Procedure

Data was collected from three sources: The Federal Election Commission, MIT Election Lab, and CQ Voting and Elections Center. The data from the MIT Election lab, which contained the results of all of the senate races from 1976 to 2018, was filtered down to include only regular general elections. Write in candidates were removed. The state_po column was renamed to match the FEC and unnecessary columns were removed.

```
RS <<- read.csv("./Data/Results/1976-2018-senate.csv")
RS <<- RS%>% filter(candidate!="") %>%
  filter(special=="FALSE") %>%
  filter(stage=="gen")%>%
  filter(writein=="FALSE")
RS <<- RS[ -c(2,4,5,6,8,7,9,10,14,17,18)]
RS <<- RS%>%
  mutate(state=state_po)
RS <<- RS[ -c(2)]
RS <<- RS[,c(1,7,3,2,4,5,6)]
```

FEC Data was then imported. A function was created to replace state names with abbreviations in order to match this data with MIT data.

```
# Import FEC Data
F90S <<- readxl::read_xlsx("./Data/Fundraising/1990_Senate.xlsx", skip=3)
F92S <<- readxl::read_xlsx("./Data/Fundraising/1992_Senate.xlsx", skip=3)
F94S <<- readxl::read_xlsx("./Data/Fundraising/1994_Senate.xlsx", skip=3)
F96S <<- readxl::read_xlsx("./Data/Fundraising/1996_Senate.xlsx", skip=3)
F98S <<- readxl::read_xlsx("./Data/Fundraising/1998_Senate.xlsx", skip=3)
F00S <<- readxl::read_xlsx("./Data/Fundraising/2000_Senate.xlsx", skip=3)
F02S <<- readxl::read_xlsx("./Data/Fundraising/2002_Senate.xlsx", skip=3)
F04S <<- readxl::read_xlsx("./Data/Fundraising/2004_Senate.xlsx", skip=3)
F06S <<- readxl::read_xlsx("./Data/Fundraising/2006_Senate.xlsx", skip=3)
F08S <<- readxl::read_xlsx("./Data/Fundraising/2008_Senate.xlsx", skip=3)
F10S <<- readxl::read_xlsx("./Data/Fundraising/2010_Senate.xlsx", skip=3)
# Correct Row Names
janitor::row_to_names(F90S,1, remove_row = TRUE)
```

```
## Warning in janitor::row_to_names(F90S, 1, remove_row = TRUE): Row 1
## does not provide unique names. Consider running clean_names() after
## row_to_names().
```

```
## # A tibble: 169 x 14
##    NA    Alabama `CABANISS, BILL` `Republican Par~ Challenger `1988`
##    <lgl> <chr>   <chr>            <chr>            <chr>       <dbl>
##  1 NA    Alabama CABANISS, BILL   Republican Party Challenger   1990
##  2 NA    Alabama HEFLIN, HOWELL ~ Democratic Party Incumbent    1986
##  3 NA    Alabama HEFLIN, HOWELL ~ Democratic Party Incumbent    1988
##  4 NA    Alabama HEFLIN, HOWELL ~ Democratic Party Incumbent    1990
##  5 NA    Alabama STEWART, FRANK ~ Democratic Party Challenger   1990
##  6 NA    Alaska  BEASLEY, MICHAEL Democratic Party Challenger   1990
##  7 NA    Alaska  BIRD, ROBERT MA~ Republican Party Challenger   1990
##  8 NA    Alaska  STEVENS, TED     Republican Party Incumbent    1986
```

```
##  9 NA    Alaska  STEVENS, TED     Republican Party Incumbent    1988
## 10 NA    Alaska  STEVENS, TED     Republican Party Incumbent    1990
## # ... with 159 more rows, and 8 more variables: `112850` <dbl>,
## #   `111850` <dbl>, `1000` <dbl>, `0` <dbl>, `0` <dbl>, `11798` <dbl>,
## #   `101052` <dbl>, `0` <dbl>
```

```
janitor::row_to_names(F92S,1, remove_row = TRUE)
```

```
## # A tibble: 277 x 14
##    NA    Alabama `MCNAIR, J CHRI~ `Democratic Par~ Challenger `1992`
##    <lgl> <chr>   <chr>            <chr>            <chr>       <dbl>
##  1 NA    Alabama MILLER, BOBBY W~ Democratic Party Challenger   1992
##  2 NA    Alabama SELLERS, RICHAR~ Republican Party Challenger   1992
##  3 NA    Alabama SHELBY, RICHARD~ Democratic Party Incumbent    1988
##  4 NA    Alabama SHELBY, RICHARD~ Democratic Party Incumbent    1990
##  5 NA    Alabama SHELBY, RICHARD~ Democratic Party Incumbent    1992
##  6 NA    Alabama STEWART, FRANK ~ Democratic Party Challenger   1992
##  7 NA    Alaska  BEASLEY, MICHAEL Democratic Party Challenger   1992
##  8 NA    Alaska  HENSLEY, WILLIA~ Democratic Party Challenger   1992
##  9 NA    Alaska  JORDAN, MARY E   Unknown          Challenger   1992
## 10 NA    Alaska  MURKOWSKI, FRAN~ Republican Party Incumbent    1988
## # ... with 267 more rows, and 8 more variables: `105512` <dbl>,
## #   `74782` <dbl>, `27550` <dbl>, `32` <dbl>, `0` <dbl>, `103389` <dbl>,
## #   `2123` <dbl>, `15000` <dbl>
```

```
janitor::row_to_names(F94S,1, remove_row = TRUE)
```

```
