

# How to Improve the Quality of non-Agricultural Jobs for Women in Turkey? The Role of Contract Types, Informality and Earnings

Anil Duman

Central European University

Prepared for WIDER Development Conference in partnership with UNESCAP  
Transforming economies - for better jobs, 11-13 September 2019

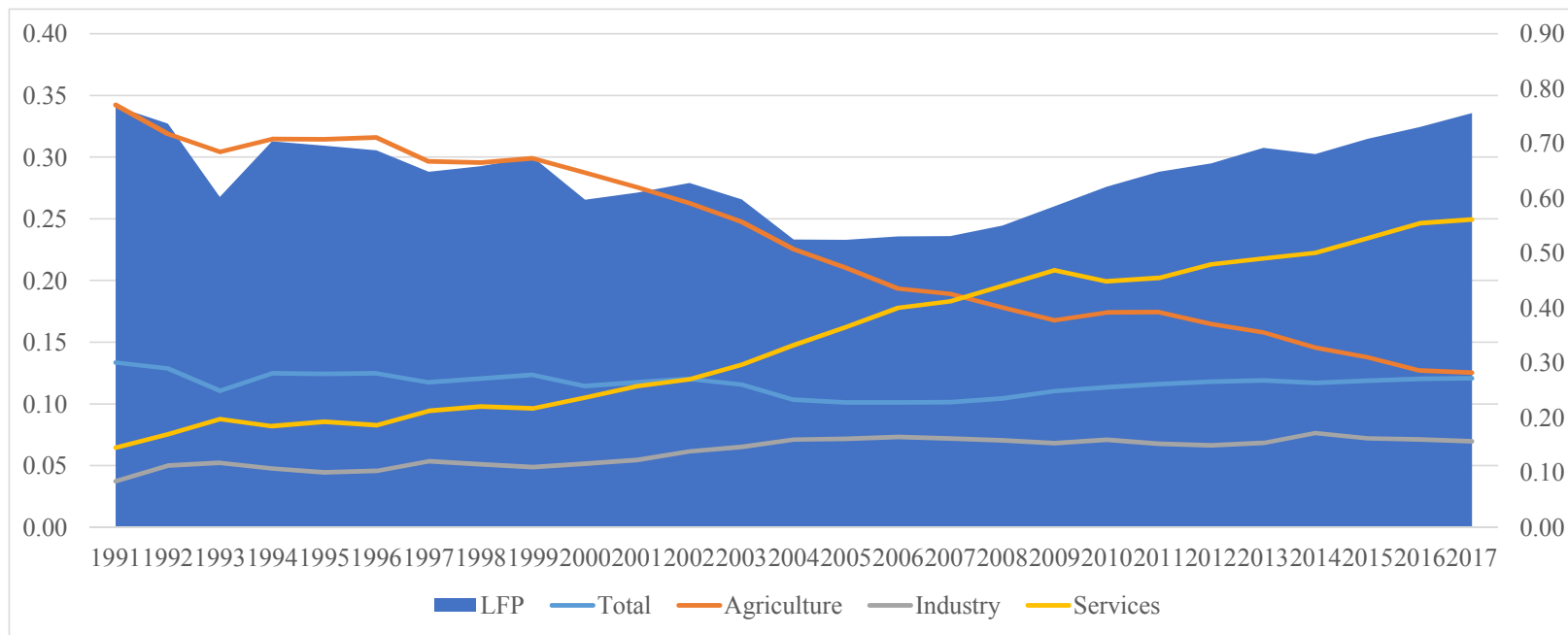
# Introduction

- Development and structural transformation to modern sectors (Lewis, 1954; Ranis and Fei, 1961)
- Premature deindustrialization and insufficient growth of manufacturing employment (Subramanian, 2014; Timmer et al., 2014; Rodrik, 2016)
  - a large part of the workforce shifts to the low productivity or informal service sector (McMillan and Rodrik, 2012)
- Varied forms of structural transformation; agriculture to manufacturing or services (Khan, 2007; Melamed et al., 2011)
  - high quality employment would be filled by people who have enough resources to learn about these opportunities and overcome the possible physical and societal barriers (Barros et al., 2011)
- Distributional consequences across gender is yet unclear especially with regards to pay gap (Gonzales, 2001)

