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# Protocol of implementing behavioral experiments for trees on farms options in Uganda: Experiment on time preferences

International Climate Initiative (IKI)

Harnessing the potential of trees on farms (TonF) for meeting national and global biodiversity targets

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## **OBJECTIVE OF THE STUDY**

The objectives of this study are (1) to elicit both risk and time preferences of smallholder coffee farmers in eastern Uganda using lottery-based experiments, and (2) to investigate key attributes or features of companion trees in coffee agroforestry systems that are preferred by farmers using a discrete choice experiment (DCE). We investigate farmer preferences related to six companion tree attributes: tree products provided, regulating ecosystem services provided, growth rate, seedling price, provision of quality shade for coffee, and maximum tree height. To demonstrate the relation between risk and time preferences and the adoption of companion trees, we couple these experimental data with the results from the DCE about farmers' preferences for companion tree attributes. To analyze potential strata in farmer preferences, our sample includes coffee farmers from different altitude zones. Our gendered research design furthermore allows exploring possible differences in preferences between men and women.

## DESCRIPTION OF EXPERIMENTS

#### a. Experiment on risk preferences

We used a series of lottery-based experiments to elicit behavioral characteristics related to risk and potential losses. The experiment used in this study is based on those introduced in Tanaka et al. (2010) and Liu (2013). This experimental design, which takes the form of a Multiple Price List (MPL) design, had previously been tested among individual respondents in different developing countries (Liebenehm & Waibel, 2014; Nguyen, 2011; Ward & Singh, 2015). According to this method, respondents are confronted with an array of paired lotteries (including options A and B) and one of these two options has to be chosen, which implies that the other has to be rejected. To enforce choices consistent with monotonic preferences, we follow Tanaka et al. (2010) and Liu (2013) and capture information only on the switching point in each series.<sup>1</sup> This method assumes rationality of the respondents and eliminates any inconsistent behavior (Liu & Huang, 2013). The switching points are used to estimate the respondents' risk preference parameters. While our experiment maintained the general design of previous studies, a few adaptations were made to improve contextual suitability. For instance, payoffs were specifically calibrated to the context of Ugandan smallholder farmers. Furthermore, the overall experiment was framed in a way that is familiar to these farmers, rather than keeping it hypothetical. Specifically, risk preference was determined based on the respondents' choice between two types of tree species that promise different levels of income depending on the weather conditions.<sup>2</sup>

The risk experiment consisted of three series of paired lotteries. In each series, the respondent has to choose between two options ('Tree species A' and 'Tree species B'), where each option is a lottery (Figure 1). The probabilities were explained using a fair ten-sided dice, numbered 1 to 10, with different rewards for each option. The numbers 1 to 10 represent 10 years of weather ('good rains' or 'bad/ no rains'). The respondent makes a choice based on single picture cards illustrating each lottery pair. For example, 'Tree species A' gives 4,000 USh as income from production in times of 'good rains' (in 3 out of 10 years) and 1,000 USh in times of 'bad/ no rains' (in 7 out of 10 years). Alternatively, 'Tree species B' gives 15,000 USh as income from production in times of 10 years) and 500 USh in times of 'bad/ no rains' (in 9 out of 10 years). One would note that 'Tree species B' pays more in times of 'good rains', but less in times of

<sup>&</sup>lt;sup>1</sup> Each respondent is allowed to switch from lottery A to lottery B only once during each series. The option of choosing either all A or all B is also available.

<sup>&</sup>lt;sup>2</sup> To increase the external validity of experiments, it has been argued that experimental instructions may be framed in a context familiar to the subjects (Alekseev, Charness, & Gneezy, 2017; Viceisza, 2016).

'bad/no rains'. In total, there were 35 choices to make. These were grouped in three independent series, each of which contained between 7 and 14 choices (Table 1).

At the end of the experiment, one pair of lotteries was randomly selected to be played for real money to encourage participants to reveal their true preferences (Andersen, Harrison, Lau, & Rutström, 2006; Holt & Laury, 2002). The average reward was 7,400 USh (approximately \$2). The highest amount that could have been won by the respondent was 170,000 USh (approximately \$45). The highest amount that could have been lost was 2,100 USh (approximately \$0.6). This is the amount that was paid when the respondent agreed to participate in the experiment.

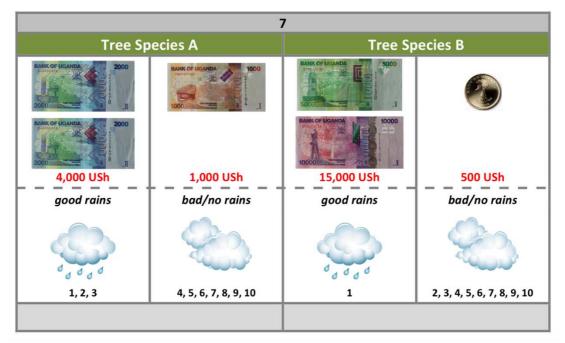


Figure 1. Example of a picture card in the risk experiment. Source: Authors.

