

2026

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```
library(tidyverse)

## -- Attaching core tidyverse packages ----- tidyverse 2.0.0 --
## v dplyr     1.1.4     v readr     2.1.5
## vforcats   1.0.0     v stringr   1.5.2
## v ggplot2   4.0.0     v tibble    3.3.0
## v lubridate 1.9.4     v tidyrr    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)
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

```
( )
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(
```

```

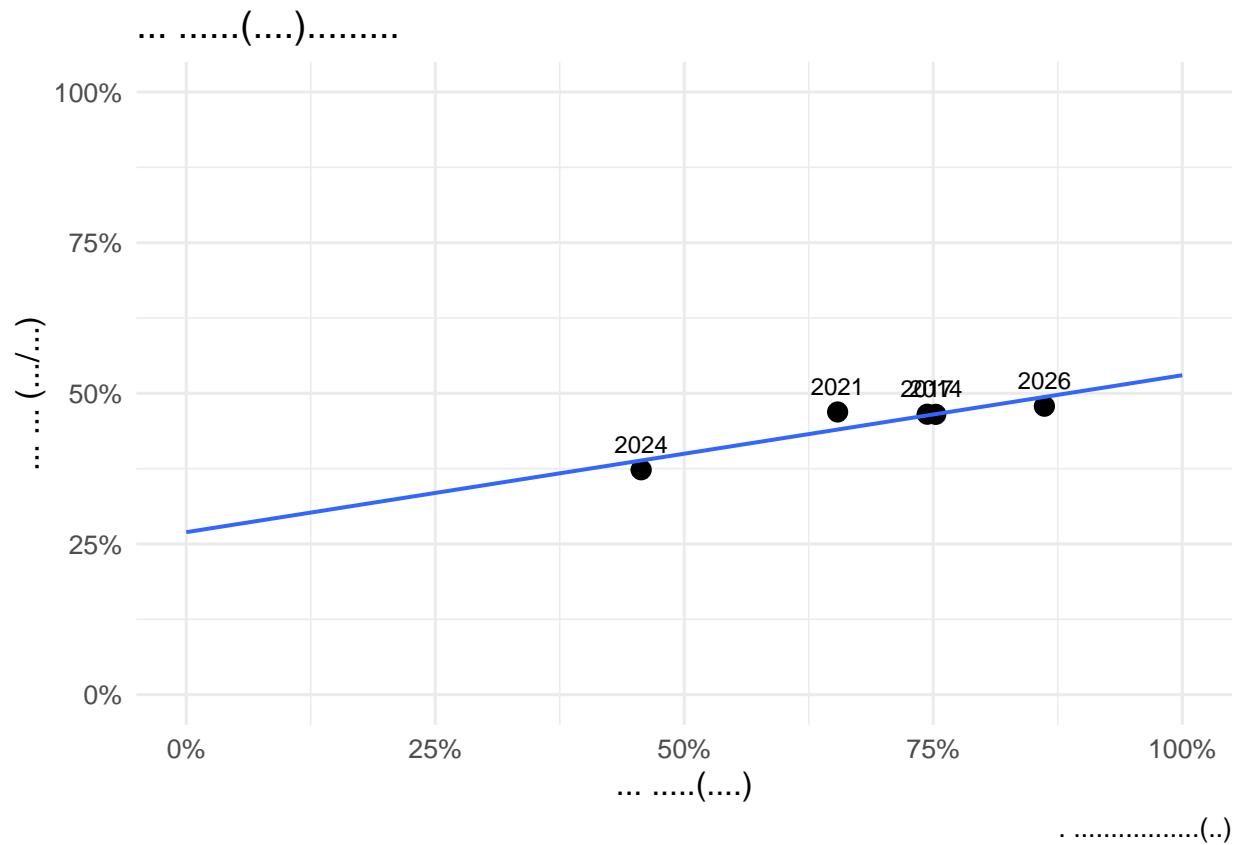
title = "      ( )      ",
x = "      ", 
y = "      ( / )", 
caption = "*      ( )"
) +
theme_minimal(base_size = 12)

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.