# Main Argument

- Low quality employment –informal and temporary- reduces the wages for all workers but more so for women
  - Female workers both at the lower tail and upper tail of the earnings distribution face larger penalties for being in temporary positions
    - When it comes to temporary contracts, we assert that its effect on earnings differ not only along the distribution but also across gender
      - Temporary employment could affect gender wage gap in numerous ways through altering the careers of men and women distinctly and influencing occupational segregation
- Informality affects the wages negatively at the bottom end for each gender and positively at the top end
  - Formal-informal sector pay gaps remain to be positive, and both salaried and self-employed informal workers can enjoy gains if they move to the formal sector (Duman, 2019; Ben Salem and Bensidoun, 2012)
    - Hence, we propose that informal jobs in Turkey, on average, have lower quality and reduce the wages for both genders

# Background

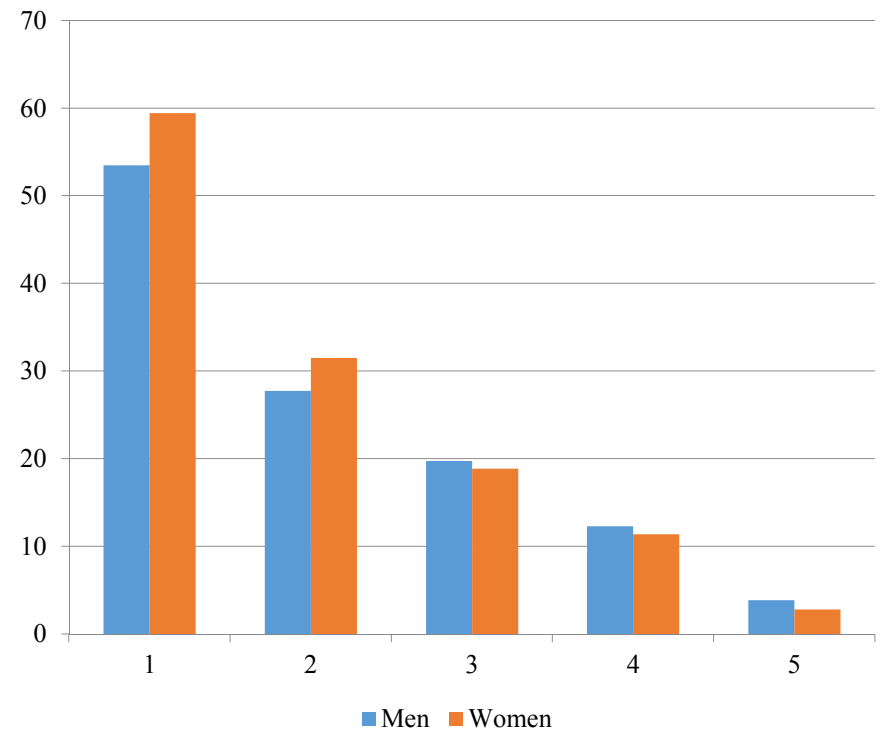
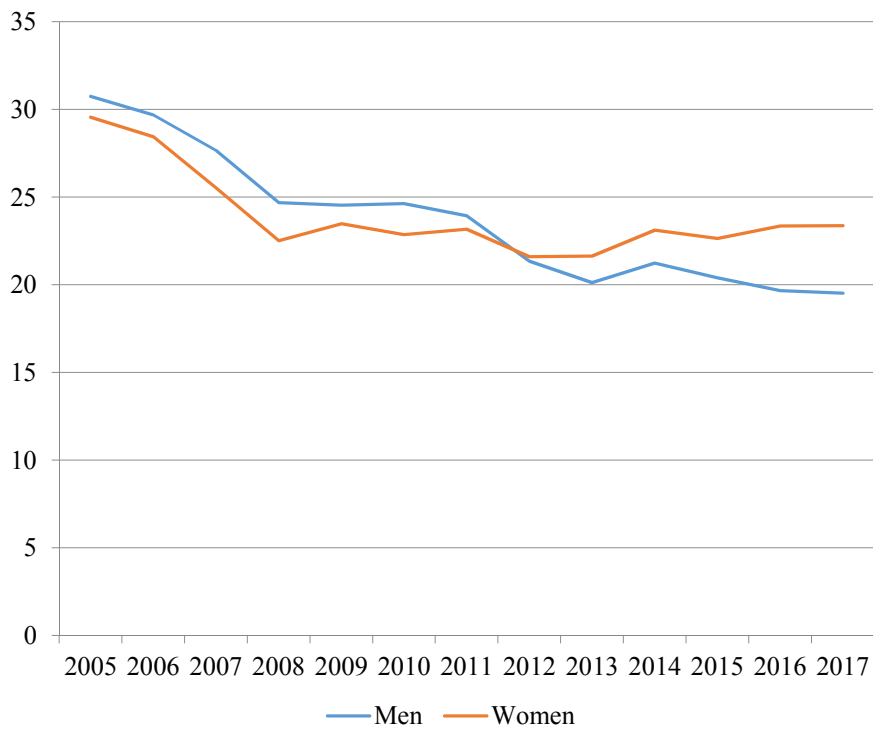