Table 1. Design	of risk	experiment	(in	Ugandan	shillings)

		Option A		Opt	ion B
		Proba	bility	Prob	ability
Series 1	Choices	30%	70%	10%	90%
	1	4,000	1,000	6,800	500
	2	4,000	1,000	7,500	500
	3	4,000	1,000	8,300	500
	4	4,000	1,000	9,300	500
	5	4,000	1,000	10,600	500
	6	4,000	1,000	12,500	500
	7	4,000	1,000	15,000	500
	8	4,000	1,000	18,500	500
	9	4,000	1,000	22,000	500
	10	4,000	1,000	30,000	500
	11	4,000	1,000	40,000	500

		Optio	on A	Opt	ion B
		Proba	bility	Prob	ability
	12	4,000	1,000	60,000	500
	13	4,000	1,000	100,000	500
	14	4,000	1,000	170,000	500
Series 2	Choices	90%	10%	70%	30%
	1	4,000	3,000	5,400	500
	2	4,000	3,000	5,600	500
	3	4,000	3,000	5,800	500
	4	4,000	3,000	6,000	500
	5	4,000	3,000	6,200	500
	6	4,000	3,000	6,500	500
	7	4,000	3,000	6,800	500
	8	4,000	3,000	7,200	500
	9	4,000	3,000	7,700	500
	10	4,000	3,000	8,300	500
	11	4,000	3,000	9,000	500
	12	4,000	3,000	10,000	500
	13	4,000	3,000	11,000	500
	14	4,000	3,000	13,000	500
Series 3	Choices	50%	50%	50%	50%
	1	2,500	-400	3,000	-2,100
	2	400	-400	3,000	-2,100
	3	100	-400	3,000	-2,100
	4	100	-400	3,000	-1,600
	5	100	-800	3,000	-1,600
	6	100	-800	3,000	-1,400
	7	100	-800	3,000	-1,100

#### b. Experiment on time preferences

The time experiment consisted of 15 series of five choices between a smaller reward delivered immediately (Option A) and a larger reward delivered at a later specified time (Option B) (Nguyen, 2011; Tanaka et al., 2010). In total, respondents had to make 75 choices, which are partially presented in (Table 2). The table shows only the first three series in which the same range of five immediate rewards (Option A) is contrasted with the same delayed reward at three different points of time in the future (Option B). In every fourth series, the amount of the five immediate rewards  $x_t$  and that of the delayed rewards ( $x_{t+\tau}$ ) change, but the ratio between the two options remains identical, that is,  $x_t = x_{t+\tau} * \nu/6$ , where  $\nu = 1, ..., 5$  is the choice

number within each series. The future reward varies between 3,000 USh (approximately \$0.8) and 30,000 USh (approximately \$8), and the delay varies between three days and three months. Within each series, the respondent had to decide, whether he or she preferred Option A or Option B. Respondents made choices based on single picture cards illustrating both options (Figure 2). Again, monotonic switching was enforced.

After all 75 choices were made, the respondent was asked to blindly draw one card out of a bag. The cards in the bag were numbered from 1 to 75. The card drawn determined the decision number, and the respondent gained the reward at the respective time according to the choice he or she made during the experiment. For example, if Option A had been chosen during the choice for which the number was drawn, the respondent received the reward in cash immediately. If Option B had been chosen, the respondent received a credit voucher indicating the amount of money he or she would receive and the date of payment. The credit voucher was issued by the experimenter and approved by the main researcher. The money was sent via a mobile money transfer to the respondent's number by a finance officer of our institution exactly on the date of payment as indicated on the credit voucher. Average payoffs were 12,500 USh (approximately \$3.4).

Series	Choices	Option A	Option B
1	1	2,000 USh today	12,000 USh in 1 week
	2	4,000 USh today	12,000 USh in 1 week
	3	6,000 USh today	12,000 USh in 1 week
	4	8,000 USh today	12,000 USh in 1 week
	5	10,000 USh today	12,000 USh in 1 week
2	6	2,000 USh today	12,000 USh in 1 month
	7	4,000 USh today	12,000 USh in 1 month
	8	6,000 USh today	12,000 USh in 1 month
	9	8,000 USh today	12,000 USh in 1 month
	10	10,000 USh today	12,000 USh in 1 month
3	11	2,000 USh today	12,000 USh in 3 months
	12	4,000 USh today	12,000 USh in 3 months
	13	6,000 USh today	12,000 USh in 3 months
	14	8,000 USh today	12,000 USh in 3 months
	15	10,000 USh today	12,000 USh in 3 months

