Environment for Development

Discussion Paper Series

March 2008 ■ EfD DP 08-06

Do Discount Rates Change over Time?

Experimental Evidence from Ethiopia

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Abstract

This study tests the hyperbolic discounting hypothesis using real-payoff experiments in Ethiopia. We compared time preferences over cash and consumption goods and over different time horizons. We found that participants made consistent choices over time and that responses did not vary across payment type. However, participants offered an immediate payment option first selected the impatient reward more often than those offered a delayed payment initially. Participants with greater livestock wealth and smaller landholdings were more likely to select the patient reward.

Key Words: Field experiment, hyperbolic discounting, intertemporal choice

JEL Classification Numbers: C93, D90

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Introduction: Is Hyperbolic Discounting Fact or Artefact?

Numerous experimental studies have lent credence to the hyperbolic discounting model, which posits that individuals are impatient about immediate or near-term consumption decisions, but are relatively more patient over future consumption. Experiments documenting this behavior found that subjects often preferred, for instance, to receive $1 today, rather than $2 a month from now, but they also preferred $2 in 13 months over $1 in 12 months. Few studies have examined inconsistent time preferences in developing countries, where discount rates are more likely to diverge from market interest rates due to pervasive capital market imperfections. Levitt and List (2007) highlighted the importance of complementing lab studies with evidence from field experiments.

Individual rates of time preference have important policy implications in developing countries, from savings to investment to conservation decisions. Hyperbolic time discounting can exacerbate poverty by hindering wealth accumulation and hastening natural resource degradation. However, policy interventions, such as commitment devices for savings accounts (Ashraf, Karlan, and Yin 2006) and fertilizer purchases (Duflo, Kremer, and Robinson 2006), can lead to better outcomes for "sophisticated" hyperbolic discounters, who plan on taking future action, but recognize that they may not follow through when the time comes.

Existing experimental evidence on rates of time preference has a number of limitations that call into question whether the observed behaviors can be taken as indications of true time preferences or as predictable responses to confounding factors. Many experiments use hypothetical rewards, but this may bias results if participants respond differently to hypothetical

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The authors wish to thank John List for funding the field experiment, assisting with the survey design, and commenting on a draft version of this paper.

and real situations. Studies offering an immediate payment option as the near-term reward cannot establish whether "hyperbolic" behavior results from discount rates that truly vary over the time horizon or from avoidance of transaction costs and uncertainty about the researcher's trustworthiness associated with receiving a delayed payment. Experimental designs that use lotteries to determine payments add background risk, which may lead to different behavior in controlled experimental settings, compared to real-world decisions (Harrison, List, and Towe 2007). In addition, a long series of questions (typically administered by written questionnaire in developed country studies), coupled with the lottery payment mechanism, may lead to anomalies caused by confusion or misunderstanding if the questions are asked verbally, as is common in surveys in rural areas of developing countries where a high proportion of participants may be illiterate.

Perhaps more serious is the issue of whether time preferences can even be elicited through experiments using money. Hyperbolic consumption preferences do not imply hyperbolic preferences for wealth if subjects participate in markets. In experiments with money or tradable goods, exponential and hyperbolic discounters alike have incentives to choose the reward that will maximize wealth and trade for the preferred consumption bundle in the marketplace (Mulligan 1996). Typical monetary—and even some non-monetary—experiments do not identify time preferences, due not only to intertemporal arbitrage opportunities, but also to confounding factors, such as the availability of complements over time and expected future consumption flows (Besharov and Coffey 2003). Discount rates inferred from monetary experiments may also be biased upwards if researchers do not account for inflation. Few experimental studies use consumption goods with real payoffs, and those that do reveal little evidence for hyperbolic time preferences. Instead, they show that discount rates of zero and preferences for increasing rewards over time are common and that confounding factors may drive what appear to be anomalies (Besharov and Coffey 2003).

