Coordination and Incumbency Advantage in Multi-Party Systems - Evidence from French Elections

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Overview

The replication package is organized as follows:

- data:

This folder is divided into four subfolders.

  - raw: contains the original databases used for replication, from which all the subsequent databases are generated.
  - intermediate: contains the intermediate databases, generated by the programs Master_prep_1.do, Master_prep_2.do and Master_prep.ipynb.
  - output: contains the databases used for analysis by the program Master_analysis.do.
  - temp: temporary databases used within the same dofile; they can be deleted after replication.

- programs:

This folder contains all the programs used for replication.

  - Master_prep_1.do: dofile that generates databases saved in data/intermediate.
  - Master_prep.ipynb: Jupyter notebook that generates databases saved in data/intermediate.
  - Master_prep_2.do: dofile that generates databases saved in data/intermediate and the final dababases saved in data/output.
  - Master_analysis.do: dofile that generates the figures and tables saved in figures_tables/main_paper and figures_tables/appendix.
  - dofiles: contains the programs called by the master dofiles.
  - notebooks: contains the Jupyter notebooks called by the master notebook.

- figures_tables:

This folder is divided into two subfolders.

- main_paper: figures and tables included in the paper.
- appendix: figures and tables included in the Online Appendix.

Instructions for replicator

To replicate the results in the paper and the Online Appendix:

- Download and unzip the replication folder.
- Set the path to the folder location in the dofile programs/Master_analysis.do.
- Run the dofile Master_analysis.do.

If you wish to replicate the preparation of the raw databases, including the cleaning and merging of data coming from different sources and the construction of textual outcomes, follow these steps:

- Step 1: Set the path to the folder location and run the dofile programs/Master_prep_1.do.
- Step 2: Set the path to the folder location and run the Jupyter notebook programs/Master_prep.ipynb.
- Step 3: Set the path to the folder location and run the dofile programs/Master_prep_2.do.

Original databases, availability and provenance

The databases included in the data/raw folder are described below:

Subfolder	Data file	Description and source
elections	`leg_database_redistrict.dta` `cant_database_redistrict.dta`	Candidate-level information on electoral results with information on redistricting. These databases were not publicly available at the time of the analysis and were generously provided by Clémence Tricaud. See Granzier et al. (2023) for more information on the collection of these data.
elections	`elections_depenses_cant leg_bycandidates.dta`	Candidate-level information on campaign revenue and expenses. This database was not publicly available at the time of the analysis and were generously provided by Clémence Tricaud. See Granzier et al. (2023) for more information on the collection of these data.

elections	`cand_across_elections_samedis.dta`, `cand_across_elections_samedis_others.dta`, `dataset_cand_id_across_elections.dta`	Unique candidate identifier created by merging candidate names from one election to the next. These databases were not publicly available at the time of the analysis and were generously provided by Clémence Tricaud. See Granzier et al. (2023) for more information on the collection of these data.
elections	`political_orientations_wparty_all.dta`	Manual classification of political labels between parties and coalitions performed by the authors. See Online Appendix D.2 for more information.
manifestos	`df_raw_1962, …, df_raw_2017`	Textual content of candidate manifestos from Le Pennec (2024) and Cagé et al. (2024).
manifestos	`key_1962.csv, …, key_2017.csv`	Unique candidate identifier linked to candidate manifestos from Le Pennec (2024) and Cagé et al. (2024).
manifestos	`french_stopwords.txt`	List of French stopwords prepared manually by the authors.

Computational requirements

Software Requirements

The dofiles were run on Stata 17MP. The following commands need to be installed:

- *ssc install reclink*
- *ssc install estout*
- *ssc install rdrobust*
- *net install rddensity, from(https://raw.githubusercontent.com/rdpackages/rddensity/master/stata) replace*
- *ssc install texsave*

To run the command *rdob*, it is required to save the ado file *rdob.ado* in the appropriate folder. To do so, the replicator can follow these steps:

1. Download the ado file *rdob.ado* from the following web page: https://gsb-faculty.stanford.edu/guido-w-imbens/software/
2. Run the command *sysdir* in Stata to identify the path to the BASE directory (e.g., *C:\Program Files\Stata17\ado\base*)
3. Save the file *rdob.ado* in this directory.

