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ABSTRACT

This article examines the relationship between types of employment and wages by gender and gender pay gaps among permanent, temporary, and informal workers. There are substantial gender inequalities in bargaining, and these inequalities are argued to be more prevalent for temporary and informal jobs. Hence, larger wage penalties for women in such positions are expected. Moreover, the inverse association between wages and non-permanent contracts is larger for low-paid women. To this end, the study employs unconditional quantile regression techniques and counterfactual decomposition analysis, and accounts for selection bias. The dataset is based on labor force surveys over the period 2005–19 in Turkey and focuses on private sector employees. The findings highlight the disproportionate impact of temporary and informal employment on women's earnings and suggest that employment type can be a contributing factor to the gender pay gap in Turkey, particularly for low wage groups.

KEYWORDS

Gender pay gap, bargaining, temporary contract, informal employment, wage, Turkey

JEL Codes: J16, J21, J31

HIGHLIGHTS

- In Turkey, employment opportunities, social norms, and gender roles limit women's bargaining power.
- Gender inequalities in bargaining can vary significantly across employment types.

- Women employees with temporary or informal jobs suffer from larger pay penalties.
- Residual gender pay gaps are larger for low-paid temporary and informal workers.

INTRODUCTION

The relationship between different types of employment and wages is extensively studied across several countries (Booth, Francesconi, and Frank 2002; Mertens and McGinnity 2005; Comi and Grasseni 2012; Lehmann and Zaiceva 2013; Bosio 2014; Aleksynska and Berg 2016; Tansel and Acar 2016; Ben Yahmed 2018; Duman 2019). However, there are few studies examining how this link might vary across gender, and their findings are inconclusive (Kahn 2016; Lass and Wooden 2019). Bargaining theory posits that workers with low bargaining power receive lower pay. An individual's bargaining position in the labor market depends on resources, institutions, policies, and legal setting (Grimshaw 2011; Folbre 2021a). Also, there can be major differences in bargaining power across gender if social norms are unfavorable to women and perceptions about the value of their work are biased (Agarwal 1997; Folbre 2021b). Moreover, it has been argued that even among high-skilled workers, there are gender differences in bargaining due to a greater reluctance of women to negotiate salaries and women having lower salary expectations (Roussille 2020; Biasi and Sarsons 2022).

Gender inequalities in bargaining can be more prevalent for temporary and informal jobs, and hence we expect a higher wage penalty for women in these positions. Moreover, we argue that the inverse association between wages and non-permanent contracts is larger for low-paid women. While low-paid employees in general are expected to suffer from greater pay cuts due to temporary contracts and informality, the size of the penalty would be especially higher for low-paid women given their lower resources and expectations. Consequently, gender wage gaps and share of unexplained component (residual gap) are expected to be larger in temporary and informal jobs since women's bargaining power is deeply constrained by social norms, gender roles, and discrimination.

Gender inequalities in bargaining would be elevated in societies where care duties fall disproportionately on women, the male breadwinner model is widely accepted, and demand for women's labor is severely restricted. Turkey is a good example of such a context with an unfair distribution of family responsibilities between men and women. For instance, in 2015 Turkish women, on average, spent nearly five hours on household and family care in a day, while the same time for men was merely 56 min (Eurostat n.d.). Moreover, there is a sizable gender gap in employment, particularly for low-educated women. The employment rate of men was 34

percentage points higher than that of women in 2019, and the difference gets as large as 38 percentage points for women with less than tertiary education. This coupled with the large gender gap in inactivity means that labor market opportunities of Turkish women are limited to a great extent, and consequently their bargaining power is weakened. Additionally, the similar temporary and informal employment rates of men and women wage workers in Turkey permit us to inspect whether varied effects on wages are related to lower bargaining power rather than a higher share of women holding such contracts.

To assess the relationship between temporary, informal employment and wages across gender, we employ an unconditional quantile regression technique and counterfactual decomposition analysis, and control for selection bias. The data are based on labor force surveys over the period 2005–19, and we focus on private sector employees in Turkey. Our findings reveal that both temporary and informal employment reduces hourly earnings of women at the bottom end of wage distribution even after controlling for selection into labor force and employment types. For men, negative effects of temporary employment disappear at the mean and there are considerable wage gains at the top. While informal sector jobs are inversely related to both women's and men's hourly earnings at the lower quantiles, for women the magnitude of impact is much larger. These results support our argument that wage penalties for women in temporary and informal jobs are higher, especially for the low-paid employees, who are more likely to have weaker bargaining power.

We also expose that the gender pay gap within each employment category is quite distinct in terms of both size and role of endowments and returns. There are significant differences between the earnings of women and men holding permanent and formal contracts in Turkey, in favor of women. Among temporary and informal employees, men earn more at all quantiles. For temporary workers, we find that the gap is especially large for the top end, and a considerable part of the wage difference between genders is residual. A sizable gender pay disparity occurs at the bottom end for informal employees, which is almost fully explained by lower returns to characteristics. This implies that temporary contracts and informality are likely to generate wage disadvantages for women, and the particularly high residual pay gap for low-paid women workers might reflect lower bargaining power.

Our article contributes to the literature in several ways. First, we extend the studies that investigate the relationship between different types of employment and wages by looking at varied effects across gender and considering gender inequalities that can lead to unfair treatment of women's work. We also attempt to correct for selection bias in labor force participation and employment types to obtain more accurate wage effects of temporary contracts and informality. Finally, we take the diversity of

employment categories into account and compare the association between earnings and different forms of contracts in the private sector. In particular, we examine the wage impact of temporary contracts in the formal sector and informality as opposed to permanent and formal jobs across gender. Our findings can be also illustrative for other countries with similar labor market conditions and gendered division of labor.

EMPLOYMENT TYPE, WAGES, AND BARGAINING POWER OF WOMEN

Wage gaps between permanent and temporary or informal workers are often attributed to differences in preferences and bargaining power. According to the first view, individuals may agree to lower payment if temporary or informal positions serve as an instrument to receive permanent contracts or if workers use this period to search for jobs that better match their skills and preferences (Booth, Francesconi, and Frank 2002). Additionally, it has been argued that various benefits such as better reconciliation of work and life and higher control over work schedules in less secure and flexible jobs can compensate for the lower pay rates (Daw and Hardie 2012). On the other hand, bargaining theories suggest that higher wages of permanent employees arise from their stronger bargaining power as opposed to temporary and informal workers given legal protections and higher costs of firing (Bentolila and Dolado 1994). Also, people holding permanent contracts are much more likely to be represented by unions, while employees in precarious positions (temporary and informal) are subject to lower protection by labor legislation and union membership because of higher turnover and lack of integration of such workers into the collective bodies (Vosko, MacDonald, and Campbell 2009; Grimshaw 2011).

