

Practice 3

Dif-in-Dif

1. In July of 1980 the state of Kentucky (EE.UU.) increased the ceiling on subsidies for job-related accidents or illnesses. Those subsidies are equal to a percentage of individual's income with an upper limit (ceiling). Thus, the increase in the upper limit only affected high-income workers. This policy change reduced the opportunity cost of a sick leave for high-income workers. The policy change allows us to evaluate if a more generous public system of subsidies for job-related accidents or illnesses leads to longer sick leaves.

The file `KENTUCKY.DTA` includes data for the state of Kentucky of workers who have experienced some type of job-related accident or illness. The variable `d2` equals 1 for observations after the policy change on the ceiling of the subsidy and 0 otherwise, and `dB` is a binary variable that takes the value of 1 for high-income workers affected by the policy change and 0 otherwise.

- a) Evaluate the effect of the policy change on the natural logarithm of the duration of sick leave (in days) `ldur` using the DED estimator proposed before. What is the percentage increase (or decrease) in the mean duration of sick leave after the policy change?
- b) In most applications, the equation (??) includes observable factors affecting Y . Thus, this allows for the possibility that there are systematic differences in these factors in each group and thus one can isolate in d_1 the pure effect of the policy change. (In this case, d_1 does not have such a simple representation as in (??), even though conceptually the idea remains the same).

Reestimate this effect controlling also for workers' gender (`sexo`), marital status (`casado`), as well as binary variables for the type of accident or illness (`cabeza`, `cuello`, `brazos`, `tronco`, `lumbares`, `piernas`, `enfocup` –this last one refers to pains due to the job itself) and the logarithm of age (`ledad`).

How do results change? Which estimation of the effect of the policy change do you think is better and why?

- c) Given the value of R^2 , can we deduce that the results are of little relevance?