Lecture Notes 1 cont'd: Mandate Incidence

Reference: "The Incidence of Mandated Maternity Benefits," Gruber AER 1994.

Question: What was the incidence of the series of state- and later federal-level mandates that employers provide employees with health insurance coverage for childbirth?

Discussion: Based on our discussion of Summers (1989), what are the efficiency and distributional implications if the burden is shifted fully to the wages of married men and women, with no change in their employment levels?

What if the policy change is accompanied by a downward shift in the wages and labor hours of all workers?

Law change: In the early '70s, states did not require that employers provide health insurance coverage for childbirth, and at least 50% of employed women with work-based health ins. did not have coverage for childbirth comparable to coverage for general illness.

Before 1978, 23 states mandated maternity benefits.

In 1978, the federal government mandated maternity benefits.

The variation in the timing of mandates across states creates a 'natural experiment' in the evaluation of the effects of mandates on group-level wages and employment.

Data: You may or may not take a look at Prof. Gruber's data choices as described in the paper as a part of your work on Problem Set 1—this is still in the works.

For now, note that in the estimation we'll discuss in lecture Gruber uses data on single and married men and women in three states with pre-'78 mandates and three without.

He has demographic and employment information on members of the sample, information on age-specific costs of maternity coverage and information on the probability of being insured in 1979 by demographic group.

Nonparametric approach (DDD)

(Note that Gruber finds that the wage-cost of the mandate across all states is roughly 2%.)

Treatment group: 20-40 year old married women

Control group: All over 40, 20-40 year old single men

See Gruber (1994) Table 3, please note the distinction between the DD estimation and the DDD estimation.

Regression Framework for DDD:

$$W_{ijt} = a + b_1 X_{ijt} + b_2 t_t + b_3 d_j$$

$$+ b_4 TREAT_i + b_5 (d_j + t_t) + b_6 (t_t \times TREAT_i)$$

$$+ b_7 (d_j \times TREAT_i) + b_8 (d_j \times t_t \times TREAT_i)$$

DDD estimator is b_8.

Statistically sig. 5.4% fall in relative w's of the treatment group in Table 3 is evidence of shifting of the cost of the group-specific mandate to members of the effected group.

See Gruber (1994) Table 4.

Estimates in Table 4 are b_8's. Wages fell by 4.3% for the treatment group, which is statistically sig.

If the benefit is fully valued by workers, overall we expect full shifting of the cost to wages and little employment effect, which we can't reject based on the results in Table 4. (We find an overall rise of 1.4% of average hrs/week for the treatment group.)

However, the results in Table 4 do indicate a change in the *composition* of labor input, which is consistent with full valuation: small & insig. wage shifting for men, larg & sig. fall in total labor input for single females.

This **heterogeneity** in the effect of the program may be due to differences in the Pr of insurance coverage across groups & costs of extending benefits to different groups. (Think of the PT v. FT worker composition in the different groups, and its implication for insurance Pr's and costs.)

The above leads Gruber to consider the influence of the expected cost of the mandate for each individual in his estimation approach. Lack of information in the data on actual insurance coverage means this must be done parametrically.

Individual Parameterization of the Cost of Mandates

Gruber uses his information on age-specific costs of maternity coverage and the probability of being insured on the job in 1979 by demographic group to *predict* the cost of the law change for *each individual in the sample*. The error distribution of the predictions must be specified in this step.

[Note the restriction that all sample members be employed. Is this important?]

This cost estimate is then used in place of the treatment group indicator in the regression equation.

Specification note: An assumption on the distribution of the error term in the wage equation is needed to fit the model at the level of the individual employee. [Obviously, none was needed to determine the differences in population wage and employment means for the DDD.] Gruber assumes wages are distributed lognormally. (Chalkboard discussion of lognormal wages & distribution here.)

(Nonlinear) Specification of wage equation:

$$W = (e^{bX} + COSTNN)e^{e},$$

where COSTNN is the individual hourly mandate cost & e is normally distributed,

$$\Rightarrow \log(W) = \log(e^{bX} + COSTNN) + e.$$

Now we have a normal error and cost is s.t. if b_8 = -1 then this indicates full shifting of the mandate cost to wages (if the cost estimates are correct).

See Gruber (1994) Table 5. Results in Table 5 indicate that among full-time workers there is 156% (roughly full) shifting of costs to wages,

and that the mandate has a +.63% impact on total labor input for a 100% rise in cost. i.e., big wage shift small labor input change.

Policy goal: Given Gruber's results (can't reject H0 of full shifting of mandate cost to wages, very small change in overall employment),

Was the policy successful if its goal was ONLY to correct a market failure?

if the goal was ONLY to implement redistribution from non-parents to parents in order to defray the cost of parenting for parents (eg because of a perceived positive externality of child rearing)?