Issue Ownership and Agenda Setting in the 2019 Swiss National Elections

Description of Replication Material, Datasets, and R Scripts

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In this file, we describe all datasets and R scripts required to rerun and reproduce the analyses reported in the paper and Supporting Information. In order to have the data, scripts, and outputs saved in the correct folders, which is required to run the scripts successfully, we recommend to download all files as a single ZIP file (click the "Access Dataset" button in the right-hand corner and select "Original Format ZIP"). If you only need selected files, make sure to download data in the original file format. Please do not hesitate contacting the authors if you have any questions.

Datasets

The repository for replicating the empirical analyses contains the following datasets. The following files (in alphabetic order) are used in the R scripts listed below. All other files in the repository, which are not listed here are intermediate products of the analysis and are there to save time if only some steps of the analysis should be reproduced.

- *1184_Selects2019_Panel_Data_v1.0.0.csv*: Selects Panel Data
- *1186_Selects2019_CandidateSurvey_Data_v1.0.0.csv*: Selects Candidate Survey
- *main_data_for_paper_all_topics_sep_party_19jan_appendix.RDS*: Data for VAR
- *main_data_for_paper_all_topics_sep_party_19jan.RDS*: Data for VAR
- *parlgov_2021_electsion.csv*
- *pressreleases_2018-2019.RDS*: Press releases raw data (no text)
- *smd_minified_2018-2019.RDS*: Swiss Newspaper data (no text)
- *Twitter_data_minified_2018-2019_curated_sentiment.RDS*: Minified Corpus of Tweets (no text)
- *Validation_set_twitter.csv*: Validation Data of Twitter Classifier
- *onetime-structural-shock-irfs-results_all_big_jan_appendix.RDS*: Onetime structural shocks of item response function for the VAR.
- *onetime-structural-shock-irfs-results_all_big_jan.RDS*: Onetime structural shocks of item response function for the VAR.
- *var_irfs_main_all_big_jan_appendix.RDS*: Main VARs IRFs for Appendix
- *var_irfs_main_all_big_jan.RDS*: Main VARs IRFs
- *var_model_all_big_jan_appendix.RDS*: Main VAR model for Appendix
- *var_model_all_big_jan.RDS*: Main VAR model

R Scripts

The repository contains the following R scripts. If you want to reproduce the entire analysis, please load and execute the scripts in the following order:

- *01-01_data_preparation.R*: script to prepare tha data. This script cannot run since the input data set cannot be added to the replication files. We are unable to provide the raw data for replication, due to data agreements with both twitter and the swiss media database:
    - *smd_db_classified_2018.RDS (missing data)*
    - *auto_ smd_db_classified_2018.RDS (missing data*)
    - *Tweets_2018_2019_curated_sentiment_class.RDS (missing data)*
    - *Pressreleases_classified_2000-2019.RDS (missing data)*
- *02-01-data_descriptives_and_table_A1.R*: This script contains the code for some numbers we present in the paper as well as the code for the table A1 in the appendix.
    - *pressreleases_2018-2019.RDS*
    - *smd_minified_2018-2019.RDS*
    - *Tweets_minified_2018_2019_curated_sentiment_class.RDS*
    - *ggplot_theme_ddl.R*
- *03-01-data_transformation_for_var.R:* This script produces the data for the VAR analysis. To run the script, you need the following files:
    - *pressreleases_2018-2019.RDS*
    - *smd_minified_2018-2019.RDS*
    - *Tweets_minified_2018_2019_curated_sentiment_class.RDS*
- *03-02-data_transformation_for_var_appendix.R:* This script produces the data for the VAR analysis in the appendix. To run the script, you need the following files:
    - *pressreleases_2018-2019.RDS*
    - *smd_minified_2018-2019.RDS*
    - *Tweets_minified_2018_2019_curated_sentiment_class.RDS*
- *04-01-var_model.R*: This script contains the vector autoregression model used in the paper. To run this script, you need the following files:
    - *main_data_for_paper_all_topics_sep_party_19jan.RDS*
- *04-02-var_model_appendix.R*: This script contains the vector autoregression model used in the paper. To run this script, you need the following files:
    - *main_data_for_paper_all_topics_sep_party_19jan_appendix.RDS*
- *05-01-figure_1.R*: This script produces Figure 1. To run this script, you need the following files:
    - *1184_Selects2019_Panel_Data_v1.0.0.csv*
    - *ggplot_theme_ddl.R*
- *05-02-figure_2.R*: This script produces Figure 2. To run this script, you need the following files:
    - *ggplot_theme_ddl.R*
    - *1186_Selects2019_CandidateSurvey_Data_v1.0.0.csv*
- *05-03-figure_3.R*: This script produces Figure 3. To run this script, you need the following files:
    - *pressreleases_2018-2019.RDS*
    - *smd_minified_2018-2019.RDS*
    - *Tweets_minified_2018_2019_curated_sentiment_class.RDS*
    - *ggplot_theme_ddl.R*
- *05-04-figure_4.R*: This script produces Figure 4. To run this script, you need the following files:
    - *onetime-structural-shock-irfs-results_all_big_jan.RDS*
    - *ggplot_theme_ddl.R*

