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Does Relative Position Matter in Poor Societies?

Evidence from a Survey Experiment in Rural Ethiopia

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Abstract

We investigated attitudes toward positionality among rural farmers in northern Ethiopia, using a tailored two-part survey experiment. On average, we found positional concerns neither in income per se, nor in income from aid projects among the farmers. These results support the claim that positional concerns are correlated with absolute level of income of a country.

Key Words: Ethiopia, relative income, positional concern

JEL Classification: C90, D63

Contents

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Introduction

Positional (or status) concern has been a frequently-discussed and well-documented phenomenon in developed countries (e.g., Solnick and Hemenway 1998; Johansson-Stenman, Carlsson, and Daruvala 2002; Clark, Frijters, and Shields 2008). Torsten Veblen (1899/1994, chap. 4) introduced this issue as a broad phenomenon across society by discussing conspicuous consumption while in modern popular media this is often referred to as "keeping up with the Joneses." A result of positional concerns is that the utility derived from a good depends not only on the absolute amount of the good consumed, but also on the relative amount of the good consumed compared to the consumption of other individuals.

Positional concerns have been empirically investigated using data on self-reported happiness (or "subjective well-being" or "life satisfaction") from surveys, as well as tailored survey experiments. To investigate positional concerns in the happiness framework, the average income of others (denoted as relative income in these analyses) is used as an indicator to measure positional concerns. The impact of relative income on happiness is studied, while controlling for the subject's own absolute income. The general conclusion from this research shows that happiness is significantly and negatively affected by relative income. For example, an increase in relative income decreases one's own level of happiness or an increase in own income results in increased happiness because the subject has relatively higher income (e.g., Clark and Oswald 1996; McBride 2001; Ferrer-i-Carbonell 2005; Luttmer 2005; and especially Clark, Frijters, and

* Peter Martinsson (corresponding author), Department of Economics, University of Gothenburg, Box 640, 405 30 Gothenburg, Sweden, (tel) +46 31 786 52 55, (email) peter.martinsson@economics.gu.se; Alpaslan Akay, IZA (Institute for the Study of Labor), Box 7240, 53072 Bonn, Germany, (email akay@iza.org, (tel) +49 228 38 94 508, and Department of Economics, University of Gothenburg, Box 640, 405 30 Gothenburg, Sweden; Haileselassie Medhin, Department of Economics, University of Gotherburg, Box 640, 405 30 Goteborg, Sweden, (email) haileselassie@economics.gu.se, (tel) +46 31 786 12 65.

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Shields 2008).[1] Tailored survey experiments—constructed to explicitly identify the degree to which individuals care for absolute and relative income or consumption—have also shown that people have positional concerns both for income as well as consumption of specific goods, such as cars and holidays (see e.g., Alpízar et al. 2005; Carlsson, Johansson-Stenman, and Martinsson 2007a; Johansson-Stenman, Carlsson, and Daruvala 2002; Solnick and Hemenway 1998, 2007).

In a recent paper, Clark, Frijters, and Shields (2008) discussed the impact of relative income on happiness within and across countries. They argued that relative income concerns increase as one moves from poorer to richer countries. But still, positional concerns may also influence people in very poor countries. In the same vein, Frey and Stutzer (2002) argued that, when absolute income is above some subsistence level, other factors, such as relative income, start to influence well-being. However, most of the research on positional concerns is based on data from Western countries that are rich in absolute terms, and research on survey experiments is predominantly based on preferences stated by well-off (comparatively) university students in Western countries. Some exceptions exist, such as the stated preference study by Carlsson et al. (2007b) in Vietnam, where they found very low positional concerns among poor rural Vietnamese farmers.[2] Solnick and Hemenway (2007) found that U.S. and Chinese individuals had different degrees of positional concerns on different goods. While Chinese consider income, personal education, and vacation time as positional, individuals from the United States considered attractiveness and intelligence as positional.

The objective of this paper is to test whether positional concerns matter among extremely poor people using a two-part survey experiment. Our study was conducted in northern Ethiopia,[3] which is one of the poorest regions in the world, using a similar set up to Alpízar et al. (2005), for example. We surveyed farmers in the village of Abraha We Atsbaha. The experiment focused on positional concerns in two dimensions: 1) yearly income from all sources, and 2) income

[1] There is a discussion regarding to whom individuals compare themselves, i.e., who belongs to their reference group. It is an important issue because it determines the calculation of the average income in the reference group, which is later used when analyzing the effect of relative income on happiness. (See e.g., Clark and Senik 2008; and Senik 2009).