\*LFP scale is on the left y-axis and employment shares' scale is on the right y-axis

# Background

- Between 1991 and 2018, the share of employment in services rose from 34% to 61%, which was matched by an almost equal decline in the share of employment in agriculture for the same period from 46% to 16% (ILO.org, nd).
- This sectoral transformation is even more visible for female workers as the portion of women working in agriculture decreased from a staggering 77% to 28% between 1991 and 2018.
- While the male employment also went up in services, the growth rate of female employment is larger.
- Most of the female workers found employment in services and currently the employment share of services among female employees is around 57%, which is at par with the male employees (ILO.org, nd).

# Background



# Background

- Turkish experience can be seen as a successful case where plenty of service sector jobs were created to absorb the labor force that was previously employed in agriculture, at least when females are taken into account.
- It is also argued that job quality in Turkey has improved and the policy makers successfully increased the opportunities for labor market participants. For example, it is estimated that between 2014 and 2016, around 650,000 formal jobs were created in high value-added services such as education, health services, or public administration, and high value-added manufacturing (Levin et al., 2017).
- Nevertheless, it should be noted that the LFP of women in Turkey remains to be low, around 34% in 2017 despite a slight increase over the recent years.
- Moreover, a big chunk of the employment in Turkey is still concentrated in low skill-low pay activities, which hurt women disproportionately.