Table 2. Design of time experiment (in Ugandan shillings)

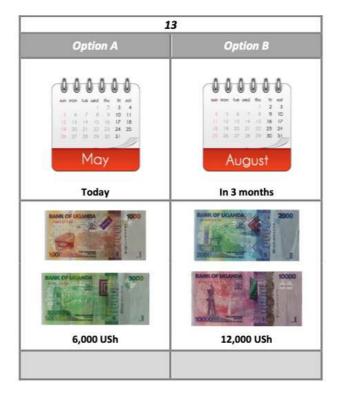


Figure 2. Example of a picture card in the time experiment. Source: Authors.

#### c. Discrete choice experiment

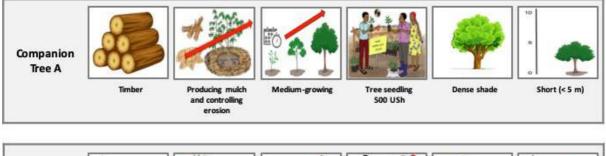
We used a DCE to analyze farmers' preferences for different features of companion trees in coffee-banana farming systems. In a DCE, respondents are presented with alternative descriptions of a good, differentiated by their attribute levels, and are asked to choose one of the alternatives (Holmes & Adamowicz, 2003). In order to identify contextually relevant attributes and their levels, we conducted key informant interviews and focus group discussions with farmers during a preliminary field visit to the study area. Based on their feedback, we selected six attributes that they deemed important in a companion tree with two to six levels (Table 3). The first attribute relates to the products provided by companion trees, namely fruits, timber, fuelwood, and fodder. Regulating ecosystem services provided by companion trees are the second attribute. The four levels are microclimate (i.e. buffering temperature extremes and conserving soil moisture), soil fertility (i.e. producing mulch and controlling erosion) pests and diseases control (i.e. decreasing incidence of white coffee stem borer and coffee leaf rust<sup>3</sup>), and weed control (i.e. suppressing weed growth). As the third attribute we consider the growth rate of companion trees and define three levels: slow-, medium-, and fast-growing. The fourth attribute is the seedling price, categorized in five levels: 0 USh, 200 USh, 500 USh, 1,000 USh, and 1,500 USh. The fifth attribute concerns the provision of quality shade for coffee in two levels: light and mottled shade, as well as dense shade. The last attribute in the choice experiment is the tree height of the companion tree, either short (< 5 m) or tall (> 5 m).

<sup>&</sup>lt;sup>3</sup> White coffee stem borer and coffee leaf rust are the major pests and diseases in coffee systems in the study area.

Attributes	Definition	Attribute levels
Tree products	Products provided by companion	1. Fruits
	trees	2. Timber
		3. Fuelwood
		4. Fodder
Ecosystem services	Regulating services provided by companion trees (i.e.	<ol> <li>Buffering temperature extremes and conserving soil moisture</li> </ol>
	microclimate, soil fertility, pests	2. Producing mulch and controlling erosion
	and diseases control, and weed control)	<ol> <li>Fewer problems of White Coffee Stem Borer and Coffee Leaf Rust</li> </ol>
		4. Suppressing weed growth
Tree growth rate	Growth rate of companion tree	1. Slow-growing
	species	2. Medium-growing
		3. Fast-growing
Seedling price	Cost of one tree seedling of	1. 0 USh
	companion tree species	2. 200 USh
		3. 500 USh
		4. 1,000 USh
		5. 1,500 USh
Shade quality	Shade quality of companion tree	1. Light, mottled shade
	species	2. Dense shade
Tree height	Maximum tree height of	1. Short (< 5 m)
	companion tree species	2. Tall (> 5 m)

#### Table 3. Overview of attributes and levels used in the choice experiment

The six attributes and their different levels imply a full factorial design with 960 ( $5^1 \times 4^2 \times 3^1 \times 2^2$ ) combinations. Theoretically, each unique combination of attribute levels represents a specific companion tree species. To produce a more manageable experiment, a d-optimal design was used to generate a subset of companion tree species that covers the range of variability between all possible combinations (Hensher, Rose, & Greene, 2015). In total, 32 choice sets were included in our design. The choice sets were further subdivided into four subsets containing eight choice sets each. To reduce the response burden and to avoid fatigue, respondents were randomly assigned one of these four subsets, with an even number of households allocated to each of the subsets. A choice set consisted of two alternative companion tree species (A and B) and an status quo ('none of the trees') option. The status quo option is provided because a respondent might not have a preference for either of the companion tree species listed. Moreover, illustrations were included in the choice sets to increase respondents' comprehension of the attributes and levels (Figure 3). Before conducting the DCE, we explained to the respondents that the drawings used hypothetical companion tree species rather than real ones. The attributes and levels used were carefully explained. Respondents were also informed that the choices they made in the experiment would not have any immediate consequence. It was clarified that the results would be used more generally to better understand farmers' preferences for particular characteristics of companion trees that may inform project design or future project implementation.