## # A tibble: 280 x 14
##    NA    Arizona `COPPERSMITH, S~ `Democratic Par~ Open  `1994` `1583359`
##    <lgl> <chr>   <chr>            <chr>            <chr>  <dbl>     <dbl>
##  1 NA    Arizona EDEN, CATHERINE  Democratic Party Open    1994     88400
##  2 NA    Arizona GRAINGER, SCOTT  Libertarian Par~ Open    1994     43767
##  3 NA    Arizona KYL, JON L       Republican Party Open    1994   4314138
##  4 NA    Arizona MAHONEY, RICHAR~ Democratic Party Open    1994    516690
##  5 NA    Arizona MOSS, DAVID R    Democratic Party Open    1994     15693
##  6 NA    Arizona RESNICK, CINDY   Democratic Party Open    1994     94554
##  7 NA    Califo~ ANDROMIDAS, TED~ Democratic Party Chal~   1994     14166
##  8 NA    Califo~ BARRON, ELIZABE~ Unknown          Chal~   1994        50
##  9 NA    Califo~ BLONG, BARBARA   Unknown          Chal~   1994      3568
## 10 NA    Califo~ CARROLL, JERRY ~ Unknown          Chal~   1994       150
## # ... with 270 more rows, and 7 more variables: `1070857` <dbl>,
## #   `292843` <dbl>, `70000` <dbl>, `126515` <dbl>, `1582320` <dbl>,
## #   `1037` <dbl>, `73188` <dbl>
```

```
janitor::row_to_names(F96S,1, remove_row = TRUE)
```

```
## # A tibble: 276 x 14
##    NA    Alabama `BEDFORD, ROGER~ `Democratic Par~ Open  `1996` `3216772`
##    <lgl> <chr>   <chr>            <chr>            <chr>  <dbl>     <dbl>
##  1 NA    Alabama BLAKE, JAMES (J~ Republican Party Open    1996    148854
##  2 NA    Alabama BROMBERG, MARIL~ Democratic Party Open    1996      8971
##  3 NA    Alabama BROWDER, JOHN G~ Democratic Party Open    1996    756298
```

```
##  4 NA    Alabama CLARK, WALTER D  Republican Party Open    1996    757944
##  5 NA    Alabama DAVIS, NATALIE M Democratic Party Open    1996    752364
##  6 NA    Alabama HEFLIN, HOWELL ~ Democratic Party Chal~   1992    194133
##  7 NA    Alabama HEFLIN, HOWELL ~ Democratic Party Chal~   1994    222716
##  8 NA    Alabama LIPSCOMB, ALBER~ Republican Party Open    1996     26348
##  9 NA    Alabama LUPER, GARY      Independent      Open    1996       177
## 10 NA    Alabama MCDONALD, SIDNE~ Republican Party Open    1996   2289431
## # ... with 266 more rows, and 7 more variables: `1800551` <dbl>,
## #   `459653` <dbl>, `903275` <dbl>, `0` <dbl>, `3088324` <dbl>,
## #   `128828` <dbl>, `130626` <dbl>
```

```
janitor::row_to_names(F98S,1, remove_row = TRUE)
```

```
## Warning in janitor::row_to_names(F98S, 1, remove_row = TRUE): Row 1
## does not provide unique names. Consider running clean_names() after
## row_to_names().
```

```
## # A tibble: 223 x 14
##    NA    Alabama `MCDONALD, SIDN~ `Republican Par~ Challenger `1998`
##    <lgl> <chr>   <chr>            <chr>            <chr>       <dbl>
##  1 NA    Alabama SHELBY, RICHARD  Republican Party Incumbent    1994
##  2 NA    Alabama SHELBY, RICHARD  Republican Party Incumbent    1996
##  3 NA    Alabama SHELBY, RICHARD  Republican Party Incumbent    1998
##  4 NA    Alabama SUDDITH, CLAYTON Democratic Party Challenger   1998
##  5 NA    Alaska  MURKOWSKI, FRAN~ Republican Party Incumbent    1994
##  6 NA    Alaska  MURKOWSKI, FRAN~ Republican Party Incumbent    1996
##  7 NA    Alaska  MURKOWSKI, FRAN~ Republican Party Incumbent    1998
##  8 NA    Alaska  SONNEMAN, JOSEP~ Democratic Party Challenger   1998
##  9 NA    Alaska  VONDERSAAR, FRA~ Democratic Party Challenger   1998
## 10 NA    Arizona MCCAIN, JOHN S   Republican Party Incumbent    1994
## # ... with 213 more rows, and 8 more variables: `50000` <dbl>, `0` <dbl>,
## #   `0` <dbl>, `50000` <dbl>, `0` <dbl>, `50000` <dbl>, `0` <dbl>,
## #   `0` <dbl>
```

```
janitor::row_to_names(F00S,1, remove_row = TRUE)
```

```
## Warning in janitor::row_to_names(F00S, 1, remove_row = TRUE): Row 1
## does not provide unique names. Consider running clean_names() after
## row_to_names().
```

```
## # A tibble: 253 x 14
##    NA    Arizona `KYL, JON L` `Republican Par~ Incumbent `1996` `116300`
##    <lgl> <chr>   <chr>        <chr>            <chr>      <dbl>    <dbl>
##  1 NA    Arizona KYL, JON L   Republican Party Incumbent   1998   517542
##  2 NA    Arizona KYL, JON L   Republican Party Incumbent   2000  2985612
##  3 NA    Arizona TOEL, WILLI~ Independent      Challeng~   2000    21542
##  4 NA    Califo~ BENJAMIN, M~ Green Party      Challeng~   2000   269287
##  5 NA    Califo~ CAMPBELL, T~ Republican Party Challeng~   2000  4733507
##  6 NA    Califo~ COX, CHRIST~ Republican Party Challeng~   1998   907406
##  7 NA    Califo~ COX, CHRIST~ Republican Party Challeng~   2000     2162
##  8 NA    Califo~ FEINSTEIN, ~ Democratic Party Incumbent   2000 10464194
##  9 NA    Califo~ GOUGH, JAME~ Republican Party Challeng~   2000   141244
```

```
## 10 NA    Califo~ HAYNES, RAY~ Republican Party Challeng~   2000   170754
## # ... with 243 more rows, and 7 more variables: `41574` <dbl>,
## #   `6847` <dbl>, `0` <dbl>, `2259` <dbl>, `138605` <dbl>, `153631` <dbl>,
## #   `0` <dbl>
```

```
janitor::row_to_names(F02S,1, remove_row = TRUE)
```