We add to this literature by arguing that wage implications of employment types can be divergent for men and women because of gender inequalities in bargaining. Individual bargaining power over work conditions is heavily shaped by a person's fallback options, which in turn are determined by human capital, networks, experience, assets, union membership, and coverage by collective bargaining, as well as access to social safety nets. Even under the same institutional and legal framework, fallback options might vary greatly between groups of workers due to their gender, sexuality, race, ethnicity, prevailing societal norms and values, and perceptions about "ideal workers" (Agarwal 1997; Folbre 2021b). The bargaining power of women as opposed to men will be lower if there are gender differences in education, asset ownership, labor market experience, and family support (Folbre 2021a). Similarly, different unionization rates, collective bargaining coverage, and level of social protection between men and women workers would lead to fewer fallback options for the latter,

and consequently lower bargaining power (Rubery and Grimshaw 2015). Moreover, the unequal share of care responsibilities between men and women, widely shared presumptions about women's work commitment and productivity, and culturally bound standards for appropriate behavior of women tilt bargaining power against women (Agarwal 1997).

Women's lower willingness to negotiate for higher pay and their lower salary expectations are also offered as important sources of gender inequality in bargaining and wage gaps (Roussille 2020; Biasi and Sarsons 2022). On the one hand, it has been shown that environmental factors such as gender composition of management is crucial for pay parity in settings where people are pushed to negotiate (Biasi and Sarsons 2022). Nonetheless, the intense gender roles and segregation in Turkey indicates that having a woman supervisor is not common. On the other hand, it is argued that disclosing information on median wages might correct the salary expectations of women (Roussille 2020), but such transparency is not likely to occur in temporary and especially informal jobs. Besides, women can adjust their wage expectations and ask for lower pay rates to maximize their employment opportunities in discriminatory markets. In other words, gender differences in fallback options can also be due to the realization of anticipated discrimination against women in the labor market (Caliendo, Lee, and Mahlstedt 2017). Since gender discrimination is more likely to occur in societies where there is a strong gender division of labor and cultural norms restricting women's activities outside the household, women in Turkey might be reducing their wage expectations considerably, especially in the presence of limited labor market opportunities. As a result, gender inequalities in bargaining might lead Turkish women to accept more insecure positions, such as temporary or informal jobs, or lower remuneration for the same of type of jobs in comparison to men.

It is well recognized in the literature that the bargaining power of temporary and informal workers can vary with wage distribution. Both the nature of tasks and human capital requirements for low and high paying jobs are fairly divergent, and depending on firms' demand and fallback options there can be major gaps in bargaining power between high- and low-educated workers. On the one hand, employers might be inclined to hire highly educated workers on a temporary basis to benefit from their specific qualifications (Aleksynska and Berg 2016). Given the relative scarcity of this group, higher demand would mean higher bargaining power and increased wages to compensate for job insecurity. On the other hand, firms might also hire workers casually (temporary or informal) because of demand fluctuations, but they would do so for activities that do not necessitate specific human capital investments (Mertens and McGinnity 2005). Since there are many low-educated workers, especially in developing countries, higher demand by firms would not translate into higher bargaining power and thus would enable them to offer low

wages to these groups. Also, demand for high- and low-educated workers might change across gender. For example, in many developing countries including Turkey, less-educated women's employment opportunities are severely limited to insecure, informal, and low-paid jobs as a result of an export strategy based on cheap labor (Berik and Rodgers 2010; Toksöz 2011).

In line with the above theories, we suggest that women in insecure jobs (temporary and informal) have lower bargaining power than men in the same position, and hence, they are more likely to face larger declines in their pay rates. We also expect that the negative relationship between wages and gender inequality in bargaining is more pronounced for low-paid women workers with temporary and informal jobs in Turkey. For women employees in Turkey, particularly low-educated ones, fallback options are highly limited given the cultural norms and demand constraints. The male breadwinner model and perceptions about women's greater dependence on household income rather than paid employment are still dominant views in Turkey. These beliefs can lead to lower remuneration because of incorrect valuation of waged contributions of women workers and underestimation of their labor's worth (Agarwal 1997). For example, male unemployment in the household is found to be a strong push factor for women's labor force participation in Turkey, which highlights the secondary earner status of women (İlkkaracan 2012). Male breadwinner and rigid gender roles can also result in women selecting into insecure jobs because family responsibilities need to be prioritized, and it has been shown that Turkish working women are usually obliged to accept flexible and low-paying positions due to their secondary earner status and care duties (Dedeoğlu 2010). Persistence of the male breadwinner model in Turkey is also visible in the employment strategies, such as payment for home-based care, implemented by the government, which underscore women's main role as mothers and promote flexible forms of employment to accommodate their care responsibilities (Toksöz 2011).

To our knowledge, there are no empirical studies that directly examine the relationship between employment type, wages, and gender inequalities in bargaining power. The existing literature about pay effects of temporary and informal employment supports non-uniform consequences for low- and high-paid workers. While temporary and informal sector workers at the bottom of the wage distribution typically face large penalties, toward the upper end, these penalties get smaller or even turn into premiums (Comi and Grasseni 2012; Lehmann and Zaiceva 2013; Bosio 2014). The few papers looking at wage consequences of temporary and informal employment in Turkey demonstrated a small negative effect of temporary contracts, and a large negative effect of informality. The temporary penalty is significant at all quantiles, and there is almost no change in wage reductions over the years (Duman 2019). In the case of the informality

penalty, sizable cuts in earnings are detected at the mean and for low-paid workers (Başkaya and Hülagu 2011; Tansel and Acar 2016). Even after controlling for unobserved heterogeneity, informality diminishes wages for low-paid workers, but it does not affect wages at the upper end (Duman 2020).

Research focusing on the gender pay gap in Turkey reach substantially different results based on data source and technique. For example, large pay differences are estimated at the mean using earlier survey years and in particular sectors such as manufacturing (İlkkaracan and Selim 2007; Cudeville and Gürbüzer 2010). In later studies that look at gender wage gaps across quantiles, much smaller differences have been identified, and no wage gap is found for low-paid workers after individual-, firm-, and industrial-level features are controlled for (Aktaş and Uysal 2016; Kaya 2019). It should be noted that the data source for these studies is the Structure of Earnings Survey, which only covers formal enterprises with more than ten employees and workers with social security registration. Thus, a large share of workers, and especially women with low bargaining power, are excluded. Moreover, even using the same dataset, another paper identifies a sticky floor effect within firms (Kaya 2019). It has also been argued that the gender wage gap in Turkey is much higher for low-educated women (Tekgüç, Eryar, and Cindoğlu 2017). Even though previous research on gender pay gaps is immensely beneficial in understanding labor market inequalities, these earlier studies do not consider the relationship between employment type and wages across gender in Turkey.

With regards to the relationship between various forms of contracts and wages across genders, temporary employment is shown to reduce the earnings of women in a number of European countries (Kahn 2016). However, temporary agency work and casual employment are increasing women's earnings, especially at the upper quantiles, in Australia (Lass and Wooden 2019). There is also no agreement on the impact of informal employment and women's wages. For instance, in Egypt it is found that women suffer from larger declines in their earnings, whereas the opposite effect is revealed in Brazil, with no significant difference in wage offers between men and women in informal sector (Ben Yahmed 2018; Tansel, Keskin, and Özdemir 2019). Also, for Turkey the results are inconclusive as, on the one hand, it has been found that after controlling for unobserved heterogeneity the relationship between informality and women's wages becomes insignificant (Tansel and Acar 2016). On the other hand, a recent paper suggests that in parts of the manufacturing sector that are export oriented and have a high share of women's employment, the gender gap in hourly wages is larger (Toksöz and Memiş 2020). Hence, the association between employment type and wages across gender remains an empirically open question.

