

READ ME

This is the replication archive for “Managers and Productivity in the Public Sector”

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This folder contains the programs used to generate tables and figures in the article and in the Online Appendix.

Data Availability

The manuscript uses the internal records of the Italian Social Security Agency (*Istituto Nazionale di Previdenza Sociale* – INPS hereafter). This is an office-level longitudinal dataset that combines information about productivity of public sector offices, quality of the service provided, number of full-time equivalent workers, number of hours spent in training, overtime hours, absences, backlog, office demand, and the personnel files between 2011 and 2017. These data are confidential and were obtained under a Data Use Agreement with the INPS. Researchers interested in access to the data may contact INPS representatives at dcstudiericerche@inps.it.

Software requirements

- STATA MP (version 15 used by the author)
- Matlab (version R2018a used by the author)

Description of the replication archive

The replication archive is structured in two folders:

- Code: programs in code/ run sequentially build and analyze the data. Master.do runs them all in order
- Ado: this folder contains two ado files that are used in the analysis

Step-by-step guide to programs to replicate the analysis

1. Open the Masterfile (Master.do) and set the global “bootstrap” to the desired value (0 for non-bootstrapped standard errors and 1 for bootstrapped standard error)
2. Create a folder called “Tables” and change the path to the global $\{\text{tables}\}$ in Master.do to match this folder. The code saves tables and figures in this folder.
3. Install the packages

- a. Install the packages using Packages.do
 - b. Upload the two ado files contained in “replication package/ado/” to the official ado-directory on your machine.
4. Generate the intermediate datasets
 - a. Cleaning.do generates the intermediate files that are used to construct the master file.
 - b. Output:
 - i. budg_abc_prod_lorda_sede_2007_2016: office-quarter file containing full-time equivalent employment, training, overtime hours, absences, backlog, and office demand between 2011-2017
 - ii. budget_prod_eq_2007_2016.dta: office-quarter file containing productivity and output between 2011-2017
 - iii. budged_prod_lord_cat_prod_2011_2017.dta: office-quarter file containing output by category
 - iv. crusc_dir_v2_trimesters_adjusted.dta: office-quarter file containing the quality index between 2011-2016
 - v. crusc_dir_v2_trimesters_adjusted_2017.dta: office-quarter file containing the quality index for 2017
 - vi. managers_characteristics_2005_2017_v3.dta: office-quarter file containing the observable characteristics of the managers between 2005-2017
 - vii. hires_sep_quarterly_sede.dta: office-quarter file containing the number of separations, hires, fires, retirements, separations for young workers, and workers transfers across INPS offices between 2011-2016
5. Build the master data
 - a. Assembling.do uses the intermediate files generated by Cleaning.do and assembles them into the master dataset.
 - b. Output: master_data.dta
6. Estimate the two-way fixed effects model
 - a. Managers_Effects.do estimates the manager and office fixed effects and saves a new version of the master dataset.
 - b. Output:
 - i. master_data_fe.dta
 - ii. master_data_fe_expanded.dta
7. Generate the managers summary statistics
 - a. Table1.do generates the summary statistics for managers
 - b. Output:
 - i. Table1.tex

8. Generate the social security offices summary statistics
 - a. Table2.do generates the summary statistics for social security offices
 - b. Output:
 - i. Table2.tex
9. Generate the sample characteristics
 - a. Table3.do generates the counts of managers, offices, events, and connected sets for the full sample and for the balanced analysis sample
 - b. Output:
 - i. counts
10. Perform the analysis of the variance of office productivity
 - a. Table4.do performs the analysis of the variance
 - b. Output:
 - i. Table4.tex
11. Test whether office characteristics can predict the future manager fixed effects
 - a. Table5.do performs the test
 - b. Output:
 - i. Table5.tex
12. Biased-corrected variance-covariance decomposition
 - a. Table6.do generates the datasets that will be fed to the Matlab code
 - b. Table6.m performs the biased-corrected variance-covariance decomposition using the datasets generated by Table6.do as inputs
 - c. Output:
 - i. variances and covariances terms
13. Correlate Manager fixed effects and their observable characteristics
 - a. Table7.do performs the regression
 - b. Output:
 - i. Table7.tex
14. Estimate the effect of changes in managerial talent on office composition
 - a. Table8_9_G1.do performs the regressions. To replicate the table reported in the paper, proceed in two steps. First, run the code setting $\{\text{bootstrap}\}=0$ in Master.do. This will produce a tex table containing the point estimates and the non-bootstrapped standard error. Second, run the code setting $\{\text{bootstrap}\}=0$ in Master.do. This will produce a set of files named *_se_boot.dta, which contain the bootstrapped standard errors.
 - b. Output:
 - i. Table8.tex
 - ii. *_se_boot.dta