We conducted an artefactual field experiment in rural Ethiopia designed to address these limitations.[1] We offered real payments of a substantial sum to motivate responses with real consequences. We varied payments between cash, tradable consumption goods, and final consumption goods to discern whether the subjects' responses systematically differed between tradable and non-tradable rewards. We introduced a front-end delay treatment to compare

[1] Artefactual experiments use stylized questions adapted from lab experiments with non-standard subject pools (Harrison and List 2004).

whether revealed discount rates changed when the near-term payment was delivered with a short delay (one week in our experiment) versus immediate delivery of payment, to control for any uncertainty or transaction costs associated with collecting a delayed reward. We controlled for the subjects' expected changes in seasonal consumption flows by setting the future time frame one year from the near-term. By opting for a simple two-question design, we avoided the misunderstandings and background risk that may arise from questionnaires that ask a series of questions with different time frames and determine the reward by randomly choosing one of the responses. While our design can only identify the upper or lower bound of respondents' discount rates, allowing us to classify respondents as "patient" or "impatient," our measure of patience was not biased by background risk or anomalies due to misunderstandings of the survey.

2. Time Preference Experiments in Developing Countries

Few experiments have elicited time preferences over real (non-hypothetical) consumption goods. Pender (1996) provided one of the few examples also set in a developing country, conducting experiments with rice in rural Andhra Pradesh, India. Participants revealed discount rates significantly higher than prevailing interest rates, consistent with the hypothesis of constrained credit access among the study population. Discount rates increased with the time horizon (up to one year), indicating hyperbolic preferences. Time discounting experiments in the Bolivian rainforest used candy as the form of payment, classifying participants as impatient if they preferred one candy early in the interview instead of multiple candies at the end of the interview (Godoy et al. 1998). Neither of these studies elicited discount rates using cash to allow for a comparison of time preferences between monetary and non-monetary payments.

Some experiments have varied rewards between cash and consumption goods in a hypothetical setting. Holden, Shiferaw, and Wik (1998) found high discount rates among study populations in Indonesia, Ethiopia, and Zambia in experiments with hypothetical payments (they used cash in all three countries plus maize in Zambia), asking several binary choice questions to pinpoint participants' discount rates. In Zambia, discount rates did not vary significantly between the cash and maize payments. The authors acknowledged that many participants had difficulty answering the series of questions and dropped 14 percent of responses from the Zambia and Indonesia experiments because of the participants' lack of comprehension. Ashraf, Karlan, and Yin's (2004, 2006) experiment in the Philippines asked hypothetical questions using cash and consumption goods (rice and ice cream), which revealed that the participants were more impatient for rice and ice cream than for cash. The participants responded to a series of just three questions for each payment type and each time horizon (near term and far term), which offered a

less precise estimate of discount rates, but the simplified questions reduced the opportunities for misunderstanding. Over 40 percent of respondents showed inconsistent time preferences over cash, 26 percent were impatient over the near term but patient about future decisions (i.e., hyperbolic discounters), and 15 percent were patient over the near term and impatient over the far term (with similar results found in the rice and ice cream treatments). We know of no studies that have compared cash and consumption goods using non-hypothetical payoffs in an artefactual field experiment.

Discount rates elicited in artefactual field experiments can predict real-world behaviors with important implications for development policy for savings and natural resource use. Women in the Philippines who revealed hyperbolic time preferences over cash were more likely to enroll in a commitment savings account program, where access to the savings was restricted for a certain time period or until a specified amount of money was reached (Ashraf, Karlan, and Yin 2006). Studies have shown that farmers with higher discount rates were less likely to recognize soil erosion as a problem (Shiferaw and Holden 1996) and to use soil conservation practices (Yesuf 2003a) However, rates of time preference over money among Bolivian Amerindians were uncorrelated with use of common-pool natural resources, such as fish and old-growth forests (Godoy, Kirby, and Wilkie 2001). A survey of the time preference literature (e.g., Frederick, Loewenstein, and O'Donoghue 2002) revealed mixed results on the relationship between experimental measures of discount rates and real-world outcomes; some studies found no correlation between inferred discount rates and behaviors, such as smoking and exercise, while others found a positive relationship between high discount rates and drug addiction.

3. Study Design

The data for this paper came from two surveys, conducted in parallel, of a random selection of 445 households in the eastern Gojjam zone of the northwestern Ethiopian highlands—a household survey on sustainable land use from a Sida/SAREC-funded collaborative research project between the Ethiopian Development Research Institute (EDRI) and University of Gothenburg, Sweden; and a real-payoff discounting experiment conducted in collaboration between EDRI and the University of Maryland. The surveys were conducted in March–April 2006.