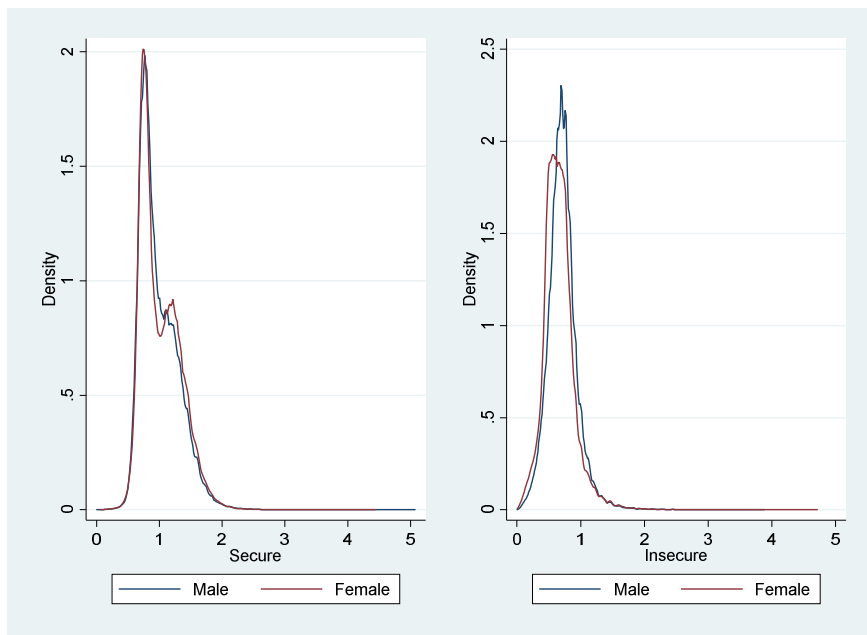
# Data

	Male	Female
<b>Contract Type</b>		
Temporary	13.81%	13.84%
Permanent	86.19%	86.66%
<b>Social Security</b>		
Registered	74.45%	69.68%
Unregistered	25.55%	30.32%
<b>Age</b>		
15-24 old	16.1%	21.27%
25-55 old	79.26%	75.84%
>55 old	4.64%	3.4%
<b>Education</b>		
Less than primary	3.44%	6.14%
Primary and secondary	32.27%	24.17%
High	44.27%	32.91%
University and higher	19.47%	34.29%
<b>Experience</b>		
Less than 1 years	22.5%	22.58%
1-10 years	53.37%	58.07%
More than 10 years	24.48%	19.35%
<b>Employment Type</b>		
Full-time	96.88%	90.91%
Part-time	3.12%	9.09%
<b>Size</b>		
< 10 employees	39.54%	37.38%
10-49 employees	26.38%	29.42%
> 50 employees	25.68%	25.80%
<b>Sector*</b>		
Private	77.68%	69.31%
Public	22.32%	30.69%

- 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 2017, which includes all the survey years that have a question on contract types.
  - The survey annually covers nearly 150,000 households and 500,000 individuals reporting a long list of demographic and detailed labor market characteristics.
- Since we are interested in the wage effect of temporary contracts and informality on male and female workers, we exclude unpaid family workers, self-employed individuals, and individuals stated as employers in the survey.
  - For the hourly wages we divide the net monthly earnings by the total hours worked in a month. In the estimations we transform hourly wages to their natural logarithm and calculate the real wages for each year using GDP deflator.
  - The temporary workers are defined as anyone who is currently employed and has a non-permanent contract, which derived from a direct question in the survey.
  - Informality is about the social security registration and HLFS asks to the respondents whether are registered or not.
- Our secure jobs in non-agricultural sectors include formal and permanent positions, which leave us with 1,106,533 observations and out of this 23.5 % are insecure jobs and there is no difference across genders.
- Additionally, we include dummy variables for industry according to NACE-Rev2 classification, dummy variables for occupation at the ISCO-08 2 digit level, dummy variables for regions at NUTS-1 level and dummy variables for the survey years.



# Data



- The mean log hourly wages for men and women are estimated to be 0.92 over the period under consideration, which points out that on average female and male earnings are at par in Turkey.
- However, there are substantial differences based on the contract type and informality.
  - For example, the mean log hourly wage among secure male workers is 0.99 but it is only 0.72 for male temporary workers.
  - The gap between the secure and insecure employment gets even larger for women with an average of 1.01 for the former and 0.66 for the latter group.
- These numbers hint at the fact that quality of jobs regardless of gender decrease the payments but women are still penalized more.
- We also use Kolmogorov-Smirnov test to check if the male or female wages are stochastically dominating.
  - It is confirmed that neither male nor female hourly wages stochastically dominate each other when secure employees are taken into account.
  - Once, the insecure employees are considered, male wages stochastically dominate female wages at 1% significance level.

# Methodology

- **Econometric Methods**
  - **Unconditional quantile regression**
    - Firpo et al. (2007) and Fortin et al. (2011)
      - Estimate the impact of explanatory variables on quantiles of the unconditional (marginal) distribution of log hourly wages.
      - By running a regression of the (recentered) influence function (RIF) of the unconditional quantile on the explanatory variables.
      - The main advantage of this method over conditional regression is that the estimated effects do not depend on the set of explanatory variables in the model
  - **Sample selection and contract selection biases (Heckman, 1979; Tunali, 1986)**
    - The wage gap between temporary and permanent employees could be affected by selection into informal sector and type of contract.
      - Selection into informal sector is captured by a variable that is based on the proportion of the informal sector workers to the number of all workers in each household.
      - Selection of temporary contracts is captured by a variable based on the question in the survey about job searching. If the person is employed and looking for a job, the dummy variable gets a value of 1 and 0 otherwise.

