Assignment 1

Claire Herdeman

1/20/2019

Setup

Cleaning Functions

Load data
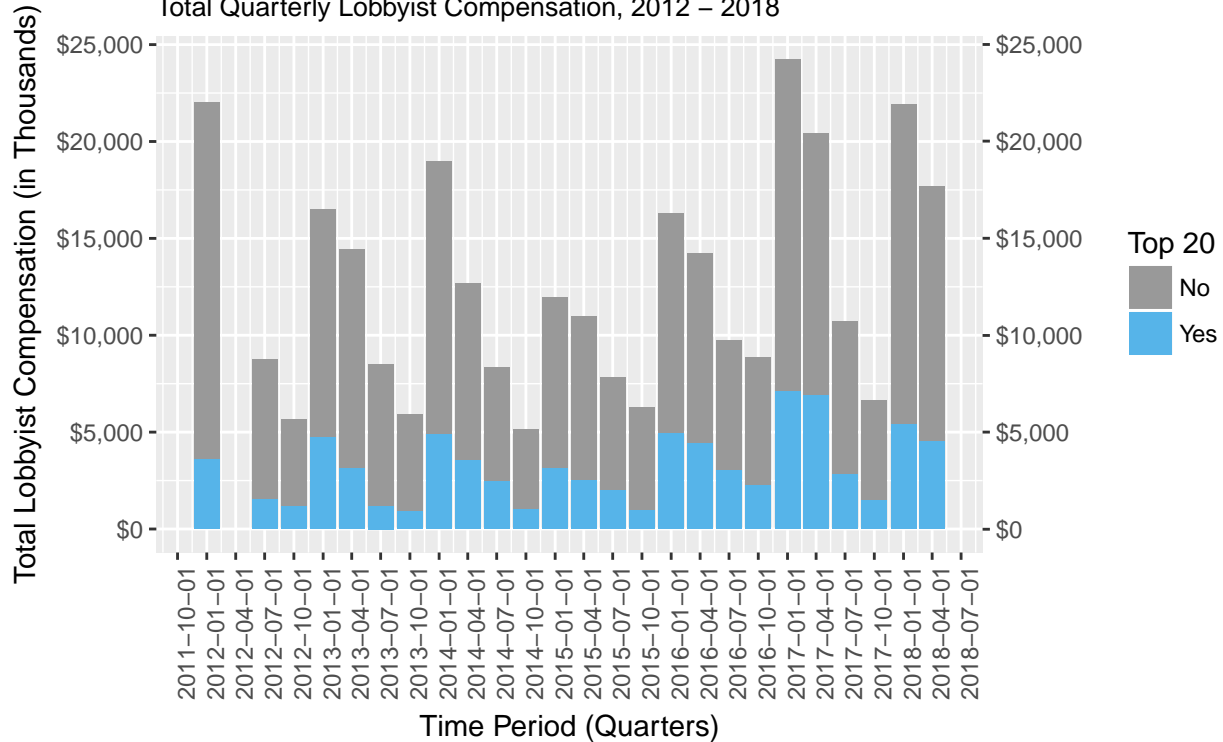
Graph 1

```r
# Top 25 flag
top_20 <- compensation %>%
  group_by(CLIENT_NAME) %>%
  summarise(sum = sum(COMPENSATION_AMOUNT), cnt = n()) %>%
  arrange(desc(sum)) %>%
  slice(1:20) %>%
  select(CLIENT_NAME)

compensation %<>% mutate(TOP20 = ifelse(CLIENT_NAME %in% top_20$CLIENT_NAME, "Yes", "No"))

# Plotting
compensation %>%
  filter(PERIOD_START < as.Date('2018-07-01')) %>%
  group_by(TOP20, PERIOD_START) %>%
  summarise(sum = sum(COMPENSATION_AMOUNT), n = n()) %>%
  mutate(sum = sum/1000) %>%
  ggplot(aes(PERIOD_START, sum)) +
    geom_col(aes(fill=factor(TOP20, levels=c("No","Yes")))) +
    scale_y_continuous(label=dollar_format(), sec.axis = sec_axis(~.+0, label=dollar_format())) +
    scale_x_date(date_breaks='3 months') +
    scale_fill_manual(values=c("#999999", "#56B4E9")) +
    labs(title="The Top 20 Clients Pay ~25% of Lobbyist Compensation",
         subtitle="Total Quarterly Lobbyist Compensation, 2012 - 2018",
         caption="Source: City of Chicago Lobbyist Data, Compensation",
         x = "Time Period (Quarters)",
         y = "Total Lobbyist Compensation (in Thousands)") +
  theme(axis.text.x = element_text(angle = 90, hjust = 1),
        plot.caption = element_text(hjust = 0)) +
  guides(fill=guide_legend(title="Top 20"))
```

