

Econometrics Assignment 3b

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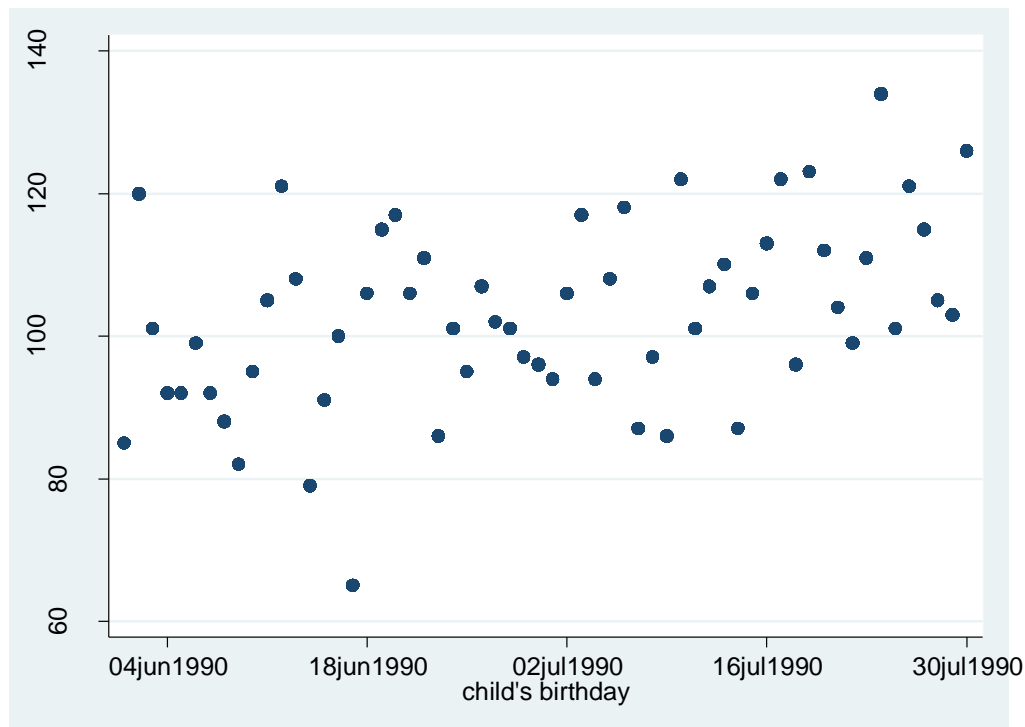
Fons Strik, SNR: 1257943

1)

- In the data, we find that the time window around July 1, 1990 is from June 1, 1990 (11109) until July 30, 1990 (11168).
- From the number of observations we can see that the number of women included in the dataset is 6180.
- We find that the average number of children per birthday is 104.6291.

Mean estimation Number of obs = 6,180

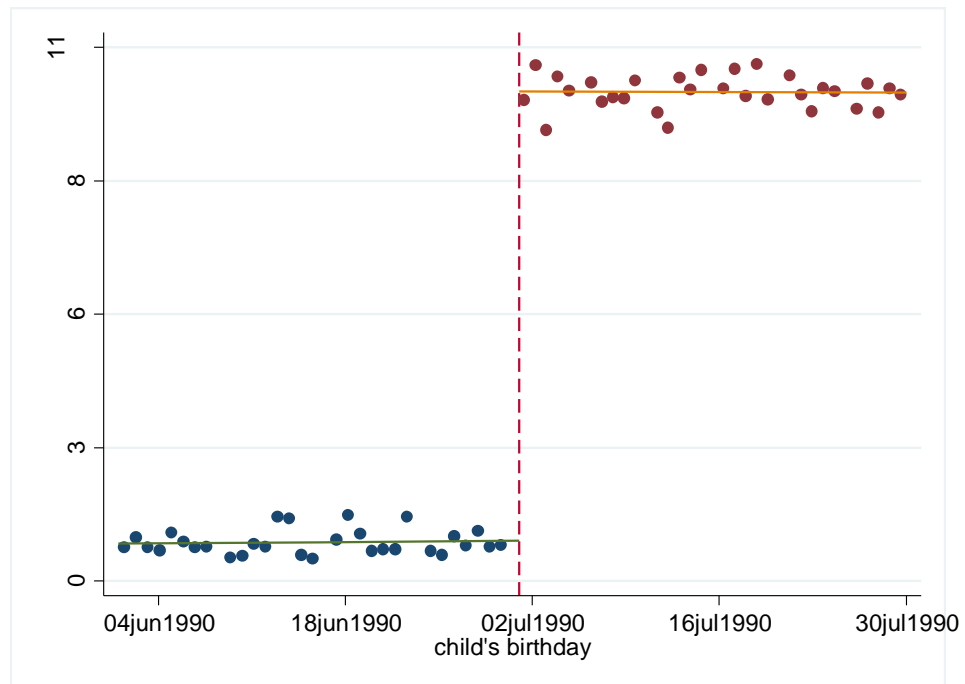
	Mean	Std. Err.	[95% Conf. Interval]	
number	104.6291	.1619931	104.3116	104.9467



