

**SUBJECTIVE SELF-ASSESSMENTS OF ECONOMIC WELL-BEING:  
PRELIMINARY FINDINGS FROM MIAMI**

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### **1. Introduction**

Surveys have long been used to measure both objective and subjective phenomena.

Objective realities, such as one's date of birth or educational attainment, are matters of public record. Such information can, theoretically, be obtained from anyone having access to the appropriate records or evidence. Subjective reality, on the other hand, is totally private, it can be reported only by the person experiencing it.

The focus of our study is economic well-being. Using "income" as a proxy for this, we are not looking at the objective dollar amount, recognized and audited by the IRS for example. Rather, we are concerned with respondents' private views of their income. These views may be included in one's subjective assessment of income and may help to determine whether or not one experiences a sense of economic well-being. Close friends or family members may possibly use one's behavior as indirect evidence and attempt to answer these questions. Ultimately, however, it is only the respondent who can give the decisive response.

The question then arises, what role does the subjective assessment of economic well-being and income, in particular, play in the larger scheme of social analysis? As early as 1881, economists recognized that the utility gained from any given commodity was not always independent of the consumption of other goods. For example, the value of butter

may be dependent upon one's ownership of bread. Likewise, the value of a right shoe may be dependent upon one's ownership of the matching left shoe. Along the same vein, the value of one's income may, in fact, be tempered by the amount of one's expenses or by the particular configuration of commodities that one already owns. For example, a very small income may be adequate if one already has a home that is paid-off or a garden in which to grow food.

Clearly it would be difficult to plot the utility function depicting the value of each individual's income based upon their unique circumstances. An alternative approach would be to ask respondents themselves to look inward and make a subjective self-assessment of the contribution made by their income to the attainment and maintenance of their social roles. Since most American adults are confronted daily with the delicate task of balancing their income and expenses, it seems reasonable to expect them to have a rather well-developed budgetary sense. Consequently, the task of evaluating that balance between income and expenses in the pursuit of their personal goals should not be unfamiliar to them.

Likewise, the use of the survey instrument as a venue for information collection should not be altogether foreign to most Americans. Surveys are frequently used to collect subjective information, such as attitudes, beliefs, values, and preferences. The major survey problem when measuring subjective phenomena is the susceptibility to nonsampling error. Any change, temporary or permanent, in or around the responding subject (mood, experience, weather) may alter that subject's perceptions, interpretations, and

conclusions- if only for a moment. Likewise, the context of the interview itself, the order in which questions are presented, and even the characteristics of the interviewer may affect the respondent's subjective assessment. In such cases, it would be difficult, if not impossible, to determine whether changes in subjective assessments represent true variation resulting from a change within the subject or the intrusion of measurement error into the survey process. As a result, the effective use of subjective questions must absolutely depend upon (1) clear, precise, and unambiguous language, (2) non-arbitrary response categories, and. (3) clearly defined concepts. Only in this way can surveys overcome the vulnerability of subjective questions to measurement error.

For the purposes of this study, we tested the clarity and precision of four subjective self-assessment questions: the minimum income question (MIQ), the minimum spend question (MSQ), the income evaluation question (IEQ), and the delighted/terrible (DST) question. The texts of these questions are as follows:

**Minimum Income Question (MIQ)**

Living where you do now and meeting the expenses you consider necessary, what would be the smallest income (before any deductions) you and your family would need to make ends meet?

**Minimum Spend Question (MSQ)**

In your opinion, how much would you have to spend each month in order to provide the basic necessities for your family?

**Income Evaluation Question (IEQ)**

Which after-tax monthly income would you, in your circumstances consider to be very bad? bad? insufficient? sufficient? good? very good?

### **Delighted/Terrible Questions (D/T)**

Which of the following categories best describes how you feel about your family income (or your own income if you are not living with relatives)? Do you feel delighted, pleased, mostly satisfied, mixed, mostly dissatisfied, unhappy, or terrible?

One of the key methodological issues is to understand better how respondents interpret these questions. Use of qualitative research techniques, such as in-depth interviews and focus groups provides insights into how respondents interpret such terms as 'minimum income,' 'necessities,' and 'living where you do now.'

Once we gain a better understanding of these questions, greater progress can be made to combine subjective assessments and objective measures of economic well-being. With this latter information we can, for example, test various consumption theories such as the life-cycle hypothesis and the relative income hypothesis, develop equivalence scales, measure individual welfare functions, conduct tests of utility maximization in consumer behavior, quantify habit formation and preference formation, and produce sufficiency thresholds (See Appendix A for more information).

The remainder of this paper is organized into five major sections: previous research and U.S. Government involvement, study design, methodology, preliminary results, and summary and conclusions. In the results section we present results from one of the focus groups and ten cognitive interviews. Our plan is to collect data from respondents in five geographic areas across the U.S. The results in this version of the paper are only from one of the areas (Miami); thus, the results presented in this paper must be considered

preliminary. The study was designed by staff within the Bureau of Labor Statistics (BLS), with data collected by the BLS and the University of Michigan Institute for Survey Research.

Funding is provided by the BLS and Bureau of the Census.

#### **H. Previous Research and U.S. Government Involvement**

During the twenty years in which subjective questions have been used to assess the economic well-being of individuals and households, relatively little research has been done on the reliability or validity of these particular questions. However there are four notable exceptions.

First, the Delighted/Terrible (D/T) scale was developed and tested by Frank Andrews and Stephen Withey<sup>1</sup> in a series of quality of life surveys at the University of Michigan Institute for Survey Research during the 1970s. Based upon their tests, Andrews and Withey suggest that the D/T scale can account for 87 percent of the variance in respondents' feelings about their income.

Second, Kapteyn<sup>2</sup> focused his research primarily on the use of the IEQ and the D/T scale in measuring an individual's welfare function of income (WFI), although response to related subjective questions were also examined. With respect to the IEQ, Kapteyn found that respondents preferred to answer in annual amounts. He suggested that respondents who answer in monthly or weekly amounts "forget" certain of their income like once-a

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<sup>1</sup> F. M. Andrews and S. B. Withey. *Social Indicators of Well-Being*. New York: Plenum Press, 1976, p. 343.

