Poverty Alleviation and Child Labor

By Eric V. Edmonds and Norbert Schady

On-Line Appendix for American Economic Journal: Economic Policy

AEJ POL2010-0165

September 4, 2011

APPENDIX ONE: A COMPARISON OF THE BDH EVALUATION POPULATION AND ECUADOR OVERALL

Ecuador has three geographic areas—coast, highlands, and jungle. Administratively, the country is divided into provinces, cantons, and parishes. In 2005, there were 22 provinces, 219 cantons, and 874 parishes. Provinces span both urban and rural areas; cantons can be either entirely urban (as would be the case, for example, with the capital city, Quito), or a mix of urban and rural. Parishes are entirely rural or urban. In rural areas, parishes correspond roughly to villages; in urban areas, parishes frequently correspond to neighborhoods within a larger city. Of the 874 parishes in the country in 2005, 219 were urban, and 655 rural.

The parishes in the BDH evaluation were drawn from four provinces in the highlands region of the country: Carchi, Cotopaxi, Imbabura, and Tungurahua. Appendix Table 1.1 compares the sample of rural parishes included in the BDH evaluation to other rural parishes in Ecuador.

Appendix Table 1.1: Comparison of rural parishes in evaluation sample with other rural parishes

	BDH evaluation sample (79 parishes)	Other parishes (779 parishes)
Fraction of households in parish with:		
electricity	0.889	0.719
telephone	0.116	0.087
connection to sewage system	0.265	0.160
garbage collection	0.183	0.148
that own a house	0.808	0.810

Source: 2001 Population Census

Households in the evaluation parishes appear to be somewhat better off than those in other rural parishes. For example, 89 percent of households in the evaluation rural parishes have access to electricity, compared to 72 percent for households in other rural parishes; and 27 percent of households in the evaluation rural parishes are connected to the public sewage system, compared to 16 percent in other rural parishes.

The INEC, the Ecuadorean national statistical institute, does not disaggregate data for urban parishes within the same canton—rather, it only provides averages for the entire canton. Appendix Table 1.2 compares the sample of urban cantons that were included in the BDH evaluation with other urban cantons in Ecuador, along a number of dimensions. As with the rural sample, urban cantons in our sample appear to be somewhat better-off than other cantons. For example, 92 percent of households in the evaluation urban cantons have access to electricity, compared to 84 percent for households in other urban cantons; and 52 percent of households in the evaluation urban cantons are connected to the public sewage system, compared to 39 percent in other urban cantons

Appendix Table 1.2: Comparison of urban cantons in evaluation sample with other urban cantons

	BDH evaluation sample (25 cantons)	Other cantons (214 cantons)
Fraction of households in parish with:		
electricity	0.915	0.844
telephone	0.272	0.221
connection to sewage system	0.515	0.389
garbage collection	0.499	0.499
that own a house	0.708	0.710

Source: 2001 Population Census

Of course, households in the evaluation sample will be considerably poorer than the averages for their parishes given that they are drawn from the poorest two fifths of the population.

The first cash transfer program in Ecuador, the Bono Solidario, was launched in 1998, in the midst of an economic crisis. Bono Solidario made monthly transfers of US $15 to households, with no strings attached. Many of the households that received transfers were poor, but others were not—there were no clear rules for eligibility into the program. To ensure that transfers were better directed at poor households, the Government of Ecuador began a reform of the Bono Solidario program in 2003 that would result in the BDH. To this effect, it developed the Selben index, a composite measure of household assets and access to social services. This was done as follows. First, a nationally representative household survey, the *Encuesta de Condiciones de Vida* (ECV), was used to

select variables that were highly correlated with per capita expenditures, were easy to collect in the field by minimally trained enumerators, and were judged to be difficult for households to manipulate—at least in the short run.