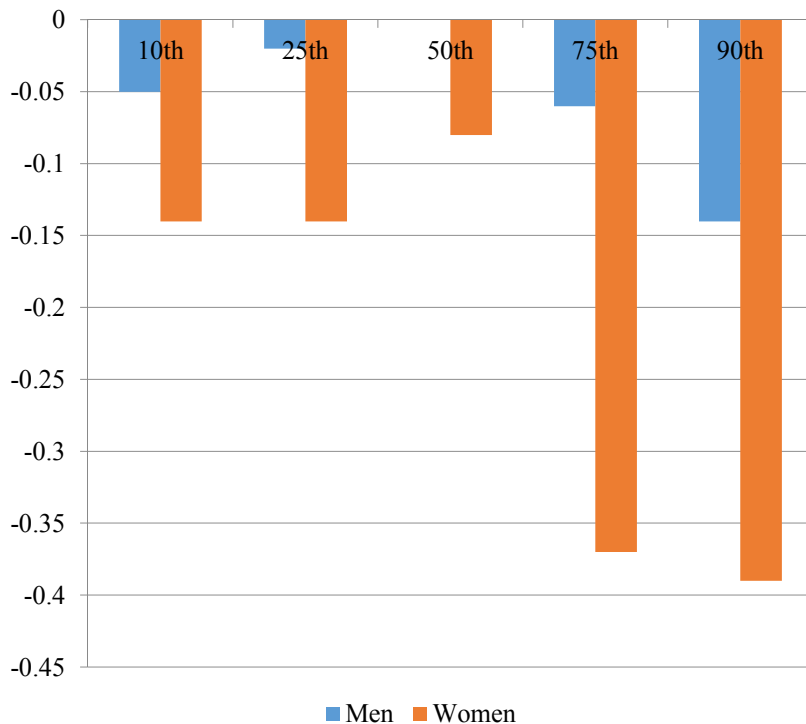
# Effect of Low Quality Jobs- Males

	10th	25th	50th	75th	90th
Insecurity	-0.05** (0.00)	-0.02** (0.00)	0.00 (0.03)	-0.06** (0.00)	-0.14** (0.00)
25-55 years	0.24** (0.00)	0.23** (0.00)	0.18** (0.00)	0.09** (0.00)	-0.01** (0.00)
>55 years	0.13** (0.00)	0.1** (0.00)	0.06** (0.00)	0.01 (0.06)	0.02* (0.01)
Primary	-0.01 (0.06)	-0.04** (0.00)	-0.04** (0.00)	0.00 (0.09)	0.02** (0.00)
Primary and secondary	-0.06** (0.00)	-0.04** (0.00)	0.01 (0.04)	0.06** (0.00)	0.06** (0.00)
High school	-0.04** (0.00)	0.01* (0.01)	0.09** (0.00)	0.2** (0.00)	0.16** (0.00)
University and above	-0.11** (0.00)	0.01* (0.01)	0.25** (0.00)	0.69** (0.00)	0.87** (0.00)
1-10 years	-0.06** (0.00)	-0.03** (0.00)	0.00 (0.02)	0.05** (0.00)	0.05** (0.00)
>10 years	-0.03** (0.00)	0.08** (0.00)	0.22** (0.00)	0.42** (0.00)	0.43** (0.00)
10-24 employees	0.09** (0.00)	0.1** (0.00)	0.09** (0.00)	0.1** (0.00)	0.08** (0.00)
25-50 employees	0.05** (0.00)	0.08** (0.00)	0.13** (0.00)	0.25** (0.00)	0.3** (0.00)
> 50 employees	0.12** (0.00)	0.22** (0.00)	0.26** (0.00)	0.3** (0.00)	0.22** (0.00)
Full-time	0.71** (0.00)	0.57** (0.00)	0.45** (0.00)	0.34** (0.00)	0.33** (0.00)
IF Selection Term	0.04 (0.08)	0.06 (0.06)	0.04 (0.08)	0.05 (0.07)	0.04 (0.08)
TC Selection Term	0.04 (0.06)	0.09 (0.08)	0.04 (0.06)	0.06 (0.05)	0.02 (0.06)
Industry	Yes	Yes	Yes	Yes	Yes
Occupation	Yes	Yes	Yes	Yes	Yes
Region	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes
No of obs.	830,525	830,525	830,525	830,525	830,525
R-Square	0.3	0.42	0.49	0.47	0.36

