

SESSION III:

Bill Passero: [revised by the author on December 12, 2003]

Actually I will not be talking about the experimental poverty measures. Thesia Garner asked me to come and talk about the data for creating health adjusted poverty thresholds; I don't know much about the thresholds per se. I do know a fair amount about the data that she used to create the thresholds here in the U.S. using the consumer expenditure survey, and that's what I am going to be talking about today.

The outline of the presentation, as you can see here will start with an overview of the survey in terms of the population and expenditures and then we will go into a little more detail --since we are talking about health adjusted thresholds-- to look at the medical care sections of the interview questionnaire that provides the data for the thresholds. In fact, there are two sections of the questionnaire that deal with that; one on hospitalization and health insurance and one on medical and health expenditures. Finally, we will look at an issue, once you got this data, how do you actually put it into create your thresholds and with respect to the consumer expenditure survey and particularly the interview survey; there is a question of whether you use independent quarterly observations, because it is a quarterly survey or do you use only full year observations? Do you only use observations for families that are in for the full year? Depending on your choice here, it can affect the levels of your thresholds and I will show you something about that.

An overview of the survey.- The survey is designed to represent a national probability sample. We contract with the U.S. Census Bureau to do the surveying for us consequently, we are using the Decennial census, we are using their sample frame, we are using the 1990 frame at the current time, it's augmented with new construction permits, right now it was covered 105 of their primary sampling units. The choice of a particular sampling unit it is based on the probabilities, based on proportion to the population size, so basically the bigger areas you are less likely to pull someone from the area it is a standard probability survey. In the areas that you are looking at, the primary sampling units consist of county's groups or county's or independent cities; again this is an address survey where we go to particular addresses and we follow whoever is at that address, we don't follow families if they happen to move from the

address; that's going to be important when we look later on at that last issue. In any event, the housing units are selected within each primary sampling unit, looking at such information as vacancy status, number of persons in that housing unit, the value of the housing unit, the rent paid, for the housing unit. This little map basically tells you where we surveyed in the United States, based on the 1990 sampling design.

Within the consumer expenditure survey we are not interested in families, we are not interested in households, we are interested in something called the consumer unit and that is determined based on the financial relationship of the members of the household. In practice, what does that mean? Well, includes members of the household related by blood, marriage, adoption or other legal arrangements. The next two are sort of types of relationships; kind of distinguish us from either families or households, a single person living alone or sharing a household with others but who is financially independent. We determine financial independence on whether the consuming unit spends, uses their own resources and spends for two out of three categories of food, housing and everything else. If they spend their own resources for two of the three, they are consumer units. So basically you have a group house; one house, four people living in it, every one of them makes their own spending decisions. You have four consuming units but one household. In fact in the counts consumer units are a little bit higher, about 3 or 4% higher than the number of households. Finally, you have two or more persons living together, they are financially dependent, they don't have to be married, we can have cohabiters, and we can have any other kind of arrangement where two people or more people are making financial decisions together. I should say, spending decisions, we say financial here, but that really is the spending decisions on those two out of three categories I mentioned earlier.

In terms of the instruments, we have two components to the survey; there is a weekly diary survey, basically consumer units in this survey fill out two consecutive one week diaries. While they enter all the expenditures they make over the period, we are particularly interested in detailed expenditures on food, personal care, household supplies, and nonprescription drugs, for which the diary survey is the unique source. Expenditures for out-of-town trips are excluded from the diary survey. Consumer units selected for the interview survey complete five interviews with the objective of collecting one year's worth of expenditure information from them.