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Sk



Light, mottled shade



Tall (> 5 m)

None of the Trees

Figure 3. Example of a choice card. Source: Authors.

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Ir	istructions – Experiment on time preferences (incentivized)
[1] Instruct	tions to experimenter
	perimenter hands out <u>choice card 1</u> of the time game to the respondent as an
examp	
	perimenter first asks the respondent what he/she thinks the pictures on the choice
	present.
	his serves as an icebreaker. It basically enables the respondent to start thinking
	bout the material and the decisions he/she will be presented with during the
-	game. 
	The respondent should realize that the task has something to do with money
	ind time.
	nent explanation example: Experimenter explains to respondents
	ainstorming has shown that the task today has to do with money and time.
	cally, we will talk about two options (we call them 'Option A' and 'Option B').
	e going to ask you which of these two options you prefer.
-	st you have to understand how to make a difference between these two options?
	lerstand that difference, let's focus on the example.
	tart with 'Option A'
-	tion A' gives 4,000 USh today.
	The experimenter circles the exact date of payment (today's date) on the
	llustrated calendar of the choice card.
	to explain 'Option B'
a. Nov	v, let's look at 'Option B'. What is different about it? Well, this option gives
12,0	000 USh in 1 week from now.
i. T	The experimenter circles the exact date of payment (1 week from today's date) on
tl	he illustrated calendar of the choice card.
6. <i>'So, the</i>	e difference between the two options is that 'Option B' pays a LARGER sum of
money	in the future compared to 'Option A', which pays LITTLE money today.
7. Questi	ons/quiz to test respondent's understanding:
i. S	Suppose, you choose 'Option A', how much money do you get? [ADD ANSWER IN
E	BRACKETS]
ii. A	And when? [ADD ANSWER IN BRACKETS]
iii. S	Suppose, you choose 'Option B', how much money do you get? [ADD ANSWER IN
E	BRACKETS]
iv. A	And when?
[3] Instruct responden	tion about proceedings during actual experiment: Experimenter explains to ts
-	cussed only one choice card. In total, we will show 75 similar choice cards. How
1. <i>neuls</i>	cussed only one enoice curu. In total, we will show 75 similar enoice curus. How

# **Instructions – Experiment on time preferences (incentivized)**

. We discussed only one choice card. In total, we will show 75 similar choice cards. How are the other choice cards different from <u>choice card 1</u>?

- Notice that when we go from <u>choice card 1</u> to <u>choice card 2</u> and continue up to <u>choice card 5</u>, the only aspect that changes is the amount of money in 'Option A'. The time frame of 1 week does NOT change up to <u>choice card 5</u>.
- ii. After <u>choice card 5</u>, the time frame changes between 3 days, 1 week, 2 weeks, 1 month, 2 months, and 3 months.
- iii. The respondent is informed that during the game he/she will be notified about any changes to avoid too much prior information.
- 2. So, we are going to ask you to make a decision for each of the choice cards that will be presented to you: Do you prefer 'Option A' or 'Option B'?
- 3. There is only one restriction in your decisions within each of the fifteen series: you can either start with 'Option A' or 'Option B'. If you start with 'Option A', you can continue to choose 'Option A' for as long as you want, but if you choose 'Option B' at any point, you cannot go back to 'Option A'. Also, if you start with 'Option B', you can only choose 'Option B' for the rest of the series.

4. Is this clear?

## [4] Instruction to the experimenter

- 1. Examples are repeated until the experimenter feels confident about the respondent's understanding.
- 2. Once the experimenter is satisfied with the respondent's understanding, actual decisions are made.
- 3. The experimenter presents each series separately and after each other. <u>For each series</u> ONLY 1 switch from 'Option A' to 'Option B' possible.
  - i. First, series 1: choice cards 1 5
  - ii. Second, series 2: choice cards 6 10
  - iii. Third, series 3: choice cards 11 15
  - iv. ..., series 4: choice cards 71 75