```
## Warning in janitor::row_to_names(F02S, 1, remove_row = TRUE): Row 1
## does not provide unique names. Consider running clean_names() after
## row_to_names().
```

```
## # A tibble: 204 x 14
##    NA    Alabama `JONES, DOUG` `Democratic Par~ Challenger `2002` `161239`
##    <lgl> <chr>   <chr>         <chr>            <chr>       <dbl>    <dbl>
##  1 NA    Alabama MCPHILLIPS, ~ Democratic Party Challenger   2002  2297836
##  2 NA    Alabama PARKER, SUSA~ Democratic Party Challenger   2002  1191848
##  3 NA    Alabama SESSIONS, JE~ Republican Party Incumbent    1998   552589
##  4 NA    Alabama SESSIONS, JE~ Republican Party Incumbent    2000  1279664
##  5 NA    Alabama SESSIONS, JE~ Republican Party Incumbent    2002  4667726
##  6 NA    Alabama SOWELL, WAYNE Democratic Party Challenger   2002     4677
##  7 NA    Alabama SWANSON, JOH~ Independent      Challenger   2002    85393
##  8 NA    Alaska  STEVENS, THE~ Republican Party Incumbent    1998   174173
##  9 NA    Alaska  STEVENS, THE~ Republican Party Incumbent    2000   511839
## 10 NA    Alaska  STEVENS, THE~ Republican Party Incumbent    2002  2731101
## # ... with 194 more rows, and 7 more variables: `149775` <dbl>,
## #   `4000` <dbl>, `6970` <dbl>, `0` <dbl>, `161237` <dbl>, `0` <dbl>,
## #   `0` <dbl>
```

```
janitor::row_to_names(F04S,1, remove_row = TRUE)
```

```
## Warning in janitor::row_to_names(F04S, 1, remove_row = TRUE): Row 1
## does not provide unique names. Consider running clean_names() after
## row_to_names().
```

```
## # A tibble: 244 x 14
##    NA    Alabama `SHELBY, RICHAR~ `Republican Par~ Incumbent `2000`
##    <lgl> <chr>   <chr>            <chr>            <chr>      <dbl>
##  1 NA    Alabama SHELBY, RICHARD~ Republican Party Incumbent   2002
##  2 NA    Alabama SHELBY, RICHARD~ Republican Party Incumbent   2004
##  3 NA    Alabama SOWELL, WAYNE    Democratic Party Challeng~   2004
##  4 NA    Alabama SWANSON, JOHNNY~ Independent      Challeng~   2004
##  5 NA    Alaska  KNOWLES, TONY    Democratic Party Challeng~   2004
##  6 NA    Alaska  MILLER, MIKE     Republican Party Challeng~   2004
##  7 NA    Alaska  MILLICAN, MARC ~ None             Challeng~   2004
##  8 NA    Alaska  MURKOWSKI, LISA  Republican Party Incumbent   2004
##  9 NA    Alaska  SHEA, WEVLEY WI~ Republican Party Challeng~   2004
## 10 NA    Alaska  SYKES, JAMES L.  Green Party      Challeng~   2004
## # ... with 234 more rows, and 8 more variables: `1095063` <dbl>,
## #   `415092` <dbl>, `266392` <dbl>, `0` <dbl>, `0` <dbl>, `304525` <dbl>,
## #   `5349962` <dbl>, `0` <dbl>
```

```
janitor::row_to_names(F06S,1, remove_row = TRUE)
```

```
## Warning in janitor::row_to_names(F06S, 1, remove_row = TRUE): Row 1
## does not provide unique names. Consider running clean_names() after
## row_to_names().
```

```
## # A tibble: 225 x 14
##    NA    Arizona `KYL, JON` `Republican Par~ Incumbent `2002` `280805`
##    <lgl> <chr>   <chr>      <chr>            <chr>      <dbl>    <dbl>
##  1 NA    Arizona KYL, JON   Republican Party Incumbent   2004  1119334
##  2 NA    Arizona KYL, JON   Republican Party Incumbent   2006 14123880
##  3 NA    Arizona PEDERSON,~ Democratic Party Challeng~   2006 14709628
##  4 NA    Califo~ CARROLL, ~ Independent      Challeng~   2006      160
##  5 NA    Califo~ CHRETIEN,~ Green Party      Challeng~   2006    61549
##  6 NA    Califo~ FEINSTEIN~ Democratic Party Incumbent   2002   854879
##  7 NA    Califo~ FEINSTEIN~ Democratic Party Incumbent   2004  3107183
##  8 NA    Califo~ FEINSTEIN~ Democratic Party Incumbent   2006  8238616
##  9 NA    Califo~ MOUNTJOY,~ Republican Party Challeng~   2006   198630
## 10 NA    Connec~ FERRUCCI,~ Green Party      Challeng~   2006     2365
## # ... with 215 more rows, and 7 more variables: `134927` <dbl>,
## #   `39907` <dbl>, `0` <dbl>, `0` <dbl>, `209843` <dbl>, `1062943` <dbl>,
## #   `0` <dbl>
```

```
janitor::row_to_names(F08S,1, remove_row = TRUE)
```

```
## Warning in janitor::row_to_names(F08S, 1, remove_row = TRUE): Row 1
## does not provide unique names. Consider running clean_names() after
## row_to_names().
```

```
## # A tibble: 230 x 14
##    NA    Alabama `FIGURES, VIVIA~ `Democratic Par~ Challenger `2008`
##    <lgl> <chr>   <chr>            <chr>            <chr>       <dbl>
##  1 NA    Alabama GAVIN, EARL MACK Republican Party Challenger   2008
##  2 NA    Alabama SESSIONS, JEFF   Republican Party Incumbent    2004
##  3 NA    Alabama SESSIONS, JEFF   Republican Party Incumbent    2006
##  4 NA    Alabama SESSIONS, JEFF   Republican Party Incumbent    2008
##  5 NA    Alabama SWANSON, JOHNNY~ Democratic Party Challenger   2008
##  6 NA    Alaska  BEGICH, MARK     Democratic Party Challenger   2008
##  7 NA    Alaska  BIRD, ROBERT MA~ Independent      Challenger   2008
##  8 NA    Alaska  CALDERO, ROCKY ~ Democratic Party Challenger   2008
##  9 NA    Alaska  CUDDY, DAVID W   Republican Party Challenger   2008
## 10 NA    Alaska  METCALFE, RAY    Democratic Party Challenger   2008
## # ... with 220 more rows, and 8 more variables: `332750` <dbl>,
## #   `292898` <dbl>, `36983` <dbl>, `0` <dbl>, `0` <dbl>, `332007` <dbl>,
## #   `740` <dbl>, `0` <dbl>
```

```
janitor::row_to_names(F10S,1, remove_row = TRUE)
```