The exact set of variables included in the Selben was as follows: material of floor; type of lighting in household; availability of a shower; availability of a flush toilet; main source of fuel for cooking; whether a household owned land; number of household members per room in house; number of children below 6 years of age; main language spoken by head of household; number of years of schooling of head of household and his spouse; whether or not the household was covered by a public medical insurance plan; whether or not the head of household had received loans from a bank in the last year; whether or not the household had an automobile, computer, color TV, telephone, washing machine, microwave, video machine, fridge, stereo, or oven (separate questions, given separate weights); whether or not there were handicapped members in the household; whether or not school-aged children were enrolled in school and, if so, whether the school establishment was public or private. Household income was not included in the calculation of the index, as it is very difficult to collect, in particular in rural areas. These variables were aggregated into a summary index by principal components. The cutoff for eligibility was then set at the 40^{th} percentile of the index, again using the ECV.

Second, the Government launched a large-scale effort to collect information from households on the variables that made up the Selben index. All households in rural areas, as well as households in selected urban areas with a high incidence of poverty could ask that the Selben survey be applied to them. On the basis of this survey, each household received a Selben score. Households with scores below the cutoff were then made eligible for cash transfers, while those with scores above the cutoff were made ineligible. (This process of constructing a so-called proxy means test is similar to that used by many other cash transfer programs in Latin America, including PROGRESA in Mexico and Familias en Acción in Colombia.) As a result, a large number of households started receiving transfers for the first time, and transfers were gradually phased out for a large number of households that had previously received them. The name of the program was also changed from Bono Solidario to Bono de Desarrollo Humano.

The sample frame for the evaluation was limited to households who had recently become eligible for BDH transfers for the first time; BDH administrative data, which incorporated data on the Selben index, was used for this purpose. The sample was further limited to households who had at least one school-aged child at the time the Selben survey was collected. The original design of the evaluation was meant to be a regression-discontinuity study of the impact of the benefit amount. The

logic behind this decision was that households in the first and second Selben quintiles were initially meant to receive transfers of different magnitudes, and the evaluation was meant to focus on the impact of "large" versus "small" transfers. Therefore, the sample was limited to households around the threshold of the first and second Selben quintiles.

Appendix Table 1.3 compares the BDH evaluation sample with those in the nationally representative 2005/06 *Encuesta de Condiciones de Vida* (ECV).

Appendix Table 1.3: A comparison of households in the BDH evaluation sample and the 2005/06 ECV

	BDH sample	2005/06 ECV
Proportion of children in school (age 10-17)	0.700	0.823
Proportion of children in paid work (age 10-17)	0.122	0.112
Proportion of children in unpaid work (age 10-17)	0.423	0.207
Proportion of HH with flush toilet	0.281	0.466
Proportion of HH with piped water in home	0.238	0.472
Proportion of HH with dirt floor	0.444	0.076

Note: sample limited to households with at least one child age 10-17.

Despite the fact that the evaluation parishes are wealthier than average for Ecuador,as can be seen in Appendix tables 1.2 and 1.3, study subjects appear poorer.

The government ultimately decided to make transfers of the same magnitude to all households. At that point, the original evaluation design was obviously not useful; a decision was made jointly by BDH administrators and World Bank staff to switch from a regression discontinuity strategy to one based on randomization. Because the baseline survey was already being collected, it was no longer possible to draw a new sample of households. Instead, all of the households that had originally been drawn were randomly assigned to treatment or control groups. The randomization was done by World Bank and BDH staff. Households in the sample were assigned a normally distributed random number with mean zero and standard deviation one. All households with values zero or higher were assigned to the treatment group.

APPENDIX TWO: NON-COMPLIANCE WITH LOTTERY ASSIGNMENT

Winning the lottery nearly doubles the probability a subject receives the BDH. However, there is substantial non-compliance with the lottery in terms of both leakage (households that lost the BDH lottery but nevertheless received transfers) and lack of take-up (households that won the BDH lottery but do not receive transfers). We instrument non-random BDH take-up with random assignment by the lottery. The resulting estimates are Local Average Treatment Effects (LATE) of the impact of the BDH for households for whom the likelihood of receiving transfers was affected by whether they won or lost the BDH lottery. The key consideration in interpreting these LATE estimates is how the group of households for whom the likelihood of receiving BDH transfers was affected by the lottery differs from other households.