15. Estimate the effect of changes in managerial talent on quality, backlog, and office demand
 - a. Table8_9_G1.do performs the regressions. To replicate the table reported in the paper, proceed in two steps. First, run the code setting $\{\text{bootstrap}\}=0$ in Master.do. This will produce a tex table containing the point estimates and the non-bootstrapped standard error. Second, run the code setting $\{\text{bootstrap}\}=0$ in Master.do. This will produce a set of files named *_se_boot.dta, which contain the bootstrapped standard errors.
 - b. Output:
 - i. Table9.tex
 - ii. *_se_boot.dta
16. Perform the counterfactual exercises
 - a. Counterfactual_Ex.do performs the counterfactual exercises
 - b. Output:
 - i. counterfactual output for the 4 counterfactual exercises discussed in Section 7 of the paper
17. Plot the average productivity for offices which experience a change in leadership classified by tercile of changes in manager effects
 - a. Figure1.do
 - b. Output:
 - i. Figure1.eps
18. Plot the mean residuals from the two-way fixed effects model
 - a. Figure2.do
 - b. Output:
 - i. mean residual by manager/office quartiles. To produce the graph, copy-paste the data into excel and plot the histogram.
19. Decomposition of productivity effects
 - a. Table8_9_G1.do produces the point estimates and the standard errors that are used as inputs in Figure3.do. To replicate the figure reported in the paper, proceed in two steps. First, run the code setting $\{\text{bootstrap}\}=0$ in Master.do. This will produce the point estimates and the non-bootstrapped standard error. Second, run the code setting $\{\text{bootstrap}\}=0$ in Master.do. This will produce a set of files named *_se_boot.dta, which contain the bootstrapped standard errors.
 - b. Figure3.do uses an inputs the point estimates and the bootstrapped standard errors produced by Table8_9_G1.do
 - c. Output:
 - i. Figure3a.eps, Figure3b.eps, and Figure3c.eps

20. Test whether more productive managers shift production
 - a. Figure4.do
 - b. Outputs:
 - i. Figure4a.eps and Figure4b.eps
21. Appendix: Comparison of the dispersion in productivity across INPS offices vs across firms operating in the same industry
 - a. TableA1.do produces the summary statistics reported in Panel A of Table A.I. The summary statistics reported in Panel B are taken from Syverson (2004).
 - b. Output:
 - i. summary statistics.

Step-by-step guide to programs to replicate the Online Appendix

1. Robustness to the exclusion of front office output
 - a. Table8_9_G1.do produces the point estimates and the standard errors that are used as inputs in FigureE1.do. To replicate the figure reported in the paper, proceed in two steps. First, run the code setting $\{\text{bootstrap}\}=0$ in Master.do. This will produce the point estimates and the non-bootstrapped standard error. Second, run the code setting $\{\text{bootstrap}\}=0$ in Master.do. This will produce a set of files named *_se_boot.dta, which contain the bootstrapped standard errors.
 - b. FigureE1.do uses as inputs the point estimates and the bootstrapped standard errors produced by Table8_9_G1.do
 - c. Outputs:
 - i. FigureE1.eps
2. Estimate the effect of changes in managerial talent on time allocation
 - a. Table8_9_G1.do performs the regressions. To replicate the table reported in the paper, proceed in two steps. First, run the code setting $\{\text{bootstrap}\}=0$ in Master.do. This will produce a tex table containing the point estimates and the non-bootstrapped standard error. Second, run the code setting $\{\text{bootstrap}\}=0$ in Master.do. This will produce a set of files named *_se_boot.dta, which contain the bootstrapped standard errors.
 - b. Output:
 - i. TableG1.tex
 - ii. *_se_boot.dta