```
## Warning in janitor::row_to_names(F10S, 1, remove_row = TRUE): Row 1
## does not provide unique names. Consider running clean_names() after
## row_to_names().
```

```
## # A tibble: 360 x 14
##    NA    Alabama `BARNES, WILLIA~ `Democratic Par~ Challenger `2010` `5870`
##    <lgl> <chr>   <chr>            <chr>            <chr>       <dbl>  <dbl>
##  1 NA    Alabama SHELBY, RICHARD~ Republican Party Incumbent    2006 8.73e5
##  2 NA    Alabama SHELBY, RICHARD~ Republican Party Incumbent    2008 2.40e6
##  3 NA    Alabama SHELBY, RICHARD~ Republican Party Incumbent    2010 5.28e6
##  4 NA    Alaska  MCADAMS, SCOTT   Democratic Party Challenger   2010 1.33e6
##  5 NA    Alaska  MILLER, JOSEPH W Republican Party Challenger   2010 3.37e6
##  6 NA    Alaska  MURKOWSKI, LISA  Republican Party Incumbent    2006 1.18e5
##  7 NA    Alaska  MURKOWSKI, LISA  Republican Party Incumbent    2008 4.99e5
##  8 NA    Alaska  MURKOWSKI, LISA  Republican Party Incumbent    2010 4.07e6
##  9 NA    Alaska  VONDERSAAR, FRA~ Democratic Party Challenger   2010 1.05e3
## 10 NA    Arizona DEAKIN, JIMMIE ~ Republican Party Challenger   2010 7.15e4
## # ... with 350 more rows, and 7 more variables: `2360` <dbl>,
## #   `1000` <dbl>, `0` <dbl>, `0` <dbl>, `5871` <dbl>, `0` <dbl>, `0` <dbl>
```

```
# Change State Names to Abbreviations
F90S <<- F90S%>%mutate(state=state.abb[match(F90S$State,state.name)])
F92S <<- F92S %>%mutate(state=state.abb[match(F92S$State,state.name)])
F94S <<- F94S %>%mutate(state=state.abb[match(F94S$State,state.name)])
F96S <<- F96S %>%mutate(state=state.abb[match(F96S$State,state.name)])
F98S <<- F98S %>%mutate(state=state.abb[match(F98S$State,state.name)])
F00S <<- F00S %>%mutate(state=state.abb[match(F00S$State,state.name)])
F02S <<- F02S %>%mutate(state=state.abb[match(F02S$State,state.name)])
F04S <<- F04S %>%mutate(state=state.abb[match(F04S$State,state.name)])
F06S <<- F06S %>%mutate(state=state.abb[match(F06S$State,state.name)])
F08S <<- F08S %>%mutate(state=state.abb[match(F08S$State,state.name)])
F10S <<- F10S %>%mutate(state=state.abb[match(F10S$State,state.name)])
```

Since FEC Data for senate races is grouped in two year cycles, candidates, particularly incumbents, often have multiple fundraising rows on the table. New tables were created from the FEC data and grouped by candidate. The fundraising totals for each candidate in each six year cycle were calculated, and the tables were re-joined. The fundraising tables for each cycle were subsequently combined.

```
# Create new Tables grouped by candidate
C90S <<- F90S %>%group_by(Candidate)
C92S <<- F92S %>%group_by(Candidate)
C94S <<- F94S %>%group_by(Candidate)
C96S <<- F96S %>%group_by(Candidate)
C98S <<- F98S %>%group_by(Candidate)
C00S <<- F00S %>%group_by(Candidate)
C02S <<- F02S %>%group_by(Candidate)
C04S <<- F04S %>%group_by(Candidate)
C06S <<- F06S %>%group_by(Candidate)
C08S <<- F08S %>%group_by(Candidate)
C10S <<- F10S %>%group_by(Candidate)
# Remove Unnecessary Columns
C90S<<-C90S[ -c(1,2,6,7,8,9,10,11,12,13,14)]
C92S<<-C92S[ -c(1,2,6,7,8,9,10,11,12,13,14)]
C94S<<-C94S[ -c(1,2,6,7,8,9,10,11,12,13,14)]
C96S<<-C96S[ -c(1,2,6,7,8,9,10,11,12,13,14)]
C98S<<-C98S[ -c(1,2,6,7,8,9,10,11,12,13,14)]
C00S<<-C00S[ -c(1,2,6,7,8,9,10,11,12,13,14)]
C02S<<-C02S[ -c(1,2,6,7,8,9,10,11,12,13,14)]
```

```
C04S<<-C04S[ -c(1,2,6,7,8,9,10,11,12,13,14)]
C06S<<-C06S[ -c(1,2,6,7,8,9,10,11,12,13,14)]
C08S<<-C08S[ -c(1,2,6,7,8,9,10,11,12,13,14)]
C10S<<-C10S[ -c(1,2,6,7,8,9,10,11,12,13,14)]
# Get Fundraising totals for candidates
F90S <<- F90S %>%
  group_by(Candidate) %>%
  summarise(
    raised=sum(Receipts),
    spent=sum(Disbursements))%>%
  mutate(year=1990)
F92S <<- F92S %>%
  group_by(Candidate) %>%
  summarise(
    raised=sum(Receipts),
    spent=sum(Disbursements))%>%
  mutate(year=1992)
F94S <<- F94S %>%
  group_by(Candidate) %>%
  summarise(
    raised=sum(Receipts),
    spent=sum(Disbursements))%>%
  mutate(year=1994)
F96S <<- F96S %>%
  group_by(Candidate) %>%
  summarise(
    raised=sum(Receipts),
    spent=sum(Disbursements))%>%
  mutate(year=1996)
F98S <<- F98S %>%
  group_by(Candidate) %>%
  summarise(
    raised=sum(Receipts),
    spent=sum(Disbursements))%>%
  mutate(year=1998)
F00S <<- F00S %>%
  group_by(Candidate) %>%
  summarise(
    raised=sum(Receipts),
    spent=sum(Disbursements))%>%
  mutate(year=2000)
F02S <<- F02S %>%
  group_by(Candidate) %>%
  summarise(
    raised=sum(Receipts),
    spent=sum(Disbursements))%>%
  mutate(year=2002)
F04S <<- F04S %>%
  group_by(Candidate) %>%
  summarise(
    raised=sum(Receipts),
    spent=sum(Disbursements)) %>%
  mutate(year=2004)
```

```
F06S <<- F06S %>%
  group_by(Candidate) %>%
  summarise(
    raised=sum(Receipts),
    spent=sum(Disbursements))%>%
  mutate(year=2006)
F08S <<- F08S %>%
  group_by(Candidate) %>%
  summarise(
    raised=sum(Receipts),
    spent=sum(Disbursements))%>%
  mutate(year=2008)
F10S <<- F10S %>%
  group_by(Candidate) %>%
  summarise(
    raised=sum(Receipts),
    spent=sum(Disbursements))%>%
  mutate(year=2010)
# Join tibbles
F90S<<-inner_join(F90S,C90S)
```

```
## Joining, by = "Candidate"
```

```