Appendix table 2.1 restricts the sample to BDH recipients and compares lottery losers (column 1) to lottery winners (column 2). Among BDH recipients, lottery losers appear similar to lottery winners. For every observable characteristic in the appendix table, the difference between lottery winners and losers is small. In fact, there are only 5 variables where the t-statistic on the difference is above 1, and two characteristics are responsible for these 5 variables. Lottery losers are slightly more likely to be male and have slightly lower rates of participation in unpaid economic activity (which drives lower rates of involvement in economic activity and hours). None of these individual differences are statistically significant. The null that the differences are jointly zero has an F-Statistic of 0.86 and a P-value of 0.67.

We do not have a good explanation for what explains the level of leakage. Upon review, conversations with BDH administrators suggest that the list of lottery losers was not immediately passed on to operational staff activating households for transfers. The problem was not limited to a handful of parishes: Only 18 percent of the variation in take-up among lottery losers can be explained by parish fixed effects. This situation was corrected after a few weeks, but withholding transfers from households that had already begun to receive them, even though they had lost the BDH lottery, was judged politically imprudent.

Despite the lack of a simple, observable explanation for leakage of BDH transfers to lottery losers, it seems reasonable to expect that there are unobservable ways that the leakage population differs. All of the leakage population managed to receive benefits even though they were not on the list of eligible households. This suggests that they are different from BDH recipients that won the lottery. We suspect unobserved factors such as “pushiness” might be different between BDH recipients who had originally won the lottery and those who had lost it.

The lack of complete take-up among lottery winners is less surprising. Indigenous lottery winners are less likely to take up the BDH, and baseline students are more likely. These two characteristics might proxy for any number of reasons for lack of take-up. Lack of information, the cost of traveling to a bank, and stigma may have discouraged some households from receiving transfers. We do not believe that stigma is a serious issue in this context. The only previous social assistance program (Bono Solidario) was poorly targeted so that both well-off and poor households were receiving the transfer. The social marketing information surrounding the BDH could have created some stigma, but we do not know any evidence suggesting this. We also do not know why stigma would be more relevant to the indigenous population or to non-students. Information and remoteness seem more plausible explanations.

Appendix table 2.1 shows that baseline per capita expenditures do not seem to explain differences in take-up among lottery winners.

Appendix Table 2.1: Differences in Subject Characteristics of BDH Recipients by Treatment Status
Children 11-16 at baseline

Variable (b/se)		Lottery Loser that receives BDH (1)	Lottery Winner that receives BDH (2)	Difference (3)
Sample Size		340	683	1,023
Time Allocation	Paid Employment	0.11	0.12	0.01
		(0.02)	(0.01)	(0.02)
	Unpaid Economic Activity	0.38	0.44	0.06
		(0.03)	(0.02)	(0.05)
	Any Economic Activity	0.49	0.54	0.05
		(0.03)	(0.02)	(0.04)
	Unpaid Household Services	0.82	0.83	0.01
		(0.02)	(0.01)	(0.02)
	Any Work	0.92	0.94	0.01
		(0.01)	(0.01)	(0.01)
	Total Hours Last Week, Paid Emp.	3.52	3.98	0.46
		(0.60)	(0.47)	(0.58)
	Total Hours, Unpaid Econ Activity	5.03	5.87	0.83
		(0.50)	(0.39)	(0.82)
	Total Hours, Economic Activity	8.56	9.85	1.28
		(0.73)	(0.58)	(0.93)
	Total Hours, Unpaid Hh. Services	9.13	9.02	-0.12
		(0.48)	(0.31)	(0.71)
	Total Hours Last Week, Combined	17.68	18.87	1.16
		(0.85)	(0.63)	(1.27)