<sup>2</sup> Arie Kapteyn, "Statistical Analysis of Response to Charlottesville Hothouse, Treatment A Attitudinal Module, June 6-7, 1979." Unpublished manuscript.

year-fringe benefits. He suggested a finer (more points) scale for the D/T response categories since less ties should improve the WFI model fit.

Third, Antonides and colleagues<sup>3</sup> conducted a study to assess the reliability and validity of ten methods for measuring individual welfare functions of income using income evaluation questions. Data were collected from an experimental survey of approximately 400 households in the Netherlands in the Spring of 1979. Of the ten methods tested, they recommended a combination of two methods, that is, they recommend that individuals be asked numerical evaluations and corresponding income levels. Even this method raised concerns however, because they thought that the numerical evaluations might tempt respondents to provide income levels proportional to the numerical values which would tend to produce linear individual welfare functions. They recommended further testing of this method.

The fourth study was conducted under the direction of Morissette and Poulin<sup>4</sup> of Statistics Canada. Respondents were surveyed in supplements to the 1983, 1986, 1987, and 1988 Survey of Consumer Finances to evaluate alternative low income measurement methods. Interviewees were asked both the minimum income and spend questions and an income evaluation question. Split samples were used to test question wording. The major findings concerning the minimum income types of questions include: (1) small differences in response resulted with increases in family size; (2) when the same question

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<sup>3</sup>G. Antonides, A. Kapteyn, and T. Wansbeek, *Reliability and Validity Assessment of Ten Methods for the Measurement of Individual Welfare Functions of Income*, unpublished manuscript, Center for Economic Research, Tilburg, the Netherlands, 1986.

<sup>4</sup>R. Morissette and S. Poulin, *Income Satisfaction Supplement. Summary of Four Survey Years*, Statistics Canada, 1991.

wording was used over time, no notable changes in the minimum income required resulted; and (3) question wording on required income affected both the minimum income and, to a lesser degree, the equivalence scale; the researchers found a 32 percent difference in the levels produced from the income questions versus from the questions (using the 1988 split panel data), with the spend question producing lower responses.

Although not specifically designed to examine the impact of changes in survey methodology, other studies have been conducted using data from the MIQ and IEQ, and related questions which provide us with insight concerning subjective assessments. For example, Saunders and Matheson,<sup>5</sup> using Australian data, note that "perceptions of an adequate income for oneself are shaped by cultural identities and their concomitant reference groups in ways which go far beyond the effects of immediate material and personal circumstances." Garner and de Vos,<sup>6</sup> using data from the U.S. and the Netherlands, found that question wording, design of the survey, and data collection instruments are likely to contribute to variations in response. Based on econometric analysis, they found that differences for the two countries was likely related to what respondents consider necessary, and to their general interpretation of the MIQ.

During this same time period, the U.S. government moved forward and included subjective assessments of health status and health-related work limitations in federally

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<sup>5</sup>Peter Saunders and George Matheson, *Perceptions of Poverty, Income Adequacy and Living Standards in Australia*. Social Policy Research Centre Reports and Proceedings, No. 99, The University of New South Wales, April 1992.

<sup>6</sup>Thesia I. Garner and Klaas de Vos, "Income Sufficiency vs. Poverty: Results from the United States and the Netherlands," *Journal of Population Economics*, vol. 8, 1995 pp. 117-134. Also see: Klaas de Vos and Thesia I. Garner, "An Evaluation of Subjective Poverty Definitions: Comparing Results from the U.S. and the Netherlands," *Review of Income and Wealth*, Series 37, Number 3, September, 1991.

sponsored surveys. The move to include subjective measures of the impact of income and financial resources in U.S. government sponsored surveys, however, was not as readily endorsed.<sup>7</sup> The first foray of subjective assessments of income into U.S. government surveys came when both the MIQ and the D/T question were included in the Bureau of the Census' 1979 Research Panel of the Income Survey Development (ISDP) Program.<sup>8</sup> The MIQ was also added to the 1982 Consumer Expenditure (CE) Interview Survey<sup>9</sup> based upon the recommendation of the Expert Committee for the Bureau of Labor Statistics' (BLS) Family Budget Revisions.<sup>10</sup> This committee suggested that in terms of measuring family budgets, there is "a general consensus about how much it takes for an ordinary family to 'get along' - perhaps not an exact figure, but rather a range or 'band' of total expenditure levels that contains what most people would agree is the 'get along' amount" (p. 8). Consequently, the committee recommended a major effort to evaluate and perfect a survey methodology that would permit a paradigm shift away from the notion that official experts can (and should) define what the populace needs in order to get along or prosper. The new measurement task would be directed instead toward finding stable, reproducible estimates of what ordinary people experience with their family budgets (p. 9). The

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<sup>7</sup>The result being that research into these questions has lagged behind that of the health-related questions. Yet researchers here in the U.S. and in other countries (mostly in Europe, Canada, and Australia) continued to use the subjective economic well-being questions to provide information on the situation of individuals and households. See Appendix B for selected references from the literature

<sup>8</sup>For a review of the history of self-assessments in potential federal household surveys, see Demon R. Vaughan, "Self-Assessments of Income Needs and Financial Circumstances: Two Decades of Seeking a Place in Federal Households Surveys," paper presented at the Joint Statistical Meetings, Sections on Government Statistics, Social Statistics, and Survey Research Methodology, Chicago, Illinois, August 5, 1996.

<sup>9</sup>See deVos and Garner (1991) and Garner and deVos (1995) for analyses of these data.

<sup>10</sup>Harold W. Watts. "Special Panel Suggests Changes in BLS Family Budget Program," *Monthly Labor Review*, December 1980, pp. 3-10.

committee, therefore, envisioned supplementing the absolute standards embodied in detailed lists of commodities with more relative standards based on the reported subjective experience of respondents.

Implementation of the committee recommendations was initiated by proposing the only existing subjective assessments of income available: the MIQ IEQ, and D/T question. However, when the survey package of questions was sent to the Office of Management and Budget (OMB) for approval, the MIQ question alone was accepted for inclusion in the CE and only within the last interview. Eventually, even this one question was dropped when the plan to revise the Family Budget program was discontinued.

