2026年 衆議院議員選挙結果の分析

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```
library(showtext)
```

```
## Loading required package: sysfonts
```

```
## Loading required package: showtextdb
```

```
library(sysfonts)

library(tidyverse)
```

```
## -- Attaching core tidyverse packages ------------------------ tidyverse 2.0.0 --
## v dplyr     1.1.4     v readr     2.1.5
## v forcats   1.0.0     v stringr   1.5.2
## v ggplot2   4.0.0     v tibble    3.3.0
## v lubridate 1.9.4     v tidyr     1.3.1
## v purrr     1.1.0
```

```
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
```

```
library(dplyr)

showtext_auto()

df<-read.csv("partybalot.csv")
df
```

```
##   year balot_jimin balot_komei batot_ishin balot_yotousum seat_jimin seat_komei
## 1 2014    25461449      765390           0       26226839        222          9
## 2 2017    26500777      832453           0       27333230        215          8
## 3 2021    27626236      872931           0       28499167        189          9
## 4 2024    20867762      730401           0       21598163        132          4
## 5 2026    27789183           0     4943331       32732514        249          0
##   seat_ishin seat_yotousum seat_total  n_balot   n_voter p_vote n_osbalot
## 1          0           231        295 54743087 103962784   0.53     19256
## 2          0           223        289 56952674 106091229   0.54     21462
## 3          0           198        289 58901616 105320523   0.56     19531
## 4          0           136        289 55935743 103880749   0.54     17288
## 5         20           269        289 58062807 103211224   0.56     28966
##   n_osvoters p_osvote
## 1     104677     0.18
## 2     100405     0.21
## 3      96664     0.20
## 4      95472     0.18
## 5     103380     0.28
```

```
str(df)
```

```
## 'data.frame':    5 obs. of  16 variables:
##  $ year          : num  2014 2017 2021 2024 2026
##  $ balot_jimin   : num  25461449 26500777 27626236 20867762 27789183
##  $ balot_komei   : num  765390 832453 872931 730401 0
##  $ batot_ishin   : num  0 0 0 0 4943331
##  $ balot_yotousum: num  26226839 27333230 28499167 21598163 32732514
##  $ seat_jimin    : num  222 215 189 132 249
##  $ seat_komei    : num  9 8 9 4 0
##  $ seat_ishin    : num  0 0 0 0 20
##  $ seat_yotousum : num  231 223 198 136 269
##  $ seat_total    : num  295 289 289 289 289
##  $ n_balot       : num  54743087 56952674 58901616 55935743 58062807
##  $ n_voter       : num  1.04e+08 1.06e+08 1.05e+08 1.04e+08 1.03e+08
##  $ p_vote        : num  0.53 0.54 0.56 0.54 0.56
##  $ n_osbalot     : num  19256 21462 19531 17288 28966
##  $ n_osvoters    : num  104677 100405 96664 95472 103380
##  $ p_osvote      : num  0.18 0.21 0.2 0.18 0.28
```

1

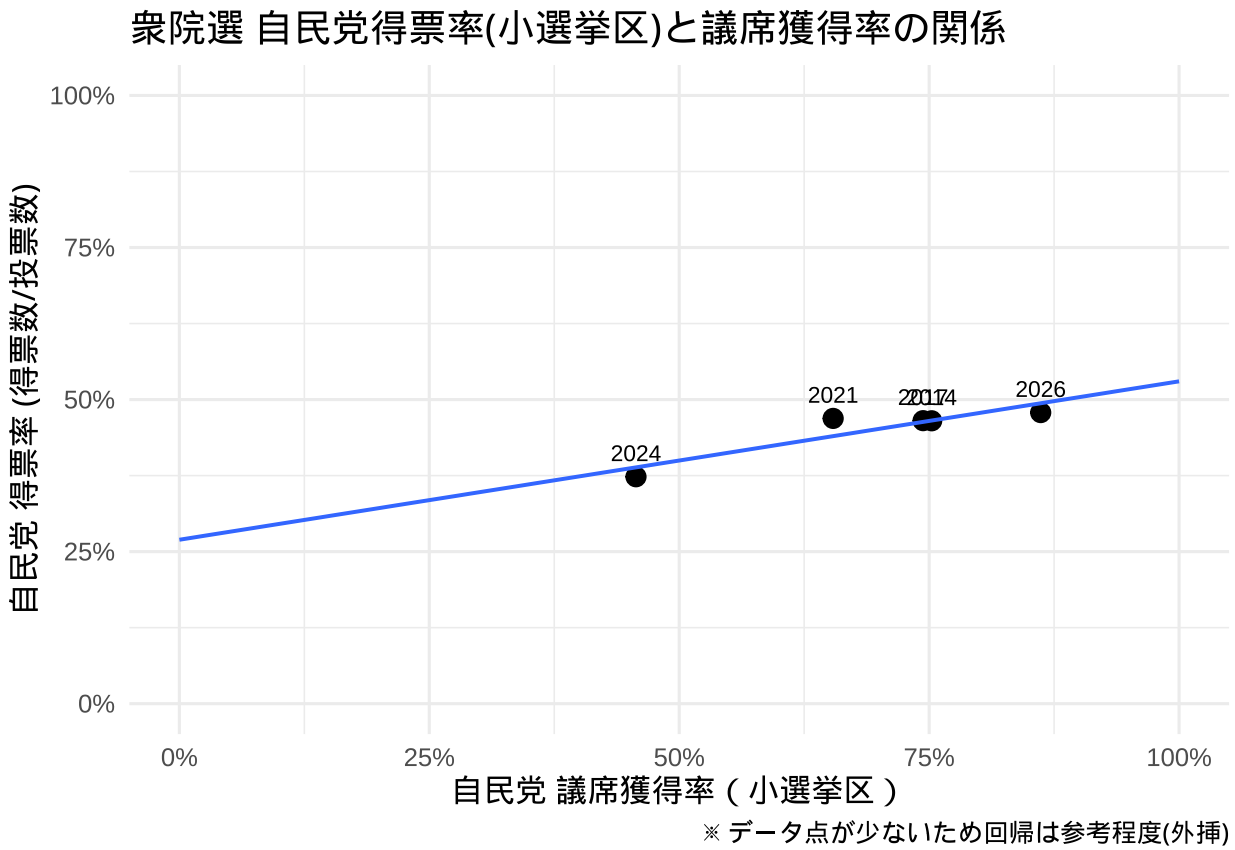
自民党得票率 (小選挙区) と獲得議席数の関係

