Short Description of Gruber Microsimulation Model

The model allows the user to input a set of policy parameters, and output the impact of that policy on public sector costs and the distribution of insurance coverage. The modeling approach used here is the type of "microsimulation" modeling used by the Treasury Department, CBO, and other government entities. This approach consists of drawing on the best evidence available in the health economics literature to model how individuals will respond to the changes in the insurance environment induced by changes in government policy.

The model takes as its base the February and March Current Population Surveys. The March survey contains information on family demographics, tax rates, and insurance coverage. The February survey contains information on insurance offering by employers. I match to these surveys information on:

- Group insurance costs and the distribution of premiums across employers and employees, imputed by firm location and firm size;
- Nongroup insurance costs, which use a base cost estimated from existing nongroup insurance pricing, adjusted by age, sex, and health status;
- Public insurance costs; and
- Underlying health care costs, which are imputed by age and health status.

This base set of data is then used to compute, for every possible policy change, the impact of that policy change on the eligibility for, and price of, various types of insurance. These price and eligibility changes are then run through a detailed and integrated set of behavioral equations that relate them to behavioral responses by individuals, families, and firms. These behavioral responses are modeled using the best available evidence from the health economics literature, and include responses such as:

- The extent to which the currently uninsured will purchase newly subsidized insurance coverage or take up newly available public coverage;
- The extent to which those with existing insurance coverage will take up subsidies to that type of insurance coverage (e.g. to what extent will the nongroup insured take up subsidies to nongroup insurance?);
- The extent to which those with one form of insurance coverage will switch to another form if it is subsidized;
- The extent to which firms will react to the subsidies to non-employer insurance by dropping their offering of insurance to their employees, or by cutting back on employer premium contributions to insurance; and
- The extent to which those employees dropped from group coverage will then take up other forms of insurance coverage.

It is very important to model potential firm responses to these policy changes. To capture firm responses, I have created "synthetic" firms in the CPS by drawing for each worker other "co-workers" in the CPS based on that worker's wage, industry, firm size, and health insurance offering status. These synthetic co-workers are grouped together to form firms, and I then model firm responses based on the average effects of policies on their workforce.