Again in 1991, a formal proposal from an inter-agency team was presented to OMB to include the existing subjective assessment questions in the Survey of Income and Program Participation (SIPP), a Bureau of the Census survey. After consultation with BLS, the Bureau of the Census, and the Office of Senator Daniel Moynihan, OMB recommended "laboratory and field testing" prior to the inclusion of such questions in the SIPP. In the OMB memorandum, cited was research from the BLS,<sup>11</sup> one of the few U.S. statistical agencies that had direct experience with a MIQ. In this memorandum, the OMB reiterated its policy to support such survey development and testing in the statistical agencies. The Committee on National Statistics,<sup>12</sup> in their report *Measuring Poverty, A New Approach*, also suggested that more work needs to be conducted on these measures before they can be seriously considered for an official poverty measure. However, they did

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<sup>11</sup> De Vos and Garner (1991) and Garner and de Vos (1995).

<sup>12</sup> Constance F. Citro and Robert T. Michael (eds.). *Measuring Poverty: A New Approach*. Washington, D. C.: National Academy Press, 1995.

state that, "If such survey responses were available over time on a consistent basis,... they could be used to provide useful information with which to evaluate the official methodology for updating the thresholds." <sup>13</sup>

In the autumn of 1994, a preliminary proposal was prepared within the BLS to explore the possibility of cognitive testing of subjective questions. By the spring of 1995, specific plans were detailed for a first round of cognitive tests. In the Spring of 1996, BLS management determined that this first stage of cognitive testing might proceed, with the understanding, that upon completion, there would be a review of the results and decisions made concerning further implementation. The format of the test and the questions to be asked were developed and pre-tested in the BLS cognitive lab. This pre-test helped to refine the protocols and improve the flow of the one-on-one interviews. Staff from the BLS and the Michigan Survey Research Center, under contract with BLS, are collecting the data from five areas in the U.S. Also during the autumn of 1994, the Bureau of the Census reconvened the SIPP Interagency Working Group to discuss possible topics for inclusion in the 9th wave interview of the 1993 SIPP panel (scheduled for fielding in the period October 1995, through January 1996).<sup>14</sup> OMB agreed that the SIPP would be used to collect data for the proposed wave using the D/T question, the MIQ, and the MSQ. These data were collected by the Bureau of the Census.

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<sup>13</sup> Citro and Michael (1995), pp. 136-137.

<sup>14</sup> See Robert Kominski and Kathleen Short, "Developing Extended Measures of Well-Being: Minimum Income," paper presented at the Joint Statistical Meetings, "Sections on Government Statistics, Social Statistics, and Survey Research Methodology, Chicago, Illinois, August 5, 1996.

In an effort to coordinate activities and to meet the OMB request, the BLS and Census Bureau are jointly funding the cognitive testing, as noted earlier. All of the cognitive work is being conducted or coordinated by the BLS. Once the SIPP field data are available, BLS will work with the Census Bureau in analyzing those data. Then results from the two parts of the project will be combined to provide an overall assessment of the subjective questions under examination.

### III. Study Design

Our study was designed to address four main research questions:

1. How do respondents interpret such terms as "minimum income," "sufficient income," "necessary expenses," and "monthly household income?" Since these terms are not defined for respondents, the range of possible interpretations needed to be determined.
2. Are there potential order effects when asking respondents to make subjective assessments? For example, when respondents are asked to assess satisfaction with their income, are their ratings affected by questions immediately preceding those asked about their expenditures? The possibility exists that consideration of one's expenses may create a comparison that may temporarily raise or lower one's evaluation of income.
3. How do respondents use response categories such as "good/bad," "sufficient/insufficient," and "delighted/terrible?" Are these the appropriate terms for assessing people's attitudes and emotions about their income? What metric should be used for the scale range?
4. How easy or difficult is it for respondents to make subjective assessments of their income? How accurately do respondents review their economic situation when making subjective assessments?

To address these four main research questions, a two-prong strategy of qualitative testing consisting of cognitive interviews and focus groups is being used. The successful

application of such qualitative methodologies requires that as many differing viewpoints as possible be gathered, so that a full range of ideas and opinions may be observed. In order to extend the breadth of views expressed, our study is designed to include three types of family composition, three levels of income, and five sites spread across the United States. The result is a three-by-three design matrix (based on household type and income group) with a total of nine cells; not all sites are represented by each cell in the matrix. At least five (5) interviews and one (1) focus group are to be conducted in each cell.

Based on our own evaluations and earlier work,<sup>15</sup> we expected that spending patterns impinge upon one's attitude toward income, so we decided it was necessary to include a range of household types reflecting diverse expenditure patterns. We screened participants and categorized their household types as:

1. single adults with no children under 18 years-of-age in the home,
2. adults (either single or sharing expenses with another adult) with children under 18 years-of-age in the home,
3. adults sharing expenses, but with no children under 18 years-of-age in the home.

We defined the levels of income as either (1) low, (2) medium, or (3) high. These are determined separately for each geographic area in which testing is conducted. Using July to December 1994 Income Percentile Data from the Current Population Survey (CPS),<sup>16</sup> staff from the BLS<sup>17</sup> adjusted these estimates to the March 1996 level using the

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<sup>15</sup> Garner and de Vos (1995).

<sup>16</sup> Special thanks are extended to Kathleen Short of the Census Bureau for producing these ranges. Earlier ranges were produced by Bill Passero using CEX data but we decided later to use the CPS data for selecting our subsamples.

<sup>17</sup> Thanks to Wolf Weber for this conversion.

CPI-U for all items.<sup>18</sup> These estimates represent taxable household income in the appropriate metropolitan statistical areas and do not include the cash value of food stamps. The income ranges for each area are divided into thirds for each of the three household types (see Appendix C for the exact income ranges used).

The five sites are selected to provide national coverage, as well as some urban/rural differentiation. The sites are Miami, Los Angeles, Detroit, Baltimore, and West Virginia. In this paper, we only present the results from ten interviews and one focus group from one site: Miami, Florida. The Miami focus group and cognitive interviews were conducted by a research psychologist from the Bureau of Labor Statistics during the month of May 1996. Data for the other eight cells are being collected this summer and autumn.