The Python scripts were run with Python version 3.8.5, on the Jupyter notebook environment version 6.1.4 and accessed through the Anaconda software distribution

(version 2.0.4). A requirements.txt file is provided in the main folder and includes all packages in the environment we used. In particular, we use the following packages:

- *pandas: 1.1.3*
- *numpy: 1.19.2*
- *scikit-learn: 0.23.2*
- *transformers: 4.5.1*
- *protobuf: 3.19.1*

The following packages and libraries need to be installed (using pip in the notebook directly or conda on the Anaconda Prompt):

- *!pip install protobuf / conda install -c anaconda protobuf*

We also use a pretrained part-of-speech tagging model for French language available here: https://huggingface.co/gilf/french-camembert-postag-model

Details on Computation Environment

All programs in the programs folder were last run in September 2024, on an Intel(R) Core(TM) i7-8565U CPU @ 1.80GHz 1.99 GHz Laptop with 16GB of ram and Windows 10.

The program Master_analysis.do took about 1 hour to run. In the paper, we report the results using 10,000 replications to compute bootstrap standard errors in Tables 4 and 5 as well as Appendix Tables A.4, A.11, A.13 and A.14. However, the code then takes several days to run. To ease replicability, we set the number of replications in the attached code to 10. The approximate time needed to run the entire code is determined based on this number of replications. The number of replications can be changed easily at the beginning of the dofile Master_analysis.do. The value of the bounds will remain unchanged whatever the number of replications, but the standard errors and significance stars may differ slightly.

The set of programs used for the preparation of the databases (described below) took about 48 hours to run.

Description of code

1/ The dofile Master_analysis.do runs programs in the programs/dofiles folder. They use as inputs the databases saved in data/output. Each of these programs is described below (in the order in which they are run):

Program	Description
`program_bounds.do`	Defines the function used to estimate bounds.
`analysis_main.do`	Generates the figures and tables shown in the paper.
`analysis_appendix.do`	Generates the figures and tables shown in the Online Appendix.

2/ The dofiles Master_prep_1.do, Master_prep_2.do and the Jupyter notebook Master_prep.ipynb run the programs in the programs/dofiles and programs/notebooks folders. Each of them is described below (in the order in which they are run):

Program	Description
`dofiles/prep_elections.do`	Cleans the electoral result databases.
`dofiles/prep_manifestos.do`	Merges electoral results with the candidate identifier from candidate manifestos.
`notebooks/ Prep_manifestos.ipynb`	Cleans the textual content of candidate manifestos.
`notebooks/Originaly.ipynb`	Constructs several measures of text similarity to other candidates from the same party.
`notebooks/Find_words.ipynb`	Counts the number of personal pronouns and past participles in candidate manifestos.
`dofiles/prep_database.do`	Merges all intermediate dabatases, constructs treatment and outcome variables, saves the final databases used in the analysis.

Constructed databases

The preparation programs described above generate the following databases, which are saved in data/output and used by the dofiles analysis_main.do and analysis_appendix.do.

Data file	Description
`database_win.dta`	Database for the analysis of the effect of winning an election.
`database_runoff.dta`	Database for the analysis of the effect of qualifying for the runoff.
`database_all.dta`	Database for additional analyses.

Description of results

The figures and tables included in the paper are listed below, along with their origin and their location:

Object	Created by	Location
Figure 1	programs/dofiles/analysis_main.do	figures_tables/main_paper/Figure1_indiv.png, Figure1_party.png, Figure1_orient.png
Figure 2	programs/dofiles/analysis_main.do	figures_tables/main_paper/Figure2_indiv.png, Figure2_party.png, Figure2_orient.png

Figure 3	programs/dofiles/analysis_main.do	figures_tables/main_paper/Figure3_indiv.png, Figure3_party.png, Figure3_orient_1.png, Figure3_orient_2.png
Figure 4	programs/dofiles/analysis_main.do	figures_tables/main_paper/Figure4_win.png, Figure4_run.png, Figure4_qualif.png, Figure4_orient.png
Table 1	programs/analysis/main_analysis.do	figures_tables/main_paper/Table1.tex
Table 2	programs/analysis/main_analysis.do	figures_tables/main_paper/Table2.tex
Table 3	programs/analysis/main_analysis.do	figures_tables/main_paper/Table3.tex
Table 4	programs/analysis/main_analysis.do	figures_tables/main_paper/Table4.tex
Table 5	programs/analysis/main_analysis.do	figures_tables/main_paper/Table5.tex
Table 6	programs/analysis/main_analysis.do	figures_tables/main_paper/Table6.tex
Table 7	programs/analysis/main_analysis.do	figures_tables/main_paper/Table7.tex