F92S<<-inner_join(F92S,C92S)
```

```
## Joining, by = "Candidate"
```

```
F94S<<-inner_join(F94S,C94S)
```

```
## Joining, by = "Candidate"
```

```
F96S<<-inner_join(F96S,C96S)
```

```
## Joining, by = "Candidate"
```

```
F98S<<-inner_join(F98S,C98S)
```

```
## Joining, by = "Candidate"
```

```
F00S<<-inner_join(F00S,C00S)
```

```
## Joining, by = "Candidate"
```

```
F02S<<-inner_join(F02S,C02S)
```

```
## Joining, by = "Candidate"
```

```
F04S<<-inner_join(F04S,C04S)
```

```
## Joining, by = "Candidate"
```

```
F06S<<-inner_join(F06S,C06S)
```

```
## Joining, by = "Candidate"
```

```
F08S<<-inner_join(F08S,C08S)
```

```
## Joining, by = "Candidate"
```

```
F10S<<-inner_join(F10S,C10S)
```

```
## Joining, by = "Candidate"
```

```
# Combine Fundraising Lists
FS1<<-full_join(F90S,F92S)
```

```
## Joining, by = c("Candidate", "raised", "spent", "year", "Party",
## "Incumbent/\r\nChallenger/Open", "state")
```

```
FS2<<-full_join(FS1,F94S)
```

```
## Joining, by = c("Candidate", "raised", "spent", "year", "Party",
## "Incumbent/\r\nChallenger/Open", "state")
```

```
FS3<<-full_join(FS2,F96S)
```

```
## Joining, by = c("Candidate", "raised", "spent", "year", "Party",
## "Incumbent/\r\nChallenger/Open", "state")
```

```
FS4<<-full_join(FS3,F98S)
```

```
## Joining, by = c("Candidate", "raised", "spent", "year", "Party",
## "Incumbent/\r\nChallenger/Open", "state")
```

```
FS5<<-full_join(FS4,F00S)
```

```
## Joining, by = c("Candidate", "raised", "spent", "year", "Party",
## "Incumbent/\r\nChallenger/Open", "state")
```

```
FS6<<-full_join(FS5,F02S)
```

```
## Joining, by = c("Candidate", "raised", "spent", "year", "Party",
## "Incumbent/\r\nChallenger/Open", "state")
```

```
FS7<<-full_join(FS6,F04S)
```

```
## Joining, by = c("Candidate", "raised", "spent", "year", "Party",
## "Incumbent/\r\nChallenger/Open", "state")
```

```
FS8<<-full_join(FS7,F06S)
```

```
## Joining, by = c("Candidate", "raised", "spent", "year", "Party",
## "Incumbent/\r\nChallenger/Open", "state")
```

```
FS9<<-full_join(FS8,F08S)
```

```
## Joining, by = c("Candidate", "raised", "spent", "year", "Party",
## "Incumbent/\r\nChallenger/Open", "state")
```

```
FS<<-full_join(FS9,F10S)
```

```
## Joining, by = c("Candidate", "raised", "spent", "year", "Party",
## "Incumbent/\r\nChallenger/Open", "state")
```

One of the biggest challenges associated with FEC data is the lack of standardized candidate names. In order to correct this, the Candidate names were then divided into first and last names. This will simplify the process of joining these tables with the MIT results Data.

```
# Standardizing candidate names ------------------------------------------------------------------
FS <<- FS%>%mutate(last_name=Candidate)
FS <<- FS%>%mutate(first_name=Candidate)
FS <<- FS%>%mutate(first_name=sub('.*,\\s*','', FS$first_name))
FS <<- FS%>%mutate(last_name=sub('\\s*,.*','', FS$last_name))
FS <<- FS%>%mutate(first_name=sub("\\s+\\S+$", '', FS$first_name))
FS <<- FS%>%mutate(first_name=sub("\\s+\\S+$", '', FS$first_name))
FS <<- FS%>%mutate(first_name=sub("\\s+\\S+$", '', FS$first_name))
FS <<- FS%>%mutate(first_name=sub("\\s+\\S+$", '', FS$first_name))
FS<<-FS%>%mutate(candidate=paste(FS$first_name,FS$last_name))
FS <<- FS[ -c(1)]
FS <<- FS[,c(3,6,4,9,5,1,2,8,7)]
#Save this as a new tibble to save time
FSN<<-FS
```

The FEC Data also contained party names which were inconsistent with those in the MIT results tables. Certain states, such as minnesota, have state parties with slightly different names than the national parties with which they are affiliated. This was corrected to simplify the process of joining these tables with the MIT results Data.

```
# Standardizing Party Names ----------------------------------------------
FS <<- FS %>%
  mutate(Party=sub(" Party", '', FS$Party))%>%
  mutate(party=Party)
FS <<- FS[ -c(3)]
FS <<- FS[,c(1,2,9,3,4,5,6,7,8)]
```

```
FS <<- FS %>%mutate(party=sub("Democratic-Farm-Labor", 'democrat', FS$party))
FS <<- FS %>%
  mutate(party=sub("Democratic", 'democrat', FS$party))%>%
  mutate(party=tolower(party))
#Some Duplicates were created during this process, likely due to running joins more than once. The dist
FS <<- distinct(FS)
FS <<- FS[,c(1,2,3,9,5,6,7,8)]
```

The MIT Data also needed work before it could be joined with the FEC Data. First, candidates who belonged to third parties or to no party were removed. The time frame was narrowed to the period between 1990-2010. A new column was created with each candidate's share of the vote. Candidates who recieved less than ten percent, or greater than ninety percent of the vote were removed as these races are particularly non-competative and could produce outliers which artificially skew the data. As with FEC data, new columns were made with the candidates' last names. Finally, states with jungle primaries were removed, as these states can have elections in which both candidates belong to the same party. Analyzing such elections would require intensive research in order to determine the ideological factors at play, as well as the development of new methods to quantify said factors.