#### IV. Methodology

Our choice of two qualitative methodologies, *focus groups and cognitive interviews*, reflected our lack of even the most basic information concerning the ways that respondents would react to these types of questions, scales, and concepts. We had no prior hypotheses driving our data collection. Instead, we are attempting to (a) simply observe the procedures and strategies respondents use when making subjective assessments, (b) hear the language they use when discussing these topics, and, ultimately, (c) see these

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<sup>18</sup>No CPI-U data were available for the Detroit/Ann Arbor area for March 1996. The alternative for updating the income ranges was thus to average the CPI-U's for February 1996 and April 1996 to make the adjustment.

issues from the respondents' perspective by encouraging and assisting them in articulating their own unique perspectives on the world.

### ***A. Focus Groups***

In our focus groups, respondents are asked to discuss the concepts of "minimum income" among themselves. Specifically, we ask them:

- o What amount of income would they need to "make ends meet" and how did they decide upon this amount?
  
- o What expenses would be covered by "enough money to make ends meet?" What would the amount of money purchase?
  
- o What things in their lives determine the amount of income a family needs "to make ends meet"?

In addition, participants are asked to evaluate different "levels" of income. For instance, they are asked to describe the differences between "good" and "bad" amounts of income. A similar discussion is raised for the distinctions between "sufficient" and "insufficient" incomes. Participants are asked to consider what elements or events might cause the dividing points between "good and bad" or between "sufficient and insufficient" incomes to fluctuate. Finally, participants are presented with the "delighted/terrible" scale and probed for their reaction to as well as their understanding and use of its response categories.

### ***B. Cognitive Interview***

For this study, several tasks are drawn from the repertoire of cognitive laboratory techniques. The interviews begin with a concurrent think-aloud task, through which the participants are able to describe their thoughts while answering either the MIQ and an

alternative "minimum spend" question. Participants are first "taught" to create an answer out loud by having the procedures explained and demonstrated. They are then requested to talk through all the issues and problems they had as they arrived at their answer to the question. As the answers emerge, the interviewer follows up with probing questions to gain additional details and understanding. Participants are asked to rate their confidence in the answer they provided and to paraphrase some of the concepts in their own words. Such strategies are generally used to identify difficulties in understanding question wording or concepts, recall strategies, and the participants' reactions to the question.<sup>19</sup>

A second technique used is an "income sorting" task directed toward assessing the ways that participants evaluate income. Two versions of the task are used for each participant. In each case, cards are arranged in front of the participant that are labeled either "Very good," "Good," "Bad," "Very Bad" or "Sufficient," "Insufficient." Participants are then handed a stack of cards with dollar amounts written on them, ranging from \$250 to \$6,000 in \$250 increments.

Participants are instructed to think about all the members of their household and their expenses and then to evaluate each dollar amount as monthly take-home pay. The evaluations are made by placing each dollar amount into an appropriate category. After all the cards have been sorted and the difficult gray areas between categories recognized, the interviewers probe the decisions.

Participants are asked to discuss how they decided to categorize the dollar amounts, what the income amounts

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<sup>19</sup>T. J. DeMaio and J.M. Rothgeb. "Cognitive Interviewing Techniques in the Lab and in the Field." In *Answering Questions*, N. Schwarz and S. Sudman (eds.). San Francisco: Jossey-Bass Publishers, 1996, pp. 177-195.

categorized together had in common, and what their lives would look like with the varying categories of income.

A third task is a series of short answer questions using the "delighted/terrible" scale. "Satisfaction" assessments run the risk of being affected by preceding questions that make specific information salient, thereby creating temporary standards of comparisons, affecting judgments, and causing later responses to be higher or lower by comparison. So in order to test for this possibility, a series of questions is asked for which participants are to use the "delighted/terrible" scale to identify how they felt about expenses such as the cost of feeding their families, eating out in restaurants, buying clothes, health care, transportation, school tuition, and housing. Half of the participants are asked to assess their family incomes *prior* to expenditure assessments; half of the participants are asked to evaluate their family incomes *after* the evaluation of expenses. Participants are also asked to discuss the "delighted/terrible" scale and to describe the meaning of the various categories.

In closing, the interview participants answer a series of short debriefing questions. These questions probe their reactions to the interview itself, what they liked best and least during the interview, what was easiest and most difficult, and their ideas for other questions that we could ask to more fully understand their subjective experience of the *yin* and *yang* of income and expenses.

## **V. Preliminary Findings**

The results presented in this section are from one of the nine cells being tested. As noted earlier, data for this one cell are based on ten interviews and one focus group conducted in Miami. The findings to date are categorized primarily into three main issues: ambiguity in the language, complexity in the questions, and "new" language. Each are addressed below, including examples.

### ***A. Ambiguity in the Questions***

#### *1. Minimum Income Question (MIQ) and Minimum Spend Question (MSQ).*

Half of the respondents are asked the MIQ and the other half are asked the MSQ. To date, there do not appear to be any distinguishable differences, but the results show that both questions are plagued by the same problems.

At the beginning of each cognitive interview, respondents are presented with a "flunk aloud" task. They are asked to create an answer (out loud) to the MIQ and MSQ. Focus group participants are asked a similar question.

As respondents begin to generate their answers, it becomes apparent at once that these are extremely difficult questions. In order to answer the question, it is necessary for respondents to generate a complete list of their monthly expenses and estimate a dollar amount for each expense. In many cases, respondents stop generating items and declare their list of expenses "complete," only to revise their list in response to specific probes from the interviewer or as additional items surface throughout the course of the interview.

Additionally, dollar estimates generated prior to the itemized list of expenses greatly underestimate the amount of money needed to cover those expenses.

