README for "Killer Incentives: Rivalry, Performance and Risk-Taking among German Fighter Pilots, 1939-45"

Overview

This replication package provides all code and data necessary to replicate the analyses of "Killer Incentives: Rivalry, Performance and Risk-Taking among German Fighter Pilots, 1939-45". The do-file `RUN_ALL.do` in the main folder runs all code in the required order using Stata (and a Python integration) within approximately 15 hours. It uses the do-files scripts in folder `code` and the data in the folder `rawdata`. It creates a folder `currentdata` with datasets and a folder `figures and tables` with all output figures and tables. Two illustrative figures are provided in the folder `figures_raw`.

Data Availability and Provenance Statements

Summary of Availability

All datasets required for the analysis are provided in the folder `rawdata` in this replication packages. The dataset `flightlogs.dta` was constructed from flight logs of 71 pilots purchased from private collections. The main dataset `pilotsdaily.dta` was created by combining data from various sources described in the next section.

Details on each Data Source

The two main sources are:

- Jim Perry and Tony Wood's *Oberkommando der Luftwaffe* (OKL) combat claims list. This data is publicly available from https://web.archive.org/web/20130928070316/http://lesbutler.co.uk/claims/tonywood.htm. We accessed the version of the data from September 28, 2013.

- *Kracker Luftwaffe Archive.* This data is publicly available from www.aircrewremembered.com/KrackerDatabase. Our version of the data was accessed on January 22, 2016.

Additional information about pilots (death dates, shot down, wounded, missing etc.) is added from three data sources:

- Mathews and Foreman's (2015) pilot biographies. Biographies for pilots with five or more claims are available in *Luftwaffe Aces*. The authors shared biographies for all pilots with one or more claims with us.

- *Luftwaffe Officer Career Summaries* edited by Henry L. deZeng IV and Douglas G. Stankey. This data is publicly available from www.ww2.dk/lwoffz.html. Our version of the data was accessed on April 1, 2019.

- Matti Salonen's complete lists of plane crashes during WWII in which German pilots were wounded.

Other data sources used:

- Information about pilots' mentions in the *Wehrmachtsbericht* is extracted from Wegmann (1982).

- Information about pilots' places of birth is combined from three sources: Mathews and Foreman (2015), a manual collection from pilot biographies, and the *Zentralkartei* at the Bundesarchiv in Berlin-Reinickendorf.

- Flight logs of 71 pilots purchased from private collections.

Computational requirements

Software Requirements

The following programs and packages are required to run the replication code. The program "`code/0_setup.do`" will install all Stata dependencies. It should be run once. The Python script automatically installs the required packages using `pip`.

- Stata 16
    - `acreg` 1.1.0
    - `cem` 10.1
    - `clus_nway` 3.0
    - `coefplot` 1.8.4
    - `estout` 3.24
    - `ftools` 2.37.0
    - `gtools` 1.5.1
    - `hdfe` 3.2.9
    - `ietoolkit` 6.3
    - `keeporder` 5.7.3
    - `ppmlhdfe` 2.2.0
    - `ranktest` 2.0.04
    - `rdrobust` 8.0.2
    - `reghdfe` 5.7.3
    - `robbox` 1.0.3
    - `scheme_tufte`
    - `vincenty` 1.0.3
    - `which_version` 2.1.0
    - `pscore` 2.02
- Python (code was run with version 3.9.4)
    - `numpy` 1.20.2
    - `pandas` 1.2.4

Memory and Runtime Requirements

The code was last run on a **4-core Intel-based laptop with Windows version 10.0.19043** with 16 GB of RAM. Computation took approximately 15 hours.

Description of programs/code

The program `RUN_ALL.do` creates all datasets from the raw data and generates all tables and figures by running all code in `code` (except for `0_setup.do`, which only has to be run manually once):

- `0_setup.do` installs all required Stata packages.
- `1-collapse_panel_to_monthly` collapses the pilot-day panel dataset to a pilot-month panel dataset.
- `2-panel_analysis` runs all analyses using the pilot-month panel dataset.
- `3-create_CEM` creates a dataset with comparable pilots following a Coarsened Exact Matching (CEM) approach.
- `4-CEM_analysis` runs all analyses using the CEM dataset.
- `5-flightlog_daily_analysis` combines the flight log dataset with the pilot-day panel and runs the analyses using the daily flight log data.
- `6-flightlog_monthly_analysis` combines the flight log dataset with the pilot-month panel and runs the analyses using the monthly flight log data.
- `create_socialuniverse_variables.py` creates the variables for the social universe analysis based on the pilot-month panel dataset.