- We found that 34.48% of women had an additional birth within three years.
- Of all women, 56.39% returned to work within three years.
- Of all women, 9.82% is of age 30 to 34.

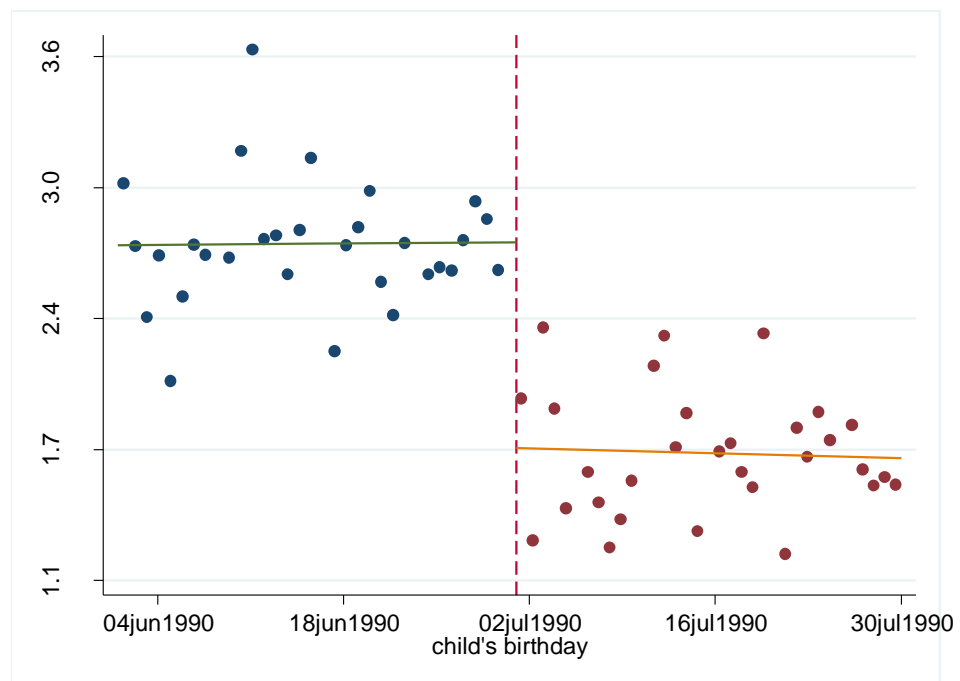
2)

a)



