ASAP Assignment 2

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1 Difference in Difference

Description: You are tasked with estimating the effects of the 1993 policy intervention on labor supply for single women by whether or not they had children. –¿ The relevant varibales in this case are: state - US-State/ provice of residence year - Year urate - US-State/province unemployment rate children - number of children per women nonwhite - nonwhite finc - annual family income earn - anual earnings (of women) age - age of women ed - Years of education work - Indicator work status (employed or not) unearn - unearn Income

Outcome variable: INDICATOR WORK STATUS Time indicator: at 1993 (beginning) create time variable Goal: estimate the effect of the 1993 policy intervention on labor supply for single women by whether or not they had children (Dummy for whether they had children or not??)

The unit of analysis are females in the US

Question: The main predictor is meant to be whether women has children; Should we use that as a dummy or numeric variable?? –¿ something like degree of treatment

1.1 Indicate which of the coefficients(s) from equation (1) yield the following outcomes

SEE SLIDE 57 ff

Important: we canot identify the monthrs; so If they become mothers at some point, we will assume that these are taken out!

$(1) y_{it} = \beta_0 + \beta_1 + \beta_2 + \beta_3 D_i T_t + \epsilon_{it}$

$E = (y_{T=1}|D = 1)$ $E = (y_{T=0}|D = 1)$ $E = (y_{T=1}|D = 0)$ $E = (y_{T=0}|D = 0)$

$[E(y_{T=1}|D = 1) - E(y_{T=0}|D = 1)] - [E(y_{T=1}|D = 0) - E(y_{T=0}|D = 0)]$

1.2 Task 2: Provide a suiatble matrix plot as on slide 55

NOTES: This "visoual" proof is no real proove; this is just visual confirmation of what we assume; but does this really pertain to the case that the TAX credit is the real cause? What about the case of subsections of the population? and we still do not know whether this is really causal and not like the economy heating up¡ Predictor is WHETHER YOU HAVE CHILD OR NOT

1.3 Task 3: Summary Statistics for data

Table 1: Descriptive Statistics of Numeric Indepdenent and Dependent Varaible

Statistic	Mean	St. Dev.	Min	Pctl(25)	Median	Pctl(75)	Max
Family Income	15,255.320	19,444.250	0.000	5,123.418	9,636.664	18,659.180	575,616.800
Earnings	10,432.480	18,200.760	0.000	0.000	3,332.180	14,321.220	537,880.600
Age	35.210	10.157	20	26	34	44	54
Education	8.806	2.636	0	7	10	11	11
Education Years	4.823	7.123	0.000	0.000	2.973	6.864	134.058
Unearned Income	1.193	1.382	0	0	1	2	9
Count Children	0.513	0.500	0	0	1	1	1

Notes: N = 13746

1.4 Task 4: Matrix Diff in Diff

NOte: by taking the average of the periods we have two small problems: 1) the AFTER period is longer; so should we really do that?

Table 2: Descriptive Statistics of ECIC; With Children

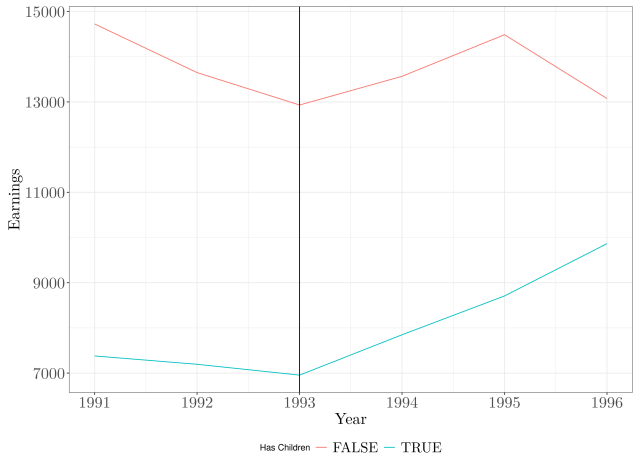
Statistic	Mean	St. Dev.	Min	Pctl(25)	Median	Pctl(75)	Max
Family Income	12,750.390	15,739.050	0.000	4,652.465	8,425.197	15,218.720	410,507.600
Earnings	7,909.934	14,956.930	0.000	0.000	1,110.727	11,107.270	366,095.500
Age	32.717	8.630	20	25	32	39	54
Education	9.001	2.408	0	7	10	11	11
Education Years	4.840	5.872	0.000	0.071	3.761	7.070	102.958
Unearned Income	2.097	1.209	1	1	2	3	9
Count Children	0.466	0.499	0	0	0	1	1

Notes: N = 7819

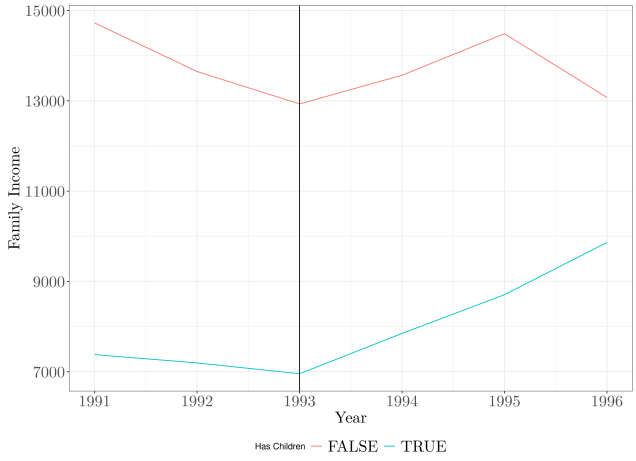
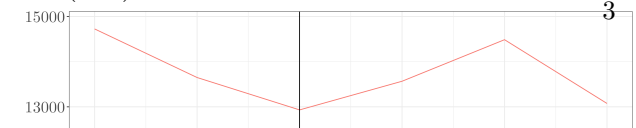
Table 3: Descriptive Statistics of ECIC; Without Children

Statistic	Mean	St. Dev.	Min	Pctl(25)	Median	Pctl(75)	Max
Family Income	18,559.860	23,041.780	0.000	5,793.092	11,912.950	24,391.010	575,616.800
Earnings	13,760.260	21,301.400	0.000	0.000	7,664.014	19,447.610	537,880.600
Age	38.498	11.046	20	28	40	49	54
Education	8.549	2.889	0	7	10	11	11
Education Years	4.800	8.496	0.000	0.000	1.248	6.528	134.058
Unearned Income	0.000	0.000	0	0	0	0	0
Count Children	0.574	0.494	0	0	1	1	1

Notes: N = 5927



(a) Annual Earnings by Females with(out) Children



(b) Family Earnings Earnings by Females with(out) Children