As opposed to the diary survey, the interview survey is conducted by a Census Bureau interviewer. The first interview is a bounding interview with a one-month recall period. We collect socio-demographic information about the consumer unit and inventories of properties, vehicles, insurance policies, and household durables. These data are the only ones used; the expenditure information is not used for estimation, but only as a check to insure there is no expenditure data erroneously reported at the second interview due to it being out-of-scope. The second through the fifth interviews have a three-month recall period. Together, they provide the year's worth of expenditure information we are interested in. Essentially all categories of expenditures are covered with the exception of those categories unique to the diary survey: housekeeping supplies, personal care products, and nonprescription drugs. (Expenditures for food are collected from global questions.) Interviewing is done via a rotating panel design. Consumer units enter (and leave) the survey on a monthly basis. Thus for some consumer units, the year of data that's received matches the calendar year – January to December, while for others the year might be August of one year through July of the following year, or from April of one year through March of the following year. It is also important to note that there are separate samples for each survey instrument. No consumer unit participating in the diary survey is simultaneously participating in the interview survey and vice versa.

What do we mean by expenditures? We define them basically as the value of goods and services acquired during the reference period. More specifically, we consider the financial obligation to be incurred at the time of the acquisition, regardless of whether it is paid for by cash or credit. We are not concerned with how the expenditure for the acquired good or service is paid for. No method of payment disqualifies an expenditure from being included. Expenditures include all excise and sales taxes. We also count as expenditures by a consumer, unit gifts of goods and services given to persons outside the consumer unit.

What information do we not collect or consider in scope for the Consumer Expenditure Survey? We collect limited quantity information – only stocks of vehicles owned properties, household durables, and insurance policies. We do not collect any price information. We do not collect point of purchase information, that is, the store or

outlet at which each purchase is made. We separate as out-of-scope the portion of any expenditure that represents expenses attributable to a business. We do not collect or impute a value for any in-kind transfers received by the consumer unit or any home production created by the consumer unit. Periodic credit or installment payments on items already acquired are also excluded, since the value of these purchases is properly assigned to the months the items were purchased.

The socio-demographic information collected in the Consumer Expenditure Survey includes income, assets and liabilities along with the characteristics of the consumer unit and its members. Some types of information are collected during each interview at both the consumer unit and member level. For example, educational achievement is asked at each interview, inasmuch as a member may complete a grade of schooling between interviews. Some types of information are only asked periodically. In the interview survey, questions on income, work experience, and liabilities are asked at the second and fifth interviews, while questions on assets and contributions are asked only at the fifth interview.

Let's look at sample sizes and data collection in the Consumer Expenditure Survey. The goal of the survey is to have the equivalent of 7,800 consumer units completing either 4 quarterly expenditure interviews or 2 weekly diaries. To achieve our goal, we must put in the field about 60,000 cases for the interview survey and 25,000 cases for the diary survey. About 75% of the consumer units we interview complete all 5 interviews; about 92% of the consumer units we reach in the diary survey fill out both diaries.

Medical care data.- With respect to the collection of data on health care, two sections of the interview survey questionnaire are devoted to this purpose. Section 14 collects data on hospitalization and health insurance and Section 15 collects data on medical and health expenditures. Section 14 is structured to obtain health insurance information by policy. Part B collects detailed data on the characteristics of each policy. The questions include:

- the number of members covered by the policy
- what type of insurance plan it is (HMO, Fee for Service, etc.)

- if an HMO, will it pay for non-emergency referrals to physicians outside the plan
- if Fee for Service, is it traditional or does it have a PPO
- if a special purpose plan, what type is it
- whether the policy is obtained on an individual or group basis
- who pays the premiums (consumer unit entirely, consumer unit partly, an employer entirely, etc.)
- whether premiums are paid by payroll deduction
- the amount of the regular health insurance payment and the period it covers
- if payments varied from regular amount, the actual amount paid during the recall period.

Section 14, Part A.1 contains the questions asked at subsequent interviews after the basic information about each policy is obtained. The questions here ascertain whether the consumer unit still holds the policy reported earlier, and if so, were any payments made during the recall period. Further questions in this section probe to see if any new policies were obtained by the consumer unit. If so, the interviewer is instructed to complete the detailed questions from Section 14, Part B for that policy.