```
df <- df %>%
  mutate(
    balot_jimin = as.numeric(as.character(balot_jimin)),
    n_voter     = as.numeric(as.character(n_voter))
  ) %>%
  mutate(
    p_jimin = balot_jimin / n_balot,
    p_seat_jimin = seat_jimin / seat_total
  )

plot1 <- ggplot(
  df,
  aes(
    x=p_seat_jimin,
    y=p_jimin,
    label=year
  )
)+
geom_point(size = 3) +
geom_smooth(
  method = "lm",
  se = FALSE,
  linewidth = 0.7,
  fullrange = TRUE
) +
geom_text(
  vjust = -1,
  size = 3
) +
```

```
scale_x_continuous(
    limits = c(0, 1),
    labels = scales::percent
) +
scale_y_continuous(
    limits = c(0, 1),
    labels = scales::percent
) +

labs(
  title = "衆院選 自民党得票率（小選挙区）と議席獲得率の関係",
  x = "自民党 議席獲得率（小選挙区）",
  y = "自民党 得票率（得票数/投票数)",
  caption = "※ データ点が少ないため回帰は参考程度（外挿)"
) +
theme_minimal(base_size = 12)

plot1
```

```
## `geom_smooth()` using formula = 'y ~ x'
```

```
## Warning: The following aesthetics were dropped during statistical transformation: label.
## i This can happen when ggplot fails to infer the correct grouping structure in
##   the data.
## i Did you forget to specify a `group` aesthetic or to convert a numerical
##   variable into a factor?
```



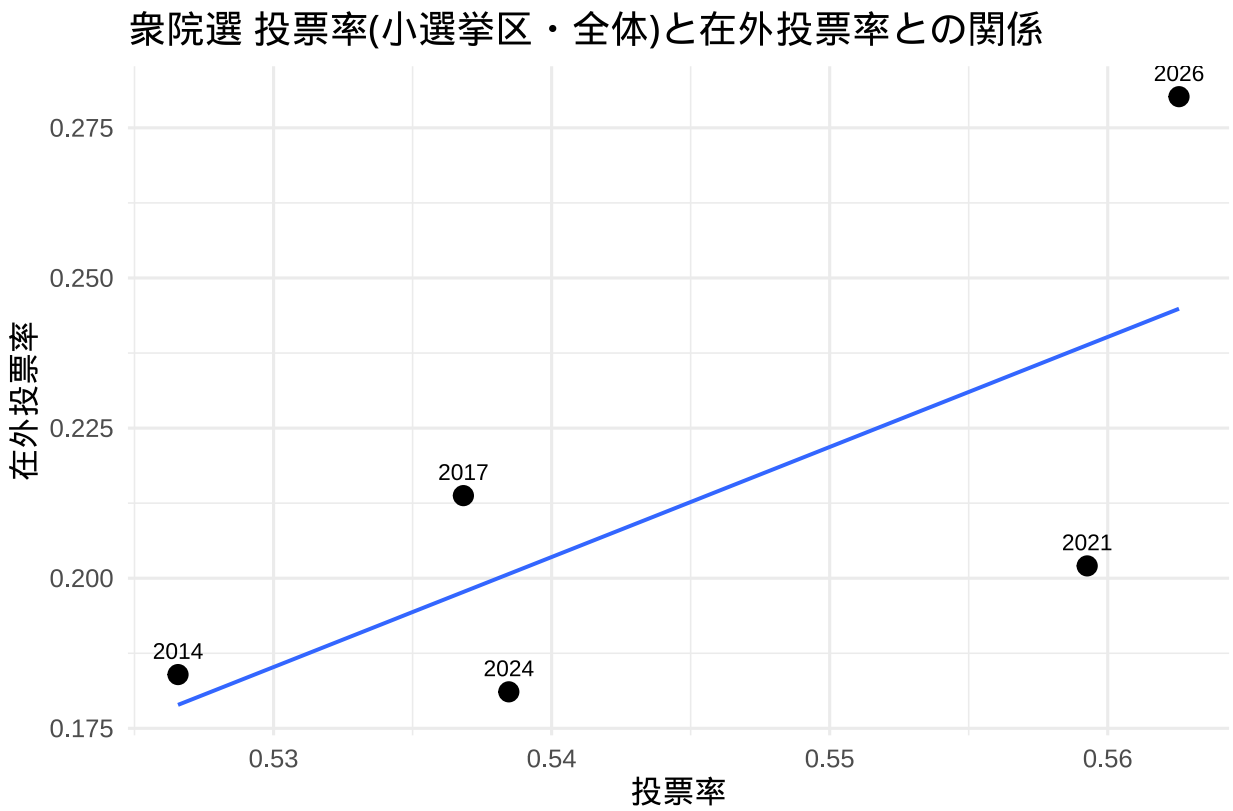
2.

投票率 (全体) と在外投票率との関係

```
df <- df %>%
  mutate(
    p_vote_precise = n_balot / n_voter,
    p_osvote_precise = n_osbalot / n_osvoters
  )

plot2 <- ggplot(
  df,
  aes(
    x=p_vote_precise,