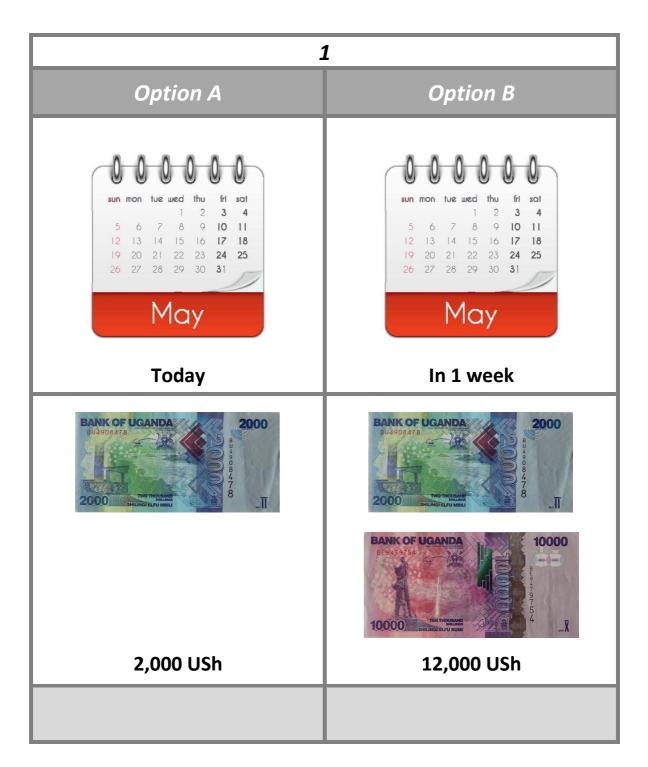
## [5] Instructions for the experiment: Experimenter explains to respondents

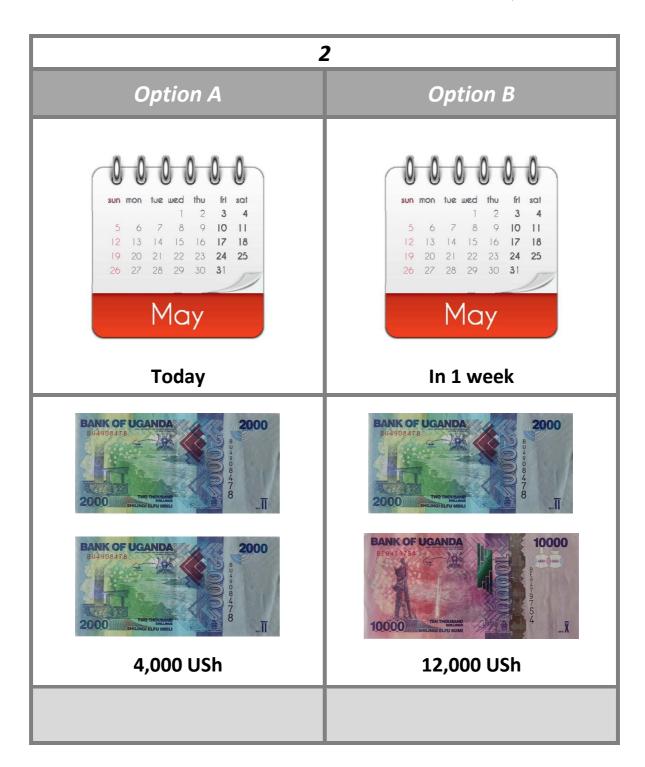
- 1. In this game, you play for real money. The amount will be determined as follows:
- 2. After you have made all 75 decisions, you are asked to blindly draw one card out of a bag. The cards in the bag are numbered from 1 to 75. The card drawn will determine the decision number, and you will gain the payoff at the respective time according to your decision. So only one of the 75 decisions will be played for real money.
- 3. For example, if you draw a card that shows a 1, then decision number 1 will be played for real money. No decision is any more likely to be used than any other and you will not know in advance which one will be selected, so please think about each decision carefully.

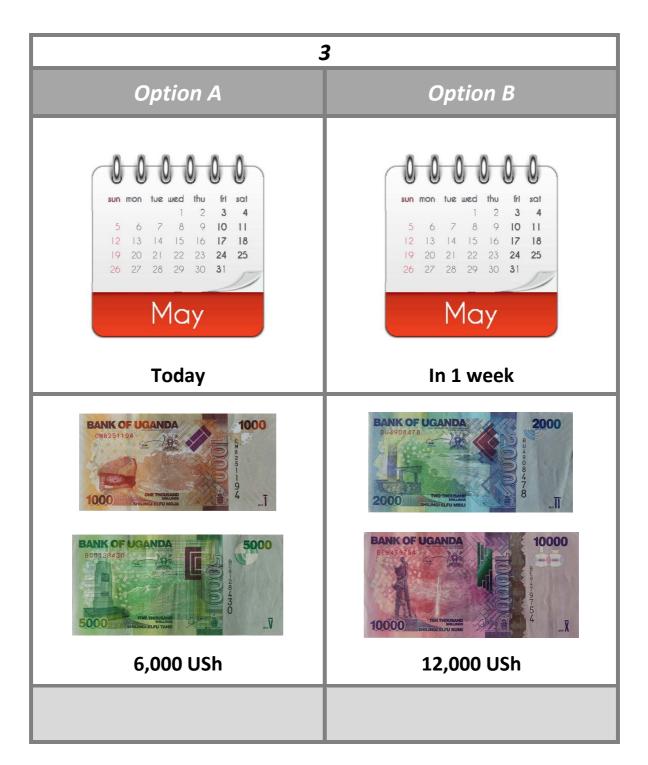
4. For example, if you choose 'Option A', you receive 2,000 USh in cash today.

