This archive contains scripts used in Card, Cardoso, and Kline (2015)

The scripts are contained in sub-directories: Step 1 .... Step 9. We used a combination of Stata, Matlab, SAS, and Excel. Files were transferred from Stata to SAS, and from SAS to Excel, using StatTransfer .

You may notice that some of the files moving between stat packages are re-named. It should be obvious where names need to be changed.

Step 1: Basic Data Extraction from QP
cck_analysis_sample.do
-extracts worker data from QP data bases, creates basic analysis file
workers_analysis_02_09.dta

-extracts firm data from QP, merges with BvD (firm financial data), creates firm level file ***firms_analysis_02_09.dta***

- creates export (.csv) files for AKM step

Step 2: Estimate AKM model
AKM_portugal_twice.m – (MATLAB) computes the AKM decomposition of male and female wages into person and firm effects.

Output log is AKM_portugal_table2.log , used to make **Table II** of paper.

<< note: this program was actually used multiple times to estimate AKM model for other subsets of workers, analyzed in Appendix Tables and Figures >>

Step 3: Merge AKM coefficients with basic file, create basic descriptive tables
cck_analysis_all_vars.do

- reads coefficient files from MATLAB (including coefficients for alternative subsamples)

- assembles all data into a person-year format data set: ***workers_all_info.dta***

-create **Table I**

Step 3, continued

- construct data for App. Figure B1
- construct data for App. Table B3
- construct table App. Table A2

- create export (.dta) files for event study: for_event_study_males.dta and for_event_study_females.dta

- create export (.dta) files for gridsearch: for_gridsearch_males and for_gridsearch_females

Step 4: Event Study and Related

eventstudy_x10.sas -- SAS file
- reads for_event_study_males and for_event_study_females and creates event study analysis. SAS output file (events4r.sas7bdat) is converted to excel and loaded into excel sheet (Apptable_B2_fig1_2_3.xls)

- also creates a file called eventspells.sas7bdat that is converted to stata and read by the **check_symmetry.do** and **check_symmetry_bs.do** files below

Apptable_B2_fig1_2_3.xls
- creates Appendix Table B2, **Figure I, Figure II, Figure III**, and Appendix Tables B3 and B4.

Auxiliary files for event study section of paper:
check_symmetry.do – computes the two-way clustered standard errors reported in final column of Appendix Table B2

check_symmetry_bs.do – computes the bootstraps samples used in the symmetry test described in footnote 22

compute_symmetry_test.do – computes the symmetry test statistics described in footnote 22 (to be run after check_symmetry_bs.do finishes)

x_ols.ado – implements the variance estimation procedure of Kline (2014), used in "symmetry" programs.

Step 5: Grid Search for Normalization of Firm Effects

gridsearch.sas (SAS file)- reads for_gridsearch_males and for_gridsearch_females data sets (in sas format) and conducts grid search over minimum cutoffs for trimmed value added measure. Output from grid search is extracted and entered in Figure4_5_App_Fig_B7.xls

Figure4_5.sas (SAS file) - reads for_gridsearch_males and for_gridsearch_females data sets (in sas format) and creates 100 percentile bins of trimmed mean log value added per worker. The output file is loaded into the excel sheet Figure4_5_App_Fig_B7.

Figure4_5_App_Fig_B7.xls -- takes output file from figure4_5.sas and creates **Figure IV and Figure V.** Also has separate sheet with data entered from gridsearch (gridsearch.sas) that creates Appendix Figure B7.

Auxiliary files for grid search section of paper:

getBSse.m – computes bootstrap standard errors for the NLLS estimates of tau (mentioned in Section V.C)

Q_SUR.m – a bivariate NLLS routine called by getBSse.m

Step 6: Decompositions

decompositions_v2.do reads ***workers_all_info.dta*** **-** constructs **Tables III and IV**, Appendix Tables B4, B5, B6, D1, and creates data for **Figure VI**

Step 7. Firm Level Analysis (Relation of Firm Effects to Firm Value Added)

firm_models.do reads ***workers_all_info.dta*** **-** constructs **Table V**, Appendix Table A3, B8

Step 8: Firm Level Analysis of Stayers (Relation of Changes in Wages to Changes in Value Added)

stayers_models_v2.do reads ***firms_all_info.dta,*** *merges with* ***workers_all_info.dta*** **-** constructs **Table VI**, Appendix Tables B10, B11

Step 9: Miscellaneous

hours_models.do reads ***workers_all_info.dta*** **-** constructs Appendix Table B7 (hours models)