[2] Using a different approach, Banerjee and Duflo (2007) investigated spending patterns in poor households in Udaipur, India. Their findings indicated that poor households spend a substantial proportion of their total consumption on festivals, tobacco, and alcohol. In another study, van Kempen (2003) found that poor people in Bolivia show positional concern by preferring goods with designer or brand labels.

[3] In 2002, Ethiopia's purchasing power parity per capita was 2.05% of that of the United States. Ethiopia ranked the seventh poorest country in the world and one of the top recipients of foreign aid (World Bank 2004).

from an aid package. In the first experiment, we tested for positional concerns for overall income and, more specifically, for the claim by Clark, Frijters, and Shields (2008) that the positional concerns should be lower in a very poor country—which to our knowledge is an untested empirical question. The second experiment tests whether there are positional concerns for income from an aid package. This is a potential important issue for the well-being of those people who are *not* selected to receive the aid package and, thus, for the overall welfare effect of the aid project.

Aid-based development projects often select a smaller fraction of households in a village to be "model farmers" for a new farm technology or improved input, while in other cases aid projects may target certain household in a community, according to some criteria, such as income and family size. If people do have positional concerns, then how the aid project is implemented may have significant implications to overall welfare.

The remaining part of the paper is organized as follows. Section 1 gives the design of the survey experiment and the method behind it. Section 2 presents the results of the experiments, and the last section concludes the paper.

1. Experiment Design

The two most common ways to model relative position in a utility framework are 1) a ratio comparison utility function, $U = v(x, x/\bar{x})$, where x is the individual's income and $\bar{x}$ is the average income in the society (e.g., Boskin and Sheshinski 1978; Layard 1980; Persson 1995); or 2) an additive comparison utility function, $U = v(x, x - \bar{x})$. (See, e.g. Akerlof 1997; Knell 1999; Ljungqvist and Uhlig 2000). In this paper, we chose to apply the following additive comparison utility function:

$$v = (1-\gamma)x + \gamma(x - \bar{x}),$$

where γ measures the marginal degree of positional concern, i.e., it measures the proportion of the total change in utility that comes from an increase in relative income after a marginal increase of own income.

In order to test the effect of positional concern in both the dimensions of income per se and income from aid package, we applied a survey experiment. We created a scenario describing the situation where individuals are about to make decision. In the experiment on income, subjects were told that they could choose between living in two villages, and that the annual income (from all sources) earned by them and other people differed in each village. The income was

described as the annual income in Ethiopian birr (ETB).[4] The respondents were asked to make six choices between paired alternatives that they as individuals would prefer to have implemented. Because most of our subjects had no formal education and many were illiterate, the instructions were given verbally in the local language (Tigrinya), and the same procedure was applied for the socioeconomic questions.

The income across the choice sets was constructed to measure the degree of positional concern. For example, in the first choice situation, an individual's yearly income in alternative A was ETB 2,990 and the average yearly income for others in the village was ETB 3,900; while, in alternative B, the individual's yearly income was ETB 2,860 and the average yearly income in the village was also lower at ETB 2,600. (See appendix 1 for the full description of the scenario read to the subjects.)

If a respondent was indifferent between living in these two villages, then we have, in the case of the additive comparison utility function, that:

$$x_A - \gamma \bar{x}_A = x_B - \gamma \bar{x}_B .$$

The marginal degree of positional concern for the first choice set can be calculated as:

$$\gamma = \frac{x_A - x_B}{\bar{x}_A - \bar{x}_B} = \frac{2990 - 2860}{3900 - 2600} = 0.1 .$$

Thus, the marginal degree of positional concern γ is equal to 0.1 in this case. If the respondent chose to live in village A, then $\gamma < 0.1$, or (otherwise) at least equal to 0.1. The subjects were asked to make repeated choices between two villages to live in, which gave us information about their degree of positional concerns, at least within an upper and lower bound. The construction of our survey was such that alternative A remained the same throughout the experiments, while the levels varied for alternative B. The levels used in the experiments, together with the implicit marginal degree of positional concern, are summarized in table 1.[5]

[4] The official exchange rate was US$ 1 = ETB 9.67 at the time of the survey.