# Effect of Low Quality Jobs- Females

	10th	25th	50th	75th	90th
Insecurity	-0.14** (0.00)	-0.14** (0.00)	-0.08** (0.00)	-0.37** (0.00)	-0.39** (0.00)
25-55 years	0.15** (0.00)	0.22** (0.00)	0.24** (0.00)	0.16** (0.00)	0.02** (0.00)
>55 years	0.15** (0.00)	0.14** (0.00)	0.13** (0.00)	0.02 (0.04)	-0.08** (0.00)
Primary	-0.08** (0.00)	-0.01* (0.02)	-0.01 (0.03)	0.07** (0.00)	0.09** (0.00)
Primary and secondary	-0.18** (0.00)	-0.04** (0.00)	0.03** (0.00)	0.22** (0.00)	0.19** (0.00)
High school	-0.12** (0.00)	0.07** (0.00)	0.17** (0.00)	0.36** (0.00)	0.26** (0.00)
University and above	-0.17** (0.00)	0.13** (0.00)	0.44** (0.00)	0.9** (0.00)	0.56** (0.00)
1-10 years	0.03** (0.00)	0.01** (0.00)	0.04** (0.00)	0.11** (0.00)	0.05** (0.00)
>10 years	0.00 (0.08)	0.09** (0.00)	0.3** (0.00)	0.66** (0.00)	0.51** (0.00)
10-24 employees	0.06** (0.00)	0.09** (0.00)	0.1** (0.00)	0.18** (0.00)	0.14** (0.00)
25-50 employees	0.00 (0.06)	0.05** (0.00)	0.12** (0.00)	0.34** (0.00)	0.29** (0.00)
> 50 employees	0.07** (0.00)	0.12** (0.00)	0.18** (0.00)	0.4** (0.00)	0.24** (0.00)
Full-time	0.57** (0.00)	0.51** (0.00)	0.36** (0.00)	0.08** (0.00)	0.19** (0.00)
IF Selection Term	-0.02 (0.08)	0.08 (0.08)	-0.06 (0.07)	0.04 (0.04)	0.04 (0.04)
TC Selection Term	0.09 (0.08)	0.08 (0.08)	0.06 (0.06)	-0.07 (0.06)	-0.07 (0.06)
Industry	Yes	Yes	Yes	Yes	Yes
Occupation	Yes	Yes	Yes	Yes	Yes
Region	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes
No of obs.	275,907	275,907	275,907	275,907	275,907
R-Square	0.32	0.45	0.54	0.51	0.32

# Impact of Low Quality on Wages



- The median quantile of males is not facing any penalties for having a temporary or informal sector employment.
  - On the other hand, both ends of distribution experience declines in their wages with 5% and 14% for 10<sup>th</sup> and 90<sup>th</sup> quantiles respectively.
  - Hence, it can be concluded that most of the working men suffer from low quality jobs in Turkey ranging from 2% to 14% reductions.
- Women in the Turkish labor market experience much higher punishment from having low quality jobs.
  - At the 10<sup>th</sup> quantile female wages go down by 14% and the negative effect rises to 39% at the 90<sup>th</sup> quantile.
  - Also, for all the other quantiles of distribution the hourly earnings are negatively correlated to insecurity.
- At every quantile the wages for women are cut down more when there is temporary or informal sector employment, and the gap increases at the top end.
- This indicates that high skilled female workers in Turkey have substantial losses due to low quality and unless there is improvement in this area, women might not benefit from the structural transformation and movement into non-agricultural jobs.