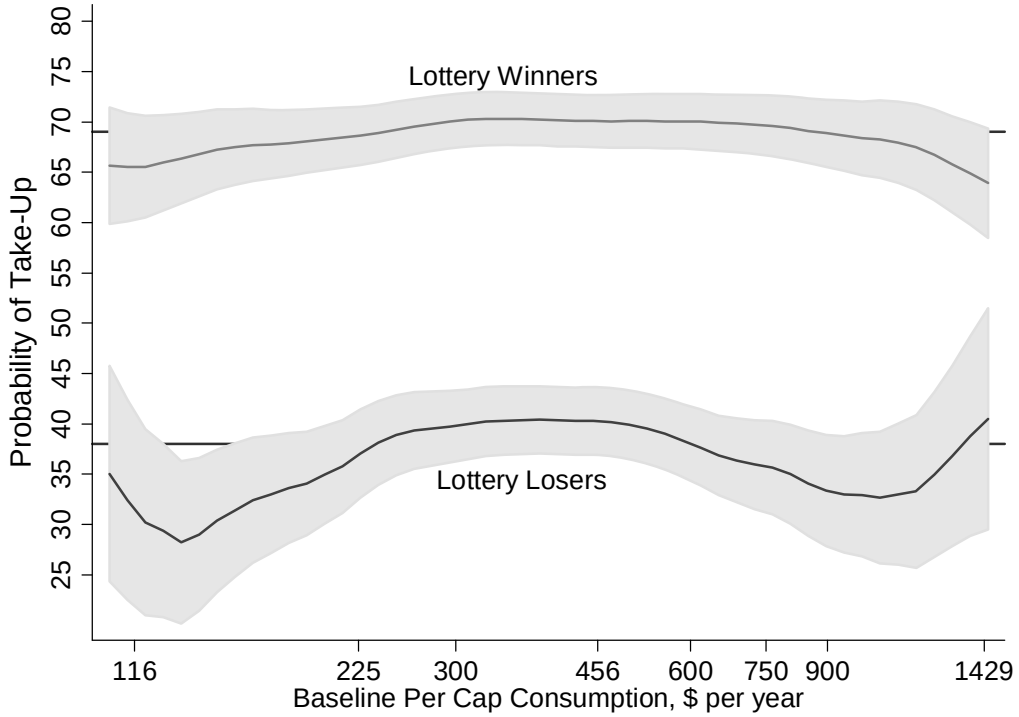
	Total Earnings in Paid Employment	9.13	9.13	0.13
		(2.29)	(1.24)	(2.34)
	School Enrollment	0.70	0.69	-0.01
		(0.02)	(0.02)	(0.04)
	Non-student	0.30	0.32	0.02
		(0.02)	(0.02)	(0.04)
Individual Characteristics	Age (at baseline)	13.41	13.40	0.00
		(0.08)	(0.06)	(0.07)
	Male	0.53	0.47	-0.06
		(0.03)	(0.02)	(0.03)
	Speaks Indigenous Language	0.08	0.09	0.01
		(0.01)	(0.01)	(0.01)
	Has Disability	0.02	0.01	-0.01
		(0.01)	(0.00)	(0.01)
	Oldest Resident Child	0.63	0.64	0.01
		(0.03)	(0.02)	(0.02)
	Oldest Resident Girl	0.39	0.41	0.03
		(0.03)	(0.02)	(0.03)
	Mother Present	0.96	0.95	-0.02
		(0.01)	(0.01)	(0.02)
	Mother's Years of Education	3.89	3.86	-0.03
		(0.16)	(0.11)	(0.23)
	Father Present	0.84	0.81	-0.02
		(0.02)	(0.01)	(0.04)
Household Characteristics	Rural Locality	0.50	0.56	0.06
		(0.03)	(0.02)	(0.05)
	# School Age Children Present	2.72	2.72	0.00
		(0.06)	(0.05)	(0.14)
	# Children 0 to 5 Present	0.52	0.51	-0.01
		(0.04)	(0.03)	(0.06)
	LN Total Monthly Expenditure	6.00	6.00	0.00
		(0.03)	(0.02)	(0.04)
	Household Size	6.17	6.13	-0.04
		(0.10)	(0.08)	(0.16)