The figures and tables included in the Online Appendix are listed below, along with their origin and their location:

Object	Created by	Location of the source file
Figure A1	programs/analysis/analysis_appendix.do	figures_tables/appendix/FigureA1_indiv.png, FigureA1_party.png
Figure B1	programs/analysis/analysis_appendix.do	figures_tables/appendix/FigureB1_indiv.png, FigureB1_party.png , FigureB1_orient.png,
Figure B2	programs/analysis/analysis_appendix.do	figures_tables/appendix/FigureB2_win_indiv.png, FigureB2_run_indiv.png, FigureB2_win_party.png, FigureB2_run_party.png, FigureB2_win_orient.png, FigureB2_orient.png, FigureB2_orient_2.png
Figure B3	programs/analysis/analysis_appendix.do	figures_tables/appendix/FigureB3_indiv.png, FigureB3_party.png, FigureB3_orient.png
Figure B4	programs/analysis/analysis_appendix.do	figures_tables/appendix/FigureB4_ indiv.png, FigureB4_party.png, FigureB4_ orient.png

Figure C1	programs/analysis/analysis_appendix.do	figures_tables/appendix/FigureC1_indiv.png, FigureC1_party.png, FigureC1_ orient.png
Figure C2	programs/analysis/analysis_appendix.do	figures_tables/appendix/FigureC2_indiv.png, FigureC2_party.png, FigureC2_ orient.png
Figure D1	PDF downloaded from Internet Archive in 2020.	figures_tables/appendix /Figure_manif1,png, Figure_manif2.png
Table A1	programs/analysis/analysis_appendix.do	figures_tables/appendix /TableA1.tex
Table A2	programs/analysis/analysis_appendix.do	figures_tables/appendix /TableA2.tex
Table A3	programs/analysis/analysis_appendix.do	figures_tables/appendix /TableA3.tex
Table A4	programs/analysis/analysis_appendix.do	figures_tables/appendix /TableA4.tex
Table A5	programs/analysis/analysis_appendix.do	figures_tables/appendix /TableA5.tex
Table A6	programs/analysis/analysis_appendix.do	figures_tables/appendix /TableA6.tex
Table A7	programs/analysis/analysis_appendix.do	figures_tables/appendix /TableA7.tex
Table A8	programs/analysis/analysis_appendix.do	figures_tables/appendix /TableA8.tex
Table A9	programs/analysis/analysis_appendix.do	figures_tables/appendix /TableA9.tex
Table A10	programs/analysis/analysis_appendix.do	figures_tables/appendix /TableA10.tex
Table A11	programs/analysis/analysis_appendix.do	figures_tables/appendix /TableA11.tex
Table A12	programs/analysis/analysis_appendix.do	figures_tables/appendix / TableA12a.tex, TableA12b.tex
Table A13	programs/analysis/analysis_appendix.do	figures_tables/appendix / TableA13a.tex, TableA13b.tex
Table A14	programs/analysis/analysis_appendix.do	figures_tables/appendix / TableA14
Table B1	programs/analysis/analysis_appendix.do	figures_tables/appendix / TableB1a.tex, TableB1b.tex
Table B2	programs/analysis/analysis_appendix.do	figures_tables/appendix / TableB2.tex
Table C1	programs/analysis/analysis_appendix.do	figures_tables/appendix / TableC1a.tex, TableC1b.tex, TableC1c.tex

Table C2	programs/analysis/analysis_appendix.do	figures_tables/appendix / TableC2.tex
Table C3	programs/analysis/analysis_appendix.do	figures_tables/appendix / TableC3a.tex, TableC3b.tex, TableC3c.tex, TableC3d.tex
Table D1	programs/analysis/analysis_appendix.do	figures_tables/appendix /TableD1.tex
Table D2	programs/analysis/analysis_appendix.do	figures_tables/appendix /TableD2.tex
Table D3	programs/analysis/analysis_appendix.do	figures_tables/appendix /TableD3.tex
Table D4	programs/analysis/analysis_appendix.do	figures_tables/appendix /TableD4.tex
Table D5	Constructed manually as explained in Appendix D.2.	figures_tables/appendix/partytabs

Note: for all tables using the rdrobust command, the significance stars shown in the paper have been added manually. Therefore, the visual aspect of the tables produced by the dofile Master_analysis.do is not exactly the same as those shown in the paper.

Contact

If you have any question regarding this replication package, please contact Caroline Le Pennec by email: caroline.le-pennec@hec.ca.

References

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