

OPERATIONALIZATION OF KEY VARIABLES AND DATA SHEETS

(INDIVIDUAL LEVEL AND HOUSEHOLD LEVEL VARIABLES REQUIRED OF ALL GAME PARTICIPANTS)

HOUSEHOLD SIZE

A household is defined as a group of people who share in the household estate—that is, a corporate body who may or may not live together (including absent school children, for example), but who share some household accounts and whose members are subject to some decision-making authority by the head/s of household. The number includes absent members because such individuals may make future claims (for example, for land, livestock, or bridewealth) upon the estate. It may also include large extended families. For example, polygynous households are often under the decision-making authority of one person with authority to buy and sell land or livestock. Similarly, married sons may also be under the authority of such a person, as may be “retired” mothers and fathers of the husband and/or wife(s).

You must get a measure of the total size of household based on this definition (see wealth of household survey below). We will use this variable to calculate wealth per capita and miscellaneous other calculations in the master data set.

INCOME BY INDIVIDUAL

Income is measured for all individuals who play the games, not households. You do not need income data for Player 2s in the Dictator Game or the Third Party Punishment Game, though you do need income for Player 2s in the Ultimatum and Trust Games. Income represents any flow of revenue available to the individual from legal, illegal, formal, and informal sources. Given the likely flux in income seasonally, it is suggested that you try to measure this for a one-year period—this may require some estimations. For example, if people sell produce twice a year, ask for the estimated sales total for the last two seasons.

This is an exceedingly difficult variable to collect accurately. Three suggestions: disaggregate the question to the greatest extent possible—ask many questions running through a long list of likely sources; elicit by season, month, or market trip, as necessary to get the most accurate information and then calculate up to an annual figure, cross-check reports with other household members or knowledgeable people in the village who know other’s activities; if this is the primary income earner in the household ask yourself, “could this household support itself on this size income?” If not, press harder because something has probably been left out.

Be sure to include income from:

Wage work (Casual and Professional)
Trading Profits (Not of own goods, but profit from purchase and re-sale)
Sale of Home Production (Specify Crop, Type of Stock, Milk, Meat, etc.)
Rental Income
Black Market trade
Remittances (In Cash or Kind--Specify Source)

WEALTH OF HOUSEHOLD

A measure of total productive assets owned by the household. In the case of individuals playing games who are not heads of household it may be necessary to interview the head of household to get these data accurately.

If it is difficult to measure absolute wealth yielding an interval level variable, but you are confident that you can get a rank order of wealth for your households, then use that instead of an absolute measure. We will be assuming that your sample is randomly drawn and that the entire distribution of wealth in the community is represented. That being the case, if 30 individuals are rank ordered in wealth we can assign them to percentiles on a 100 point scale. Interval level data are preferred, but if this is the best you can do, then use this instead.

Our wealth measure will be based upon productive assets in most societies, but if prestige wealth is extremely important to the wealth ranking in your society, it would be best to construct whatever scale best corresponds to local concepts of wealth. Bear in mind though that wealth and prestige are different things in all societies and here we are really trying to capture economic control of assets more than prestige per se.

Wealth is defined as productive assets. These are revenue generating or potentially revenue generating assets:

Farm Acreage
Livestock (by Species)
Rental Property
Farm Equipment (Tractors, Plows, Milling Equipment, Generators, etc.)
Boats/Outboard Motors
Commercial Vehicles (Trucks, Landrovers, etc., Donkey Carts, Bicycles if used in commerce)
Firearms
Other Capital Equipment (Sewing Machines, etc.)
Shops
Bank Account Balances

Assets that are NOT included because they are not revenue generating:

Domestic residences (unless they are rented)
Jewelry
Bicycles (for private transport only)
Radios
Watches
Non-commercial Vehicles
Household goods

All assets for each household should be listed with local market value. Bear in mind that the individuals in the household may not be the best people to give you local market values. Such values may be acquired by consulting local experts familiar with units of value and individual properties. Inquires about local sale transactions may also be helpful. Values for assets that are never sold (like shops or rental property) may also be computed based upon an aggregation of the total revenue stream they generate for the life of the asset. Thus, for example, a house that is rented for \$100 a year and has a life of about 10 years can be valued at \$1000.