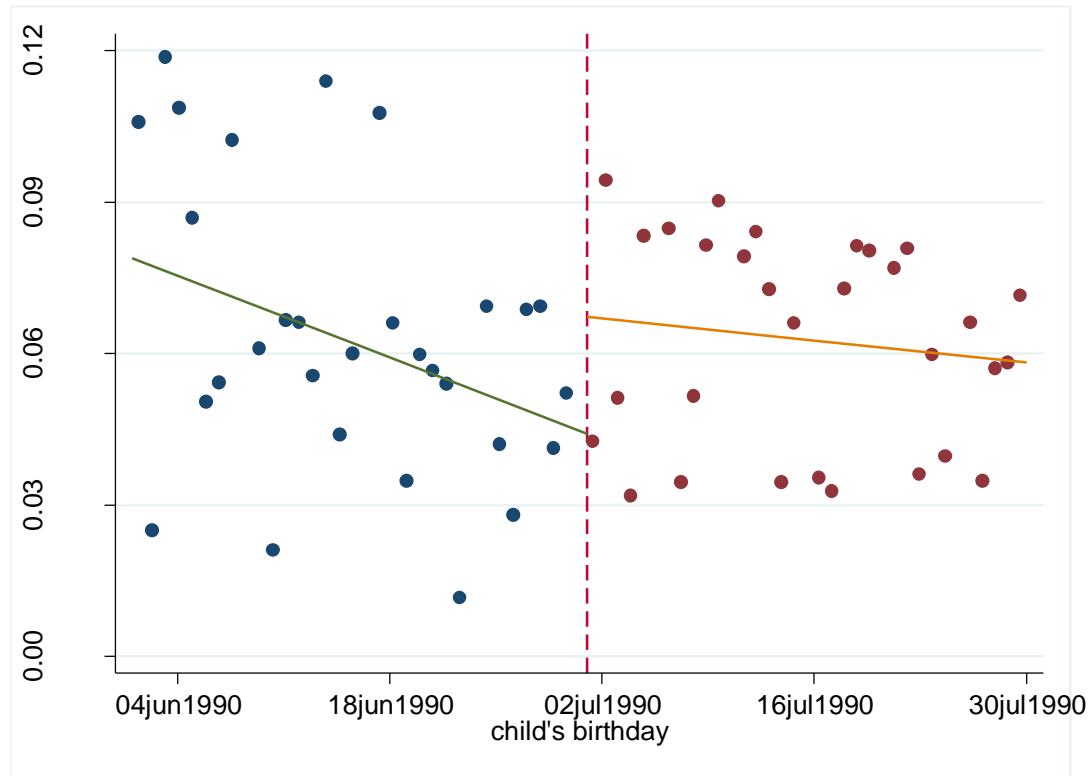
The above graph is consistent with the means shown in table on page 1379.