[5] The levels applied in the survey experiment were partly affected by the results from two smaller pilot tests. The implicit marginal degree of positional concern with the ratio comparison utility function took the values of 0.110, 0.224, 0.345, 0.471, 0.605, and 0.746 ($x_A / \bar{x}_A^{\gamma} = x_B / \bar{x}_B^{\gamma}$), and marginal degree of positional concern was calculated with $\gamma = \ln(x_A / x_B) / \ln(\bar{x}_A^{\gamma} / \bar{x}_B^{\gamma})$.

We determined the implicit marginal degree of positional concerns for a specific individual as follows. When an individual preferred alternative A over alternative B_i (i = 1, 2, 3, 4, 5, 6), then we knew that the marginal degree of positional concern was below the level calculated at that specific choice situation. In the survey, the respondents were asked to make choices until alternative A was chosen, meaning that each respondent was presented with a maximum of six choices for income.

The income experiment from aid project was constructed in the same way, where subjects were told that they could choose between living in two villages, where their income from implemented bee-keeping packages, as well as the other people's, would differ in each village. The income from bee keeping in a village was described as the annual income for them and the mean annual income for the others in the village. This was then followed by six paired choices to trace the marginal degree of positionality. (The full description of scenario read to the subjects is in appendix 2.)

Table 1. Alternatives in Positionality Survey

	Individual's annual income		Average annual income in village		Implicit marginal degree of positionality
	Income (ETB)	***From aid (ETB)***	***Income (ETB)***	***From aid (ETB)***	
Alternative A	3900	900	2990	690	
Alternative B_1	2600	600	2860	660	0.1
Alternative B_2	2600	600	2730	630	0.2
Alternative B_3	2600	600	2600	600	0.3
Alternative B_4	2600	600	2470	570	0.4
Alternative B_5	2600	600	2340	540	0.5
Alternative B_6	2600	600	2210	510	0.6

ETB = Ethiopian birr

2. Results

Table 2 shows the frequency distribution of the marginal degree of positional concerns for the two survey experiments among 94 farmers.[6] Most of the subjects were not concerned with

[6] The subjects were randomly selected from a total of 584 households.

their positionality and chose alternative A in the first choice situation (60.6 and 65.7 percent income per se and income from aid packages, respectively). The estimated median degree of positionality was 0 for both experiments, and the mean degree of positionality was 0.158 for income per se and 0.177 for the income obtained from the aid projects. These results obtained from raw data support the hypothesis that the concern for relative position in poor societies is a very small component of individuals' total utility from an increase in their income.[7]

Table 2. Results of the Experiments

Marginal degree of positionality	Total income			Income from aid projects		
	No.	*Freq.*	*Cum. Freq.*	*No.*	*Freq.*	*Cum. Freq.*
$\gamma < 0.1$	62	65.66	65.66	57	60.64	60.64
$0.1 < \gamma < 0.2$	6	6.38	72.34	4	4.26	64.89
$0.2 < \gamma < 0.3$	3	3.19	75.53	4	4.26	69.15
$0.3 < \gamma < 0.4$	16	17.02	92.55	17	18.09	87.23
$0.4 < \gamma < 0.5$	2	2.13	94.68	9	9.57	96.81
$0.5 < \gamma < 0.6$	2	2.13	96.81	2	1.06	97.87
$\gamma \geq 0.6$	3	3.19	100.0	1	2.13	100.0

We also analyzed the degree of positional concerns in the two experiments using regression analyses. Table 3 reports interval regressions for the two experiments, where the marginal degree of positionality is explained by socioeconomic characteristics of the subjects.[8] Income and land size had no significant influence on preferences for positional concerns. The only significant demographic variables were marital status and gender. Female subjects were significantly less positional than male subjects in both experiments. Married subjects were more concerned with their position with income from aid packages. Members of religious groups seemed partially more concerned about their relative position for total yearly income. On the

[7] The results given in tables 2 and 3 are robust to specification of the utility function, which is mainly due to the fact that most individuals switched their first-choice situation.