# Effect of Temporary Contracts and Informality- Males

	10th	25th	50th	75th	90th
Temporary	0.28** (0.00)	0.06** (0.00)	0.06** (0.00)	0.01** (0.00)	-0.07** (0.00)
Informal Sector	-0.24** (0.00)	-0.17** (0.00)	-0.07** (0.00)	0.12** (0.00)	0.3** (0.00)
25-55 years	0.29** (0.00)	0.21** (0.00)	0.17** (0.00)	0.11** (0.00)	0.03** (0.00)
>55 years	0.09** (0.00)	0.07** (0.00)	0.05** (0.00)	0.05** (0.00)	0.09** (0.00)
Primary	0.02** (0.00)	-0.02** (0.00)	-0.03** (0.00)	-0.04** (0.00)	-0.04** (0.00)
Primary and secondary	0.00 (0.8)	0.01* (0.09)	0.03** (0.00)	-0.01** (0.00)	-0.08** (0.00)
High school	0.05** (0.00)	0.08** (0.00)	0.12** (0.00)	0.09** (0.00)	-0.03** (0.00)
University and above	0.00 (0.4)	0.1** (0.00)	0.3** (0.00)	0.55** (0.00)	0.61** (0.00)
1-10 years	-0.04** (0.00)	-0.01** (0.00)	0.01** (0.00)	0.06** (0.00)	0.05** (0.00)
>10 years	-0.02** (0.00)	0.1** (0.00)	0.23** (0.00)	0.43** (0.00)	0.44** (0.00)
10-24 employees	0.1** (0.00)	0.1** (0.00)	0.09** (0.00)	0.09** (0.00)	0.06** (0.00)
25-50 employees	0.06** (0.00)	0.09** (0.00)	0.13** (0.00)	0.23** (0.00)	0.27** (0.00)
> 50 employees	0.14** (0.00)	0.23** (0.00)	0.27** (0.00)	0.27** (0.00)	0.17** (0.00)
Full-time	0.58** (0.00)	0.47** (0.00)	0.4** (0.00)	0.47** (0.00)	0.59** (0.00)
IF Selection Term	0.05 (0.5)	0.02 (0.6)	0.02 (0.6)	0.04 (0.5)	0.04 (0.5)
TC Selection Term	0.05 (0.5)	0.08 (0.7)	0.08 (0.7)	0.07 (0.6)	0.07 (0.6)
Industry	Yes	Yes	Yes	Yes	Yes
Occupation	Yes	Yes	Yes	Yes	Yes
Region	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes
No of obs.	830,524	830,524	830,524	830,524	830,524
R-Square	0.3	0.42	0.49	0.47	0.36