COMMODITY PRICES IN LOCAL CURRENCY

Appended you will find a survey of commodity prices to be completed once for your entire ethnic group. This will allow us to gauge values across societies. Please add to this list any basic commodities that are commonly purchased in your society. This is also the form on which you enter the currency exchange rate.

MEASURES OF MARKET INTEGRATION

To test for robustness, we will measure this variable three ways.

Ideally, these measures will be collected for all individuals who play the games. #1 is a household measure, while #2 and #3 are individual measures.

- 1) Percentage of household diet that is purchased in the market (see Food Consumption Survey). This measure will be based upon a one-day recall of food consumed in the household yesterday. This must be converted to calories and compared to number of calories consumed from home production. To account for atypical periods: follow up with two questions. 1) Was this a typical day in the food consumption of your household? 2) If not, what is typical.
- 2) Amount of income from wage labor, rental income, and trade (see Income by Source for Individuals Survey). For this measure of market integration we will use only the most active market component of income. It does not include income derived from the sale of home production such as the sale of meat, garden produce, or that received from remittances, etc. The reasoning here is that trade of goods (labor, capital, or commodities) other than own production involves different market skills and broader networks.
- 3) Frequency of wage labor/trade and visits to shops/markets (see Income by Source by Individuals Survey). Each individual will be asked how many days they have engaged in wage labor in the last month or the exchange of products other than their own home production—i.e. buying and selling as a third party in the last month. Each individual will also be asked how many times they have visited a shop or a market in the last week to engage in an economic transaction. These questions will be followed up with: 1) Was this a typical month/week of wage work/trade and shopping/marketing for you? 2) If not, what is typical.

Measuring Market Integration by Sampling Technique:

For those who cannot gather these three measures for all individuals/households represented in the games, be sure to at least draw a random sample of the population (about 20 individuals) and survey them to develop an average measure of market integration for your society for use in the regressions.

COMMUNITY COOPERATION

Generate a comprehensive list of activities that involve the co-participation of non-household and non-close kin members ($r < 0.25$) of your group over the last year. Kin and other householders may have participated, but only include those activities in which individuals outside this sphere were also involved.

Consider such economic and social activities as:

EXAMPLES OF ECONOMIC ACTIVITIES: Garden Preparation, Communal Hunting, Communal Gathering, Communal Fishing, Herding, Well Digging, Water Projects, Irrigation Repairs, Construction of Communal Building (School, Sports Field, etc.), Road Repairs, Reforestation, Tree Planting, Raiding, Fund-Raising, Dispute Resolution, House Building

EXAMPLES OF SOCIAL ACTIVITIES: Post-harvest Festival, Club Associations, Political Associations, Religious Group/Services/Feasts, Age-grade Ceremonies, Funerals, Weddings, Circumcision Ceremonies, Grooming/Lice picking/Hair Plaiting

- 1) Add/delete relevant categories from this list by consulting locals.
- 2) Draw a random sample (stratified by sex—equal men and women) of about 20 from your community (preferentially among those who have played or will play the games). If you play games in more than one community do this for each village.
- 3) Ask each individual in your sample if they participated in each of these activities, how many others also participated along with them, and how frequently the activity occurred over the past year.
- 4) Verify that you have not missed any activities.
- 5) For the frequency of activity elicit by week/month/year depending on ethnographic experience, bearing in mind that people are best at estimating small numbers like 3 or 4. So, if harvest festivals are rare (0-10 times per year) use “years”. If garden preparation is common (1-9 time per month) use “months.”
- 6) Assess whether activity contributes to economic production or material well-being.