There is no universal definition of temporary contracts, and in Turkey, temporary employment contains both fixed-term, casual, seasonal, daily work, and on-call duties. For permanent contracts, we use the Organisation for Economic Co-operation and Development (OECD) classification, which deems an employee who has unlimited contract duration or has a regular job that lasts for twelve months or more as permanent (Duman 2019). With regards to informal employment, definitional problems are even more acute, but we follow the legalistic approach and categorize workers without social security in the main job during the reference week as informal (TÜİK n.d.). In Turkey, flexible work arrangements are regulated by the seventh article of Turkish Labor Act no. 4857, which was enacted in 2003. On paper, employment protection legislation (EPL) is very rigid and there are several restrictions against the continual usage of temporary contracts. For example, valuable reasons for renewal should be provided to offer successive fixed-term contracts, and minimum wage legislation is applicable to the temporary contract holders (Duman 2014). However, enforcement is weak, many enterprises do not follow the legal stipulations, and there are ways to circumvent the stringent rules applying to temporary contracts. For instance, employers are given the ability to transfer a worker to another firm through private employment agencies. Also, workers in temporary positions do not have the opportunity to be protected by the collective agreements, and for informal sector workers, legal or collective protections are entirely missing (Duman 2014). Thus, as in many other countries, non-permanent and informal jobs in Turkey are likely to have more risks in terms of both pay and social benefits.

Figure 1 displays the incidence of temporary and informal jobs for men and women employees. Temporary contracts exist in both formal and informal sectors; however, we treat informal employees as one group and distinguish formal temporary employees as a distinct category. Between the years 2005 and 2019, non-permanent employment was quite stable in Turkey and almost at par across genders. While the incidence of temporary work for women increased from 1.1 percent to 3.2 to percent, for men the rise has been slightly larger, from 1.8 percent to 4.3 percent. Figure A1 in the Supplemental Online Appendix presents temporary employment for all workers (formal and informal sectors), and it can be seen that patterns are quite similar for the two genders. When we look at informality over the same period, for male employees the rate went down from nearly 40 percent to 16.8 percent. For women employees in Turkey, the share of informal employment contracted even more between 2005 and 2019, from 43.1 percent to 15.5 percent. Figure A1 exhibits informality for all workers, and although a downward trend also exists, women seem to have much

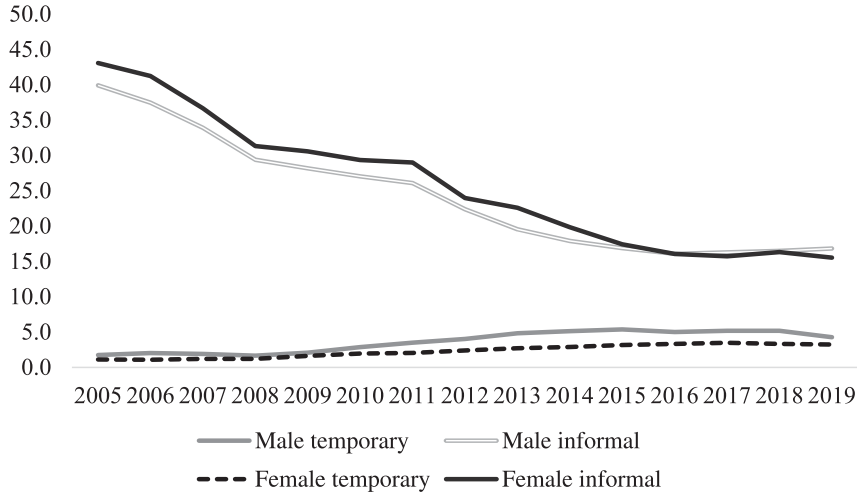

Figure 1 Share of formal temporary and informal employment in Turkey among employees
Source: Author's calculations based on TÜİK (2005–19).

larger share of informal employment, which is due to unpaid family work in agriculture. These figures clearly indicate that temporary and informal employment in Turkey is pervasive for both genders. Comparable rates of non-permanent jobs among men and women employees makes the Turkish case suitable for examining whether differences in wages are due to lower bargaining power of women rather than higher presence of women in such jobs.

As discussed in the previous section, fallback options of women are vastly constrained by care responsibilities, especially for low-educated women. Table 1 presents time spent and participation rates on household and family care across gender in Turkey based on Time Use Survey (TUS) data collected in 2015. On average, women allocate nearly five hours of their daily time to care, and 95 percent of women participate in such activities. In contrast, the amount of time spent by men is barely fifty-six minutes and less than 54 percent of men participate in household and family care. The differences grow when we consider low-educated men and women. For example, among women with less than high school education, time spent on care duties goes up to five hours and twenty-three minutes, whereas for men in the same category it decreases to fifty-three minutes. Likewise, the gap in participation ratios gets larger, with nearly 96 percent for women and 49 percent for men. It should be noted that in Turkey, highly educated women, on average, undertake a larger part of household and family caring, approximately three times more than men. These findings

Table 1 Household and family care by gender – 2015

	Men		*Women*	
	Time spent	*Participation (%)*	*Time spent*	*Participation (%)*
Less than high school	53 min	49.0	5 h 23 min	95.8
High school	52 min	55.0	4 h 41 min	92.8
More than high school	1 h 2 min	63.0	3 h 36 min	90.7
Total	56 min	53.4	5 h 1 min	95.0

Source: Eurostat (n.d.).

are confirmed in other studies using an earlier wave of TUS in 2006, which also document substantial gender gaps for household and family care as well as gaps being larger for less educated women (Kongar and Memiş 2017; Gündüz and İlkkaracan 2019).

Another impediment to the bargaining power of women in Turkey occurs in employment, specifically for individuals with less than tertiary education. From Figure 2, it can be observed that the difference in employment rates between men and women with less than high school is around 35 percentage points whereas the same gap is less than 15 percentage points for university graduates. Similarly, inactivity rates are considerably higher among low-educated Turkish women. For example, among women primary and secondary school graduates, the share of inactivity exceeds 74 percent, but this figure is a little below 34 percent for men with the same level of education, corresponding to a gap of 38 percentage points. Even women with university degree in Turkey are more constrained in the labor market than men, given their higher unemployment rate. Nonetheless, the lower unemployment rate of women with less than tertiary education can be misleading since the majority of them might be discouraged from looking for jobs. We also look at gender gaps in previous years and reach the same findings: women with lower levels of schooling in Turkey are much less likely to enter the labor market and to obtain employment after entrance. Gender roles play a major part in this distinction, since women with low education are more likely to find themselves in a traditional division of labor and thus to assume unpaid care responsibilities (İlkkaracan 2012).