# Effect of Temporary Contracts and Informality- Females

	10th	25th	50th	75th	90th
Temporary	-0.16** (0.00)	-0.08** (0.00)	-0.08** (0.00)	-0.31** (0.00)	-0.34** (0.00)
Informal Sector	-0.46** (0.00)	-0.3** (0.00)	0.16** (0.00)	0.77** (0.00)	0.5** (0.00)
25-55 years	0.14** (0.00)	0.22** (0.00)	0.25** (0.00)	0.21** (0.00)	0.06** (0.00)
>55 years	0.09** (0.00)	0.12** (0.00)	0.17** (0.00)	0.18** (0.00)	0.05* (0.2)
Primary	-0.02* (0.2)	0.02* (0.2)	-0.04** (0.00)	-0.11** (0.00)	-0.05** (0.00)
Primary and secondary	-0.05** (0.00)	0.02* (0.2)	-0.05** (0.00)	-0.17** (0.00)	-0.11** (0.00)
High school	0.05** (0.00)	0.16** (0.00)	0.06** (0.00)	-0.17** (0.00)	-0.14** (0.00)
University and above	0.05** (0.00)	0.24** (0.00)	0.29** (0.00)	0.25** (0.00)	0.04** (0.00)
1-10 years	0.02** (0.00)	0.01** (0.00)	0.03** (0.00)	0.1** (0.00)	0.04** (0.00)
>10 years	-0.02** (0.00)	0.09** (0.00)	0.29** (0.00)	0.66** (0.00)	0.51** (0.00)
10-24 employees	0.07** (0.00)	0.1** (0.00)	0.09** (0.00)	0.13** (0.00)	0.1** (0.00)
25-50 employees	0.03** (0.00)	0.07** (0.00)	0.1** (0.00)	0.24** (0.00)	0.22** (0.00)
> 50 employees	0.12** (0.00)	0.14** (0.00)	0.15** (0.00)	0.25** (0.00)	0.13** (0.00)
Full-time	0.37** (0.00)	0.4** (0.00)	0.51** (0.00)	0.8** (0.00)	0.75** (0.00)
IF Selection Term	0.03 (0.3)	0.02 (0.3)	-0.04 (0.4)	-0.04 (0.4)	-0.05 (0.4)
TC Selection Term	0.06 (0.4)	0.06 (0.4)	0.08 (0.7)	0.08 (0.7)	0.05 (0.6)
Industry	Yes	Yes	Yes	Yes	Yes
Occupation	Yes	Yes	Yes	Yes	Yes
Region	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes
No of obs.	275,907	275,907	275,907	275,907	275,907
R-Square	0.32	0.45	0.54	0.51	0.32

# Findings

- While male workers in Turkey don't suffer from non-permanent forms of contracts with the exception of the 90<sup>th</sup> quantile, female workers along the distribution get hurt and the negative effect is very high.
  - The bottom earners saw a decline of 16% and at the top end of distribution, the ratio goes up to 34%.
  - On the other hand, men at the 10<sup>th</sup> quantile enjoy wage premiums from temporary positions, almost by 30% and the positive coefficients decline to 1% at the 75<sup>th</sup> quantile, and then turn to negative 7% at the 90<sup>th</sup> quantile.
- Informality has a similar pattern across gender since it appears to be negatively correlated with hourly wages both for men and women.
  - At the 10<sup>th</sup> quantile, informal sector employment reduces earnings by 24% for males and by 46% for females.
  - However, informality has a positive impact for the upper end of the distribution and increases wages by 30% for males and 50% for females in Turkey.
  - These findings suggest that informality is diverse and there are high skilled workers who are voluntarily choosing to have unregistered occupations.
- Overall, low quality of non-agricultural jobs in the Turkish labor market depend both on temporary nature of these positions and informality.
  - While for the bottom male earners, informality is the primary obstacle, for the top male earners, it is the opposite. With regards to female bottom earners both non-standard forms of contracts and informal sector employment are unfavorable.
  - For the top female earners, it is the temporary positions rather than informality lowering the wages and hence the quality of jobs.



# Conclusions

- It is well known that there are various barriers hindering women's labor force participation and employment opportunities in Turkey.
  - From the supply side, household responsibilities including child and elderly care heavily fall on women. Also, there are still educational gaps across genders in Turkey especially at the upper secondary level.
  - From the demand side, discrimination in the labor market, constraints for entrepreneurship and lack of access to finance are important.
- Our paper reveals another impediment in the form of temporary contracts and informality limiting the opportunity to have well-paid and secure employment for women in Turkey.
  - The findings showed that quality of jobs in non-agricultural sectors negatively affects the hourly earnings for both genders; however, female employees experience much higher reductions in their wages.

# Policy Recommendations

- Stricter restrictions on temporary contracts for potentially disadvantaged groups
  - Temporary positions hamper productivity and skill investments due to particularly negative effects at the top
- Facilitate smoother transitions between jobs for women and reduce interruptions in their work histories
  - Subsidies and income support for non-standard employees
  - Incentives to turn contracts into permanent ones
- Easing social security eligibility requirements and extending employment protection legislation (EPL)
  - Big gap between de jure and de facto protection due to informality and exemption of SMEs

Thank you!