Among the focus group participants, there seems to be two distinct interpretations of the MIQ. On the one hand, about half of the participants are indicating that the question is asking for the bare minimum with which to survive-"with no gravy," as one participant said.. These participants interpret the phrase "to make ends meet" as meeting the most basic needs, such as "food on the table and shelter in which to live." This group, when pressed for a second dollar estimate of the "*absolute*" minimum amount their family would need to make ends meet each month provides a dollar amount that falls within the range of their original estimate of necessary income. In other words, "making ends meet" is seen as equivalent to the "absolute minimum income."

A second large group of participants seems to be interpreting the question differently. For these participants, the amount of income needed to "make ends meet" includes some "gravy." This is seen most clearly when they provide a lower dollar estimate for the "*absolute*" minimum amount needed. When pressed to describe how they arrived at an estimate of what it would take "to make ends meet," one participant responded, "I just calculate what I would need not to have to worry about expenses at all" This point of view seems to interpret "making ends meet" as starting with the current level of expenses, including some expenses that might be jettisoned if income dipped to the "absolute minimum" amount. As another participant with this perspective explained, "I add up all my expenses ...and estimate what we might need for things like entertainment or

emergencies." For participants with this second interpretation, "absolute minimum" income needed to make ends meet would whittle away the "gravy" and include "just the house bills, but not really any money for leisure" In other words, it is "just what you need" with no thought of "putting anything aside"

Most of the focus group participants seem to feel that it is relatively easy to answer this type of question because their needs are "pretty stable month-to-month." One may speculate, therefore, that if the question did not include the vague, ambiguous phrase "to make ends meet," but rather clearly defined the parameters of the judgment, then respondents might be able to provide a valid and consistent estimate. The challenge will be to convey to respondents the request for "minimum survival," while still allowing them the latitude to define what minimum survival would look like (and cost) for them.

As part of the MIQ and the MSQ, respondents are asked to consider "necessary expenses." When respondents are asked to list these expenses and explain why they consider certain items to be necessities, there is general consensus about the reasons--*they are required for existence; they are essential for survival; without them you can't live.*

However, there is less consensus about what is actually required for existence. Almost every respondent recognized two basics without which one could not survive: food and shelter. But beyond those two items, there is less agreement. Focus group participants are also led through a two-step exercise of itemizing monthly expenses. First they are asked to identify those expenses that could be included as necessary for "making ends meet." They are then asked to go beyond that step and single-out only those expenses

that they would deem "absolutely necessary." While there is always some diversity within groups, there is remarkable consistency across groups. A composite of the lists of monthly expenses follows:

Monthly Expenses	—	Necessary Monthly Expenses
1. Rent		1. Rent
2. Food		2. Food
3. Clothing		3. Clothing
4. Health Insurance		4. Health Insurance
5. Transportation		5. Transportation
6. Utilities		6. Utilities
7. Household sundries		7. Household sundries
8. Credit card payments		8. Credit card payments
9. School expenses (where applicable)		9. School expenses (no consensus)
10. Garbage		10. Garbage (no consensus)
11. Grooming expenses (no consensus)		11. Grooming expenses (no consensus)
12. Pets		12. Pets (no consensus)
13. Telephone		
14. Laundry		
15. Automobile/insurance/maintenance		
16. Cable (no consensus)		

As seen here, the two lists are remarkably similar. While a few items are dropped from the second list, many respondents suggested that adjustments would probably be made by changing the quantity or quality of items, rather than omitting a category completely. For instance, those who included hair care expenses as necessary suggested that they could, if required, reduce the number of trips per month rather than omit this expense altogether. Likewise, clothing could be purchased from thrift shops or more careful use could be made of one's current wardrobe. Rather than go hungry, participants suggested that they would be likely to purchase cheaper food, buy bulk items, carry their lunches, and limit their meals eaten in restaurants. Other adjustments included the use of generic household products and finding additional persons with whom to share rent. The

lists generated from the cognitive interviews are almost identical to the focus group list.

However, it is, important to note that no single interview respondent generated the entire list.

One may conclude, therefore, that respondents will need cues in order to make an accurate estimate of their necessary expenses. And if this is the case, this composite list may supply a good starting point for these cues.

In some cases, a distinction is also made between "needs" and "expenses." For some participants, one's "needs" pertain strictly to things necessary for survival. "Expenses" are thought to include both the basic requirements for survival and the various other things that one might see and desire to enhance the quality of life. Respondents also distinguish between contractual obligations, such as credit card bills, and necessary expenses. However, once the credit card purchase is incurred, the respondents tend to view the expense (or at least payment of the bill) as a necessary one.

In order to understand the ways respondents interpret the questions and to test out possible new wording, a series of probes are used to ask respondents to distinguish (1) the SMALLEST income, (2) the MINIMUM income, and (3) the ABSOLUTE MINIMUM INCOME needed to make ends meet. The amount of diversity here is almost staggering. The interpretations include:

- "Smallest" income is equal to "minimum" income.
- "Smallest" income is greater than "minimum" income.
- "Smallest" income is less than "minimum" income.
- "Absolute minimum" income is equal to "minimum" income.
- "Absolute minimum" income is less than "minimum" income.

One component of the MIQ and the MSQ is the phrase "living where you do now ...."

Respondents are asked to tell us in their own words what that phrase is asking them to consider.

Once again, there is no consensus. The range of interpretations included *my life circumstance or stage, my place in life; my house, apartment; my neighborhood; or my city.*

One final difficulty that emerged is the interpretation of the word "you." One respondent asked the interviewer whether this question refers to the amount he personally spends or to the amount his family spends. Clearly, "you" is one of the great ambiguities in English, meaning both second person singular and plural. In order to have all respondents answering the same question, it would be absolutely necessary to clarify which of the two is being asked.

## 2. The "Delighted/Terrible" Scale.

In general, focus group participants and interview respondents seemed to like the use of emotional words in the "delighted/terrible" scale. However, when pushed to define or differentiate the terms, there is little consistency in the answers. Examples of the distinctions that are made between terms are as follows: "Pleased" would be like "I'm making it." "Delighted" would be like "Wow! I got a bonus!"

- "Pleased" is like "good." "Mostly satisfied" is like "sufficient"
- "Mostly dissatisfied" is like "OK," but "unhappy" means this job just isn't working out to give you enough money.
- "Terrible" is completely hopeless.

