wage; region: Northern Italy

Quantile	**10th**				**50th**				**90th**			
Overall decomposition	**Tot**	**%**			**Tot**	**%**			**Tot**	**%**		
Males	6.640***				6.921***				7.174***			
Females	6.375***				6.849***				7.069***			
Difference	0.266***				0.073***				0.105***			
Explained	0.036***	13.5%			0.020***	27.4%			0.022***	21.0%		
Unexplained	0.230***	86.5%			0.052***	71.2%			0.083***	79.0%	.	
Detailed decomposition	**Exp**	**%**	**Unexp**	**%**	**Exp**	**%**	**Unexp**	**%**	**Exp**	**%**	**Unexp**	**%**
Personal characteristics												
Age 24-29	-0.002**	-0.8%	0.004	1.5%	-0.001***	-1.4%	0.001	1.4%	-0.001**	-1.0%	0.002	1.9%
Age 30-39	-0.005***	-1.9%	0.001	0.4%	-0.004***	-5.5%	-0.002	-2.7%	-0.003***	-2.9%	-0.003	-2.9%
Age 40-49	0.001	0.4%	0.007	2.6%	0.001	1.4%	0.003	4.1%	0.001	1.0%	-0.002	-1.9%
Age over 50	0.003***	1.1%	-0.003	-1.1%	0.004***	5.5%	0.003	4.1%	0.005***	4.8%	0.005	4.8%
Foreign EU	0.001	0.4%	-0.000	0.0%	0.001***	1.4%	0.003**	4.1%	0.002***	1.9%	0.001	1.0%
Foreign Non EU	-0.005***	-1.9%	0.010	3.8%	-0.004***	-5.5%	-0.002	-2.7%	-0.007***	-6.7%	-0.010***	-9.5%
Education	-0.004***	-1.5%	-0.025*	-9.4%	-0.003***	-4.1%	-0.023***	-31.5%	-0.007***	-6.7%	-0.013*	-12.4%
Household composition												
Employed partner	-0.004	-1.5%	0.032***	12.0%	-0.005***	-6.8%	0.019***	26.0%	-0.005**	-4.8%	0.024***	22.9%
Non-employed partner	0.001	0.4%	0.006	2.3%	0.004***	5.5%	0.005***	6.8%	0.005***	4.8%	0.009***	8.6%
Other components	0.001	0.4%	0.055***	20.7%	-0.001*	-1.4%	0.020***	27.4%	-0.003***	-2.9%	0.015*	14.3%
Labour market factors												
Permanent job	0.001***	0.4%	-0.000	0.0%	0.001***	1.4%	0.000	0.0%	0.002***	1.9%	0.002*	1.9%
Job search index	-0.000	0.0%	-0.021	-7.9%	0.000	0.0%	0.004	5.5%	-0.001**	-1.0%	-0.036**	-34.3%
Other	0.009***	3.4%	0.004	1.5%	0.004***	5.5%	-0.018***	-24.7%	0.003**	2.9%	-0.019**	-18.1%
No working time preferences	0.027***	10.2%	0.041***	15.4%	0.011***	15.1%	0.014***	19.2%	0.008***	7.6%	-0.001	-1.0%
Travel-to-work preferences												
Close commuting	-0.002*	-0.8%	-0.019	-7.1%	-0.001	-1.4%	-0.009	-12.3%	-0.001	-1.0%	0.009	8.6%
Commuting Italy	0.004**	1.5%	-0.003	-1.1%	0.004***	5.5%	-0.001	-1.4%	0.008***	7.6%	0.001	1.0%
Commuting Europe	0.005***	1.9%	0.001	0.4%	0.006***	8.2%	0.000	0.0%	0.014***	13.3%	0.003**	2.9%
Region	0.002	0.8%	-0.039**	-14.7%	0.002***	2.7%	-0.004	-5.5%	0.002***	1.9%	-0.009	-8.6%
Year	0.001**	0.4%	0.089***	33.5%	0.002	2.7%	-0.101***	-138.4%	0.001	1.0%	0.007	6.7%
Constant			0.091	34.2%			0.140***	191.8%			0.097***	92.4%
Observations	13,962				13,962				13,962			

NOTES: Bootstrapped standard errors (500 replications) were used to compute the p-value. Statistical significance levels: *** p<0.01, ** p<0.05, * p<0.1. See Notes to Table 2A.