The Top 20 Clients Pay ~25% of Lobbyist Compensation
Total Quarterly Lobbyist Compensation, 2012 – 2018

Source: City of Chicago Lobbyist Data, Compensation

Graph 2

```
compensation %>%
  filter(TOP20 == 'Yes') %>%
  group_by(CLIENT_NAME, CLIENT_INDUSTRY) %>%
  summarise(sum=sum(COMPENSATION_AMOUNT), n = n()) %>%
  mutate(sum = sum/1000) %>%
  ggplot() +
    geom_point(aes(n, sum), size = 2, alpha = 0.7) +
    geom_text(aes(n, sum, label = CLIENT_NAME), check_overlap = TRUE, size = 2, hjust = 0, vjust = "inwa
    scale_y_continuous(label=dollar_format()) +
    xlim(0, 650) +
    labs(title="Tech Co's and Industry Associations are Among the Highest Paying Clients",
         subtitle="Number and Size of Compensation Payments to Lobbyists by Top 20 Clients, 2012 – 2018
         caption="Source: City of Chicago Lobbyist Data, Compensation",
         x = "Number of Compensation Payments",
         y = "Amount of Compensation Payemnts") +
    theme(plot.caption = element_text(hjust = 0))
```

Tech Co's and Industry Associations are Among the Highest Paying Clie

Number and Size of Compensation Payments to Lobbyists by Top 20 Clients, 2012 – 2018
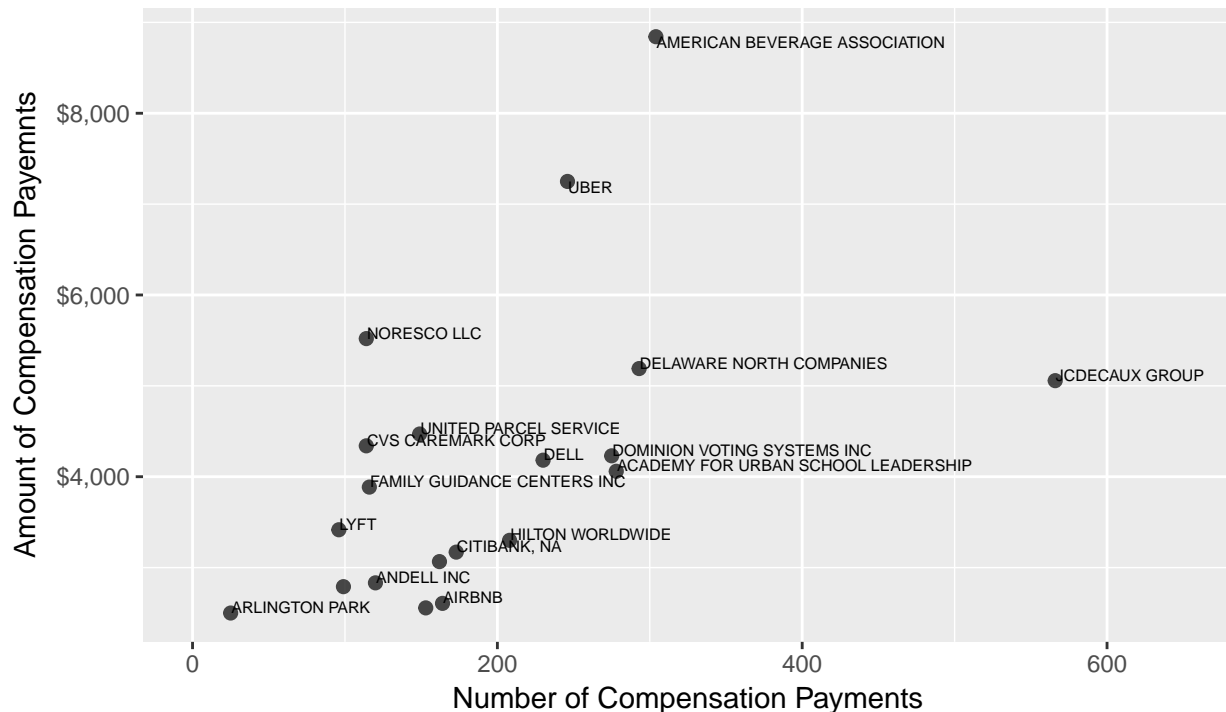
Source: City of Chicago Lobbyist Data, Compensation