- 5. If you choose 'Option B', you will receive 12,000 USh in 1 week from now. In this case, the payment will be done as follows:
  - *i.* You receive a credit voucher in your name.
  - *ii.* The credit voucher is issued by the experimenter and approved by our organization.

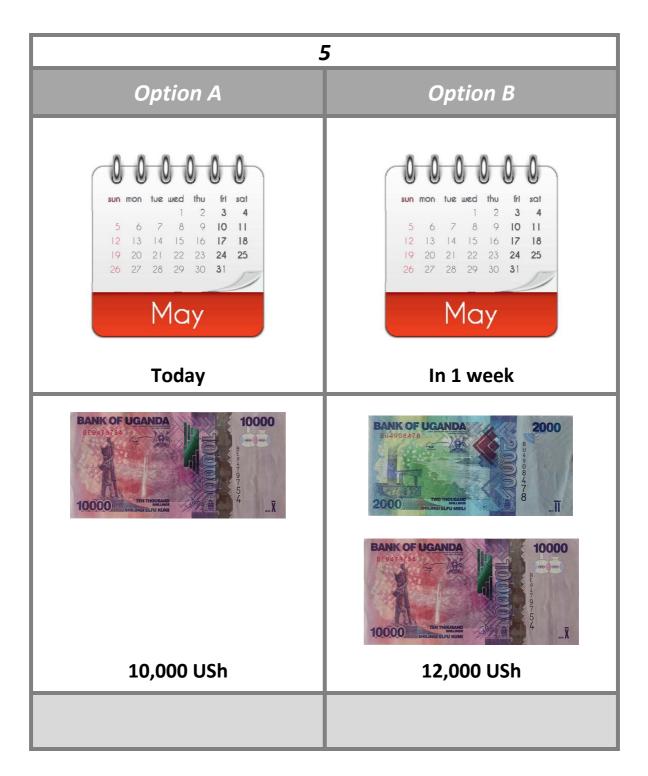
- iii. The money will be sent via a mobile money transfer to your number.
- *iv.* This transfer will be done at the date of payment as indicated on the credit voucher.
- 6. Do you have any questions?