```
# Results Name Matching ----------------------------------------------------
RS <<- distinct(RS)
RSALL<<-RS
RSR <<-RS%>%filter(party =="republican")
RSD <<-RS%>%filter(party =="democrat")
RS<<-full_join(RSR,RSD)
```

```
## Joining, by = c("year", "state", "party", "candidate", "writein",
## "candidatevotes", "totalvotes")
```

```
RS<<-RS%>%
  filter(year >=1990)%>%
  filter(year <=2010)
RS<<-RS%>%mutate(percentage=candidatevotes/totalvotes)
RS<<-RS%>%filter(percentage >=.1)
RS<<-RS%>%filter(percentage <=.9)
#Create new column with candidate last names
RS <<- RS %>%mutate(last_name=candidate)
RS <<- RS %>%mutate(last_name=sub(".*? ", "", RS$last_name))
RS <<- RS %>%mutate(last_name=sub(".*? ", "", RS$last_name))
RS <<- RS %>%mutate(last_name=sub(".*? ", "", RS$last_name))
RS <<- RS %>%mutate(last_name=sub(".*? ", "", RS$last_name))
RS <<- RS %>%mutate(last_name=sub(".*? ", "", RS$last_name))
RS <<- RS %>%mutate(last_name=sub(".*? ", "", RS$last_name))
RS <<- RS %>%mutate(last_name=toupper(last_name))
#Remove un-necessary and redundant columns
RS <<- RS[,c(1,2,3,9,4,5,6,7,8)]
# Remove states with jungle primaries
RSNJ<<-RS%>%
  filter(state !="AK")%>%
  filter(state !="WA")%>%
  filter(state !="CA")%>%
  filter(state !="LA")
Senate1<<-left_join(RSNJ,FS)
```

```
## Joining, by = c("year", "state", "party", "last_name")
```

```
## Warning: Column `state` joining factor and character vector, coercing into
## character vector
```

```
## Warning: Column `party` joining factor and character vector, coercing into
## character vector
```

```
Senate1<<-distinct(Senate1)
```

In order to get a better idea of a candidate's performance, the previous election results are calculated.

```
# Add Pervious Election Data ---------------------------------------------
RSREF<<-full_join(RSR,RSD)
```

```
## Joining, by = c("year", "state", "party", "candidate", "writein",
## "candidatevotes", "totalvotes")
```

```
RSREF<<-RSREF%>%mutate(previous_percentage=candidatevotes/totalvotes)
RSREF<<-RSREF%>%
  filter(state !="AK")%>%
  filter(state !="WA")%>%
  filter(state !="CA")%>%
  filter(state !="LA")
RSREF<<-RSREF[ -c(4,5,6,7)]
RSREF<<-RSREF%>%mutate(year=year+6)
Senate2<<-left_join(Senate1,RSREF)
```

```
## Joining, by = c("year", "state", "party")
```

```
## Warning: Column `state` joining character vector and factor, coercing into
## character vector
```

```
## Warning: Column `party` joining character vector and factor, coercing into
## character vector
```

```
# Calculate Demonstrated PVI's from previous results and current r
Senate3 <<- Senate2%>%
  mutate(Previous_RPVI=previous_percentage-.5)%>%
  mutate(Previous_RPVI=2*Previous_RPVI)%>%
  mutate(RPVI=percentage-.5)%>%
  mutate(RPVI=2*RPVI)
Senate3<<-unique(Senate3)
Senate3<<-Senate3[ -c(6,13)]
```

Some duplicate data was created when the results and fundraising data was joined. The fundraising totals were re-calculated to ensure that no duplicate data remains.

```r
# Re-divide fundraising into years ------------------------------------
R90S<<-Senate3%>%filter(year==1990)
R92S<<-Senate3%>%filter(year==1992)
R94S<<-Senate3%>%filter(year==1994)
R96S<<-Senate3%>%filter(year==1996)
R98S<<-Senate3%>%filter(year==1998)
R00S<<-Senate3%>%filter(year==2000)
R02S<<-Senate3%>%filter(year==2002)
R04S<<-Senate3%>%filter(year==2004)
R06S<<-Senate3%>%filter(year==2006)
R08S<<-Senate3%>%filter(year==2008)
R10S<<-Senate3%>%filter(year==2010)
# Group By Candidate again ------------------------------------------------
C90S <<- R90S %>%
  group_by(candidate)%>%
  summarise(
    rcpt=sum(raised),
    disb=sum(spent))
C92S <<- R92S %>%
  group_by(candidate)%>%
  summarise(
    rcpt=sum(raised),
    disb=sum(spent))
C94S <<- R94S %>%
  group_by(candidate)%>%
  summarise(
    rcpt=sum(raised),
    disb=sum(spent))
C96S <<- R96S %>%
  group_by(candidate)%>%
  summarise(
    rcpt=sum(raised),
    disb=sum(spent))
C98S <<- R98S %>%
  group_by(candidate)%>%
  summarise(
    rcpt=sum(raised),
    disb=sum(spent))
C00S <<- R00S %>%
  group_by(candidate)%>%
  summarise(
    rcpt=sum(raised),
    disb=sum(spent))
C02S <<- R02S %>%
  group_by(candidate)%>%
  summarise(
    rcpt=sum(raised),
    disb=sum(spent))
C04S <<- R04S %>%
  group_by(candidate)%>%
  summarise(
    rcpt=sum(raised),
    disb=sum(spent))
```

```
C06S <<- R06S %>%
  group_by(candidate)%>%
  summarise(
    rcpt=sum(raised),
    disb=sum(spent))
C08S <<- R08S %>%
  group_by(candidate)%>%
  summarise(
    rcpt=sum(raised),
    disb=sum(spent))
C10S <<- R10S %>%
  group_by(candidate)%>%
  summarise(
    rcpt=sum(raised),
    disb=sum(spent))
# Re-join with results ------------------------------------------------------
R90S<<-left_join(R90S,C90S)
```

```
## Joining, by = "candidate"
```

```
R92S<<-left_join(R92S,C92S)
```

```
## Joining, by = "candidate"
```

```
R94S<<-left_join(R94S,C94S)
```

```
## Joining, by = "candidate"
```