Graph 3

```r
# Summarise data into necessary format
act_summ <- activity %>%
  group_by(PERIOD_START, ACTION) %>%
  summarise(n = n())

diff <- data_frame(PERIOD_START = (act_summ %>% filter(ACTION == 'ADMINISTRATIVE'))$PERIOD_START,
              n = (act_summ %>% filter(ACTION == 'ADMINISTRATIVE'))$n -
                (act_summ %>% filter(ACTION == 'LEGISLATIVE'))$n) %>%
          mutate(PERIOD_START = as.Date(PERIOD_START, '%m/%d/%Y'))


# Plotting
ggplot(NULL, aes(PERIOD_START, n)) +
  geom_line(data=act_summ, aes(group=ACTION, color=ACTION), size = 1) +
  geom_point(data=diff, aes(fill="dark gray"), size=3, shape=20) +
  scale_x_date(date_breaks='3 months') +
  labs(title="Growth in administrative actions has outpaced others since 2016",
       subtitle="Quarterly Lobbying Actions by Type, 2012 - 2018",
       caption="Source: City of Chicago Lobbyist Data, Activity",
       x = "Time Period (Quarters)",
       y = "Number of Lobbying Actions") +
  theme(axis.text.x = element_text(angle = 90, hjust = 1),
```
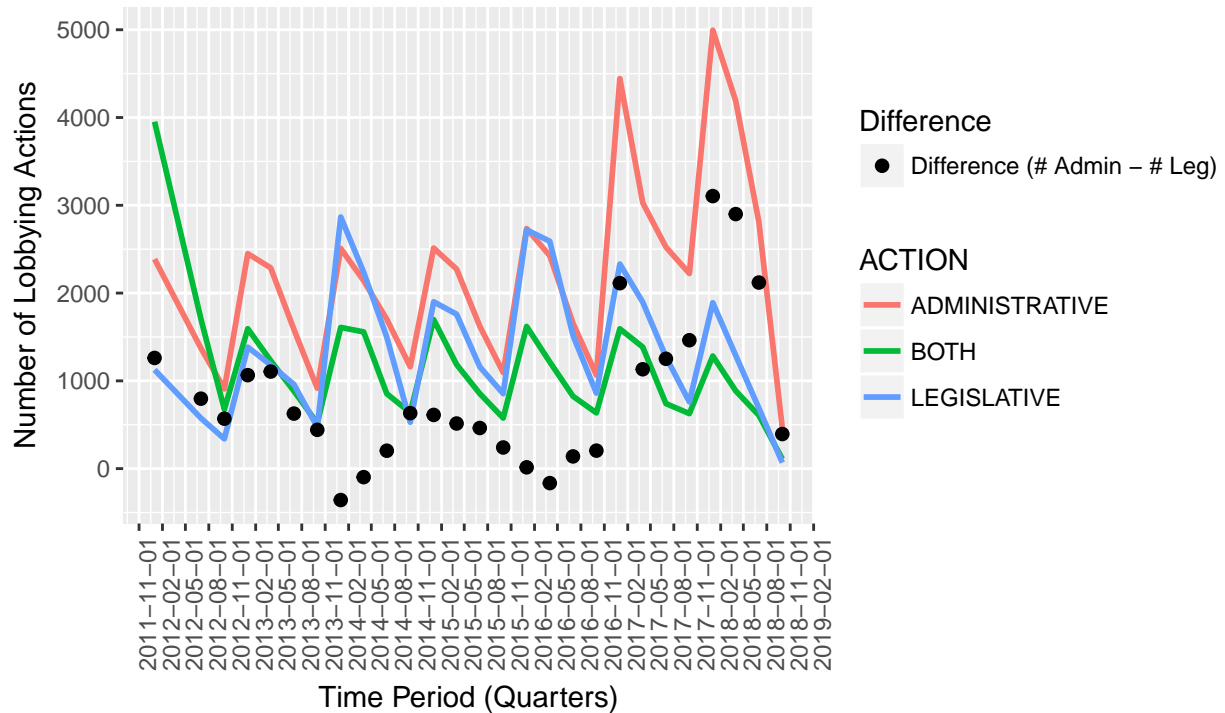
```
        plot.caption = element_text(hjust = 0)) +
scale_fill_identity(name = "Difference",
                    breaks = c("dark gray"),
                    labels = c("Difference (# Admin - # Leg)"),
                    guide = "legend")
```

Growth in administrative actions has outpaced others since 2016

Quarterly Lobbying Actions by Type, 2012 – 2018

Source: City of Chicago Lobbyist Data, Activity