

README

Replication Package for “Hours Constraints, Occupational Choice, and Gender: Evidence from Medical Residents”

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Data Availability Statements

1. *Current Population Survey (CPS) monthly files (U.S. Census Bureau, 2015)*: These data can be downloaded from the NBER¹
 - a. 1989-1993:
 - i. Data: <https://data.nber.org/cps-basic2/raw/>
 - ii. Code (dictionary files): <https://data.nber.org/cps-basic2/code/>
 - b. 1994-2014: <https://data.nber.org/cps-basic2/dta/>
2. *American Medical Association (AMA) Physician Masterfile*: This is a proprietary data set on the universe of physicians in the U.S. It is available from MMS for research purposes for a fee: <https://www.mmslists.com/ama-research>. I would be happy to assist researchers in gaining access to these data.
3. *American Medical Association (AMA) Graduate Medical Education (GME) Census Track Data*: This is a proprietary data set based on a survey of medical residency program directors. It is available from the American Association of Medical Colleges (AAMC) for a fee: <https://www.aamc.org/request-aamc-data>. I would be happy to assist researchers in gaining access to these data.
4. *American Association of Medical Colleges (AAMC) Matriculating Student Questionnaire (MSQ)*: This is a proprietary data set based on a survey of first-year medical school students. It is available from the American Association of Medical Colleges (AAMC) for a fee: <https://www.aamc.org/request-aamc-data>. I would be happy to assist researchers in gaining access to these data.
5. *Baldwin et al. (2001)*: Information on hours worked by medical residents, by specialty, 2001/2, are publicly available in the published paper.
6. *Landrigan et al. (2006)*: Information on the hours worked by medical residents, by specialty, 2003/4, are publicly available in the published paper. The author provided additional data on specialty-specific hours via email correspondence.

¹ At the time of analysis, the monthly files were not available through IPUMS.

7. *Leigh et al. (2010)*: Information on hourly wages of fully-trained physicians, based on the Community Tracking Study, 2001, are publicly available in the published paper.

Data Set List

The following cleaned data sets are available with the package:

1. **CPS monthly files:**
 - a. *dta/cps8993-doc.dta*: 1989-1993 CPS data, limited to physicians
 - b. *dta/cps9414.dta*: 1994-2014 CPS data, limited to physicians

The following cleaned data sets are not available, but are used in various do files:

1. **AMA Masterfile:** *dta/ama-masterfile-2014-clean.dta* (not available)
2. **AMA GME Census Track:** *dta/gme-compiled.dta* (not available)
3. **AAMC MSQ:** *dta/msq-all.dta* (not available)

Computational Requirements:

The code was last run using Stata 16 MP.

Instructions:

Set up a directory with the following folders:

1. do
2. dta
3. raw
4. log
5. csv
6. gph
7. cps

Run the do files from the *do* folder.

Install the Stata packages:

1. outreg2: `ssc install outreg2`
2. unique: `ssc install unique`

Description of Programs:

1. CPS data:

- a. Place raw CPS data in the *cps* folder
- b. Clean
 - i. *do/cps-prep-monthly-pre1994.do*: this do file cleans the raw CPS monthly files, 1989-1993
 - ii. *do/cps-prep-monthly-1994on.do*: this do file cleans the raw CPS monthly files, 1994-2014
- c. Analyze
 - i. *do/cps-analysis.do*: this do file plots the hours of resident and non-resident physicians, by gender, producing the graphs in Figure 3 and 4

2. AMA Masterfile data

- a. Clean
 - i. *do/masterfile-prep.do*: this do file cleans the raw AMA Masterfile 2014
- b. Analyze
 - i. *do/masterfile-stats.do*: this do file produces the summary statistics in Table 1
 - ii. *do/masterfile-graphs.do*: this do file produces the scatter plot graphs in Figure 1 with the relationship between pre-policy specialty characteristics
 - iii. *do/masterfile-prepost.do*: this do file produces the graphs in Figure 5 with the relationship between pre-/post-policy specialty shares and specialty hours, by gender
 - iv. *do/masterfile-cmclogit.do*: this do file conducts the conditional logit analysis of AMA Masterfile data, produces Table 2 Panel I
 - v. *do/masterfile-cmclogit-event.do*: this do file conducts the conditional logit analysis of AMA Masterfile data, produces Figure 7
 - vi. *do/masterfile-duncan.do*: this do file creates the Duncan Segregation Index in Figure 9