[8] In the interval regression, we set the lower and upper bounds, as shown in table 1. In case of extreme choices, i.e., where A is chosen in first choice set or is never chosen, we made the lower bound 0 in the former case and the upper bound 1 in the latter case.

other hand, frequent church goers did not seem to have positional concerns.[9] The degree of church attendance can be a proxy for the degree of belief. Thus, it is not surprising that subjects with deep faith tended to follow the common teaching of the church.

Table 3. Interval Regression Estimates of the Degree of Positionality

	Total income		Income from aid projects		
	Coefficient	***p-value***	***Coefficient***	***p-value***	***Mean***
Age /100	0.437	0.539	0.923	0.229	0.430
Age-squared /10,000	-0.595	0.416	-0.896	0.236	0.206
Marital-status (married = 1)	0.053	0.113	0.066	0.086	0.787
Gender (female = 1)	-0.080	0.049	-0.087	0.022	0.510
Health-status (healthy = 1)	-0.002	0.964	0.034	0.322	0.712
Number of adults in home	-0.007	0.659	0.006	0.701	2.691
Education (at least one year = 1)	-0.053	0.144	0.007	0.870	0.521
Log (land size)	-0.025	0.493	-0.010	0.819	0.546
Log (per capita income)	-0.033	0.196	-0.022	0.454	4.462
Membership-farmer association (member = 1)	-0.026	0.570	-0.041	0.336	0.287
Membership-religious group (member = 1)	0.065	0.093	0.035	0.232	0.617
Frequency of church attendance (weekly)	-0.007	0.494	-0.021	0.045	3.241
Constant	0.287	0.225	0.071	0.786	
Ln(Sigma)	-1.883	0.000	-1.879	0.000	
Number of observations	91		91		

Notes: Health status is obtained from a question with this range of answers: 1 = very good; 2 = good; 3 = neither good nor poor; 4 = poor; and 5 = -very poor. The variable used here is a dummy: health status = 1, if subject answer is 1, 2 or 3.

Per capita income is calculated by dividing the income by household size.

Education is a dummy variable and it is equal to unity if the subject is educated at least on year.

Land size is measures in hectares.

The regression results presented above can also be used to estimate the mean degree of positional concerns conditional on socioeconomic characteristics of the subjects. To show this, we first predicted the marginal degree of positionality using the estimated parameters for each

[9] The village, which was named after its centruies-old rock-hewn churches, is almost entirely Orthodox Christian.

individual, and then calculated the mean degree of positional concern. Using the bootstrap technique, the mean level of predicted marginal degree of positional concerns was 0.268 for the income per se, with a 95 percent confidence interval of (0.123, 0.412) using 1000 replications. The mean level of predicted marginal degree of positional concerns for income from the aid package was 0.188, which is larger than for income from the aid package, and 95 percent confidence interval is (0.06, 0.314). The hypothesis that mean marginal degree of positional concerns equals zero can be rejected for both goods (p-value = 0.000 and p-value = 0.004, respectively).

Our results indicate a very low degree of positional concerns in comparison with other studies, which used similar tools to estimate the mean degree of positional concerns in richer countries in the world. For instance, Carlsson, Johansson-Stenman, and Martinsson (2007a) estimated a mean degree of positional concern for income in the range of 0.59 and 0.71, using a random sample of Swedish population, while Alpízar, Carlsson, and Johansson-Stenman (2005) estimated the degree to be 0.45, using a sample of Costa Rican university students. The study that we consider closest to our study and our findings is Carlsson et al. (2007b), which used poor Vietnamese farmers and found a median degree of positionality of 0.25 (mean degree of positionality is 0.28). Overall, our results are consistent with the idea discussed by Clark, Frijters, and Shields (2008) that individuals in poorer countries are less positionally concerned.

3. Discussions and Conclusion

This paper investigates the hypotheses concerning whether extremely poor individuals in a rural part of Ethiopia have positional concerns in the dimensions of income per se and income from an aid package. We used a survey-experiment approach, in which the individuals chose between two villages to live in, where they and the other people had different average incomes in each village, to calculate the marginal degree of positional concerns. We found the estimated mean degree of positional concerns to be very low in absolute terms. Our results showed much lower concern for positionality compared to similar studies conducted in developed countries. Moreover, our results are in line with the discussion in Clark, Frijters, and Shields (2008) that people in poorer countries have lower positional concerns.