Another problem is that the full scale of descriptors is not used. For example, some respondents viewed *mostly satisfied, mixed* and *mostly dissatisfied* as one group. In

addition, no one reported being delighted with their income or having *terrible* income. For the most part, respondents appear to have collapsed the scale into three categories; *pleased, mixed, and unhappy*.

### **3. Income Evaluation Questions**

The question asks for judgments along two separate dimensions: "good/bad" versus "sufficient/insufficient." For some participants, these dimensions are asking for extremely different judgments. On the one hand, some participants interpreted the "sufficient/insufficient" assessment as a judgment about what is absolutely necessary for survival. On the other hand, the "very good/very bad" dimension is seen as a judgment about the "quality" of life. In some cases there is minimal overlap, between "very bad" and "insufficient," in the sense that income may be defined as "very bad" precisely because it is "insufficient." However, this comparison did not hold for the assessment that income is "sufficient" because of the conceptual dualism between bad income that is, nevertheless, "*sufficient for survival*" versus good income that is "*sufficient for some quality of life*."

#### **B. Complexity of the Questions**

##### *1. Minimum Income Question (MIQ) and Minimum Spend Question (MSQ).*

There is a clear indication that the MIQ and MSQ are complex questions to answer. They ask respondents to make at least four judgments, for example:

- Does the question want me to include only the minimum expenses necessary for survival or is it asking for me to begin with my current expense level?
- What expenses are necessary for me to survive?
- How much money would I need in a month to cover each particular expense?
- What is the total for all of these expenses added together?

The respondent must first differentiate between the current level of expenditures and the minimum needed for survival. If the "minimum expenses necessary for survival" is the preferred piece of information, the follow-up estimate of the dollar amount is somewhat a matter of factual tabulation once the respondent has decided upon which elements to include. More work needs to be done to better cue respondents and to help them answer these questions.

### **3. *Income Evaluation Question (IEQ).***

During the course of the focus group, participants are presented with a written version of the IEQ and are asked to discuss their responses. Many people reported having difficulty with this question for the following reasons:

- The task is cognitively complex. It requires that the respondent think about expenses in many different ways. One strategy reported is to begin with a "very good" amount and then whittle away amounts to fit the appropriate categories.
- It is difficult for some participants to conceptualize what would actually be sufficient for survival. As one respondent reported, since she had never experienced such dire straits, it is extremely "hard to decide what I need just to survive ...or even less than that."

When asked to supply descriptions of what the categories "very good to very bad" and "sufficient/insufficient" might mean when applied to income, the following ideas are generated. For example, one respondent described "Very Good" income "*It is enough to be as comfortable as possible*" from "Good" income which "*It is an income that is "good" for right now, the present circumstances.*" Likewise, the conceptual distinctions between "Very Bad" income and "Bad" income: "*fit means you can't pay for rent and would have to live in a shelter.*" versus "*It means there may still be hope down the road that things may*

*be better.* " Finally, the distinctions between "sufficient" and "insufficient" income: *"It means having a little left over after you pay your monthly expenses."* versus *"It is when yore can't pay your bills and you start using your credit card to pay things off."*

When asked which comparison they preferred, the "fiery good" to "very bad" judgment or the "sufficient" versus "insufficient" comparison, here is no consensus. However, there is some indication that which ever task is presented second is judged to be easier, suggesting a learning curve. When probed for the reasons they preferred one or the other scale, the following types of responses are given: *"very good/very bad is easier because it is easier to identify an amount where I wouldn't have to worry about paying bills; "* or *"sufficient/insufficient is easier because you didn't have to think about as many things and make as many judgments."*

In order to further understand the fundamental inconsistency of the response, each individual in the focus group is asked to provide a written response to the MIQ, an "absolute minimum amount of income needed" and the IEQ. In several instances, respondents are totally unable to generate dollar amounts. A second item of interest is the reliance upon whole numbers. In most cases, the estimates are increments of \$1,000; in a few cases, the dollar amounts varied in increments of \$100 or tens of dollars. From this, one gathers the impression that these are only very gross estimates. Some respondents place the "absolute minimum" amount within the range of "income needed to make ends meet" and others cite an "absolute minimum" amount that is lower than the range of income thought to be necessary to make ends meet.

### *C. "New" Language*

Without prompting, respondents repeatedly referred to stress, anxiety, and worry, when talking about "bad" or "insufficient" income. With good income or spending, they spoke of "freedom," "security," "not having to worry," "being more relaxed." These words came only from the participants--interviewers did not prompt them in any way. Perhaps this is a fruitful avenue for designing future subjective assessment questions. For example, we might consider these types of questions: "How often, if ever, do you worry about paying your bills on time?" "To what extent, if at all, do outstanding bills/expenses cause you concern?" "How much more money would you need each month to be free from worry about your bills?"

## **VII. Conclusions and Final Comments**

As the cognitive interview and focus group testing continues, we will look for consistency in our results across the five geographic areas as well as across income groups and family types. What have we learned from this initial testing?

- It is difficult for respondents to itemize all their expenses, especially on the spur of the moment. Providing the respondent with cues and lists should improve consistency in answers.
- Respondents experience difficulty in computing the income they would "need before deductions," they know their take-home or after-deduction pay.
- When asking the IEQ , there is no consensus about the meaning of the various response categories provided by the interviewer.
- Respondents are asked to perform several tasks: (1) define the terms, (2) apply these definitions to their own lives, and (3) generate monthly estimates to convey this application. It seems that the heart of the subjective assessment is actually found in part two, the application of the categories to their unique situations. It might be feasible to supply respondents with

consistent definitions so that all respondents would, in essence, be answering the same question or performing the same task.

It may be difficult to achieve consistent answers from the D/T questions as the scale is difficult for respondents. They cope with this scale by dividing the scale into three broad groups.

In the short term, we will complete and assess the testing described above. In the long term, we would like to incorporate what we have learned into designing better questions and then conduct additional cognitive tests. Finally, assuming we are satisfied with the results of the cognitive testing, field testing would be required to determine reliability

## APPENDIX A: USES OF SUBJECTIVE MEASURES

Subjective measures can be used to further explore the relationship between expenditures and income and why in the lower income groups, mean expenditures often exceed income (as published in BLS tabulations). Probably the two most frequent uses of the questions are for producing subjective poverty or sufficiency thresholds, and to estimate an individual's welfare function of income. Examples of the a subjective poverty line and individual welfare function are presented in Charts A1 and A2.