- *05-03-figure_5.R*: This script produces Figure 5. To run this script, you need the following files:
    - *onetime-structural-shock-irfs-results_all_big_jan.RDS*
    - *ggplot_theme_ddl.R*
- *0A-01-figure_A1.R*: This script produces Figure A1. To run this script, you need the following files:
    - *1184_Selects2019_Panel_Data_v1.0.0.csv*
    - *ggplot_theme_ddl.R*
- *0A-02-figure_A2.R*: This script produces Figure A2. To run this script, you need the following files:
    - *parlgov_2021_elections.csv*
    - *ggplot_theme_ddl.R*
- *0A-03-figure_A3.R*: This script produces Figure A3. To run this script, you need the following files:
    - *onetime-structural-shock-irfs-results_all_big_jan.RDS*
    - *ggplot_theme_ddl.R*
- *0A-04-figure_A4.R*: This script produces Figure A4. To run this script, you need the following files:
    - *pressreleases_2018-2019.RDS*
    - *smd_minified_2018-2019.RDS*
    - *Tweets_minified_2018_2019_curated_sentiment_class.RDS*
    - *ggplot_theme_ddl.R*
- *0A-05-figure_A5.R*: This script produces Figure A5. To run this script, you need the following files:
    - *onetime-structural-shock-irfs-results_all_big_jan_appendix.RDS*
    - *ggplot_theme_ddl.R*
- *0A-06-01-class_per_text_de.R*: This script produces part of Table A2. To run this script you would need the following files:
    - *W2V_2019_SMD_Model_600_DE*
    - *W2V_2019_SMD_Model_600_DE_ClassVectors.csv*
    - *train_test_data_2019_smd_600_de.csv*
    - *dl_01_de*
    - *dl_02_de*
    - *gbm_01_de*
- *0A-06-02-class_per_text_fr.R*: This script produces part of Table A2. To run this script you would need the following files:
    - *W2V_2019_SMD_Model_600_FR*
    - *W2V_2019_SMD_Model_600_FR_ClassVectors.csv*
    - *train_test_data_2019_smd_600_fr.csv*
    - *dl_01_fr*
    - *dl_02_fr*
    - *gbm_01_fr*
- *0A-06-03-class_per_twitter_de.R*: This script produces part of Table A3. To run this script you would need the following files:
    - *W2V_Twitter_Model_200_DE*
    - *W2V_Twitter_Model_200_DE_ClassVectors.csv*
    - *train_test_data_twitter_200_de.csv*
    - *dl_1st_best_de*
    - *dl_2nd_best_de*
    - *gbm_1st_best_de*

- *0A-06-04-class_per_twitter_fr.R*: This script produces part of Table A3. To run this script you would need the following files:
    - *W2V_Twitter_Model_400_FR*
    - *W2V_Twitter_Model_400_FR_ClassVectors.csv*
    - *train_test_data_twitter_400_fr.csv*
    - *dl_1st_best_fr*
    - *dl_2nd_best_fr*
- *0A-06-05-model-diagnostics.R*: This script produces some Diagnostic numbers of the Models. To run this script you need the following files:
    - *var_model_all_big_jan.RDS*
    - *var_irfs_main_all_big_jan.RDS*
    - *main_data_for_paper_all_topics_sep_party_19jan.RDS*
- *0A-07-table-A4.R*: This script produces Table A4. To run this Script you need the following files:
    - *pressreleases_2018-2019.RDS*
    - *smd_minified_2018-2019.RDS*
    - *Tweets_minified_2018_2019_curated_sentiment_class.RDS*
- *0A-08-table_A5.R*: This script produces Table A5. To run this Script you need the following files:
    - *validation_set_twitter.csv*
- *0A-09-table-A6-A7.R*: This script produces Table A5. To run this Script you need the following files:
    - *var_model_all_big_jan.RDS*
    - *var_irfs_main_all_big_jan.RDS*
    - *var_model_all_big_jan_appendix.RDS*
    - *var_irfs_main_all_big_jan_appendix.RDS*