There are several explanations for why the low degree of positional concern occurred. Our subject pool is extremely poor and during some part of the year they need foreign aid for daily food. This supports Frey and Stutzer's (2002) argument that people are concerned with positionality above a certain threshold. The role of kinship relations is higher in rural communities in Ethiopia, compared to urban areas in Western countries. As a result, individuals

attach a higher value to the overall welfare of their community. There are other informal networks (such as a labor-sharing network like DEBO) and insurance mechanisms (such as rotating savings and credit associations for funeral costs), where farmers help each other. This may explain why individuals have low positional concerns. Our results imply that the income of others in a village and from aid projects only marginally affect the utility of other individuals who live in the same village or participate in the same aid projects. The evidence from our survey experiments shows that development agencies and non-governmental organizations do not have to take into account the potential negative effect on overall welfare from positional concerns when implementing aid packages. Of course, more research is needed on this very important issue.

References

Akerlof, G.A. 1997. “Social Distance and Social Decisions.” *Econometrica* 65: 1005–1027.

Alpízar, F., F. Carlsson, and O. Johansson-Stenman. 2005. “How Much Do We Care about Absolute versus Relative Income and Consumption?” *Journal of Economic Behavior and Organization* 56: 405–421.

Banerjee, A.V., and E. Duflo. 2007. “The Economic Lives of the Poor.” *Journal of Economic Perspectives* 21: 141–67.

Boskin, M.J., and E. Sheshinski. 1978. “Individual Welfare Depends upon Relative Income.” *Quarterly Journal of Economics* 92: 589–601.

Carlsson, F., O. Johansson-Stenman, and P. Martinsson. 2007a. “Do You Enjoy Having More than Others? Survey Evidence of Positional Goods.” *Economica* 74: 586–98.

Carlsson, F., P.K. Nam, M. Linde-Rahr, and P. Martinsson. 2007b. “Are Vietnamese Farmers Concerned with Their Relative Position in Society?” *Journal of Development Studies* 43: 1177–88.

Clark, A.E., and A.J. Oswald. 1996. “Satisfaction and Comparison Income.” *Journal of Public Economics* 61: 359–81.

Clark, A.E., P. Frijters, and M.A. Shields. 2008. “Relative Income, Happiness, and Utility: An Explanation for the Easterlin Paradox and Other Puzzles.” *Journal of Economic Literature* 46(1): 96–144.

Clark, A.E., and C. Selnik. 2008. “Who Compares to Whom? The Anatomy of Income Comparisons in Europe.” PSE Working Paper 2008-65. Paris: PSE [École normale supérieure].

Ferrer-i-Carbonell, A. 2005. “Income and Well-Being: An Empirical Analysis of the Comparison Income Effect.” *Journal of Public Economics* 89: 997–1019.

Frey, B.S., and A. Stutzer. 2002. “What Can Economists Learn from Happiness Research?” *Journal of Economic Literature* 40: 402–435.

Ireland, N.J. 2001. “Optimal Income Tax in the Presence of Status Effect.” *Journal of Public Economics* 81: 193–212.

Johansson-Stenman, O., F. Carlsson, and D. Daruvala. 2002. “Measuring Future Grandparents’ Preferences for Equality and Relative Standing.” *Economic Journal* 112: 362-83.

Knell, M. 1999. “Social Comparisons, Inequality, and Growth.” *Journal of Institutional and Theoretical Economics* 155: 664–95.

Layard, R. 1980. “Human Satisfaction and Public Policy.” *Economic Journal* 90: 737–750.

Ljungqvist, L., and H. Uhlig. 2000. “Tax Policy and Aggregate Demand Management under Catching Up with the Joneses.” *American Economic Review* 90: 356–66.

Luttmer, E.F.P. 2005. “Neighbors as Negatives: Relative Earnings and Well-Being.” *The Quarterly Journal of Economics* 120: 963–1020.

McBride, M. 2001. “Relative-Income Effects on Subjective Well-Being in the Cross-Section.” Journal of Economic Behavior and Organization 45: 251–78.

Neumark, D., A. and Postlewait. 1998. “Relative Income Concerns and the Rise in Married Women’s Employment.” *Journal of Public Economics* 70: 157–83.

Persson, M. 1995. “Why Are Taxes So High in Egalitarian Societies?” *Scandinavian Journal of Economics* 97: 469–76.