DATA AND METHODOLOGY

Data description

The main data source of this study is Household Labor Force Statistics (HLFS) collected by the Turkish Statistical Institute. A pooled dataset is formed for the period between 2005 and 2019, which includes all the

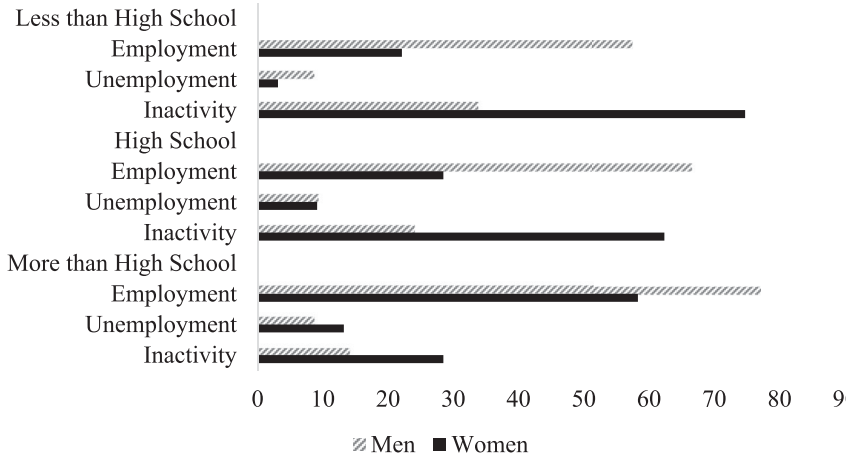

Figure 2 Gender gap in employment, unemployment, and inactivity across education – 2019
Note: Bars represent men's and women's employment, unemployment, and inactivity rates at each educational category.
Source: Author's calculations based on TÜİK (2019).

years in which the survey has questions on contract types and informality. Years after 2019 are not added to the analysis since the COVID-19 pandemic has greatly affected labor markets since 2020, which might distort the relationship between contractual arrangements and wages across gender. The survey annually covers nearly 150,000 households and 500,000 individuals, reporting a long list of demographic and detailed labor market characteristics. In total, the pooled dataset has more than 4.9 million observations covering workers between the ages of 15 and 64 years across all regions in Turkey. Since we are interested in the wage differentials across gender with different types of contracts, we had to exclude unpaid family workers, self-employed individuals, and individuals stated as employers because there are no earnings data for these groups in the survey. We also do not consider public sector employees in our analysis given the different wage setting mechanisms and lack of informality. This leaves us with 970,813 individuals, who are private sector wage and salaried workers, across a time span of fifteen years.

Demographic variables (age, gender, marital status), education, part-time status, experience, and firm level characteristics (number of employees) are based on variables in HLFS. We also include occupational dummies using International Standard Classification of Labour (ISCO-08) one-digit level, industrial dummies using Nomenclature of Economic Activities (NACE-Rev.2) classification, regional dummies at Nomenclature of territorial units for statistics (NUTS-1), and yearly dummies. Part time is proxied by a

question in the survey asking respondents if their main job is part time or full time. We added part time as a control variable rather than a distinct category of employment because there are very few (1.2 percent) part-time employees in the formal sector. Employment types are grouped according to the contractual and social security status of the respondents. To gauge temporary employment, we use the question listing whether the individual has a temporary or permanent contract. Unfortunately, the question does not specify any further distinctions in temporary employment such as fixed-term versus casual workers. Temporary employees in the formal sector makes up 5.3 percent of all wage and salaried workers in the sample. Informality is proxied by a lack of social security, which is based on a question that directly asks respondents if they are registered to any social security scheme, and in our sample 29.5 percent of wage and salaried workers are employed in the informal sector.

Table 2 describes the key variables that are utilized in our empirical investigation by gender. Men and women employees are quite similar in terms of employment type, tenure, and firm size, while in terms of education, age, and marital status there are differences. Table A1 in the Online Appendix presents the distribution of key variables for selected years, and trends are highly comparable, with a decreasing rate of informal employment and a slightly increasing share of temporary jobs for both genders. Women, on average and for the entire period, are younger, more educated, and non-married (both single and divorced). For example, 17 percent of women private sector employees in Turkey had a university education in 2005 while the same ratio was around 8 percent for men. In 2019, the share of university education rose to 34 percent for women and 19 percent for men. They also differ in terms of part-time employment, but (as mentioned above) very few employees in our sample work part time.

Monthly wages are obtained from the survey question that asks individuals about their total earnings from work net of taxes. To calculate hourly wages, we first divide the reported monthly earnings in the respective year by the total number of hours worked. Regarding working time, there are two indicators in the LFS: usual hours worked in the main job and actual hours worked during the reference week. We cross checked whether there are major deviations between these measures across gender. Usual working hours are on average a little higher than actual working hours for each category of employment and for both men and women, as shown in Table A3 in the Online Appendix. Temporary, especially casual, workers and informal employees might have more erratic working schedules in comparison to permanent workers, and hence their actual working hours might not match their usual ones.

As discussed in the previous section, the labor supply of women in Turkey is highly inhibited by care responsibilities. This is also visible from Online Appendix Table A2, since women appear to work fewer

Table 2 Share of key variables across gender (%)

	Men	*Women*
Employment type		
Permanent and formal	72.0	71.7
Temporary and formal	3.7	2.3
Informal	24.3	25.9
Age (years)		
15–24	19.3	27.4
25–55	77.5	70.9
> 55	3.2	1.8
Education		
Less than primary	3.8	6.6
Primary	34.0	25.2
Secondary	22.9	14.9
High school	26.1	27.3
University	13.1	26.1
Marital status		
Married	67.7	49.2
Single	32.3	50.8
Tenure (number of years in the job)		
Less than 1 year	22.4	23.5
1–10 years	64.9	69.5
More than 10 years	12.7	7.0
Working time arrangements		
Full-time	98.0	93.9
Part-time	2.0	6.1
Firm size (number of employees in the firm)		
< 10 employees	39.8	35.9
10–50 employees	28.3	31.3
> 50 employees	31.9	32.8

Source: Author's calculations based on HLFS (2005–19). Sampling weights are used for each year.

hours than men. Hence, analyzing hourly wages can potentially downplay the negative relationship between employment types and earnings across gender. Moreover, in Turkey, salary negotiations take place for monthly net wages. Nonetheless, most of the existing studies adjust for working hours, and to make our results comparable we also use net hourly pay rates. However, our findings should be taken as lower bound estimates for wage penalties and gender pay gaps. We also present the results for monthly wages to ensure that the relationship between employment type and wages is not driven by gaps in working hours. In the final step we adjust by the consumer price index (CPI) to compute real wages, and in the estimations we transform monthly and hourly real wages to their natural logarithm.

Table 3 Average wages and raw gap by employment category across genders

	Men	*Women*
	Monthly real wages	
Overall	1,413	1,294
Permanent	1,571	1,501
Temporary	1,284	908
Informal	936	693
	Difference	
Permanent vs temporary	287	592
Temporary vs informal	349	216
Permanent vs informal	635	808
	Hourly real wages	
Overall	6.62	6.79
Permanent	7.42	7.75
Temporary	5.86	5.30
Informal	4.27	3.97
	Difference	
Permanent vs temporary	1.56	2.45
Temporary vs informal	1.59	1.33
Permanent vs informal	3.15	3.78

Source: Author's calculations based on HLFS (2005–2019). Sampling weights are used for each year. Only for private sector employees.

Figure A2 shows wage distributions for each gender across employment categories, and in line with our expectations, temporary and particularly informal sector wages are clustered at the lower end. From Table 3, it can be observed that women, on average, earn slightly more than men in permanent employment when hourly wages are considered. This is due to the higher education of Turkish women employees, which is also shown in other studies (Tekgüç, Eryar, and Cindoğlu 2017). On average, more than 36 percent of women in permanent jobs have high school education or higher, whereas the ratio is 17 percent for men in the same category. When monthly real wages are taken into account, women employees in permanent positions earn slightly less than men, which is due to their lower average weekly working hours.