In the discounting experiment, each respondent was confronted by a choice of two options: a more immediate, smaller payment (which we defined as the "impatient" option) or a larger payment one month later (the "patient" option). We used a simple two-question design

similar to Ashraf, Karlan, and Yin (2006). Participants were asked one question about the near term (from the time of the survey to approximately five weeks after) and one about a far-term or future time frame (one year from the time of the survey). We offered the subjects one of three payment types: cash—in Ethiopian birr (ETB), wheat—a crop produced in the study area and considered a tradable good with low transaction costs, and salt—a final consumption good typically not traded in the study area.[2] All three treatments offered the same value: ETB 13 for the impatient choice and ETB 17 for the patient option.[3] Inflation is low in Ethiopia (less than 5 percent before and during the time of the experiment), which reduced the potential for upward bias on discount rates inferred from the cash treatment. These payments represented a substantial value to the subject pool, equivalent to at least two days[4] of wages in the study area.

In addition to varying the reward type, we also included a front-end delay treatment to test the effect of adding a short delay to the near-term option. The front-end delay allowed us to control for uncertainty or transaction costs that make immediate payment more attractive regardless of participants' true time preferences. Therefore, we divided the 445 subjects into six approximately equal groups (cash, wheat, or salt payments, with immediate or front-end delay options). Participants were randomly assigned to the treatment groups. In order to reduce bias, questions 1 and 2 were asked 10–15 minutes apart and in random order. (See appendix for survey questions.)

Subjects choosing immediate payment were paid on the spot. For all delayed payment options (1 week, 1 month, 1 month plus 1 week, 1 year, and 1 year plus 1 month), subjects were given a certificate signed by the local peasant association indicating the amount of cash or commodities, redeemable on the date indicated in the experiment.

[2] Wheat and salt were chosen as suitable (both in terms of storage and transportability) treatments for tradable and final consumptions goods after a number of other options were tried in the pilot experiment.

[3] The near- and far-term payments are equivalent to US$ 1.50 and $2.00, respectively (ETB 8.60 = US$1, March 2006).

[4] The average wage rate in the study site is about ETB 6 during the peak season. For example, a famous safety net, cash-for-work project pays ETB 6 for one day of labor on public works, such as soil conservation or road construction.

4. Study Area

While the northwestern Ethiopian highlands are considered to have better potential for agriculture relative to the rest of the country, the area suffers from significant soil erosion, high risk of crop failure, and price fluctuations. The road network is insufficient even by sub-Saharan African standards, and the mean walking time to the nearest road is more than 30 minutes. Most households face a high degree of liquidity constraints. Access to formal credit and insurance markets is almost non-existent, except for fertilizer credit, which is very risky for resource-poor households, given high penalties for failure to repay (including loss of assets, such as oxen, and even imprisonment) and payment required immediately after harvest. Livestock is the major form of storing wealth. The average value of livestock in our sample was ETB 2,738 (US$ 318) per household. A previous time discounting experiment in the same region found high discount rates that varied with time horizon; median discount rates dropped from 105 percent over a three-month time frame to 43 percent with a one-year time frame (Yesuf 2003b). Summary statistics for average household characteristics of the participants in our time discounting experiment are in table 1.

5. Results

We compared subjects' choice of patient or impatient rewards based on time frame, question order, payment type, and household socioeconomic characteristics. These results are presented below.

5.1 Time Frame Effects

We found no direct evidence for time preference reversals in any of the treatment groups. All but one of the 445 participants preferred either the patient or the impatient option in both near- and far-term time horizons (table 2).[5] This result was surprising, given the substantial proportion of participants selecting time-inconsistent choices in similar studies.

[5] The one subject with inconsistent time preferences was not a hyperbolic discounter; rather the subject was patient in the near term and impatient in the future time frame.

Table 1 Mean Characteristics of Experiment Participants in Eastern Gojjam, Northwestern Ethiopian Highlands

Variable	Cash treatment group	Wheat treatment group	Salt treatment group	Entire sample
% male	85.0% (0.358)	85.0% (0.359)	86.0% (0.348)	85.3% (0.354)
Age	49.5 (15.5)	49.5 (15.7)	49.8 (14.8)	49.6 (15.3)
% illiterate	53.4% (0.50)	54.8% (0.499)	51.0% (0.501)	53.0% (0.500)
Family size	6.21 (2.18)	6.35 (2.41)	7.0 (2.57)	6.52 (2.41)
Farm size per capita (hectare)	0.259 (0.155)	0.260 (0.224)	0.222 (0.127)	0.247 (0.173)
Livestock value per capita (ETB)	468 (373)	479 (429)	462 (327)	470 (378)
Cattle price (ETB)	685 (219)	701 (217)	711 (216)	698 (218)
Distance to closest road (minutes walking)	33.3 (22.8)	31.6 (21.8)	31.3 (25.3)	32.1 (23.3)
Observations	148	146	151	445