Baseline characteristics of BDH recipients by lottery status. For each characteristic, the standard error is reported on the line below the mean. Standard errors are corrected for clustering at the parish level. See discussion in main text around table 1 for a complete description of variable definitions. The F-statistic associated with the null that the column (1) - (2) differences are jointly zero is 0.86 with a P-Value of 0.67.

Appendix figure 2.1 presents a more complete depiction of the relationship between compliance and per capita expenditures at baseline. The top curve centered around the horizontal line at 69 percent is the take-up rate for lottery winners. The curve is estimated using local linear regression. The tails of the curve hint at the two reasons for not taking up suggested in the descriptive

statistics. The poorest (perhaps the indigenous and most remote families) and the wealthiest among the poor are slightly less likely to take up the BDH, although neither part of the distribution has a take-up rate that is significantly different from the population average of 69 percent. Leakage is depicted in the bottom curve of appendix figure 2.1. This curve plots BDH take-up rates against per capita expenditures for lottery losers. There is some hint that take-up is negatively sloped in the figure – leakage is less prevalent among those relatively well off in our sample. This makes sense if there is are costs associated with receiving benefits for the ineligible. Overall, the data do not reject the null that leakage is invariant to baseline per capita expenditures, just as the leakage population appeared observationally identical to lottery-winning BDH recipients in the appendix table.

Appendix Figure 2.1: Take-up by Treatment status and per capita expenditures



Source: Authors' calculations from the BDH evaluation data. Each curve is the result of a local polynomial regression of an indicator that a child is in a household that receives the Bono on the log of baseline per capita expenditure. Each curve was estimated separately for lottery losers (bottom curve) and lottery winners. 90 percent confidence intervals are pictured.

APPENDIX THREE: MAIN RESULTS FOR POOLED 5-16 AND AGES 5-10

The following tables are identical in layout and methods to table 2 in the main text.

Appendix Table 3.1: Impact of Lottery on Time Allocation in the Last 7 Days, ages 5-16

	Wins Lottery (1)	Receives BDH (2SLS) (2)	Counterfactual Mean (for (2)) (3)
First Stage			
Receives BDH	0.306**		
	(0.034)		
Participation in the Last 7 Days			
Paid Employment	-0.022**	-0.072**	0.163
	(0.010)	(0.035)	
Unpaid Economic Activity	-0.059**	-0.192**	0.536
	(0.022)	(0.067)	
Economic Activity (Paid employment or Unpaid Economic Activity)	-0.070**	-0.228**	0.641
	(0.022)	(0.068)	
Unpaid Household Services	0.012	0.040	0.753
	(0.019)	(0.064)	
Any Work (Economic Activity or Unpaid Household Services)	-0.022	-0.072*	0.919
	(0.014)	(0.043)	
Hours Worked in the Last 7 Days (including 0s)			
Paid Employment	-0.663	-2.161	6.087
	(0.489)	(1.596)	
Unpaid Economic Activity	-0.701**	-2.288**	7.194
	(0.310)	(1.018)	
Economic Activity (Paid employment + Unpaid Economic Activity)	-1.377**	-4.501**	13.277
	(0.578)	(1.906)	
Unpaid Household Services	0.286	0.934	6.546
	(0.313)	(1.027)	
Total Hours (Economic Activity + Unpaid Household Services)	-1.092	-3.567	19.823
	(0.703)	(2.305)	
Monthly Earnings from Paid Employment (including 0s)	-0.846	-2.771	11.904
	(1.161)	(3.692)	
School Enrollment	0.042**	0.137**	0.647
	(0.012)	(0.045)	

