

# Job Training and Job Search Assistance Policies in Developing Countries

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## README for Data Availability and Code

The code in this replication package constructs the Table and Figures for this Journal of Economic Perspectives paper using Stata. One main do file is used to construct all these tables and figures, while a second do file shows how extracts were obtained from original public use labor force survey datasets and combined to create the data file used for constructing Table 1. The entire code should run in less than 5 minutes.

### DATA AVAILABILITY AND PROVENANCE

#### Figure 1: Unemployment Rates

Data are from the World Bank's World Development Indicators, July 25, 2023 update, and are for 2022. No registration is required to use this website and access these data.

Series SL.UEM.TOTL.ZS: Unemployment (% of total labor force) (Modeled ILO estimate) available at: <https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS>

Series SL.UEM.1524.ZS: Youth Unemployment (% of total labor force ages 15-24) (Modeled ILO estimate) available at: <https://data.worldbank.org/indicator/SL.UEM.1524.ZS>

The top 20 countries in terms of overall unemployment, along with Spain, Greece, and the United States are then saved in the Stata file `Figure1UnemploymentRates.dta`

#### Table 1: Main methods of finding jobs in developing countries

Note: raw data for the subsample who are employed and answer these questions are used for each survey, without using any survey weighting or other adjustments. The raw files are not contained in the public dataset, but can be downloaded through the links provided. The Stata do file `JobSearchMethod.do` provides code to extract the variables used in the paper from these raw files, and then combines them into the data file `Table1jobmethods.dta` used for Table 1.

*Data from the World Bank's Open Data Library*

Data are provided under the World Bank's public access conditions, which require registration on the website, and does not allow for the redistribution of the raw data.

**Jordan:** New Work Opportunities for Women (NOW) Pilot Impact Evaluation 2010-2013

*Sample:* Community colleges graduates from the class of 2010

<https://microdata.worldbank.org/index.php/catalog/1549>

**Morocco:** Household and Youth Survey 2009-2010

*Sample:* Nationally representative sample of young people aged 15-29.

<https://microdata.worldbank.org/index.php/catalog/1546>

Note: Morocco questionnaire allows multiple methods to be used, so that percentages will add up to more than 100%.

**Sierra Leone:** 2014 Labor Force Survey

*Sample:* Nationally representative labor force survey

<https://microdata.worldbank.org/index.php/catalog/2687>

**Turkey:** Vocational Training Program for the Unemployed Impact Evaluation 2010-2012

*Sample:* Unemployed individuals who applied for vocational training courses with the Turkish National Employment Agency ISKUR

<https://microdata.worldbank.org/index.php/catalog/1973>

*Other publicly available data*

**Mexico:** National Survey of Occupation and Employment (ENOE), Expanded version, Trimester 1, 2014. No registration required to access the website.

*Sample:* Nationally representative sample

<https://www.inegi.org.mx/programas/enoe/14ymas/#Microdatos>

*Non-public data.* The following datasets are not publicly available.

**Albania:** Quarterly Labor Force Survey 2019

*Sample:* Nationally representative sample

Data hosted in the ILO Survey Library

(<https://www.ilo.org/surveyLib/index.php/catalog/7902/study-description>) and are not publicly available. Cross-tab of sex and Q43 (how did you find this job?) were provided by Yves Perardel of the ILO.

**Romania:** Household Labor Force Survey 2021

*Sample:* Nationally representative sample

Data hosted in the ILO Survey Library

(<https://www.ilo.org/surveyLib/index.php/catalog/8046/related-materials>) and are not publicly

available. Cross-tab of sex and Q31 (what was the most successful method to find your current main job?) were provided by Yves Perardel of the ILO.

### **Figure 2: Percentage of Firms Reporting Difficulty Finding Talent**

Data are from Manpower Group Employment Survey Q2, 2023, page 18 and refer to hiring in quarter 2 of 2023. [https://go.manpowergroup.com/hubfs/GLOBAL\\_EN\\_Report\\_2Q23.pdf](https://go.manpowergroup.com/hubfs/GLOBAL_EN_Report_2Q23.pdf)

Website registration is not required.

Data extracted from this report are saved in the file `Figure2ManpowerData.dta`.

### **Figure 3: Impacts of Large-Scale Government Training Programs**

Impacts shown are for longest time period post-training for which impact on having paid work and on total labor earnings are available. Percent increase in earnings is relative to control mean.

Solid vertical lines show meta-analysis estimates from Appendix Figures A.1 and A.2 in Agarwal and Mani (2023) from a broader set of government and non-government programs, including pilot programs: of 4.0 percentage points for employment and 8.2 percent for earnings.