Table 2 Responses to All Treatments Combined

	Impatient near term	Patient near term	Total
Impatient far term	150 (33.7%)	1 (0.2%)	151 (33.9%)
Patient far term	0 (0%)	294 (66.1%)	294 (66.1%)
Total	150 (33.7%)	295 (66.3%)	445 (100%)

On closer inspection, we found that time preferences varied, based on the order in which the near- and far-term questions were posed: participants confronted with the near-term question first were significantly less likely to select the patient option than those asked the far-term question first (table 3). The difference is striking—only 37 percent of subjects preferred the patient option in the near term, while 90 percent opted for the patient choice in the future if only the first response is considered. Participants then—almost uniformly—responded to the follow-up question the same way as the initial question. These results implied an "anchoring effect" or "starting point bias," in which the first question a subject answers influences his or her response to any questions that follow (Green et al. 1998; Frederick, Loewenstein, and O'Donoghue 2002). In the remainder of our analysis, we considered only the participants' responses to the first question asked them because including all responses would double the sample size and add no new information.

Table 3 Number (%) of Subjects Choosing the "Patient" Option, by Question Order

	Near-term question asked first	Far-term question asked first	Total
Impatient	125 (62.8%)	25 (10.2%)	150 (33.7%)
Patient	74 (37.2%)	221 (89.8%)	295 (66.3%)
Total	199 (100%)	246 (100%)	445 (100%)

Pearson chi2(1) = 136.4759 Pr = 0.000

Comparing subjects' responses to the questions asked with an immediate payment option to those questions with the front-end delay treatment, we found a similar pattern. Participants given the immediate payment option were significantly less patient than those offered payment with a one-week delay, 29 percent, and 45 percent, respectively (table 4). Because virtually all subjects responded to follow-up questions the same way, across all treatments, we could not parse whether subjects preferred the immediate payment to avoid risks or transaction costs from collecting payment later or whether discount rates fall sharply moving away from the immediate moment. Unfortunately, our results did not shed light on whether the lack of a front-end delay was responsible for some portion of the hyperbolic discounting revealed in other studies.

Table 4 Number (%) of Subjects Choosing "Patient" Option:

Immediate vs. Front-End Delay Options*

	Immediate payment option	One-week delay payment option	Total
Impatient	72 (70.6%)	53 (54.6%)	125 (62.8%)
Patient	30 (29.4%)	44 (45.4%)	74 (37.2%)
Total	102 (100%)	97 (100%)	199 (100%)

Pearson chi2(1) = 5.4144 Pr = 0.020

* We tested the effect of the front-end delay using only responses from subjects who were asked the near-term question first.

5.2 Cash vs. Consumption Goods

We found no systematic different in time preferences across the form of payment—cash, a tradable consumption good, wheat; and a non-tradable consumption good, salt (tables 5 and 6). While rates of time preference were, on average, highest in the cash treatment and lowest in the salt treatment, these differences were not statistically significant.[6] Our results contrasted those of Ashraf, Karlan, and Yin (2004), who found higher time discounting over rice and ice cream than over cash in the Philippines.

5.3 Socioeconomic Factors Affecting Time Preferences

We estimated a probit model of patience to test the effect of socioeconomic covariates on time preferences. No consensus from the literature predicted the direction of the effects of

[6] We also tested whether patience over wheat payments varied based on whether the participant was a net wheat buyer, net seller, or self-sufficient in wheat production. For net wheat buyers and those self-sufficient in wheat, a wheat payment is likely to be used as a final consumption good. Net wheat sellers, on the other hand, are likely to consider wheat a tradable commodity that can be sold with low transaction costs. We included an interaction term between a binary variable indicating net wheat buyers and the wheat treatment variable in a prior specification of the probit model discussed below. While net wheat buyers have higher discount rates on average, across all types of payment, we rejected the hypothesis that net wheat buyers have different preferences over wheat relative to cash or salt, compared to net wheat sellers or self-sufficient wheat producers (i.e., the coefficient on the interaction term was not significantly different from zero).