Each cell in columns 1 and 2 is the result of a different regression. All cells in column 1 contain reduced form estimates of the effect of winning the lottery on the row variable. Column 2 contains 2SLS estimates of the impact of the Bono. In this column, we instrument for Bono Receipt with an indicator for whether an individual won the Bono lottery. All regressions include parish fixed effects and controls for all characteristics listed in table 1 plus counts of the number of men and women (separately) present at baseline and follow-up in each of the following age categories: under 5, 6-17, 18-44, 45-64, 65+ . From table 1in text, Household Size, Age, # school age, and # children are included as dummy variables in all regressions. Robust standard errors in parenthesis are corrected for clustering at the parish level. * is significant at 10 percent. ** is significant at 5 percent. Column 3 contains counterfactual means for those induced to take-up the BDH by winning the lottery. These are the predicted value of the 2SLS results with BDH receipt set to 0 and all other characteristics as found in the lottery winner population. There are 2996 sampled children age 5-16 at baseline.

Appendix Table 3.2: Impact of Lottery on Time Allocation in the Last 7 Days, Ages 5-10

	Age < 11	
	Wins Lottery (Reduced Form) (1)	Receives BDH (2SLS) (2)
First Stage		
Receives BDH	0.268**	
	(0.045)	
Participation in the Last 7 Days		
Paid Employment	0.003	0.010
	(0.006)	(0.023)
Unpaid Economic Activity	-0.050	-0.185
	(0.036)	(0.118)
Economic Activity (Paid employment or Unpaid Economic Activity)	-0.044	-0.165
	(0.036)	(0.122)
Unpaid Household Services	0.022	0.081
	(0.034)	(0.132)
Any Work (Economic Activity or Unpaid Household Services)	-0.014	-0.051
	(0.034)	(0.121)
School Enrollment	-0.009	-0.033
	(0.010)	(0.039)

Each cell is the result of a different regression. All cells in column 1 contain reduced form estimates of the effect of winning the lottery on the row variable. Column 2 contains 2SLS estimates of the impact of the Bono. In this column, we instrument for Bono Receipt with an indicator for whether an individual won the Bono lottery. See note to table 2 in text for a complete listing of all controls included in all regressions. * is significant at 10 percent. ** is significant at 5 percent. There are 1114 sampled children age 5-10 at baseline.

APPENDIX FOUR: VALIDITY OF THE RANDOMIZATION BY STUDENT STATUS

THIS APPENDIX MIMICS TABLE 1 IN ITS LAYOUT AND METHODS. THE KEY DIFFERENCE IS THE SAMPLE IS RESTRICTED TO BASELINE STUDENTS 11-16

Appendix Table 4.1: Differences in Subject Characteristics at Baseline by Treatment Status