The differences between genders are more visible when we look at temporary and informal employment. In both types, women earn less than men by hourly and monthly terms, and whether gender pay gaps for temporary and informal workers are due to endowments or returns is investigated in the following sections. However, it should be noted that there are also sizable within-gender gaps, as women with permanent jobs in Turkey seem to earn more than their temporary and informal counterparts.

Although this is also the case for male employees, the variation is greater for women. For example, informal women workers make nearly 808 TL less than women workers in permanent jobs, whereas the same difference is 635 TL for men. Similar findings are obtained with hourly rates, and once again women temporary and informal employees receive lower amounts in comparison to their counterparts in permanent jobs: 2.4 and 3.8 TL per hour, respectively. From the descriptive statistics, it appears that different types of employment have varying effects on men's and women's wages, which will be examined in more detail in the rest of the article.

Empirical strategy

As discussed earlier, the relationship between wages and employment types is expected to not be uniform along the distribution, especially for women. Therefore, we employ quantile regression (QR) techniques, which take the Mincerian base model and estimate the impact of temporary and informal employment and other covariates over the wage distribution. Standard QR models are conditional, which means that the association between dependent and explanatory variables can only be examined by looking at the specific distribution of the dependent variable. To obtain unconditional effects, we use the unconditional quantile regression (UQR) technique. This method allows us to see how the unconditional expectation of the dependent variable changes when the unconditional distribution of the explanatory variable changes (Firpo, Fortin, and Lemieux 2009). Since we are interested in how different categories of employment are linked to real wages for men and women, it is more useful to assume no conditionality on the distribution.

UQR is based on extending the concept of an influence function (IF), which is commonly employed as a tool for robust estimation that can easily be computed for each quantile of interest. Sergio Firpo, Nicole M. Fortin, and Thomas Lemieux (2009) add $v(F_Y)$ to IF to reach the recentered influence function (RIF) and show that RIF has the same properties as IF. Hence, it can be used to calculate the standard errors of any statistic for which RIF exists. In sum, RIF for a given quantile can be taken as a linear approximation of the nonlinear function of the quantile and captures the change of the unconditional quantile of the outcome in response to a change in the underlying distribution of the covariates (Firpo, Fortin, and Lemieux 2009; Fortin, Lemieux, and Firpo 2011). The estimation of RIF regressions under the linearity assumption enables us to interpret the coefficients similar to ordinary least squares (OLS), as the effect of a change in the mean of an explanatory variable in the respective quantiles. We compute the unconditional quantile partial effects based on RIF, and analyze the impact of temporary and informal jobs on wages along the unconditional wage distribution by specifying the following linear UQR for

selected quantiles of the unconditional distribution of real wages (q_π):

$$\mathrm{RIF}(\ln(w_i), q_\pi) = q_\pi + \mathrm{IF}(\ln(w_i), q_\pi) = q_\pi + \frac{\pi - I(lnw_i) \leq q_\pi)}{f\ln(w)^{q_\pi}} \quad (1)$$

Replacing the unknown components with their sample estimators in Equation (1) gives us the estimated RIF:

$$\overline{RIF}\ (\ln(w_i),\overline{q_\pi}) = \overline{q_\pi} + \overline{IF}\ (\ln(w_i), \overline{q_\pi}) = \overline{q_\pi} + \frac{\pi - I(lnw_i) \leq \overline{q_\pi})}{\bar{f}\ln(w)^{\overline{q_\pi}}} \quad (2)$$

$$E\overline{RIF}(\ln(w_i), \overline{q_\pi})|X_i, NSE_i = \bar{\sigma}_\pi + \overline{\beta'_\pi} X_i + \sum \overline{\delta_{j\pi}} I(NSE_{i=j})\ \mathrm{j} = 1 \ldots \mathrm{J} - 1 \quad (3)$$

where X_i is the vector of covariates and NSE_i is the employment type.

We also consider sample selection bias in our decomposition estimations. Both labor force participation and non-permanent (either temporary or informal) employment can be subject to selection bias, which can affect the gender wage gap. To remedy for these biases, we estimate two separate probit equations and include inverse Mills ratios in the UQR regressions and decompositions. The square of the inverse Mills ratio and its third power are also employed in the regressions to test for sensitivity of the model to specification. The article utilizes a similar approach to Heckman's two-step procedure, which was later revised by Moshe Buchinsky (1998) to be suitable for quantile estimation techniques. According to this method, control functions of the propensity score in the quantile regressions can be used to correct for the sample selection for additive models with independent errors. Given that RIF estimations have these properties, we use the two-step approach proposed by Buchinsky (1998). In the first step, the probability of individuals participating in the labor force and the probability of workers to be in temporary and informal jobs is estimated by the following equations:

$$LFP^* = Z_i'\gamma + u_i \quad (4)$$

$$NSC^* = B_i'\mu + v_i \quad (5)$$

where LFP^* and NSC^* are latent variables, Z and B are the vectors of explanatory variables, γ and μ are the coefficients to be estimated, and u_i and v_i are the error terms for labor force participation and type of employment.

The exclusionary variable in the Z vector includes the presence of children under the age of 6, who can be regarded as dependent. Women who have care responsibilities are expected to have a lower probability of entering the labor market. This variable is one of the most widely used in the literature to correct for the selection bias in labor force participation

(Blau and Kahn 2017). For B vector, the exclusionary variable is derived from a question in LFS about job searching, which asks whether the respondents have looked for another or an additional job during the reference week. If the person is employed and looking for a job, the dummy variable gets a value of 1; it is 0 otherwise. This variable is constructed with the idea that temporary and informal workers are more likely to be searching for jobs while employed in comparison to permanent workers. It has been also utilized in several other studies examining the wage gap across contract types (Picchio 2006; Bosio 2014). It should be noted that the self-selection correction by Heckman's model depends on the strength of the exclusion variable and accurate standard error estimation in the second stage. Although we ensure that the standard errors are corrected through bootstrapping, the choice of exclusionary variables is restricted due to data availability.

After obtaining the selection terms, we decompose the gender pay gap in three categories of employment: permanent, temporary, and informal. Firpo, Fortin, and Lemieux (2009) show that a corresponding Oaxaca–Blinder decomposition can be approximated for quantiles, and the method is based on two stages. First, we split the distributional changes into the composition (endowment) and wage structure (return) effects. The first component looks at the portion of the wage gap between men and women that can be ascribed to the observable individual and firm-level attributes such as gender, age, education, experience, firm size, full-time position, and social security. The second component focuses on the wage gap arising due to the returns on these characteristics and to what extent one group is treated more favorably in the labor market. To decompose the gender wage gap into these two parts, we generate a counterfactual wage distribution: the distribution of the wages of women employees if they had the same distribution of characteristics as male employees. In the second stage of the decomposition exercise, we run separate RIF regressions for women, men, and counterfactual wage distributions. Finally, the gender wage gap is split into explained (endowment effect) and unexplained (return effect) components at each quantile. The estimation equation becomes:

$$\begin{aligned}\bar{q}_{M\pi} - \overline{q_{F\pi}} &= \overline{RIF}(\ln(w_M),\ \overline{q_\pi}) - \ \overline{RIF}(\ln(w_F),\ \overline{q_\pi}) \\ &= (\overline{X_M} - \overline{X_F})\overline{\beta_\pi} + [(\overline{X_M}(\overline{\beta_{M\pi}} - \overline{\beta_\pi}) + (\overline{\alpha_{M\pi}} - \overline{\alpha_\pi})) \\ &\quad + (\overline{X_F}(\overline{\beta_{F\pi}} - \overline{\beta_M}) + (\overline{\alpha_{F\pi}} - \overline{\alpha_\pi}))] \qquad (6)\end{aligned}$$

β_π is the non-discriminatory wage structure that is estimated from the RIF regression for men at quantile π.