Individual study estimates are sourced as follows:

- Turkey: from Hirschleifer et al. (2016) at one year post-training. Employment estimate of 0.020 (s.e. 0.013) taken from column 1 of Table 3. Earnings estimate of 5.8 percent (s.e. 4.1 percent) taken from converting estimate of 17.316 (s.e. 12.271) in column 4, Table 3 to a percent of the reported control mean of 299.1.
- Ghana: from Hardy et al. (2019) at one year post-training. Employment estimate of -0.029 (s.e. 0.017) taken from column 1 of Table 4 for the full sample. Earnings estimate of -12.9 percent (s.e. 6.4 percent) taken from converting estimate of -11.54 (s.e. 5.73) in column 1, Table 5 to a percent of the reported control mean of 89.19.
- Côte d'Ivoire: from Crépon and Premand (2021) at two years post-training. Employment estimate is impact on working in at least one activity, of 0.0125 (s.e. 0.00562) taken from column 6 of the activities impacts in Table 5. Earnings estimate of 16.9 percent (s.e. 6.7 percent) taken from converting estimate of 8987 (s.e. 3548) on total labor earnings in Table 5 to a percent of the reported control mean of 53029.
- Colombia: from Attanasio et al. (2011) at 14 months post-training. Employment impact for women is impact on paid employment of 0.068 (s.e. 0.023) taken from Panel B, column 2 of Table 4A. Earnings estimate for women of 19.6 percent (s.e. 5.5 percent) is taken from converting estimate of 34668 (s.e. 9743) on wage and salary earnings from panel B of column 6 of Table 4A to a percent of the reported control mean of 177,161. Employment impact for men is impact on paid employment of 0.013 (s.e. 0.029) from Panel B, column 2 of Table 4B. Earnings estimate for men of 5.2 percent (s.e. 4.8 percent) is taken from converting estimate of 13690 (s.e. 12819) on wage and salary earnings from panel B of column 6 of Table 4B to a percent of reported control mean of 265,292.

- Dominican Republic: from Acevedo et al. (2020) at 3.5 years post-training. Employment impact for women is 0.010 (s.e. 0.030) from the combined vocational and soft skills training treatment in column 1 of Table 9, and for men is -0.016 (s.e. 0.037) from the same column and treatment for men. Earnings impact for women and is taken from impact on log salary in column 3 of Table 9 for this combined treatment, of 0.018 (s.e. 0.085) with small changes in logs interpreted as percent changes when multiplied by 100. Earnings impact for men of -0.096 (s.e. 0.080) likewise taken from column 3, Table 9.

#### **Figure 4: Impacts of Transport Subsidy and Skill Signaling Job Search Interventions**

Individual study estimates are sourced as follows:

##### *Transport Subsidy Interventions*

- Ethiopia (a) from Franklin (2017) at 4 months post-intervention. Employment impact of 0.067 (s.e. 0.034) is pooled sample impact on any work from column 3 of Table 3. Earnings impact of 0.051 (s.e. 0.088) is from impact on log wage in column 1, panel a, of Table 4, interpreted as a percentage change when multiplied by 100.
- South Africa estimates are from Banerjee and Sequeira (2020) at 1 year post-intervention. Employment impact of -0.005 (s.e. 0.041) is from column 3 of Table 1. Earnings impact of -5.2 percent (s.e. 6.4 percent) is from estimated impact on net income of -184.3 (s.e. 225.84) in column 6 of Table 1, converted to a percentage of the reported control mean of 3538.
- Ethiopia (b) estimates are from Abebe et al. (2021) at 1 year (short-run) and 4 years post-intervention (long-run). Short-run impacts on employment of 0.037 (s.e. 0.029) are from column 2, row 1 of Table 2, and for long-run of -0.058 (s.e. 0.035) are from column 6, row 1 of Table 2. Earnings impacts of 8.9 percent (s.e. 8.6 percent) at 1 year is taken from converting Table 2, column 2, row 3 estimate of 65.879 (s.e. 63.864) as a percent of control mean of 739.230. Earnings impact of 2.5 percent (s.e. 8.4 percent) at 4 years is taken from converting Table 2, column 6, row 3 estimate of 30.916 (s.e. 102.35) as a percent of control mean of 1216.81.

##### *Skill Signaling Interventions*

- Ethiopia (b) estimates are from Abebe et al. (2021) at 1 year (short-run) and 4 years post-intervention (long-run). Short-run impacts on employment of 0.021 (s.e. 0.031) are from column 3, row 1 of Table 2, and for long-run of 0.029 (s.e. 0.032) are from column 7, row 1 of Table 2. Earnings impacts of 0.45 percent (s.e. 8.9 percent) at 1 year is taken from converting Table 2, column 3, row 3 estimate of 3.36 (s.e. 65.67) as a percent of control mean of 739.23. Earnings impact of 24.6 percent (s.e. 9.98 percent) at 4 years is taken from converting Table 2, column 7, row 3 estimate of 299.47 (s.e. 121.38) as a percent of control mean of 1216.81.