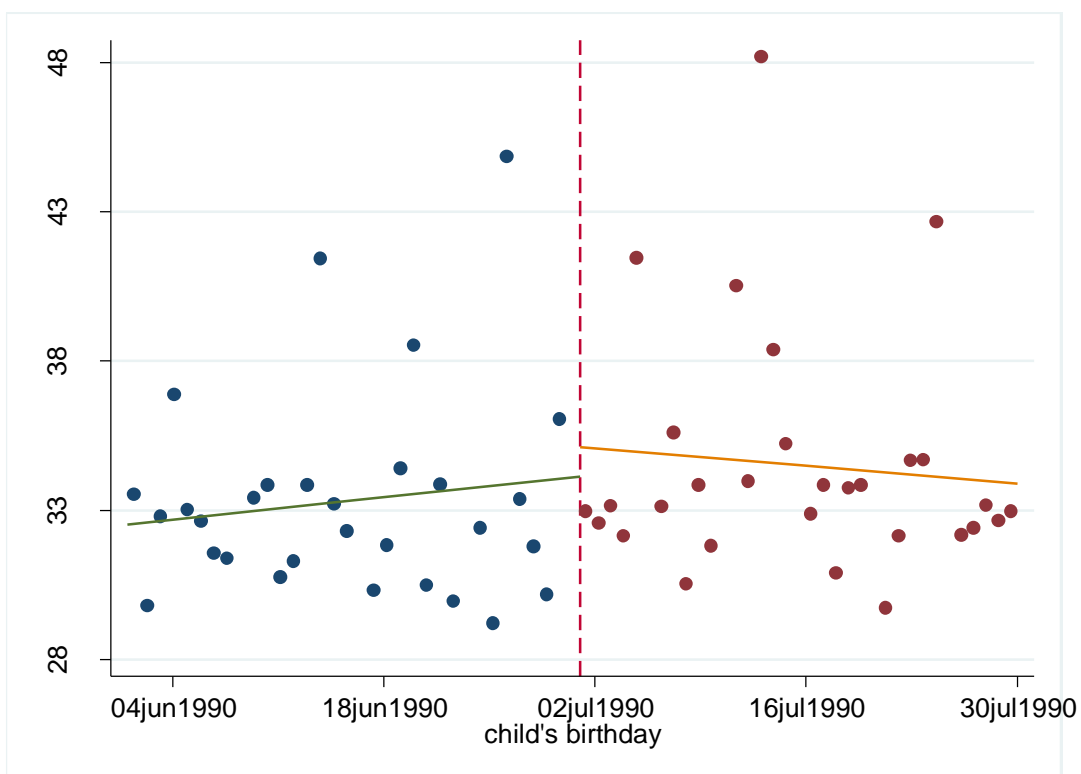
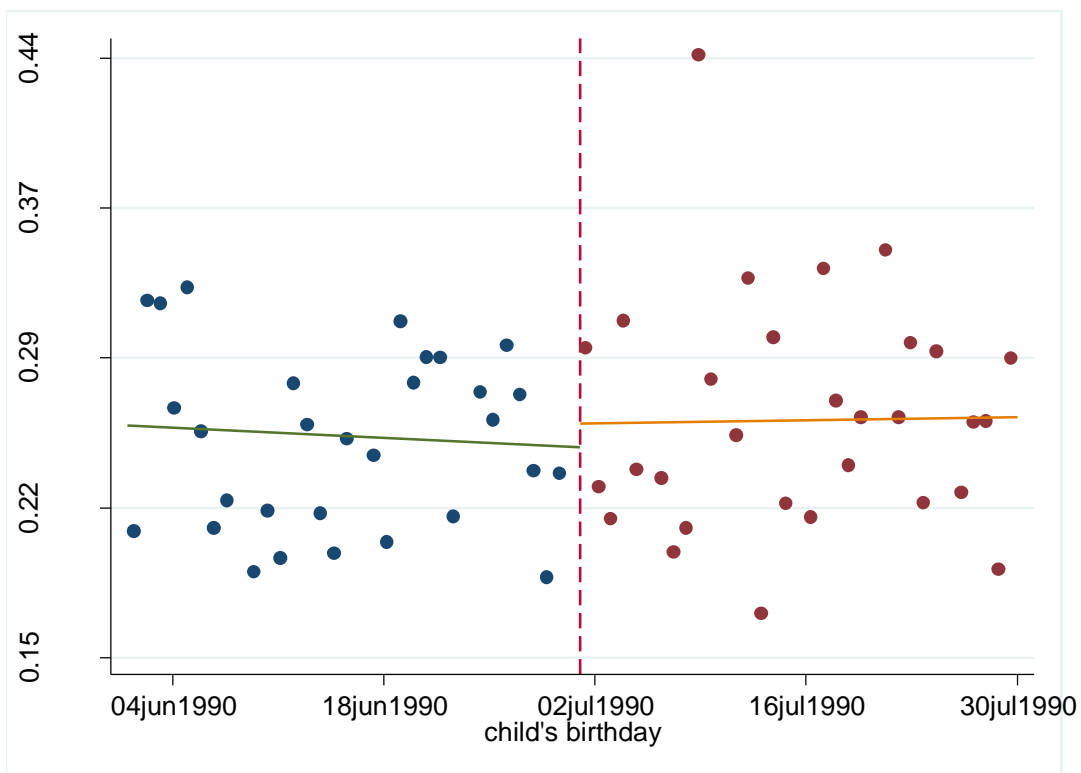
b)



The treatment and control group behave almost completely similar. The slopes of the fitted regression lines do not change significantly. The change in the mean of employment decreases by the same amount as shown in table V.

- 3) From the following graphs we conclude that although for the variables `unEmpl` and `laborEarnings`, the path around the cutoff seems to be smooth, this is less so for the variable `indWholesale`. For the variable `indWholesale`, the fitted regression lines are discontinuous at the cutoff date. Further, from the scatter plot we perceive a decrease in variation at the cutoff point.





4)

- a) Regression equation 1: $uncb3_i = \alpha + \beta \cdot july_i + \varepsilon_i$

From the regression we find that the estimated treatment effect of the extended parental leave on fertility equals 4.54%