The folder `code/helper_programs` contains programs to find former peers of pilots and transform the panel dataset to an event time dataset. These programs are called from other do-files.

Instructions to Replicators

- Run `code/0_setup.do` to install all required Stata packages. If necessary, set the path to the Python executable in the last part of the the do-file. (The required Python libraries will be installed as part of running the `create_socialuniverse_variables.py` script.)
- Run `RUN_ALL.do` to run all do-files that create the datasets and generate the figures and tables in sequence. The datasets will be stored in `currentdata`, the figures and tables will be stored in `figures and tables`. Alternatively, run `1-collapse_panel_to_monthly.do`, `create_socialuniverse_variables.py` and then all the other do-files in the folder `code` in the order indicated by the file names (starting with `2-panel_analysis.do`).

List of tables and programs

The provided code reproduces all tables and figures (except for the illustrative Figures 1 and 12, which are provided in the folder `figures_raw`). The following table provides an overview of all figures and tables with the corresponding programs and output files:

Name	Program	Output file(s) in `figures and tables`
Table 1	`2-panel_analysis.do`	table1_exit.tex, table1_vic.tex
Table 2	`3-create_CEM.do`	table2.tex
Table 3	`4-CEM_analysis.do`	table3_exit.tex, table3_vic.tex
Table 4	`4-CEM_analysis.do`	table4_exit.tex, table4_vic.tex
Figure 1	no program	figures_raw/figure1.eps
Figure 2	`4-CEM_analysis.do`	figure2.eps
Figure 3	`3-create_CEM.do`	figure3_quality.eps, figure3_victories.eps
Figure 4	`4-CEM_analysis.do`	figure4_exit.eps, figure4_vic.eps
Figure 5	`4-CEM_analysis.do`	figure5.eps
Figure 6	`4-CEM_analysis.do`	figure6_exit.eps, figure6_vic.eps
Figure 7	`4-CEM_analysis.do`	figure7_exit_bottom.eps, figure7_exit_top.eps, figure7_vic_bottom.eps, figure7_vic_top.eps
Figure 8	`7-flightlog_daily_analysis.do`	figure8.eps
Figure 9	`4-CEM_analysis.do`	figure9.eps
Figure 10	`4-CEM_analysis.do`	figure10.eps
Figure 11	`2-panel_analysis.do`	figure11.eps
Figure 12	no program	figures_raw/figure12.eps
Figure 13	`4-CEM_analysis.do`	figure13_exit.eps, figure13_vic.eps
Table A1	`2-panel_analysis.do`	tableA1.tex
Table A2	`2-panel_analysis.do`	tableA2_exit.tex, tableA2_vic.tex
Table A3	`2-panel_analysis.do`	tableA3.tex
Table A4	`2-panel_analysis.do`	tableA4_exit.tex, tableA4_vic.tex
Table A5	`4-CEM_analysis.do`	tableA5.tex
Table A6	`4-CEM_analysis.do`	tableA6_exit.tex, tableA6_vic.tex
Table A7	`4-CEM_analysis.do`	tableA7.tex
Table A8	`4-CEM_analysis.do`	tableA8_exit.tex, tableA8_vic.tex
Table A9	`4-CEM_analysis.do`	tableA9_exit.tex, tableA9_vic.tex
Table A10	`6-flightlog_monthly_analysis.do`	tableA10.tex
Figure A1	`2-panel_analysis.do`	figureA1.eps
Figure A2	`2-panel_analysis.do`	figureA2.eps
Figure A3	`4-CEM_analysis.do`	figureA3.eps
Figure A4	`4-CEM_analysis.do`	figureA4_exit.eps, figureA4_vic.eps
Figure A5	`4-CEM_analysis.do`	figureA5_bottom.eps, figureA5_top.eps
Figure A6	`4-CEM_analysis.do`	figureA6_exit_bottom.eps, figureA6_exit_top.eps, figureA6_vic_bottom.eps, figureA6_vic_top.eps
Figure A7	`5-flightlog_daily_analysis.do`	figureA7.eps
Figure A8	`4-CEM_analysis.do`	figureA8.eps
Figure A9	`2-panel_analysis.do`	figureA9_effects.eps, figureA9_types.eps

References

Mathews, Johannes, and John Foreman. 2015. *Luftwaffe Aces.* Leicester, UK: Wing Leader.

Wegmann, Günter, ed. 1982. *"Das Oberkommando Der Wehrmacht Gibt Bekannt": Der Deutsche Wehrmachtbericht: Vollständige Ausgabe Der 1939-1945 Durch Presse Und Rundfunk Veröffentlichten Texte.* Osnabrück: Biblio Verlag.