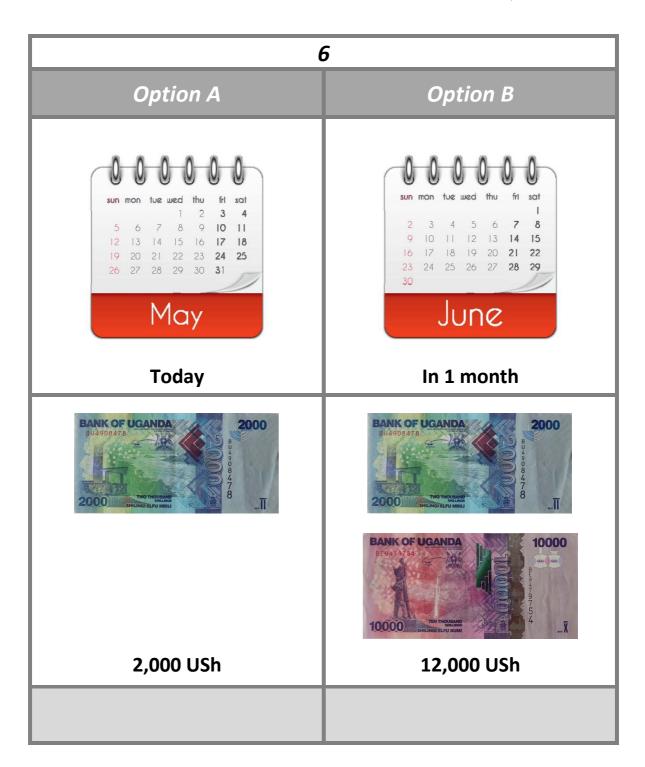


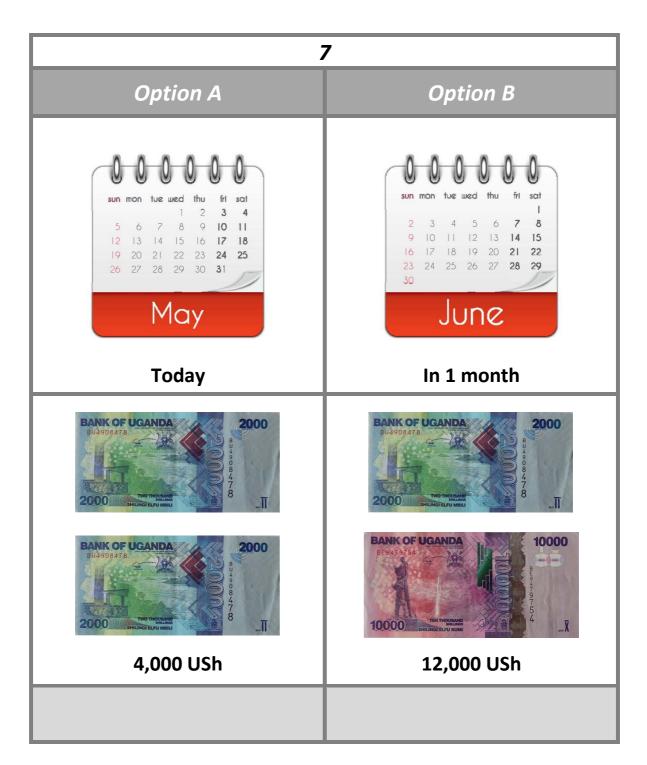


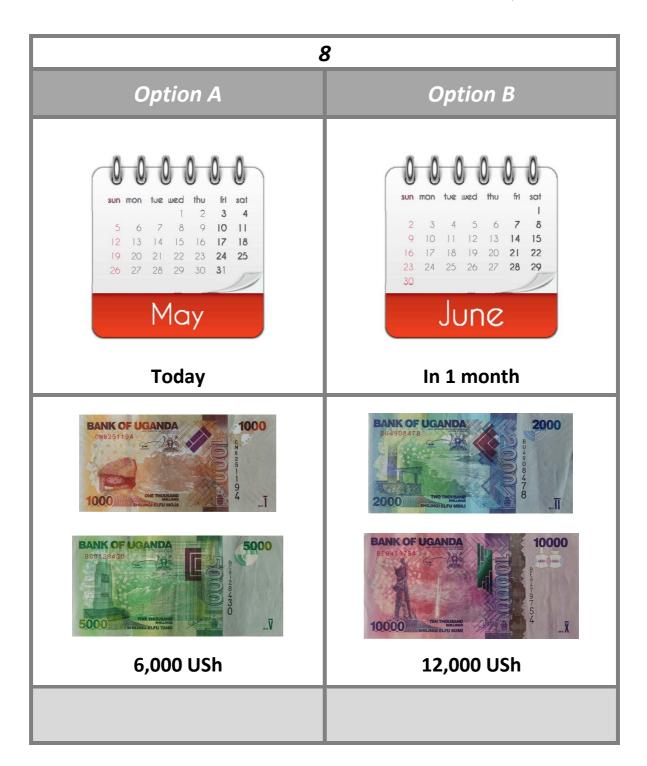


4				
Option A	Option B			
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Тодау	In 1 week			
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BANK OF UGANDA BU4908478 2000 Trotacar Butting Elements	BERGARDA BER			
BANK OF UGANDA DOT 2 5430 DOT 2 54300 DOT 2 543000000000000000000000000000000000000				
8,000 USh	12,000 USh			