$(\overline{X_M} - \overline{X_F})\overline{\beta_\pi}$ captures the endowment effect and $(\overline{X_M}(\overline{\beta_{M\pi}} - \overline{\beta_\pi}) + (\overline{\alpha_{M\pi}} - \overline{\alpha_\pi})) + (\overline{X_F}(\overline{\beta_{F\pi}} - \overline{\beta_M}) + (\overline{\alpha_{F\pi}} - \overline{\alpha_\pi}))$ captures the returns to these endowments.

FINDINGS AND DISCUSSION

Relationship between employment types and wages across gender

Table 4 presents regression results at the bottom, mean, and top of the wage distribution for men and women employees separately. In Online Appendix Tables A3 and A4, full UQR models with all covariates (age, marital status, education, experience, firm size, occupational, industrial, regional, and yearly dummies) are displayed. As can be seen, for either gender, coefficients of temporary and informal jobs are not uniform across the distribution with or without selection terms. When we look at the male sample, temporary employment is not negatively associated with hourly wages in comparison to permanent status, except for the 10th quantile. The same relationship holds when we take selection into account, as the coefficient on temporary employment for men remains positive at the mean and 90th quantile. Only for bottom male earners are temporary contracts negatively linked to hourly wages, and the coefficient decreases from -0.8 log points to -0.7 points once selection bias is considered. The wage premium for temporary contracts may be due to compensation since firms could be willing to pay more to the skilled and productive individuals with less favorable working conditions such as job security (Mertens and McGinnity 2005; Garnero et al. 2016).

When we move on to women employees, it can be discerned that the negative association between temporary employment and wages is larger than that for men. Without controlling for selection bias, the coefficient on temporary contracts is -0.16 log points at the 10th quantile. Including selection terms slightly decreases the magnitude of the wage penalty for women holding temporary contracts for the bottom and top earners, and the coefficient becomes insignificant at the 90th quantile. However, in Turkey, both low-paid and women employees at the 50th quantile face the possibility of wage decreases under temporary employment. Also, unlike men, high-earning temporary women employees do not enjoy a pay premium. Our findings deviate slightly from the earlier research on the association between temporary employment and wages. Even though a U-shaped pattern has been identified previously, where both low- and high-paid workers are exposed to declines in pay (Duman 2019), this might be due to a lack of differentiation between formal and informal temporary workers.

Pertaining to informal sector jobs, these are inversely related to wages of male workers at the bottom of the distribution and at the mean in Turkey even after selection terms are added. Nonetheless, the magnitude declines from -0.43 log points to -0.4 log points for the 10th quantile, which corresponds to a 42 percent versus a 38 percent decrease in hourly earnings, respectively. Furthermore, informal employment is associated with an increase by nearly 10 percent in wages for the 90th quantile

Table 4 Relationship between temporary and informal employment and hourly wages

		10th	*Mean*	*90th*
Panel A: Men	Temporary	−0.08**	0.02**	0.10**
Without selection		(0.00)	(0.00)	(0.01)
	Informal	−0.43**	−0.12**	0.09**
		(0.00)	(0.00)	(0.00)
	R^2	0.24	0.52	0.31
	N	738,646	738,646	738,646
With selection	Temporary	−0.07**	0.03**	0.10**
		(0.00)	(0.00)	(0.01)
	Informal	−0.40**	−0.11**	0.07**
		(0.00)	(0.00)	(0.00)
	R^2	0.25	0.52	0.32
	N	738,646	738,646	738,646
Panel B: Women	Temporary	−0.16**	−0.05**	0.03**
Without selection		(0.01)	(0.00)	(0.01)
	Informal	−0.66**	−0.18**	0.23**
		(0.01)	(0.00)	(0.01)
	R^2	0.27	0.57	0.36
	N	232,048	232,048	232,048
With selection	Temporary	−0.15**	−0.05**	0.01
		(0.01)	(0.00)	(0.01)
	Informal	−0.65**	−0.18**	0.20**
		(0.01)	(0.00)	(0.01)
	R^2	0.27	0.57	0.37
	N	232,048	232,048	232,048

Notes: The reference category is permanent employment in the private sector. All specifications include control variables (age, education, marital status, experience, firm size, occupation, industry, region, and year). Bootstrapped standard errors are given in parentheses. ** and * denote statistical significance at the 0.01 and 0.05 levels, respectively. Unconditional quantile regression results with all covariates are presented in Online Appendix Tables A4–A5.

among men. Results from the sampled women are very similar to those for men, yet the magnitude of the coefficient is larger at every quantile. For example, hourly real wages are negatively related to informal employment among women with a coefficient of −0.65 log points, which is almost equal to a 48 percent reduction. Similarly, the average women employee in Turkey experiences an inverse association between informality and earnings. However, for the top quantile, there is a substantial premium, and the magnitude is even larger than that of high-paid men. Previous studies also establish large and negative effects of informality at the lower end, and positive impacts at the upper end (Tansel and Acar 2016; Duman 2020).

These findings are in line with our argument regarding the low bargaining power of women, especially those who are less educated, who face as a result more unfavorable consequences of temporary and informal employment.

To check the sensitivity of our results, we run the same regressions using monthly real wages instead of hourly real wages. As mentioned previously, women work fewer hours than men in every category of employment, and variation in the above coefficients might reflect differences in work hours. Table A5 in the Online Appendix presents estimation results with and without selection for labor force participation and employment type. It can be seen that for informality there is no change in the relationship to wages. As opposed to permanent workers, both male and informal workers at the bottom quantile and at the mean are earning less, and the coefficient is larger for women. Top earners across genders appear to have a positive association between informal jobs and monthly real wages, which is also the case for hourly real wages. The only deviation occurs in male temporary employment, as the positive association at the mean turns negative and nonsignificant with monthly real wages.

In Figure 3 we present the evolution of wage differentials across the whole distribution, at every 99th percentile for men and women. It can be seen that both temporary and informal employment have diverse outcomes for women and men in Turkey. While the pattern is quite comparable among temporary contract holders, the negative relationship between wages and temporary jobs turns positive around the 35^{th} percentile for men and the 70^{th} percentile for women. In the case of informal employment, the 70^{th} percentile is the turning point both for men and women workers, and at the higher end of the distribution there is a positive association between informality and wages. Interestingly, both earning penalties and premiums for women in informal jobs are larger than those for men in Turkey, which suggests that there are substantial within-gender variations. This could be due to greater constraints faced by low-educated women, as shown earlier. On the one hand, they assume a disproportionate share of household and family caring, and on the other hand their employment rate is meager.