Students 11-16 at baseline

	Variable (b/se)	Lottery Winners	Lottery Losers	Mean Difference	Regression Adjusted Difference
	Sample Size	583	649	1,232	1,232
Time Allocation	Paid Employment	0.03	0.02	0.01	0.00
		(0.01)	(0.01)	(0.01)	(0.01)
	Unpaid Economic Activity	0.42	0.41	0.01	0.02
		(0.02)	(0.02)	(0.04)	(0.03)
	Any Economic Activity	0.44	0.43	0.01	0.01
		(0.02)	(0.02)	(0.04)	(0.03)
	Unpaid Household Services	0.87	0.87	0.00	-0.01
		(0.01)	(0.01)	(0.02)	(0.02)
	Any Work	0.93	0.92	0.01	0.01
		(0.01)	(0.01)	(0.02)	(0.01)
	Total Hours Last Week, Paid Employment	0.56	0.49	0.08	(0.09)
		(0.16)	(0.16)	(0.20)	(0.23)
	Total Hours, Unpaid Economic Activity	4.50	3.90	0.59	0.53
		(0.31)	(0.27)	(0.53)	(0.39)
	Total Hours Last Week, Economic Activity	5.07	4.39	0.67	0.43
		(0.35)	(0.30)	(0.58)	(0.47)
	Total Hours Last Week, Unpaid Hh. Services	8.87	7.88	0.98**	0.26
		(0.28)	(0.26)	(0.44)	(0.45)
	Total Hours Last Week, Combined	13.94	12.27	1.65**	(0.70)
		(0.44)	(0.40)	(0.68)	(0.56)
	Total Earnings Last Month Paid Employment	1.44	1.23	0.36	0.18
		(0.44)	(0.49)	(0.58)	(0.57)
Individual Characteristics	Age (at baseline)	13.02	13.08	-0.06	n/a
		(0.06)	(0.06)	(0.06)	
	Male	0.47	0.54	-0.07**	n/a
		(0.02)	(0.02)	(0.03)	
	Speaks Indigenous Language	0.10	0.07	0.03	n/a
		(0.01)	(0.01)	(0.02)	
	Has Disability	0.01	0.01	0.00	n/a
		(0.00)	(0.00)	(0.01)	
	Oldest Resident Child	0.57	0.57	0.00	n/a
		(0.02)	(0.02)	(0.02)	
	Oldest Resident Girl	0.39	0.36	0.02	n/a
		(0.02)	(0.02)	(0.02)	

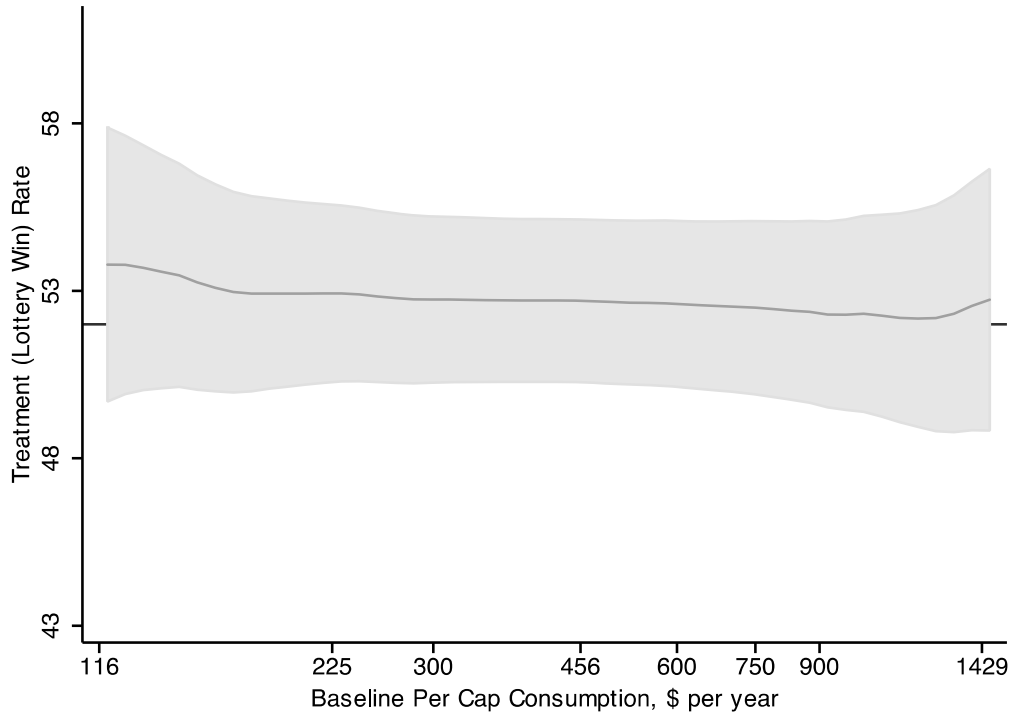
	Mother Present	0.94	0.95	0.00	n/a
		(0.01)	(0.01)	(0.02)	
	Mother's Years of Education	4.19	4.06	0.13	n/a
		(0.12)	(0.12)	(0.20)	
	Father Present	0.82	0.83	-0.01	n/a
		(0.02)	(0.02)	(0.03)	
Household Characteristics	Rural Locality	0.55	0.46	0.09**	n/a
		(0.02)	(0.02)	(0.04)	
	# School Age Children Present	2.78	2.70	0.08	n/a
		(0.05)	(0.05)	(0.10)	
	# Children 0 to 5 Present	0.54	0.50	0.05	n/a
		(0.03)	(0.03)	(0.05)	
	Log of Per Capita Expenditures	6.06	6.06	0.00	n/a
		(0.02)	(0.02)	(0.04)	
	Household Size	6.16	6.14	0.01	n/a
		(0.08)	(0.07)	(0.15)	