The beginning of each R script lists the packages that need to be loaded and the package versions that have been used when running the scripts.
The entire analysis has been successfully executed using the following platform and package versions:

```
R version 4.0.2 (2020-06-22)
Platform: x86_64-apple-darwin17.0 (64-bit)
Running under: macOS  10.16

Matrix products: default
LAPACK: /Library/Frameworks/R.framework/Versions/4.0/Resources/lib/libRlapack.dylib

locale:
[1] en_US.UTF-8/en_US.UTF-8/en_US.UTF-8/C/en_US.UTF-8/en_US.UTF-8

attached base packages:
[1] compiler  parallel  stats     graphics  grDevices utils     datasets  methods
[9] base

other attached packages:
 [1] stargazer_5.2.2    cowplot_1.1.1      magrittr_2.0.1     scales_1.1.1
 [5] graphlayouts_0.7.1 lubridate_1.7.9.2  forcats_0.5.1      purrr_0.3.4
 [9] tibble_3.0.5       tidyverse_1.3.0    stringr_1.4.0      pbmcapply_1.5.0
[13] doParallel_1.0.16  iterators_1.0.13   foreach_1.5.1      data.table_1.14.0
[17] readr_1.4.0        jsonlite_1.7.2     rjson_0.2.20       showtext_0.9-2
[21] showtextdb_3.0     sysfonts_0.8.3     forecast_8.13      ggrepel_0.9.1
[25] ggforce_0.3.3      ggplotify_0.0.5    ggraph_2.0.5       ggplot2_3.3.3
[29] rio_0.5.16         boot_1.3-27        vars_1.5-3         lmtest_0.9-38
[33] urca_1.3-0         strucchange_1.5-2  sandwich_3.0-0     zoo_1.8-8
[37] MASS_7.3-53        dplyr_1.0.5        tidyr_1.1.2
```

```
loaded via a namespace (and not attached):
 [1] readxl_1.3.1         backports_1.2.1      plyr_1.8.6           igraph_1.2.6
 [5] splines_4.0.2        digest_0.6.27        htmltools_0.5.1.1    viridis_0.5.1
 [9] checkmate_2.0.0      cluster_2.1.1        openxlsx_4.2.3       recipes_0.1.15
[13] modelr_0.1.8         gower_0.2.2          xts_0.12.1           tseries_0.10-48
[17] jpeg_0.1-8.1         colorspace_2.0-0     rvest_0.3.6          haven_2.3.1
[21] xfun_0.20            crayon_1.3.4         RCurl_1.98-1.2       glue_1.4.2
[25] polyclip_1.10-0      gtable_0.3.0         ipred_0.9-9          quantmod_0.4.18
[29] DBI_1.1.1            Rcpp_1.0.6           viridisLite_0.3.0    htmlTable_2.1.0
[33] gridGraphics_0.5-1   foreign_0.8-81       stats4_4.0.2         lava_1.6.8.1
[37] prodlim_2019.11.13   htmlwidgets_1.5.3    httr_1.4.2
RColorBrewer_1.1-2
[41] ellipsis_0.3.1       pkgconfig_2.0.3      farver_2.0.3         nnet_7.3-14
[45] dbplyr_2.1.0         tidyselect_1.1.0     rlang_0.4.10         reshape2_1.4.4
[49] munsell_0.5.0        cellranger_1.1.0     tools_4.0.2          cli_2.3.1
[53] generics_0.1.0       broom_0.7.3          fs_1.5.0
ModelMetrics_1.2.2.2
[57] knitr_1.30           tidygraph_1.2.0      zip_2.1.1            nlme_3.1-151
[61] slam_0.1-48          xml2_1.3.2           rstudioapi_0.13      curl_4.3
[65] png_0.1-7            reprex_0.3.0         tweenr_1.0.1         stringi_1.5.3
[69] Matrix_1.3-2         vctrs_0.3.6          pillar_1.4.7         lifecycle_1.0.0
[73] BiocManager_1.30.10  bitops_1.0-6         R6_2.5.0
latticeExtra_0.6-29
[77] gridExtra_2.3        codetools_0.2-18     assertthat_0.2.1     withr_2.4.0
[81] fracdiff_1.5-1       hms_1.0.0            quadprog_1.5-8       grid_4.0.2
[85] rpart_4.1-15         timeDate_3043.102    class_7.3-17         rvcheck_0.1.8
[89] TTR_0.24.2           pROC_1.17.0.1        base64enc_0.1-3
```