Because we are interested only in the consumer unit's out-of-pocket expenditures for health care, the parts of Section 15 are divided such that Parts A and B collect payments for medical expenses, while Parts C and D collect reimbursements for medical expenses. Section 15, Parts A and C are identical and lay out the categories of medical care expenditures for which we want estimates. These categories are: eye care (eye examinations, treatment or surgery, purchases of eyeglasses or contact lenses), dental care, inpatient hospital care (room, services), services by medical professionals other than physicians, physician services, other medical care services (lab tests, X-rays, care in convalescent or nursing home, etc.), and medicine and medical supplies (hearing aids, prescription drugs, rental/purchase of supportive or convalescent equipment, rental/purchase of medical or surgical equipment for general use). Section 15, Parts B and D ascertain the amount of the payment/reimbursement, when it was made/received, and whether the payer/recipient was a member of the consumer unit. When answering the questions in Section 15, the respondent refers to an information booklet that is given to them at the beginning of the interview which provides many examples of the kinds of

medical supplies and services included in each of the above categories. For example, the information booklet lists the following items under the category of dental care: examinations, cleanings, X-rays, dentures, bridges, orthodontic work, fillings, caps or crowns, and root canals.

Building up the thresholds. - Utilizing the health care expenditure data collected in Section 14 and 15, you can create annual thresholds. But as I mentioned earlier, there are two approaches you can employ to construct those thresholds, leading to different threshold levels. One approach to constructing the thresholds is to treat each individual quarterly interview as an independent observation, and annualize the reported expenditures. Alternatively, you can select only those consumer units that provide a full year of expenditures by completing four quarterly interviews. (The only population weights provided in the Consumer Expenditure Survey are cross-sectional. There are no longitudinal weights that would take into account how many interviews the consumer unit participated in.)

There is a significant impact on the size of the data set, or more properly, the number of observations you would obtain for creating the annual thresholds depending on the approach you take. Banthin, Garner, and Short created a data base of reference consumer units consisting of two married adults and two children from interviews conducted from April 1997 through March 2000. Overall there were 76,692 total interviews conducted during that period. Using the first approach which treats each quarterly interview independently, 6,917 interviews came from reference consumer units, so that after annualization of the expenditures, a data base of 6,917 observations was available to create the thresholds. Using the second approach which selected only consumer units completing four interviews for the data base, there were 8,447 interviews from consumer units that had completed four interviews and that had not experienced a change in the composition of the consumer unit during the year. Of these, 767 interviews were from reference consumer units (two married adults/two children).

Not only is there a large difference in the size of the data base you obtain depending on the approach you use, but also in the demographic characteristics of each data base. In a study on attrition in the Consumer Expenditure Survey, it was found that four-interview consumer units had older heads, were much more likely to be homeowners,

had more members, and, most importantly, reported higher quarterly expenditures, (both overall and per capita) than consumer units that had missed at least one interview. Some of these results are not surprising inasmuch as the Consumer Expenditure Survey is an address-based sample, so if a consumer unit moves during the year, that unit is not followed to its new address, but the new consumer unit that moves into the sample address is picked up as a replacement. Renters are much more likely than homeowners to move during the course of the year.

The impact on thresholds can be seen in Appendix Charts 1 and 2. The median annual thresholds are significantly higher using expenditures from four-interview reference consumer units compared to annualized quarterly expenditures from independent interviews by reference consumer units. The share that out-of-pocket medical care takes of the annual threshold also is affected by the choice of approach. In Appendix Chart 2, we can see that, based on thresholds constructed solely from the Consumer Expenditure Survey (CE actual), MOOP is a larger share of the threshold from a data base of four-interview consumer units than from a data base of annualized independent quarterly interviews (8% vs.6%). If one substitutes MOOP based on estimates from the Medical Expenditure Panel Survey (MEPS) rather than the Consumer Expenditure Survey, one finds that the median share of MOOP is somewhat lower when the threshold comes from four-interview consumer units as opposed to annualized independent quarterly interviews. This is because non-health care expenditures are higher for four-interview consumer units than for annualized independent quarterly interviews. Thank you.