Senik, C. 2010, forthcoming. “Direct Evidence on Income Comparisons and Their Welfare Effects.” *Journal of Economic Behavior and Organization*.

Solnick, S., and D. Hemenway. 1998. “Is More Always Better? A Survey on Positional Concerns.” *Journal of Economic Behavior & Organization* 37: 373–83.

———. 2007. Positional Goods in the United States and China. *Journal of Socio-Economics* 36: 537–45.

Van Kempen, L. 2003. “Are the Poor Willing to Pay a Premium for Designer Labels? A Field Experiment in Bolivia.” *Oxford Development Studies* 32: 205–224.

Veblen, T. 1899/1994. *The Theory of the Leisure Class*. Dover Thrift Editions/Dover Publications.com.

World Bank. 2004. “World Development Report 2004: Making Services Work for the Poor.” Washington, DC: World Bank.

Appendixes

1. Instructions for the Income Experiment

Imagine that you can choose to live in one of two villages. Your yearly income and average yearly income will differ between the two villages.

I will tell you the amount of income that you will have and the average income for the others in each village. I will then ask you to choose which village you would like to live in. Let me illustrate this choice with the following example.

Village A:

Your yearly income is ETB 2,530.

The yearly average village income is ETB 3,300.

Village B:

Your yearly income is ETB 2,310.

The yearly average village income is ETB 2,200.

In this example, your yearly income is ETB 220 more in Village A than in Village B. In Village A, you earn ETB 770 less than average income in the village, while in Village B, you get ETB 110 more. Given this difference, you can either choose to live in Village A or B. *(Repeat question and example.)*

Now, I'll ask you to make your choice between two different villages.

(Using the table below, ask the first question in the following way.) In Village A, your yearly income is ETB 2,990, while the average yearly income in the village is ETB 3,900. In Village B_1, your yearly income is ETB 2,860, while the average yearly income in the village is ETB 2,600. In which village, A or B_1, do you want to live?

(If the respondent chooses A, stop. If respondent chooses B_1, ask her/him to choose between A and B_2. Do not change the format of the question, except for the numbers. Follow the same procedure for the other choices.)

Alternatives	Your yearly income (ETB)	Yearly average income in the village (ETB)
A	2990	3900
B_1	2860	2600
A	2990	3900
B_2	2730	2600
A	2990	3900
B_3	2600	2600
A	2990	3900
B_4	2470	2600
A	2990	3900
B_5	2340	2600
A	2990	3900
B_6	2210	2600

2. Instructions for the Aid Package Experiment

Assume that you are introduced to two different bee-keeping aid packages, which will make you earn money. These packages are distributed free by the government. You can choose one of the packages you want for your village and *there will be no cost to you or to the village*.

Your income and the income of other people in your village changes with the package that you prefer from the two alternatives. The income from the package affects your life, which means you might feel as if you are richer than the others in the village.

I will tell you the amount of income for you and for others in the village in each alternative, and then I will ask you to choose one of the two. Let me illustrate this choice by the following example.

Alternative A:

Your yearly income from the package is ETB 575.

The yearly average village income from the package is ETB 750.

Alternative B:

Your yearly income from the package is ETB 550.

The yearly average village income from the package is ETB 500.

In this example, you get ETB 25 more in Alternative A than in Alternative B. In alternative A, you get ETB 175 less than average income in the village, while in Alternative B you get ETB 50 more. Given this difference, you can either choose A or B for your village. *(Repeat question and example.)*

Now, I'll ask you to make your choice between different alternatives.

(Using the table below, ask the first question in the following way.) In package A, your yearly income is ETB 690, while the average yearly income in your village is ETB 900. In package B_1, your yearly income is ETB 660, while the average yearly income in your village is ETB 600. Which alternative package, A or B_1, do you want for you village?

(If the respondent chooses A, stop. If respondent chooses B_1, ask her/him to choose between A and B_2. Do not change the format of the question except for the numbers. Follow the same procedure for the other choices.)

Alternatives	Your yearly income from the aid package (ETB)	Yearly average income for your village from the aid package (ETB)
A	690	900
B_1	660	600
A	690	900
B_2	630	600
A	690	900
B_3	600	600
A	690	900
B_4	570	600
A	690	900
B_5	540	600
A	690	900
B6	510	600