Subjective measures, as examined in this study, can also be used to produce equivalence scales. Equivalence scales are used to compare the income and expenditures for households or families of different sizes and with different needs. Equivalence scales represent the relative costs of living of households of different sizes and compositions that are otherwise similar. Thus differences in need for adults and children are accounted for as are economies of scale in the household. For example, if a family of two adults and one child can live as well as a single adult while spending only 50 percent more, then relative to the reference household with one adult, the equivalence scale value for a two-adult family with the one child is 1.5. The scale value is often defined as family size to some power ( $S^e$ ); the power value is also referred to as the elasticity of need. In the following table are some examples of ways to derive equivalence scale values. The first was suggested by Buhmann et al.<sup>20</sup>, the second by the OECD<sup>21</sup>, and the third by the National Academy of Sciences Poverty Panel:<sup>22</sup>

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<sup>20</sup> Brigitte Buhmann, Lee Rainwater, Guenther Schmaus, and Timothy Smeeding. "Equivalence Scales, WellBeing, Inequality, and Poverty: Sensitivity Estimates Across Ten Countries Using the Luxembourg Income Study (LIS) Database. *The Review of Income and Wealth* 34(2), 1988, pp. 115-142.

	$= (A+K)^{0.5}$	(1)
Scale Value	$= [1.0 + .0.7(A-1) + 0.5K]^{1.0}$	(2)
	$= (A + 0.7K)^{0.65 \text{ to } 0.75}$	(3)

Alternative equivalence scales and their corresponding elasticities are presented in Table A1.

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<sup>21</sup>Organization for Economic Cooperation and Development. *The OECD List of Social Indicators*. Paris: Organization for Economic Cooperation and Development, 1982.

<sup>22</sup>Citro and Michael (1995).

APPENDIX B: SELECTED LITERATURE ON  
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**APPENDIX C: STUDY DESIGN FOR TESTING  
SUBJECTIVE INCOME QUESTIONS**

	<u>Singles with no children in the home</u>	<u>Singles or couples with children in the home</u>	<u>Couples with no children in the home</u>
<b>Miami:</b>			
Low	< \$8,437	< \$17,718	< \$22,786
Medium	\$8,437 - \$23,308	\$17,718 - \$44,238	\$22,786 - \$45,684
High	> \$23,308	> \$44,238	> \$45,684
<b>Detroit:</b>			
Low	< \$10,441	< \$30,293	< \$32,907
Medium	\$10,441 - \$28,215	\$30,293 - \$60,031	\$32,907 - \$67,948
High	> \$28,215	> \$60,031	> \$67,948
<b>Los Angeles:</b>			
Low	< \$11,716	< \$18,542	< \$30,904
Medium	\$11,716 - \$30,904	\$18,542 - \$49,681	\$30,904 - \$63,247
High	> \$30,904	> \$49,681	> \$63,247
<b>Baltimore:</b>			
Low	< \$15,001	< \$35,300	< \$31,129
Medium	\$15,001 - \$28,436	\$35,300 - \$65,989	\$31,129 - \$56,841
High	> \$28,436	> \$65,989	> \$56,841
<b>W Va:<sup>a</sup></b>			
Low	< \$8,687	< \$20,666	< \$22,159
Medium	\$8,687 - \$18,016	\$20,666 - \$40,951	\$22,159 - \$43,801
High	> \$18,016	> \$40,951	> \$43,801

<sup>a</sup> Size D primary statistical area (population of less than 50,000) in the North Central non-metro areas are used as a proxy.