Table 5 Number (%) of Subjects Choosing "Patient" Option, by Payment Type (Cash vs. Wheat or Salt)

	Payment in cash	Payment in consumption goods	Total
Impatient	56 (37.8%)	94 (31.6%)	150 (33.7%)
Patient	92 (62.2%)	203 (68.3%)	295 (66.3%)
Total	148 (100%)	297 (100%)	445 (100%)

Pearson chi2(1) = 1.6926 Pr = 0.193

Table 6 Number (%) of Subjects Choosing "Patient" Option, by Payment Type (Wheat vs. Salt)

	Payment in wheat	Payment in salt	Total
Impatient	48 (32.9%)	46 (30.5%)	94 (31.7%)
Patient	98 (67.1%)	105 (69.5%)	203 (68.3%)
Total	146 (100%)	151 (100%)	297 (100%)

Pearson chi2(1) = 0.1998 Pr = 0.655

demographic characteristics, such as age, gender, and education. Ashraf, Karlan, and Yin (2004, 2006) found few socioeconomic characteristics that predicted hyperbolic time preferences, except for dissatisfaction with current savings. Several studies did find wealth or income to be negatively correlated with high discount rates, (e.g., Pender 1996; Holden, Shiferaw, and Wik 1998; Ashraf, Karlan, and Yin 2004, 2006). Pender (1996) discussed the potential for reverse causality in this relationship if patient people accumulate more wealth over time, but the author failed to reject exogeneity of wealth as a determinant of discount rates using a Hausman test. In time discounting experiments in the same region as the current study, rates of time preference were negatively associated with asset measures, such as land area, animal wealth, and capital stock value, and positively correlated with restricted access to credit markets, indicated by the interest rate on outstanding debt (Yesuf 2003b).

Table 7 Probit Results for Patience

	Patience over cash	Patience over wheat	Patience over salt	Patience over all reward types (probit)	Patience over all reward types (IV probit)
Salt option				-0.424	-0.407
				[0.361]	[0.372]
Wheat option				0.007	0.003
				[0.340]	[0.332]
One-week delay	1.469	0.767	-0.001	0.612	0.677
	[1.817]	[0.786]	[0.831]	[0.384]	[0.421]
One-year delay	0.534	2.757***	1.924**	2.080***	2.279***
	[1.592]	[0.823]	[0.810]	[0.420]	[0.690]
Male	-0.422	1.406	-0.467	0.6	0.568
	[3.257]	[1.277]	[1.792]	[0.644]	[0.657]
Age	-0.023	0.034	-0.011	0	0.002
	[0.034]	[0.023]	[0.021]	[0.010]	[0.011]
Married	-2.047	0.177	0.529	-0.131	-0.223
	[3.254]	[1.164]	[1.455]	[0.604]	[0.686]
Illiterate	-1.03	-0.942	0.038	-0.396	-0.416
	[1.246]	[0.681]	[0.532]	[0.322]	[0.315]
Family size	0.797	-0.071	0.085	0.083	0.04
	[0.566]	[0.133]	[0.117]	[0.064]	[0.189]
Livestock value per capita	0.027**	0.011***	0.011***	0.011***	0.010*
	[0.012]	[0.003]	[0.002]	[0.001]	[0.006]
Land per capital	-25.382**	-13.588***	-10.777***	-12.507***	-11.642**
	[10.301]	[3.709]	[3.036]	[1.707]	[5.129]
Distance to nearest road	0.029	0.009	-0.001	0.005	0.006
	[0.026]	[0.016]	[0.011]	[0.007]	[0.007]
Constant	-6.24	-4.129***	-2.142	-2.658***	-2.238
	[4.810]	[1.575]	[2.027]	[0.781]	[2.116]
Pseudo R2	0.93	0.81	0.79	0.80	
Log likelihood	-6.76	-16.64	-17.91	-53.80	-3011.67
Observations	139	137	142	418	418

* Significantly different from zero at 10% significance level.
** Significantly different from zero at 5% significance level.
*** Significantly different from zero at 1% significance level.