BASIC PLAYER DATA SHEETS

These forms include all of the supplementary data that you will be collecting for each individual who plays the games. Some of these data will be filled in on these forms at the time of the game. However, many of the data will be collected on separate forms and often prior to the game (for example, income, wealth, food consumption). You do not need these data for Player 2s in the Dictator Game or the Third Party Punishment Game, but you do need them for Player 2s in the Ultimatum and Trust Games.

In addition to the basic sheet for each player, you will fill in one game data sheet for each game they play: dictator, ultimatum, 3rd party punishment, or supplemental game.

All of the forms mentioned above are listed below.

INCOME BY SOURCE FOR INDIVIDUALS

Date: _____ Name of Interviewer: _____ Village: _____

FILL IN ONE FORM FOR EACH INDIVIDUAL WHO PLAYS A GAME

Individual's Name: (First) _____ (Middle) _____ (Last) _____ ID: _____
 Household Name: (First) _____ (Middle) _____ (Last) _____ ID: _____

Income Source (Describe in Detail)	Amount (Corresponding to Period in the Next Column)	Period (Check One)				Code for Source of Income	Calculate Annual Income from this Source
		Weekly	Monthly	Seasonally	Yearly		
Wage Labor (Casual or Prof)						(1) Wage Labor	
Trade (Not of own goods—only profit from purchase and re-sale)						(2) Trade Profits	
Rental Income						(3) Rental Income	
Sale of Home Production (Specify Crop, Stock, Milk, Meat, etc.)						(4) Sale Home Production	
Cash Remittances (Specify Source)						(5) Cash Remittances	
In Kind Remittances (Type&Source)						(6) In Kind Remittances	
Other (Specify in Detail)						(7) Other	

Number of days this individual worked in wage labor of any sort in the past month: _____
 Was this number of days in wage labor typical of the preceding year? Yes _____ No _____
 If no, how many days wage work per month has been typical during the past year? _____

If you are not currently doing wage labor, have you ever done it in the past? Yes _____ No _____
 If so, when was the last time you did wage work? Write the Year: _____

How many times have you engaged in trading goods for profit, that is buying with the intent to resell goods
 (such as livestock), in the last month? _____ (NOTE: This does not mean merely shopping, see below)
 Was this number of times you traded for profit typical of the preceding year? Yes _____ No _____
 If no, how many times per month did you usually trade in the last year? _____

How many days out of the last 7 has this individual personally made a trip to a market, shop, or trading center
 to engage in an actual economic transaction—to buy or sell anything (not just to socialize)? _____ days
 shopped/traded in past 7 days.
 Is this many visits to a market, shop, or trading center typical? Yes _____ No _____
 If no, how many days in one week is usually? _____ visits for trade per week.

FOR CALCULATION LATER

TOTAL ANNUAL INCOME FROM ALL SOURCES ABOVE: _____
 TOTAL INCOME FROM WAGE WORK AND TRADE PROFITS ONLY: _____
 MEASURE OF MARKET INTEGRATION (WAGE/RENTAL/TRADE ONLY) _____
 VALUE OF THE LOCAL CURRENCY (NUMBER IN 1 US DOLLAR): _____

BASIC PLAYER DATA SHEET

(INDIVIDUAL DATA REQUIRED OF ALL GAME PARTICIPANTS)

Date: _____ Name of Interviewer: _____

FILL IN ONE FORM FOR EACH INDIVIDUAL WHO PLAYS A GAME

Individual's Name: (First) _____ (Middle) _____ (Last) _____ ID: _____

Household Name: (First) _____ (Middle) _____ (Last) _____ ID: _____

DATA ELICITED AT THE GAMES FROM INDIVIDUAL PLAYERS

Birth Year	
Sex (M/F)	
Education in Years	
Household Head (h=head, s = Spouse of Head, n = neither)	
Current Marital Status (M=Married, D=Divorced, W=Widowed, S=Single)	
Number of Offspring	
Religion	
Frequency of Attendance at Religious Services (Times per month: Never=0, 1 per month=1, 2 per month=2, etc.)	
Speak National Language (No=0, A Little=1, Fluent=2)	
Village	
Village Code	
Number of Years Living in this Village	