Chart A1. Subjective Sufficiency or Poverty Line

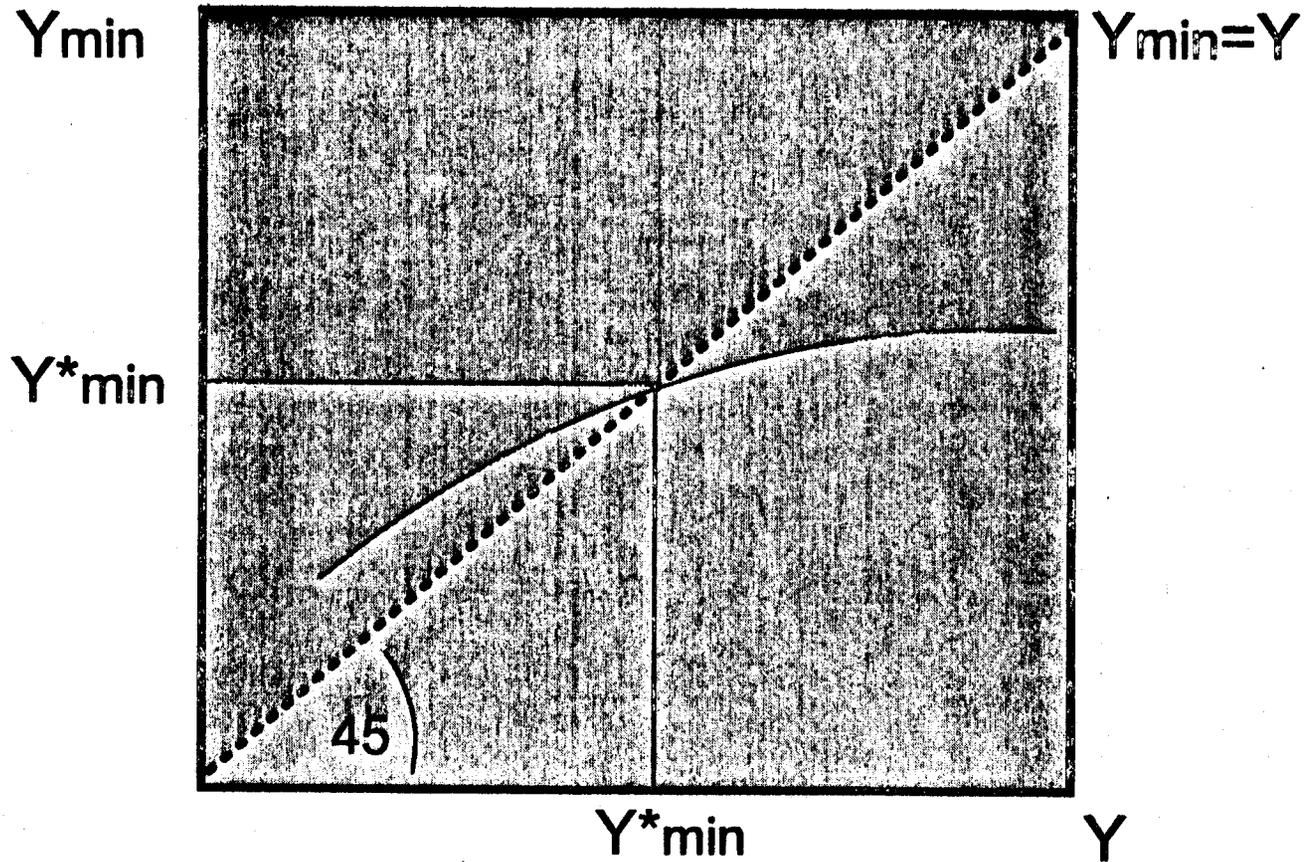
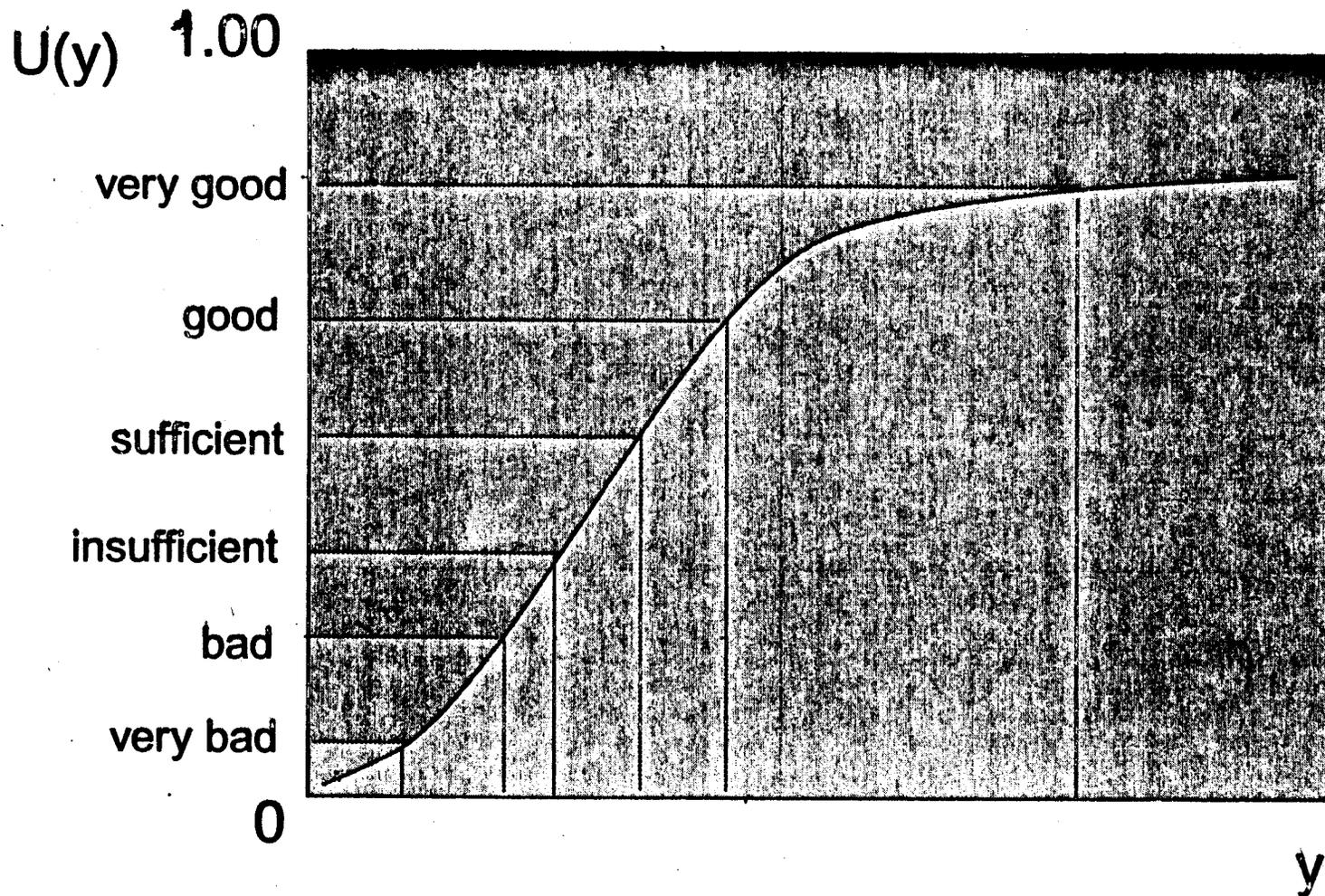


Chart A2: Welfare Function of Income



**Table A1: Alternative Equivalence Scales Using U.S. Data**

Family Size	Poverty Scales (statistical)	"OECD" (statistical)	Johnson Garner (AID)	Phipps Garner (extended Engel)	März el al. (ELES)	de Vos Garner (SPL MIQ)
1	1.00	1.00	1.00	1.00	1.00	1.00
2	1.28	1.70	1.39	1.35	1.49	1.37
3	1.58	2.20	1.68	1.62	1.81	1.60
4	1.99	2.70	1.92	1.91	1.99	1.84
5	2.35	3.20	2.13	2.17	2.01	1.96
6	2.63	3.70	2.31	2.24	2.00	nc
elasticity	0.55	0.73	0.48	0.44	0.45	0.42

NOTE: Elasticity is based on the assumption that the family is composed of a first adult, second adult, and the remaining members are children.