    y=p_osvote_precise,
    label=year
  )
)+

geom_point(size = 3) +
geom_smooth(
  method = "lm",
  se = FALSE,
  linewidth = 0.7,
  fullrange = TRUE
) +
geom_text(
  vjust = -1,
  size = 3
) +

labs(
  title = "衆院選 投票率 (小選挙区・全体) と在外投票率との関係",
  x = "投票率",
  y = "在外投票率",
  caption = "※ データ点が少ないため回帰は参考程度 (外挿)"
) +
theme_minimal(base_size = 12)

plot2
```

```
## `geom_smooth()` using formula = 'y ~ x'
```

```
## Warning: The following aesthetics were dropped during statistical transformation: label.
## i This can happen when ggplot fails to infer the correct grouping structure in
##   the data.
## i Did you forget to specify a `group` aesthetic or to convert a numerical
##   variable into a factor?
```



検定

```
#pearson
cor.test(df$p_vote_precise, df$p_osvote_precise, method = "pearson")
```

```
##
##  Pearson's product-moment correlation
##
## data:  df$p_vote_precise and df$p_osvote_precise
## t = 1.7212, df = 3, p-value = 0.1837
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
##  -0.4691283  0.9785779
## sample estimates:
##      cor
## 0.704889
```

```
#spearman
cor.test(df$p_vote_precise, df$p_osvote_precise, method = "spearman")
```

```
##
##  Spearman's rank correlation rho
##
## data:  df$p_vote_precise and df$p_osvote_precise
## S = 10, p-value = 0.45
## alternative hypothesis: true rho is not equal to 0
## sample estimates:
## rho
```

```
## 0.5
```