3. GME Census Track data

- a. Clean
 - i. *do/gme-prep.do*: this do file cleans the raw GME Census Track data
- b. Analyze
 - i. *do/gme-cmclogit.do*: this do file generates summary statistics and conducts the conditional logit analysis of GME Census Track data, produces Table 2 Panel II and Figure 8
 - ii. *do/gme-regs.do*: this do file conducts analysis program-level fraction female, overall and by baseline program characteristics

4. AAMC MSQ data

- a. Clean & Analyze:
 - i. *do/msq.do*: this do file cleans the raw MSQ data and produces Table 3

5. Baldwin et al. (2003), and Landrigan et al. (2006) hours data

- a. Clean and analyze:
 - i. *do/hrs-first-stage.do*: this do file produces the graph in Figure 5

Figures and Tables:

Figure 1: Relationship between Female Representation in Medical Specialties and Selected Specialty Characteristics

1. do file: *do/masterfile-stats.do*
2. input files: *dta/masterfile-cleaned.dta* (not available)
3. output files:
 - a. *gph/foreign0osteo0start1993end2010/scatter-specs-female-hrs-lfit.pdf*
 - b. *gph/foreign0osteo0start1993end2010/scatter-specs-female-leigh-earnings-lfit.pdf*

Figure 2: N/A

Figure 3: Hours Worked in the Prior Week among Resident and Non-Resident Physicians, 1989-2014

1. do file: *do/cps-analysis.do*
2. input files:
 - a. *dta/cps8993-doc.dta*
 - b. *dta/cps9414.dta*
3. output files:
 - a. *gph/cps-wt1/cps-monthly-hrs1-res-wt1.pdf*
 - b. *gph/cps-wt1/cps-monthly-g80-res-wt1.pdf*

Figure 4: Hours Worked in the Prior Week among Male and Female Resident Physicians, 1989-2014

1. do file: *do/cps-analysis.do*
2. input files:
 - a. *dta/cps8993-doc.dta*
 - b. *dta/cps9414.dta*
3. output files:
 - a. *gph/cps-wt1/cps-monthly-hrs1-res-mf-wt1.pdf*
 - b. *gph/cps-wt1/cps-monthly-g80-res-mf-wt1.pdf*

Figure 5: Relationship between 1999 Hours and the Change in Hours 2002/3-2003/4, by Specialty

1. do file: *do/hrs-first-stage.do*
2. input files: *raw/hours_regs.csv*
3. output files: *gph/hrs-first-stage-scatter-lfit.pdf*

Figure 6: Relationship between Change in Specialty Shares and Pre-Policy Specialty Hours

1. do file: *do/masterfile-prepost.do*
2. input files: *dta/masterfile-cleaned.dta* (not available)
3. output files:
 - a. *gph/foreign0osteo0start1993end2010/scatter-specs-ln-sh-female-reg-lfit.pdf*

- b. *gph/foreign0osteo0start1993end2010/scatter-specs-ln-sh-male_reg-lfit.pdf*

Figure 7: Effect of the Reform on Medium-Term Specialty Choice: Conditional Logit Event Study

1. do file: *do/masterfile-cmclogit-event.do*
2. input files: *dta/masterfile-cleaned.dta* (not available)
3. output files:
 - a. *gph/foreign0osteo0start1993end2010/me_all_1.pdf*
 - b. *gph/foreign0osteo0start1993end2010/me_all_0.pdf*

Figure 8: Effect of the Reform on Initial Specialty Choice: Conditional Logit Event Study

1. do file: *do/gme-cmclogit.do*
2. input files: *dta/gme-compiled.dta* (not available)
3. output files:
 - a. *me_all_pyl_f_us.pdf*
 - b. *me_all_pyl_m_us.pdf*

Figure 9: Duncan Segregation Index, 1993-2010

1. do file: *do/masterfile-duncan.do*
2. input files: *dta/masterfile-cleaned.dta* (not available)
3. output files: *gph/duncan-foreign0osteo0/duncan.pdf*