- Uganda estimates from Bassi and Nansamba (2022) at 1 year post-intervention. Employment impact of 0.029 (s.e. 0.029) is from column 1 of Table 8. Earnings impact of 7.9 percent (s.e. 6.8 percent) is taken from converting Table 9, column 2 estimate of 3.72 (s.e. 3.20) as a percent of control mean of 47.2.
- South Africa estimates from Carranza et al. (2022) at 4 months post-intervention. Employment impact of 0.052 (s.e. 0.012) is from column 1 of Table 1. Earnings impact of 33.7 percent (s.e. 7.4 percent) is taken from interpreting I.H.S. coefficient in Table 1, column 3 as a percentage change.

### **Figure 5: Impacts on Employment of Online Job Portal Interventions**

Individual study estimates are sourced as follows:

- India *Helpersnearme* results are from Alfridi et al. (2022). Impact on employment for wives of -0.013 (s.e. 0.025) taken from column 1, Table 5; impact on employment for husbands of 0.012 (s.e. 0.018) taken from column 2, Table 5.
- India *YuvaSampark* results are from Chakravorty et al. (forthcoming). Impact on employment in Nov-Dec 2021 of -0.039 (s.e. 0.019) is taken from impact on having a salaried job in Table A5, row 1.
- India *JobShikari* results are from Kelley et al. (2022). Employment impact of basic treatment of -0.092 (s.e. 0.022) taken from Table 2, column 1, panel A row 1, impact of priority treatment of 0.048 (0.021) taken from Table 2, column 1, panel A row 2.
- Mozambique results are from Jones and Sen (2022) who encouraged graduates of technical and vocational colleges to sign up for two local jobs platforms: *Biscate* (informal manual jobs) and *Emprego* (formal jobs). Impacts on employment are taken from panel b intent-to-treat estimates of outcome “being in paid work” in Table 3, column 2 and are -0.01 (s.e. 0.02) for Emprego and 0.00 (s.e. 0.02) for Biscate.
- South Africa *LinkedIn* results are from Wheeler et al. (2022). Impact on employment of 0.069 (s.e. 0.024) are 12-month impacts taken from Figure 1.

### **Statement about Rights**

I certify that the authors of the manuscript have legitimate access to and permission to use the data used in this manuscript.

I certify that the authors of the manuscript have documented permission to redistribute/publish the data contained within this replication package.

### **DATASET LIST**

Figure1UnemploymentRates.dta – data on unemployment rates used for Figure 1

Table1jobmethods.dta – combined data on methods used to find jobs, used in Table 1

Figure2ManpowerData.dta – data on talent shortages, used in Figure 2.

## DO FILE LIST

Analysis was conducted in Stata, version 16, and uses the additional package `mat2txt` which is available through `ssc`, and also provided in the replication files.

`JobSearchMethod.do` – this file only needs to be run if the user wants to download the raw files used for Table 1 and extract the variables from them to form `Table1jobmethods.dta`

`JEPReplicationTablesFigures.do` – this file reproduces Table 1 and Figures 1-5.

The user should only need to change the path directory at the top of the file, and ensure they have a folder called `output` within this main directory for the tables and figures to be saved in.

## INSTRUCTIONS TO REPLICATORS

*If the replicator wants to start from the raw data*

1. Download the raw datasets following the instructions above for data access.
2. Change the directory in line 16 of `JobSearchMethod.do` and run this to extract the variables needed to form `Table1jobmethods.dta`. Then proceed to steps below

*Otherwise, to just replicate the tables and figures using the data provided*

3. Change the directory in lines 11-12 of `JEPReplicationTablesFigures.do`
4. Run this do file `JEPReplicationTablesFigures.do`

## List of Tables and Figures and Programs

As noted, the file `JEPReplicationTablesFigures.do` produces all Tables and Figures in the paper

Figure/Table #	Line Number	Output File
Figure 1	18	<code>\$output/Figure1.png</code>
Table 1	52	<code>\$output/Table1.xls</code>
Figure 2	104	<code>\$output/Figure2.png</code>
Figure 3	120	<code>\$output/Figure3.png</code>
Figure 4	239	<code>\$output/Figure4.png</code>
Figure 5	351	<code>\$output/Figure5.png</code>

## **COMPUTATION REQUIREMENTS**

**Software:** Stata version 16.0 was used

**Computational Requirement:** Average 2023 Laptop is sufficient. Dell Latitude 7400 was used. Run time is less than 5 minutes.