```
R96S<<-left_join(R96S,C96S)
```

```
## Joining, by = "candidate"
```

```
R98S<<-left_join(R98S,C98S)
```

```
## Joining, by = "candidate"
```

```
R00S<<-left_join(R00S,C00S)
```

```
## Joining, by = "candidate"
```

```
R02S<<-left_join(R02S,C02S)
```

```
## Joining, by = "candidate"
```

```
R04S<<-left_join(R04S,C04S)
```

```
## Joining, by = "candidate"
```

```
R06S<<-left_join(R06S,C06S)
```

```
## Joining, by = "candidate"
```

```
R08S<<-left_join(R08S,C08S)
```

```
## Joining, by = "candidate"
```

```
R10S<<-left_join(R10S,C10S)
```

```
## Joining, by = "candidate"
```

```
# Re-name fundraising columns ------------------------------------------
R90S<<-R90S%>%
  mutate(raised=rcpt)%>%
  mutate(spent=disb)
R92S<<-R92S%>%
  mutate(raised=rcpt)%>%
  mutate(spent=disb)
R94S<<-R94S%>%
  mutate(raised=rcpt)%>%
  mutate(spent=disb)
R96S<<-R96S%>%
  mutate(raised=rcpt)%>%
  mutate(spent=disb)
R98S<<-R98S%>%
  mutate(raised=rcpt)%>%
  mutate(spent=disb)
R00S<<-R00S%>%
  mutate(raised=rcpt)%>%
  mutate(spent=disb)
R02S<<-R02S%>%
  mutate(raised=rcpt)%>%
  mutate(spent=disb)
R04S<<-R04S%>%
  mutate(raised=rcpt)%>%
  mutate(spent=disb)
R06S<<-R06S%>%
  mutate(raised=rcpt)%>%
  mutate(spent=disb)
R08S<<-R08S%>%
  mutate(raised=rcpt)%>%
  mutate(spent=disb)
R10S<<-R10S%>%
  mutate(raised=rcpt)%>%
  mutate(spent=disb)
# Remove un-necessary columns ------------------------------------------
R90S<<-R90S[ -c(15,16)]
R92S<<-R92S[ -c(15,16)]
R94S<<-R94S[ -c(15,16)]
R96S<<-R96S[ -c(15,16)]
```

```
R98S<<-R98S[ -c(15,16)]
R00S<<-R00S[ -c(15,16)]
R02S<<-R02S[ -c(15,16)]
R04S<<-R04S[ -c(15,16)]
R06S<<-R06S[ -c(15,16)]
R08S<<-R08S[ -c(15,16)]
R10S<<-R10S[ -c(15,16)]
# remove duplicate data ----------------------------------------------------
R90S<<-unique(R90S)
R92S<<-unique(R92S)
R94S<<-unique(R94S)
R96S<<-unique(R96S)
R98S<<-unique(R98S)
R00S<<-unique(R00S)
R02S<<-unique(R02S)
R04S<<-unique(R04S)
R06S<<-unique(R06S)
R08S<<-unique(R08S)
R10S<<-unique(R10S)
```

The fundraising totals from each state are calculated and the candidate's share of the spending was calculated from these totals.

```
# Get totals for each state ------------------------------------------------
#Create new tibbles for each year
S90S<<-R90S
S92S<<-R92S
S94S<<-R94S
S96S<<-R96S
S98S<<-R98S
S00S<<-R00S
S02S<<-R02S
S04S<<-R04S
S06S<<-R06S
S08S<<-R08S
S10S<<-R10S
# Get totals for each state
S90S <<- S90S %>%
  group_by(state) %>%
  summarise(
    total_raised=sum(raised),
    total_spent=sum(spent))
S92S <<- S92S %>%
  group_by(state) %>%
  summarise(
    total_raised=sum(raised),
    total_spent=sum(spent))
S94S <<- S94S %>%
  group_by(state) %>%
  summarise(
    total_raised=sum(raised),
    total_spent=sum(spent))
S96S <<- S96S %>%
```

```
  group_by(state) %>%
  summarise(
    total_raised=sum(raised),
    total_spent=sum(spent))
S98S <<- S98S %>%
  group_by(state) %>%
  summarise(
    total_raised=sum(raised),
    total_spent=sum(spent))
S00S <<- S00S %>%
  group_by(state) %>%
  summarise(
    total_raised=sum(raised),
    total_spent=sum(spent))
S02S <<- S02S %>%
  group_by(state) %>%
  summarise(
    total_raised=sum(raised),
    total_spent=sum(spent))
S04S <<- S04S %>%
  group_by(state) %>%
  summarise(
    total_raised=sum(raised),
    total_spent=sum(spent))
S06S <<- S06S %>%
  group_by(state) %>%
  summarise(
    total_raised=sum(raised),
    total_spent=sum(spent))
S08S <<- S08S %>%
  group_by(state) %>%
  summarise(
    total_raised=sum(raised),
    total_spent=sum(spent))
S10S <<- R10S %>%
  group_by(state)%>%
  summarise(
    total_raised=sum(raised),
    total_spent=sum(spent))
#Remove duplicates
S90S <<- distinct(S90S)
S92S <<- distinct(S92S)
S94S <<- distinct(S94S)
S96S <<- distinct(S96S)
S98S <<- distinct(S98S)
S00S <<- distinct(S00S)
S02S <<- distinct(S02S)
S04S <<- distinct(S04S)
S06S <<- distinct(S06S)
S08S <<- distinct(S08S)
S10S <<- distinct(S10S)
#Join tibbles
R90S<<-left_join(R90S,S90S)
```

```
## Joining, by = "state"
```

```
R92S<-left_join(R92S,S92S)
```

```
## Joining, by = "state"
```

```
R94S<-left_join(R94S,S94S)
```

```
## Joining, by = "state"
```

```
R96S<-left_join(R96S,S96S)
```

```
## Joining, by = "state"
```

```
R98S<-left_join(R98S,S98S)
```

```
## Joining, by = "state"
```

```
R00S<-left_join(R00S,S00S)
```

```
## Joining, by = "state"
```

```
R02S<-left_join(R02S,S02S)
```

```
## Joining, by = "state"
```

```
R04S<-left_join(R04S,S04S)
```

```
## Joining, by = "state"
```

```
R06S<-left_join(R06S,S06S)
```

```
## Joining, by = "state"
```

```
R08S<-left_join(R08S,S08S)
```

```
## Joining, by = "state"
```

```
R10S<-left_join(R10S,S10S)
```

```
## Joining, by = "state"
```

The data was filtered again to include only races in which a Democrat and a Republican are running. This will ensure that candidates running without a major party opponent do not skew the data. The table was exported.