DATA ENTERED FOR THIS INDIVIDUAL FROM OTHER DATA SHEETS (IN LOCAL CURRENCY)

Household Size (See definition)	
Village Size (Total Population)	
Currency Exchange Rate (number of local currency in 1 US Dollar)	
Individual Total Annual Income from all Sources in local currency	(from Income Form)
Household Wealth (Total) in local currency	(from Wealth Form)
MI1: Percentage of Household Diet Purchased in Market	(from Food Consumption Form)
MI2: Income from Wage Labor/Rental/Trade	(from Income Form)
MI3: Frequency of Wage Labor in the last Month	(from Income Form)
MI4: Trips of Market in last 7 Days	(from Income Form)
MI5: Frequency of Trading Goods for Purchase/Resale last month	(from Income Form)
Wealth in Animals (in Animals Units; 1AU = 1 cow = 5 sheep/goats=2.5 pigs=0.8horses, bulls)	
Wealth in Animals (monetary value if sold in the market)	(from Wealth Form)
Wealth in Land—All Uses (specify number and indicate acres or hectares)	(from Wealth Form)
Wealth in Land—All Uses (monetary value if sold)	(from Wealth Form)
Land in Cash Crops (specify number and indicate acres or hectares)	(from Wealth Form)
Land in Subsistence Production (Specify number and indicate acres or hectares)	(from Wealth Form)

DICTATOR GAME PLAYER DATA SHEET

(IN ADDITION TO THIS FORM BE SURE TO FILL IN ONE "BASIC PLAYER DATA SHEET" FOR EACH PLAYER WHO PLAYS ANY GAME)

Name of Interviewer: _____ Village: _____

Player's Name: (First) _____ (Middle) _____ (Last) _____ ID: _____

Household's Name: (First) _____ (Middle) _____ (Last) _____ ID: _____

Date	
Total Stake Size this Game	
Show-up Fee Paid in this Game	
Day Number (# Game day for this game, start w/1)	
Session Number (# Session in this Day)	
Order Number of this Player in this Session	
Number of Examples/Test Questions Used	
Role (Player 1=1; Player 2=2)	
Amount Offered—In 10% Increments Only	
% Offered	
ID of Other Player	

(Questions to be Asked Immediately following the last Session of Dictator/Ultimatum Game)

1a. What did the first game remind you of in real life? (Re-explain DG if necessary.)

1b. For Player 1s: Why did you allocate what you did? (Why not more, or less?)

1c. For Player 1s: How much do you think most people allocated?

2a. What did the second game remind you of in real life? (Re-explain the SMUG if necessary?)

2b. For Player 1s: Why did you allocate what you did? (Why not more, or less?)

2c. For Player 1s: Would most people have accepted less?

2d. For Player 2s: How would you have felt if you received an offer of 0 from Player 1? (e.g. would care, unlucky, happy, angry, sad, fearful, hatred, etc.).

2e. How would you have felt if you had received an offer of 10 from Player 1?

INTERVIEWER'S COMMENTS (misunderstandings, modifications imposed, odd occurrences, etc.)

ULTIMATUM GAME PLAYER DATA SHEET

(IN ADDITION TO THIS FORM BE SURE TO FILL IN ONE "BASIC PLAYER DATA SHEET" FOR EACH PLAYER WHO PLAYS ANY GAME)

Name of Interviewer: _____ Village: _____

Player's Name: (First) _____ (Middle) _____ (Last) _____ ID: _____

Household's Name: (First) _____ (Middle) _____ (Last) _____ ID: _____

Date	
Total Stake Size this Game	
Show-up Fee Paid in this Game	
Day Number (# Game day for this game, start w/1)	
Session Number (in this Day)	
Order Number of this Player in this Session	
Number of Examples/Test Questions Used	
Role (Player 1=1; Player 2=2)	

If Player 1:

Amount Offered—In 10% increments only	
% Offered	
ID of Player 2	

If Player 2:

ID of Player 1: _____ Amount offered by Player 1: _____ % Offered by Player 1: _____

This game is played with the strategy method. Before making the real offer, elicit the entire table of responses below from Player 2.