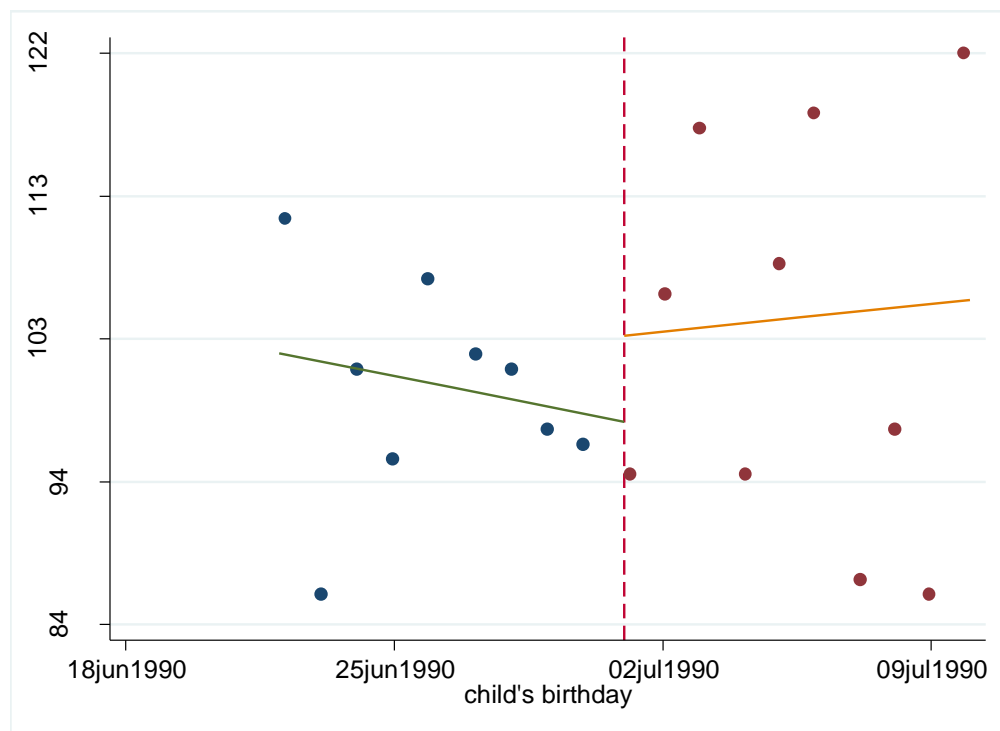
Regression equation 2: $uncj3_i = \alpha + \beta \cdot july_i + \varepsilon_i$

From the regression we find that the estimated treatment effect of the extended parental leave on short run job return rates equals -10.87% .

Both estimated treatment effects are statistically significantly different from 0 at the 1% significance level. The coefficients and their significance levels are in line with the results shown in the tables.

- b) We find that the coefficients of the policy effect on long run labor market performance are not significantly different from 0 at the 10% level. Therefore we cannot conclude that there is an effect on long run labor market performance.

5)



The graph suggests that indeed the number of children born increases directly after the cutoff, the regression discontinuity gap appears to be around 6 children. This means that from the regression lines we perceive that the number of children jumps up by 6.25% after the cutoff date. This could imply that the type of women in the treatment group could differ from the type of women in the control group due to treatment migration. This can bias the treatment effect due to a violation of the manipulation assumption.

From our regression we conclude that the difference shown in the above graph (the discontinuity gap) statistically differs from 0 at the 1% significance level.

Copy of our DO-File

* Computer Assignment 3b

use "C:\Users\u1266283\Downloads\lz_2009.dta", clear

* (1)

tab bd

bys bd: gen number=_N

mean number

graph twoway (scatter number bd)

mean uncb3

mean uncj3

mean age3034

* (2)

sysdir set PLUS "C:\Users\u1266283"

sysdir set PERSONAL "C:\Users\u1266283"

ssc install cmogram

cmogram ikar4 bd, scatter lfit line(11139) cutpoint(11139) cutright

cmogram pbexp3 bd, scatter lfit line(11139) cutpoint(11139) cutright

* (3)

cmogram indWholesale bd, scatter lfit line(11139) cutpoint(11139) cutright

cmogram unEmpl bd, scatter lfit line(11139) cutpoint(11139) cutright

cmogram laborEarnings bd, scatter lfit line(11139) cutpoint(11139) cutright

* (4)

* (a)

reg uncb3 july

reg uncj3 july

* (b)

reg pbexp10 july

reg pbinc_tot10 july

* (5)

gen day=day(bd)

gen month=month(bd)

gen bandwidth=day-1 if month==7

replace bandwidth=day-31 if month==6

cmogram number bd if bandwidth>-10&bandwidth<10, scatter lfit line(11139)
cutpoint(11139) cutright

reg number july if bandwidth>-10&bandwidth<10