In the next section, we examine whether varied effects of temporary contracts and informality across gender pay have a bearing on the pay gap. Given the larger negative coefficients for women at the lower end, we expect the gender wage gap to be larger in temporary and informal jobs. Moreover, the low bargaining power of women, especially less-educated women, would be reflected in a greater share of the unexplained component.

Gender pay gap across employment types

To further quantify and understand the relationship between temporary contracts, informality, and wages across gender, we perform

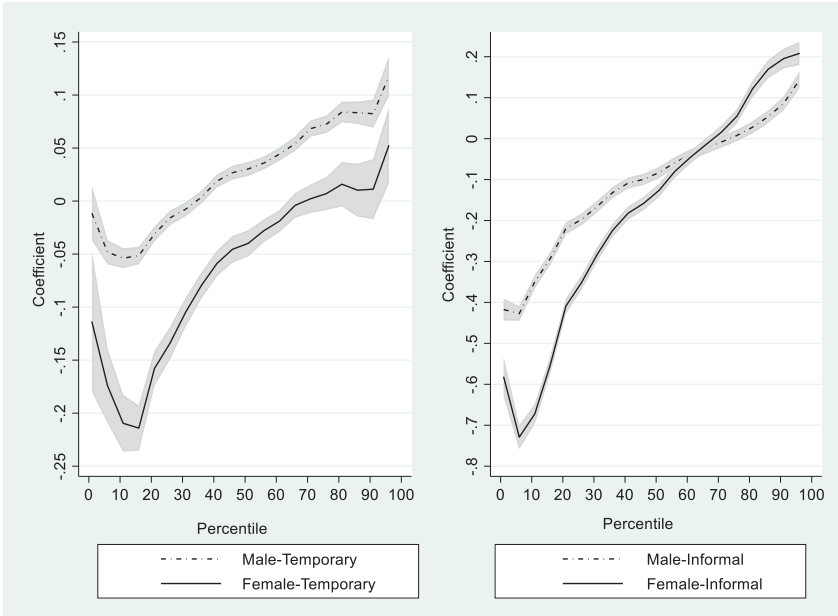

Figure 3 Coefficient and confidence intervals across the wage distribution by gender
Notes: The reference category is permanent employment in the private sector. All specifications include control variables (age, education, marital status, experience, firm size, occupation, industry, region, and year) and selection terms (labor force participation and employment type). The shaded area represents confidence intervals.
Source: Author's own calculations.

decompositions. Counterfactuals are formed by rewarding women's characteristics with men's returns. Given the differential effects of temporary and informal employment, we examine the gender pay gap for permanent and non-permanent workers separately. Table 5 exhibits the decomposition results across employment categories for the 10th and 90th quantiles as well as at the mean. As can be observed, the raw gap is negative for permanent employees, which indicates that women earn more than men, and the gap increases slightly toward the upper end. Turkish women in permanent and formal positions are making slightly more than their male counterparts. However, it should be noted that the differences are largely driven by endowments for the bottom end. At the 10th quantile, women earn nearly 3 percent more in terms of hourly real wages, and more than 70 percent of this is due to their better observable characteristics. The small and positive pay advantage for women workers in this category is similar to results in previous studies that highlight the variation in gender

Table 5 Decomposition of gender pay gap across employment types (in log points) – hourly wages

		Characteristics				
	Raw gap	*Demographic*	*Education*	*Job*	*Rest*	*Unexplained*
Permanent						
10th	− 0.03**	0.01**	− 0.02**	0.00	− 0.03**	0.01**
Mean	− 0.01**	0.02**	− 0.05**	0.01**	− 0.06**	0.07**
90th	− 0.07**	0.04**	− 0.12**	0.03**	− 0.13**	0.11**
Temporary						
10th	0.12**	0.03**	− 0.02**	− 0.02**	0.09**	0.04**
Mean	0.09**	0.03**	− 0.02**	− 0.02**	0.04**	0.06**
90th	0.13**	0.02	− 0.01	− 0.02	0.02*	0.13**
Informal						
10th	0.14**	− 0.02**	0.00	− 0.01**	0.06**	0.11**
Mean	0.10**	− 0.01**	0.00	0.00	0.03**	0.09**
90th	0.07**	0.00	− 0.01**	0.00	0.02**	0.06**

Notes: Only for private sector employees. Raw wage gap is $\log(\widehat{Wh}_M) - \log(\widehat{Wh}_W)$. Decompositions are based on recentered influence function regressions, and standard errors are calculated by bootstrapping with 100 replications. Demographic variables include age and marital status; education includes three categories: less than high school, high school, more than high school; job variables include experience and firm size; rest includes occupational, industrial, regional, and yearly dummies. ** and * denote statistical significance at the 0.01 and 0.05 levels, respectively.

pay gap for different groups of women, namely high- and low-educated women (Tekgüç, Eryar, and Cindoğlu 2017). The unexplained component increases at the mean and the top quantile, and accounts for the entire pay gap, and the positive sign means that men are positively discriminated. Thus, despite their more advantageous endowments, particularly high-paid women employees holding permanent contracts in Turkey are rewarded less than their male counterparts.

The results for temporary employment in the Turkish labor market are in sharp contrast to the above-described findings. Women earn significantly less than men, and the gap is especially large for the 10th and 90th quantiles – around 12 and 13 percent respectively. When we look at the unexplained component of the pay gap, for the bottom quantile it accounts for nearly 32 percent of the wage gap, while endowments are responsible for the rest. The negative coefficients on education and job-related variables for the 10th quantile and mean workers imply that women have better human capital and more experience, and are employed in larger firms. Yet they continue to receive lower wages, mostly due to unfavorable labor market returns for their characteristics. The unexplained component explains the full wage difference across genders at the 90th quantile among temporary

contract holders in Turkey. Hence, in accordance with our expectations, the lower bargaining power of women generates greater negative wage effects in less secure positions.

Parallel to temporary jobs, women have lower wages than men if they are employed in the informal sector. The gap is nearly 14 percent at the 10th quantile and 10 percent at the mean. For the top earners, the pay difference between genders diminishes but is still around 7 percent. For a full-time woman worker who is working forty hours a week, and making 5 TL per hour, this means a reduction by almost 637 TL in earnings per month. The reasons behind the gender wage gap in the informal sector are comparable to those affecting temporary employment. For women employees at the bottom end, observable characteristics such as demographics and job-related variables are hardly explanatory. In fact, informal women employees have better endowments than male employees, but the returns on these are significantly lower. A large contribution to the explained pay gap among informal sector participants emerges from occupational, industrial, and regional factors for low earners. At the mean and 90th quantile, the wage difference is almost entirely attributable to the unexplained component. The residual wage gap (unexplained) is approximately 0.09 log points for an average worker and 0.06 log points for a high earner, or, in other words, 89 and 83 percent of the raw pay difference, respectively.

