InClassAssign2 CUDJOE SMITH

SUCCESS OF LEADER ASSASSINATION AS A NATURAL EXPERIMENT

One longstanding debate in the study of international relations concerns the question of whether individual political leaders can make a difference. Some emphasize that leaders with different ideologies and personalities can significantly affect the course of a nation. Others argue that political leaders are severely constrained by historical and institutional forces. Did individuals like Hitler, Mao, Roosevelt, and Churchill make a big difference? The difficulty of empirically testing these arguments stems from the fact that the change of leadership is not random and there are many confounding factors to be adjusted for. In this exercise, we consider a natural experiment in which the success or failure of assassination attempts is assumed to be essentially random.7 Each observation of the CSV data set leaders.csv contains information about an assassination attempt. Table 2.8 presents the names and descriptions of variables in this leader assassination data set. The polity variable represents the so-called polity score from the Polity Project. The Polity Project systematically documents and quantifies the regime types of all countries in the world from 1800. The polity score is a 21-point scale ranging from −10 (hereditary monarchy) to 10 (consolidated democracy). The result variable is a 10-category factor variable describing the result of each assassination attempt.

1. How many assassination attempts are recorded in the data? How many countries experience at least one leader assassination attempt? (The unique() function, What is the average number of such attempts (per year) among these countries?

leaders<- read.csv("leaders.csv")  
dim(leaders)

## [1] 250 11

# There are 250 leaders represented in the leaders.csv file.  
length(unique(leaders$result))

## [1] 10

# At least ten countries experience at least ten assassination attempt.  
mean(table(leaders$year))

## [1] 2.45098

# The average assassination attempts per year in these countries is 2.45.

1. Create a new binary variable named success that is equal to 1 if a leader dies from the attack and 0 if the leader survives. Store this new variable as part of the original data frame. What is the overall success rate of leader assassination? Does the result speak to the validity of the assumption that the success of assassination attempts is randomly determined?

leaders$success <- ifelse(leaders$result=="dies between a day and a week"|leaders$result=="dies between a week and a month"|leaders$result=="dies within a day afer the attack"|leaders$result=="dies, timing unknown", 1,0)  
prop.table(table(leaders$success))

##   
## 0 1   
## 0.968 0.032

1. Investigate whether the average polity score over three years prior to an assassination attempt differs on average between successful and failed attempts. Also, examine whether there is any difference in the age of targeted leaders between successful and failed attempts. Briefly interpret the results in light of the validity of the aforementioned assumption.

mean(leaders$politybefore[leaders$success=="0"])

## [1] -1.472452

mean(leaders$politybefore[leaders$success=="1"])

## [1] -2.916667

1. Repeat the same analysis as in the previous question, but this time using the country’s experience of civil and international war. Create a new binary variable in the data frame called warbefore. Code the variable such that it is equal to 1 if a country is in either civil or international war during the three years prior to an assassination attempt. Provide a brief interpretation of the result.

leaders$warbefore <- ifelse(leaders$interwarbefore=="1"|leaders$civilwarbefore=="1",1,0)  
mean(leaders$warbefore[leaders$success=="1"])

## [1] 0.375

1. Does successful leader assassination cause democratization? Does successful leader assassination lead countries to war? When analyzing these data, be sure to state your assumptions and provide a brief interpretation of the results.

model <- lm(leaders$polityafter~leaders$politybefore + leaders$success, data = leaders)  
summary(model)

##   
## Call:  
## lm(formula = leaders$polityafter ~ leaders$politybefore + leaders$success,   
## data = leaders)  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -15.343 -1.095 -0.124 1.657 13.435   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) -0.36168 0.24182 -1.496 0.136   
## leaders$politybefore 0.83809 0.03611 23.210 <2e-16 \*\*\*  
## leaders$success -0.48555 1.31976 -0.368 0.713   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 3.67 on 247 degrees of freedom  
## Multiple R-squared: 0.6863, Adjusted R-squared: 0.6838   
## F-statistic: 270.2 on 2 and 247 DF, p-value: < 2.2e-16

model1 <- lm(leaders$interwarafter~leaders$interwarbefore + leaders$success, data = leaders)  
summary(model1)

##   
## Call:  
## lm(formula = leaders$interwarafter ~ leaders$interwarbefore +   
## leaders$success, data = leaders)  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -0.3421 -0.1046 -0.1046 -0.1046 0.8954   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)   
## (Intercept) 0.10460 0.02448 4.273 2.75e-05 \*\*\*  
## leaders$interwarbefore 0.23748 0.05584 4.253 3.00e-05 \*\*\*  
## leaders$success -0.03897 0.12396 -0.314 0.754   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 0.3448 on 247 degrees of freedom  
## Multiple R-squared: 0.06836, Adjusted R-squared: 0.06082   
## F-statistic: 9.062 on 2 and 247 DF, p-value: 0.0001593