Probit results for each payment type and for all treatments pooled[7] are presented in table 7. In addition to the treatment variables, we included several socioeconomic characteristics as possible determinants of patience. Sex, age, marital status, and literacy are included as demographic indicators. We also included household size, distance to the nearest road, land area per capita, and livestock value per capita in the regressions. Livestock, as the most important asset in rural Ethiopia, serves as a proxy for wealth. We tested for the potential endogeneity of livestock wealth with an instrumental variables probit model, using cattle prices as an instrument for livestock value per capita[8] (also reported in table 7, with first-stage estimates in table 8). Land quality is highly variable in the study area, making land area per capital a less ideal measure of wealth status.

We found that animal wealth per capita was indeed strongly correlated with patience. This finding persisted across probit and instrumental variables probit estimates; a Wald test could not reject exogeneity of livestock wealth as a determinant of time preferences [$\chi^2(1) = 0.06$]. However, land per capita was negatively correlated with patience, a result that contradicts previous findings in the study area (Yesuf 2003b). Other socioeconomic variables had no significant effect on time preferences.

Regarding the treatment variables, patience did not differ with salt or wheat payments relative to cash, but did increase with the time delay. The effect of a one-week delay was not statistically significant once all the covariates were included, although the one-year time frame did have a highly significant positive effect on patience.

6. Conclusions

We compared time discounting over cash and consumption goods using real-payoff experiments. The experiment was conducted in Ethiopia, a low-income country with limited credit markets, where discount rates are expected to exceed market interest rates. We found no difference in elicited time preferences between cash and consumption goods, whether tradable or final. This finding could result from the limited intertemporal arbitrage opportunities available in rural

[7] A likelihood ratio test indicated that we could not reject the hypothesis that the coefficients across all three treatments were equal: [$\chi^2(20) = 25.00$].

[8] Since only 63% of the sample owned cows, we imput the missing cattle prices using *wereda* (village) dummy variables and distance to the nearest road.

Ethiopia due to missing markets. We also saw some evidence in our survey of time-inconsistent preferences, inferred from the finding that participants asked about their near-term preferences first expressed significantly more impatience than those who were asked first about future choices. However, a strong anchoring effect precluded clear interpretation of the effect on near-term time preferences of offering payment with a short delay rather than immediately.

Table 8 First-Stage Estimates for Livestock Wealth per Capita

Variables	Livestock value per capita	Variables	Livestock value per capita
Cattle price	0.238***	Married	-113.703*
	[0.085]		[59.890]
Salt treatment	10.433	Illiterate	-33.448
	[35.146]		[31.373]
Wheat treatment	-3.311	Family size	-52.895***
	[34.653]		[6.815]
One week delay	101.765**	Land per capital	641.446***
	[42.292]		[85.062]
One year delay	320.346***	Distance to nearest road	1.642***
	[35.320]		[0.614]
Male	-19.475	Constant	257.618***
	[62.187]		[94.257]
Age	2.051**	Log likelihood	-3011.67
	[0.988]	Observations	418

*** Significantly different from zero at 1% significance level.
** Significantly different from zero at 5% significance level.
* Significantly different from zero at 10% significance level.

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Appendix: Experiment Design

Table A Six Treatments of the Experiment Design

	Immediate payment option	Front-end delay option
Cash	A: 76 participants	B: 72 participant
Grain (wheat)	C: 72 participants	D: 74 participants
Consumption good (salt)	E: 73 participants	F: 78 participants

Experiment Questions

A: 1. Would you prefer to receive ETB13 today or ETB 17 in one month?
2. Would you prefer to receive ETB13 in 12 months or ETB 17 in 13 months?

B: 1. Would you prefer to receive ETB 13 in one week or ETB 17 in one week and one month?
2. Would you prefer to receive ETB 13 in 12 months or ETB 17 in 13 months?

C: 1. Would you prefer to receive 8 kg of wheat today or 11 kg of wheat in one month?
2. Would you prefer to receive 8 kg of wheat in 12 months or 11 kg of wheat in 13 months?

D: 1. Would you prefer to receive 8 kg of wheat in one week or 11 kg of wheat in one week and one month?
2. Would you prefer to receive 8 kg of wheat in 12 months or 11 kg of wheat in 13 months?

E: 1. Would you prefer to receive 9.5 kg of salt today or 13.5 kg of salt in one month?
2. Would you prefer to receive 9.5 kg of salt in 12 months or 13.5 kg of salt in 13 months?

F: 1. Would you prefer to receive 9.5 kg of salt in one week or 13.5 kg of salt in one week and one month?
2. Would you prefer to receive 9.5 kg of salt in 12 months or 13.5 kg of salt in 13 months?