In Turkey, women work fewer hours than men mainly due to their care responsibilities. To check whether hourly adjustment is distorting the gender wage gaps, we decompose monthly wages, and the full results are presented in Online Appendix Table A6. Figure 4 displays the residual pay gap for each employment category with hourly (Panel A) and monthly (Panel B) real wages. It is apparent that for women at the lower end of the distribution, informal jobs have the worst outcomes in terms of gender wage inequalities. These findings are not altered when monthly real wages are employed. At the mean, the share of the unexplained component is comparable across employment types; for women at the upper end of the distribution, temporary contracts fare relatively poorer. Only for women workers in permanent and formal positions is the residual wage gap small, especially for the 10th quantile. This is in line with earlier papers focusing on Turkey that look at gender pay differences using a sample of formal sector employees (Aktaş and Uysal 2016; Kaya 2017). All in all, our results clearly show that temporary and informal employment has gender-specific effects in Turkey. Women in such jobs earn significantly less than their male counterparts, and a large part of the pay difference is because of lower remuneration, which might be the result of their low bargaining power.

Since the Blinder–Oaxaca decomposition method depends on the group that is chosen as the reference category for no "discrimination," we test the robustness of our estimations by using the pooled sample

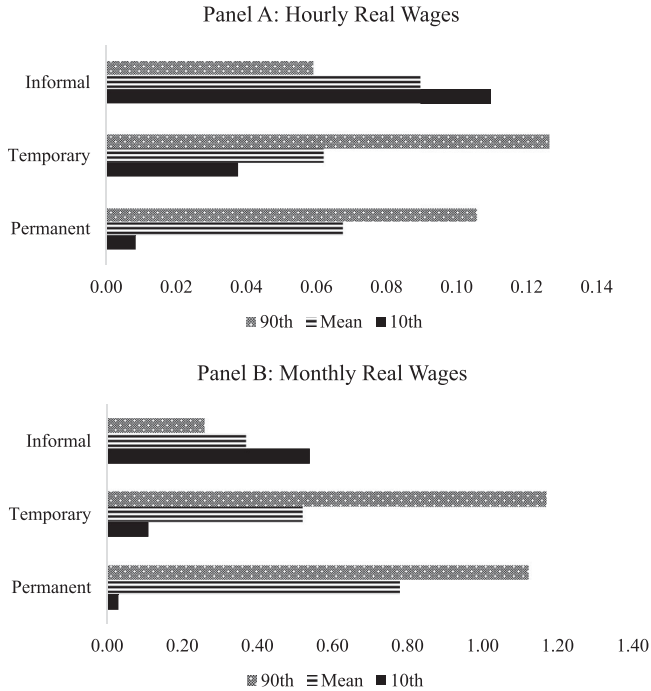

Figure 4 Unexplained component (residual gender wage gap) by employment type
Source: Based on decomposition results of Table 5 and Table A5 in the Online Appendix.

instead of men for reference parameters. Following Ben Jann (2008), a non-discriminatory wage structure is set by pooling both genders and controlling for group membership. The gender pay gap across employment types and distribution remain unchanged when reference parameters are obtained from the pooled coefficients. Figure A3 in the Online Appendix presents the residual pay gap (unexplained) after the pooling method is applied. As can be observed, the unexplained wage difference is highest for informally employed women at the bottom end of the distribution, while there are considerably lower returns for women temporary contract holders at the upper end. As in Figure 4, the residual gender pay gap is comparable across employment types at the mean, which hints at the importance of looking beyond averages.

CONCLUSION

The article investigated whether temporary or informal employment has varied effects on wages across gender, and whether low-paid women

experience greater earnings losses than men in such jobs. By utilizing a large nationally representative household dataset for Turkey, we first explored the relationship between temporary contracts, informality, and wages at different points along the wage distribution. Our findings reveal the diversity of earning impacts of temporary and informal sector employment across gender. Even after controlling for a rich set of observable characteristics and selection bias, temporary jobs decrease the hourly wages of women at the lower end of the distribution in Turkey. In contrast, the wage penalty for men holding temporary contracts vanishes at the mean, and there is even a premium at the upper end. Informal employment, on the other hand, has a negative impact on wages for both genders at the lower end of the distribution; however, the magnitude is greater for women. Hence, the article showed that in the Turkish context, the relationship between non-permanent and informal contracts and wages is gender specific, and it is mainly low-paid women who suffer a reduction in earnings.

Our decompositions of wage differentials for permanent, temporary, and informal employees strengthen these conclusions. Women in permanent positions earn slightly more than their male counterparts along the distribution, which can be attributed to the women's higher endowments. On the other hand, for temporary and informal workers, the gender pay gap is sizable, specifically toward the bottom end of the distribution, and is largely explained by low remuneration. While low-paid men earn more than low-paid women in temporary jobs, the gender pay gap is also significant at the top. Moreover, differences in earnings between men and women informal employees are present for each quantile along the distribution, with a major role played by the unexplained component. This implies that women in temporary and informal employment face further disadvantages in the Turkish labor market, and these disadvantages are even greater for the low paid. Large residual gaps also hint at gender inequalities in bargaining power and the accordingly poor remuneration women obtain for their more favorable endowments. All in all, our findings highlight the disproportionate effects of temporary contracts and informality on women's earnings and suggest that employment type can be a contributing factor to the gender pay gap in Turkey, particularly for low-wage groups.

The results of this study highlight the importance of looking beyond mean wage differences between permanent, temporary, and informal workers, and distinguishing the association between various forms of employment and earnings. It is apparent that high-paid temporary male workers in Turkey are benefiting from non-permanent contracts, as they receive a premium. For women in the same group, there is no wage penalty or premium, but if temporary jobs offer additional gains in flexibility, they would be also gaining from temporary work arrangements. Similarly,

high-paid women informal workers appear to be earning more in relative terms, but it should be noted that they might endure other hardships as they are not covered by social security. Informal employees, regardless of their wages, are not entitled to the same fringe benefits, legal protections, and collective representation. In contrast, women workers in low-paid temporary and informal positions face multiple disadvantages, including sizable earning penalties.

From a policy perspective, our findings can be useful to develop targeted measures that take gender aspects into consideration. As our results indicate, temporary contracts and informality are detrimental to the earnings of women, and particularly for the bottom earners. Our findings show that temporary and informal employment has greater negative effects for women, and thus more secure employment contracts could be useful in promoting gender equality. In countries with deeply gendered roles and an uneven distribution of caring responsibilities falling on women, such as Turkey, increasing the availability of permanent and formal sector jobs for women would help to raise their bargaining power. Akin to Turkey, in various developing countries gender roles are fairly rigid, leading to dismal labor market opportunities, notably among the low educated. Hence, our findings can be illustrative for other developing countries with adverse perceptions of women's work.

This article utilized several methodological extensions to provide unbiased estimations; however, a few limitations remain. First, we are unable to control for unobserved heterogeneity since we do not have panel data. Unobserved heterogeneity can be highly important as individuals may select into employment types according to their unobserved characteristics associated with different levels of productivity. We try to account for selection bias; however, our controls are limited by the availability of exclusionary variables. Second, we cannot include firm-specific factors in our estimations because we do not have a matched employer–employee dataset. Companies might have distinct wage and hiring policies, which in turn might shape the type of employment contracts they offer. Nevertheless, existing gender inequalities in bargaining power can still have more negative earning consequences for women even within same firm.

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SUPPLEMENTAL DATA

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