

Question 1

- (a) 135 firms are used in the estimation.
- (b) Receiving grants increased 29.120188 hours of training per employee. The coefficient is significant since p-value ≈ 0 .
- (c) we modify our model by replacing $grant_{it}$ with $grant_first_{it}$ and $grant_second_{it}$, namely

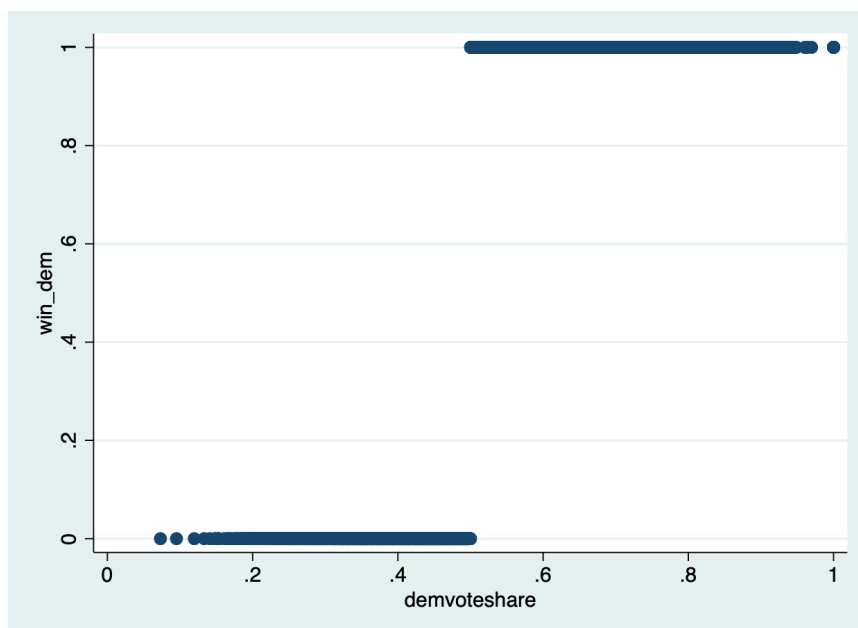
$$hrsemp_{it} = \beta_0 + \beta_1 \cdot grant_first_{it} + \beta_2 \cdot grant_second_{it} + \alpha_i + \delta_1 \cdot year_{1t} + \delta_2 \cdot year_{2t} + e_{it}$$

where $grant_first_{it}$ indicates whether the firm was in the first year of grants (no matter the firms received grants in 1988 or 1989), while $grant_second_{it}$ indicates whether the firm was in the second year of grants (the firms must receive grants in 1988).

- (d) The coefficient of $grant_first_{it}$ is statistically significant 34.228179, while the coefficient of $grant_second_{it}$ is statistically insignificant 0.50408042. This result means that the effect of grants were generally restricted to the year they were distributed, implying the long-term effect of this policy was small.

Question 2

- (a) The dependent variable is win_dem_t1 .
The running variable is $demvoteshare$.
The treatment is win_dem .
This is a sharp RDD with the cut-off threshold of $demvoteshare = 0.5$.



- (b) Observations with $win_dem = 1$ are largely different from observations with $win_dem = 0$, that is, treatment and control groups are not "randomized". The estimation will be biased since regions with $win_dem = 1$ are composed of more voters preferring Democrats.
- (c) The jump is estimated to be ?