```
# Two candidates only ------------------------------------------------------
#Create new tibbles to count number of candidates in each state
CN90S<<-R90S%>% count(state)
CN92S<<-R92S%>% count(state)
CN94S<<-R94S%>% count(state)
CN96S<<-R96S%>% count(state)
CN98S<<-R98S%>% count(state)
CN00S<<-R00S%>% count(state)
CN02S<<-R02S%>% count(state)
CN04S<<-R04S%>% count(state)
CN06S<<-R06S%>% count(state)
CN08S<<-R08S%>%count(state)
CN10S<<-R10S%>%count(state)
#Join number of candidates column
R90S<<-left_join(R90S,CN90S)
```

```
## Joining, by = "state"
```

```
R92S<<-left_join(R92S,CN92S)
```

```
## Joining, by = "state"
```

```
R94S<<-left_join(R94S,CN94S)
```

```
## Joining, by = "state"
```

```
R96S<<-left_join(R96S,CN96S)
```

```
## Joining, by = "state"
```

```
R98S<<-left_join(R98S,CN98S)
```

```
## Joining, by = "state"
```

```
R00S<<-left_join(R00S,CN00S)
```

```
## Joining, by = "state"
```

```
R02S<<-left_join(R02S,CN02S)
```

```
## Joining, by = "state"
```

```
R04S<<-left_join(R04S,CN04S)
```

```
## Joining, by = "state"
```

```
R06S<<-left_join(R06S,CN06S)
```

```
## Joining, by = "state"
```

```
R08S<<-left_join(R08S,CN08S)
```

```
## Joining, by = "state"
```

```
R10S<<-left_join(R10S,CN10S)
```

```
## Joining, by = "state"
```

```
#Only look at states with a republican and a democrat running
R90S<<-R90S%>%filter(n==2)
R92S<<-R92S%>%filter(n==2)
R94S<<-R94S%>%filter(n==2)
R96S<<-R96S%>%filter(n==2)
R98S<<-R98S%>%filter(n==2)
R00S<<-R00S%>%filter(n==2)
R02S<<-R02S%>%filter(n==2)
R04S<<-R04S%>%filter(n==2)
R06S<<-R06S%>%filter(n==2)
R08S<<-R08S%>%filter(n==2)
R10S<<-R10S%>%filter(n==2)
#get rid of N column
R90S<<-R90S[-c(17)]
R92S<<-R92S[-c(17)]
R94S<<-R94S[-c(17)]
R96S<<-R96S[-c(17)]
R98S<<-R98S[-c(17)]
R00S<<-R00S[-c(17)]
R02S<<-R02S[-c(17)]
R04S<<-R04S[-c(17)]
R06S<<-R06S[-c(17)]
R08S<<-R08S[-c(17)]
R10S<<-R10S[-c(17)]
# JOIN SECTIONS ------------------------------------------------------------
S4A<<-full_join(R90S,R92S)
```

```
## Joining, by = c("year", "state", "party", "last_name", "candidate",
## "candidatevotes", "totalvotes", "percentage", "Incumbent/\r\nChallenger/
## Open", "raised", "spent", "previous_percentage", "Previous_RPVI", "RPVI",
## "total_raised", "total_spent")
```

```
S4B<<-full_join(S4A,R94S)
```

```
## Joining, by = c("year", "state", "party", "last_name", "candidate",
## "candidatevotes", "totalvotes", "percentage", "Incumbent/\r\nChallenger/
## Open", "raised", "spent", "previous_percentage", "Previous_RPVI", "RPVI",
## "total_raised", "total_spent")
```

```
S4C<<-full_join(S4B,R96S)
```

```
## Joining, by = c("year", "state", "party", "last_name", "candidate",
## "candidatevotes", "totalvotes", "percentage", "Incumbent/\r\nChallenger/
## Open", "raised", "spent", "previous_percentage", "Previous_RPVI", "RPVI",
## "total_raised", "total_spent")
```

```
S4D<<-full_join(S4C,R98S)
```

```
## Joining, by = c("year", "state", "party", "last_name", "candidate",
## "candidatevotes", "totalvotes", "percentage", "Incumbent/\r\nChallenger/
## Open", "raised", "spent", "previous_percentage", "Previous_RPVI", "RPVI",
## "total_raised", "total_spent")
```

```
S4E<<-full_join(S4D,R00S)
```

```
## Joining, by = c("year", "state", "party", "last_name", "candidate",
## "candidatevotes", "totalvotes", "percentage", "Incumbent/\r\nChallenger/
## Open", "raised", "spent", "previous_percentage", "Previous_RPVI", "RPVI",
## "total_raised", "total_spent")
```

```
S4F<<-full_join(S4E,R02S)
```

```
## Joining, by = c("year", "state", "party", "last_name", "candidate",
## "candidatevotes", "totalvotes", "percentage", "Incumbent/\r\nChallenger/
## Open", "raised", "spent", "previous_percentage", "Previous_RPVI", "RPVI",
## "total_raised", "total_spent")
```

```
S4G<<-full_join(S4F,R04S)
```

```
## Joining, by = c("year", "state", "party", "last_name", "candidate",
## "candidatevotes", "totalvotes", "percentage", "Incumbent/\r\nChallenger/
## Open", "raised", "spent", "previous_percentage", "Previous_RPVI", "RPVI",
## "total_raised", "total_spent")
```

```
S4H<<-full_join(S4G,R06S)
```

```
## Joining, by = c("year", "state", "party", "last_name", "candidate",
## "candidatevotes", "totalvotes", "percentage", "Incumbent/\r\nChallenger/
## Open", "raised", "spent", "previous_percentage", "Previous_RPVI", "RPVI",
## "total_raised", "total_spent")
```

```
S4I<<-full_join(S4H,R08S)
```

```
## Joining, by = c("year", "state", "party", "last_name", "candidate",
## "candidatevotes", "totalvotes", "percentage", "Incumbent/\r\nChallenger/
## Open", "raised", "spent", "previous_percentage", "Previous_RPVI", "RPVI",
## "total_raised", "total_spent")
```

```
Senate4<<-full_join(S4I,R10S)
```

```
## Joining, by = c("year", "state", "party", "last_name", "candidate",
## "candidatevotes", "totalvotes", "percentage", "Incumbent/\r\nChallenger/
## Open", "raised", "spent", "previous_percentage", "Previous_RPVI", "RPVI",
## "total_raised", "total_spent")
```

```
# Fundraising Wrangling ----------------------------------------------------
Senate4 <<- Senate4%>%mutate(share_of_spent=spent/total_spent)
#Export Data
write.table(Senate4, "~/Documents/GitHub/Final-Data-Project/Tables/Senate.csv", sep="\t")
```

The years were changed to not include the 2010. The rise of citizens united made it much more challenging to accurately depict fundraising based on what a candidate raises.

```
library("tidyverse")
Senate5<<- read.csv("~/Documents/GitHub/Final-Data-Project/Tables/Senate.csv", sep="\t")
Senate5<<-Senate5%>%
  filter(year<=2008)
#Export Data
write.table(Senate5, "~/Documents/GitHub/Final-Data-Project/Tables/Senate.csv", sep="\t")
```