All characteristics are at baseline. Regression adjustment includes parish fixed effects and all controls from "Age" down to "Total Monthly Expenditure" marked with "n/a" plus counts of the number of men and women (separately) present at baseline and follow-up in each of the following age categories: under 5, 6-17, 18-44, 45-64, 65+. Household Size, Age, # school age, and # children are included as dummy variables in all regressions. For each characteristics, the standard error is reported on the line below the mean. Standard errors are corrected for clustering at the parish level. ** is significant at 5 percent. * is significant at 10 percent.

APPENDIX FIVE: VALIDITY OF THE RANDOMIZATION BY BASELINE PER CAPITA EXPENDITURE

We plot a local linear regression of an indicator that the child's mother won the lottery on pre-treatment per capita expenditures for students age 11-16 at baseline. We plot 90 percent confidence intervals as well. The horizontal line is the take-up rate in the study population as a whole.

Appendix Figure 5.1: Treatment Rates by Baseline Per Capita Expenditures for baseline students age 11-16



Source: BDH evaluation baseline data. The pictured curve is from a local linear regression of an indicator of lottery assignment status on baseline per capita expenditures for students at baseline (same as figure 3). 90 percent confidence intervals are pictured. The x-axis is pictured on a log-scale.

APPENDIX SIX: IMPACT OF BDH ON EXPENDITURES

We estimate equation (1) on various annual expenditure totals which include imputed values to home produced goods. We observe declines in total annual expenditure, declines in food expenditure, declines in non-food expenditures, and increases in housing. The empirical specification and table layout is identical to table 2 in the text.

Appendix Table 6.1: Impact of Lottery on Annual Expenditures

Children age 11 - 16 at baseline

	Wins Lottery (Reduced Form) (1)	Receives BDH (2SLS) (2)	Counterfactual Mean (for (2)) (3)
Total	-3.336	-10.196	263.415
	(8.947)	(27.281)	
Food	-3.390	-10.361	116.036
	(4.386)	(13.411)	
Non-Food	-3.502	-10.704	88.444
	(5.027)	(15.109)	
Housing	1.817	5.555	35.528
	(2.032)	(6.116)	

Each cell in columns 1 and 2 is the result of a different regression. All cells in column 1 contain reduced form estimates of the effect of winning the lottery on total annual expenditures on the row variable. Column 2 contains 2SLS estimates of the impact of the Bono. In this column, we instrument for Bono Receipt with an indicator for whether an individual won the Bono lottery. All regressions include parish fixed effects and controls for all characteristics listed in table 1 plus counts of the number of men and women (separately) present at baseline and follow-up in each of the following age categories: under 5, 6-17, 18-44, 45-64, 65+ . From table 1, Household Size, Age, # school age, and # children are included as dummy variables in all regressions. Robust standard errors in parenthesis are corrected for clustering at the parish level. * is significant at 10 percent. ** is significant at 5 percent. Column 3 contains counterfactual means for those induced to take-up the BDH by winning the lottery. These are the predicted value of the 2SLS results with BDH receipt set to 0 and all other characteristics as found in the lottery winner population. There are 1881 sampled children age 11-16 at baseline.