Player 1 Offers to Player 2	Player 2 Accepts/Rejects (A/R)
Offers \$0 Keeps 10	
Offers \$1 Keeps 9	
Offers \$2 Keeps 8	
Offers \$3 Keeps 7	
Offers \$4 Keeps 6	
Offers \$5 Keeps 5	
Offers \$6 Keeps 4	
Offers \$7 Keeps 3	
Offers \$8 Keeps 2	
Offers \$9 Keeps 1	
Offers \$10 Keeps 0	

Remember that if this is the last session of games in this village, ask the interview questions at the end of this SMUG. The questions are listed and recorded on player's DG datasheet

3rd PARTY PUNISHMENT GAME PLAYER DATA SHEET

(IN ADDITION TO THIS FORM BE SURE TO FILL IN ONE "BASIC PLAYER DATA SHEET" FOR EACH PLAYER WHO PLAYS ANY GAME)

Name of Interviewer: _____ Village: _____

Player's Name: (First) _____ (Middle) _____ (Last) _____ ID: _____

Household's Name: (First) _____ (Middle) _____ (Last) _____ ID: _____

Date	
Total Stake Size this Game (Players 1 & 2)	
Total Endowment Player 3	
Show-up Fee Paid in this Game	
Day Number (# Game day for this game, start w/1)	
Session Number (for this Game in this Village)	
Order Number of this Player in this Session	
Number of Examples/Test Questions Used	
Role (Player 1=1; Player 2=2; Player 3=3)	

If Player 1:

Amount Offered—In 10% increments only	
% Offered	
ID of Player 2	
ID of Player 3	
Action of Player 3 (N=nothing, P=pay 1, subtract 3)	

If Player 2:

Amount Received—In 10% increments only	
% Received	
ID of Player 1	
ID of Player 3	

If Player 3:

ID of Player 1: _____ ID of Player 2: _____

Amount offered by Player 1: _____ % Offered by Player 1: _____

This game is played with the strategy method. Before making the real offer, elicit the entire table of responses below from Player 3.

Player 1 Sends to Player 2	Amount Player 3 pays (P=pay 1 to subtract 3; N = do nothing)
Sends \$0 Keeps \$10	
Sends \$1 Keeps \$9	
Sends \$2 Keeps \$8	
Sends \$3 Keeps \$7	
Sends \$4 Keeps \$6	
Sends \$5 Keeps \$5	
Sends \$6 Keeps \$4	
Sends \$7 Keeps \$3	
Sends \$8 Keeps \$2	
Sends \$9 Keeps \$1	
Sends \$10 Keeps \$0	

3rd PARTY PUNISHMENT GAME

POST GAME QUESTIONS IMMEDIATELY FOLLOWING *LAST SESSION PLAY*

Player's Name: (First) _____ (Middle) _____ (Last) _____ ID: _____

Household's Name: (First) _____ (Middle) _____ (Last) _____ ID: _____

Player Number (1, 2, or 3) _____

1. What did the game remind you of in real life? (Re-explain 3PP if necessary.)
2. For Player 1s: Why did you allocate what you did? (Why not more, or less?)
3. For Player 1s: How much do you think most people allocated?
4. If Player 1 sends \$0 to Player 2 and keeps \$10, do you think most people in the position of Player 3 would pay money to take money away from Player 1?
5. For Player 3s: How would you have felt if Player 2 had received an offer of 0 from Player 1? (e.g. nothing, angry, fearful, wouldn't care)

INTERVIEWER'S COMMENTS (misunderstandings, modifications imposed, odd occurrences, etc.)