Table 1: Summary Statistics

1. do file:
 - a. *do/masterfile-stats.do*
 - b. *do/gme-cmclogit.do*
2. input files:
 - a. *dta/masterfile-cleaned.dta* (not available)
 - b. *dta/gme-compiled.dta* (not available)
3. output files:
 - a. *log/masterfile-stats-foreign1osteo1start1993end2010.log* (AMA full sample)
 - i. Fraction female: line 430
 - ii. Age at medical school graduation: line 443, 464, 482
 - iii. US born: line 527, 537, 544
 - iv. Foreign medical school: line 581, 591, 598
 - v. Ranked medical school: line 502, 512, 519
 - vi. Osteopathic medical school: line 556, 566, 573
 - b. *log/masterfile-stats-foreign0osteo0start1993end2010.log* (AMA USMG)
 - i. Fraction female: line 529
 - ii. Age at medical school graduation: line 543, 564, 582
 - iii. US born: line 641, 654, 664
 - iv. Ranked medical school: line 607, 620, 630
 - c. *csv/gme-balanced0-drop20001_dropprelim0-clusternocluster/gme-summary-stats.csv* (GME)

Table 2: Effect of the Reform on Specialty Choice: Conditional Logit Average Marginal Effects

1. do file:
 - a. *do/masterfile-cmclogit.do*
 - b. *do/gme-cmclogit.do*
2. input files:
 - a. *dta/masterfile-cleaned.dta* (not available)
 - b. *dta/gme-compiled.dta* (not available)
3. output files:
 - a. *csv/foreign0osteo0start1993end2010/outcome_0.csv* (AMA men)
 - b. *csv/foreign0osteo0start1993end2010/outcome_1.csv* (AMA women)
 - c. *csv/gme-balanced0-drop20001_dropprelim0-clusternocluster/outcome_pyl_m_us.csv* (GME men)
 - d. *csv/gme-balanced0-drop20001_dropprelim0-clusternocluster/outcome_pyl_f_us.csv* (GME men)

Table 3: Effect of the Reform on Stated Specialty Preference

1. do file: *do/msq.do*
2. input files:
 - a. *raw/MSQ Specialty Preference Data, 1998-2013_modified.csv* (not available)
 - b. *raw/MSQ Specialty Plan Data, 1998-2012.csv* (not available)
3. output files:
 - a. *csv/msq-cluster1/msq_logshare_pgy2_mean_post2.xls*

Table 4: Residency Program Drivers of Female Entry

1. do file: *do/gme-regs.do*
2. input files: *dta/gme-compiled.dta* (not available)
3. output files:
 - a. *csv/gme-balanced0-drop20001_dropprelim0/gme_regs_fractf_us_pyl_excludesmall1.xls* (Panel A)
 - b. *csv/gme-balanced0-drop20001_dropprelim0/gme_regs_hetero_pyl_us_fractf_f_high_restrict1_alt.xls* (Panel B faculty)
 - c. *csv/gme-balanced0-drop20001_dropprelim0/gme_regs_hetero_pyl_us_fractf_high_restrict1_alt.xls* (Panel B residents)
 - d. *csv/gme-balanced0-drop20001_dropprelim0/gme_regs_hetero_pyl_us_fractf_base_lv_restrict1_alt.xls* (Panel C leave)
 - e. *csv/gme-balanced0-drop20001_dropprelim0/gme_regs_hetero_pyl_us_fractf_base_child_care_restrict1_alt.xls* (Panel C childcare)

References

Baldwin Jr, Dewitt C, Steven R Daugherty, Ray Tsai, and Michael J Scotti Jr, “A National Survey of Residents Self-Reported Work Hours: Thinking Beyond Specialty,” *Academic Medicine*, 2003, 78 (11), 1154–1163.

Landrigan, Christopher P, Laura K Barger, Brian E Cade, Najib T Ayas, and Charles A Czeisler, “Interns Compliance with Accreditation Council For Graduate Medical Education Work-Hour Limits,” *JAMA*, 2006.

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U.S. Census Bureau, 2015, “Current Population Survey 1989-2014 [Data Set]”. Accessed via National Bureau of Economic Research [Distributor] at <https://data.nber.org/cps-basic2/raw/> and <https://data.nber.org/cps-basic2/dta/>.