Table 3D - Oaxaca decomposition based on RIF; dependent variable: (log) reservation wage; region: Southern Italy

Quantile	**10th**				**50th**				**90th**			
Overall decomposition	**Tot**	**%**			**Tot**	**%**			**Tot**	**%**		
Males	6.609***				6.916***				7.190***			
Females	6.228***				6.704***				7.065***			
Difference	0.382***				0.212***				0.125***			
Explained	0.045***	11.8%			0.029***	13.7%			0.028***	22.4%		
Unexplained	0.337***	88.2%			0.183***	86.3%			0.097***	77.6%		
Detailed decomposition	**Exp**	**%**	**Unexp**	**%**	**Exp**	**%**	**Unexp**	**%**	**Exp**	**%**	**Unexp**	**%**
Personal characteristics												
Age 24-29	-0.008***	-2.1%	0.023***	6.0%	-0.002***	-0.9%	-0.004	-1.9%	0.000	0.0%	-0.000	0.0%
Age 30-39	-0.005***	-1.3%	0.024***	6.3%	-0.002***	-0.9%	-0.009*	-4.2%	-0.001**	-0.8%	-0.006	-4.8%
Age 40-49	0.002*	0.5%	0.018**	4.7%	0.001*	0.5%	-0.003	-1.4%	0.001	0.8%	-0.003	-2.4%
Age over 50	0.012***	3.1%	0.007**	1.8%	0.007***	3.3%	-0.001	-0.5%	0.005***	4.0%	-0.000	0.0%
Foreign EU	0.003***	0.8%	-0.006***	-1.6%	0.002***	0.9%	0.000	0.0%	0.002***	1.6%	-0.002*	-1.6%
Foreign Non EU	0.001	0.3%	-0.003**	-0.8%	0.000	0.0%	-0.001	-0.5%	0.000	0.0%	-0.001*	-0.8%
Education	-0.009***	-2.4%	-0.019	-5.0%	-0.013***	-6.1%	-0.027***	-12.7%	-0.020***	-16.0%	-0.007	-5.6%
Household composition												
Employed partner	-0.007***	-1.8%	0.013**	3.4%	-0.007***	-3.3%	0.020***	9.4%	-0.005***	-4.0%	0.012**	9.6%
Non-employed partner	0.018***	4.7%	0.005*	1.3%	0.015***	7.1%	0.008***	3.8%	0.010***	8.0%	0.003	2.4%
Other components	-0.001*	-0.3%	0.038**	9.9%	0.001**	0.5%	0.006	2.8%	0.002***	1.6%	0.014	11.2%
Labour market factors												
Permanent job	0.001**	0.3%	-0.001	-0.3%	0.001***	0.5%	-0.002***	-0.9%	0.001**	0.8%	-0.004**	-3.2%
Job search index	-0.001***	-0.3%	0.028	7.3%	-0.001***	-0.5%	-0.012	-5.7%	-0.000	0.0%	-0.011	-8.8%
Other	0.006**	1.6%	-0.025*	-6.5%	0.007***	3.3%	-0.027***	-12.7%	0.007***	5.6%	-0.039***	-31.2%
No working time preferences	0.009***	2.4%	0.003	0.8%	0.007***	3.3%	0.016***	7.5%	0.005***	4.0%	0.014**	11.2%
Travel-to-work preferences												
Close commuting	-0.004***	-1.0%	0.065***	17.0%	-0.000	0.0%	-0.025***	-11.8%	-0.000	0.0%	-0.006	-4.8%
Commuting Italy	0.019***	5.0%	0.006	1.6%	0.010***	4.7%	-0.016***	-7.5%	0.010***	8.0%	-0.017***	-13.6%
Commuting Europe	0.009***	2.4%	0.006**	1.6%	0.006***	2.8%	-0.004***	-1.9%	0.012***	9.6%	-0.001	-0.8%
Region	0.000	0.0%	0.028**	7.3%	0.000	0.0%	0.042***	19.8%	0.000	0.0%	0.032***	25.6%
Year	-0.000	0.0%	0.099***	25.9%	-0.002	-0.9%	0.025***	11.8%	-0.000	0.0%	0.040***	32.0%
Constant			0.030	7.9%			0.195***	92.0%			0.078**	62.4%
Observations	17,340				17,340				17,340			

NOTES: Bootstrapped standard errors (500 replications) were used to compute the p-value. Statistical significance levels: *** p<0.01, ** p<0.05, * p<0.1. See Notes to Table 2A