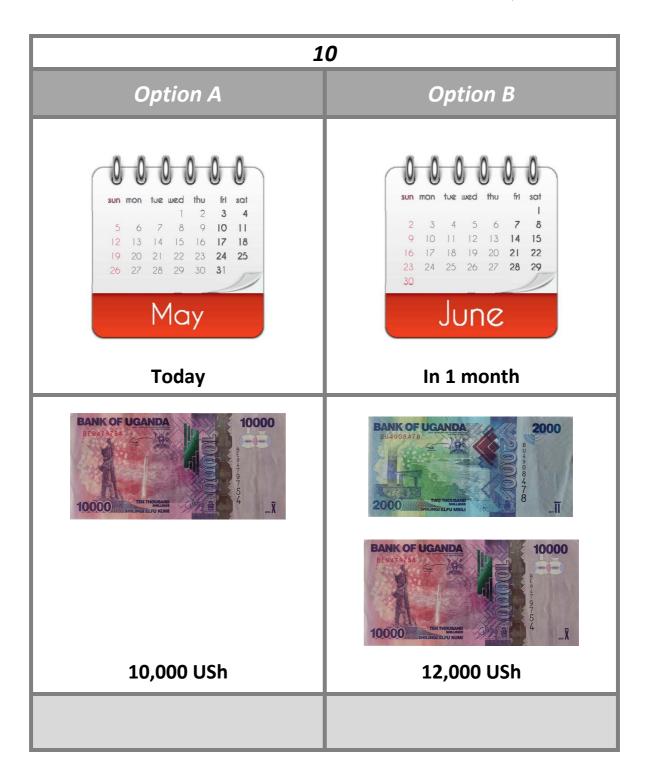








9		
Option A	Option B	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
Тодау	In 1 month	
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BANK OF UCANDA BU4908478 2000 TO TROTANE BHILINGTELPU MILL	BENKOFUGANDA BERGARDA	
BANK OF UGANDA DOT 29430 DOT 294300 DOT 294300 DOT 294300 DOT 2943000000000000000000000000000000000000		
8,000 USh	12,000 USh	



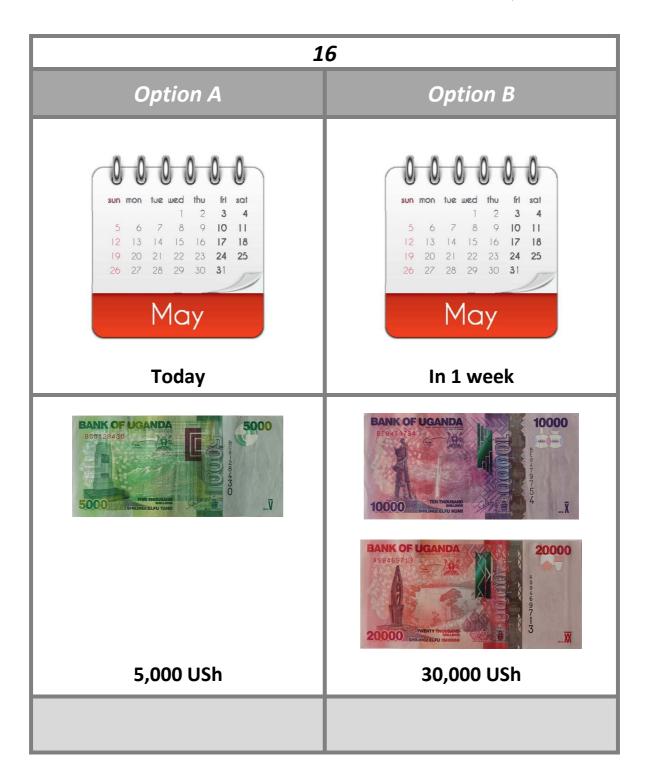
1	1
Option A	Option B
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Today	In 3 months
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	DECOMPACTOR DECOM
2,000 USh	12,000 USh

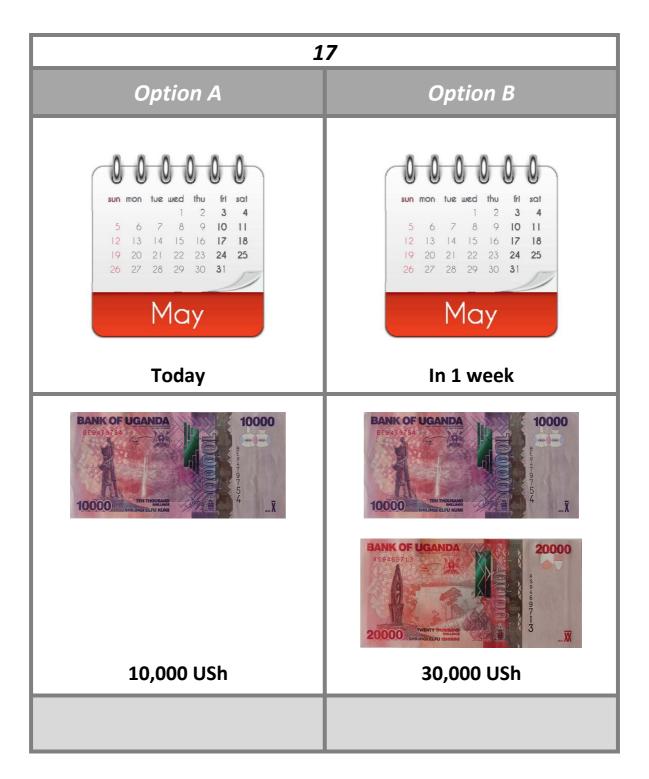
1	2
Option A	Option B
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
Today	In 3 months
BANK OF UCANDA BU4908478 2000 BUT THOURAND BHILINGIELPU MIEL	BUA908478 BUA908478 2000 ERICINE LEPU MILL
BANK OF UGANDA BU4908478 DO TROBARD TO TROBARD FILLING ELFU MBLI	BANK OF UGANDA BOUTSTST DOCODENTITIONED BUILDINGELUU KIMI
4,000 USh	12,000 USh

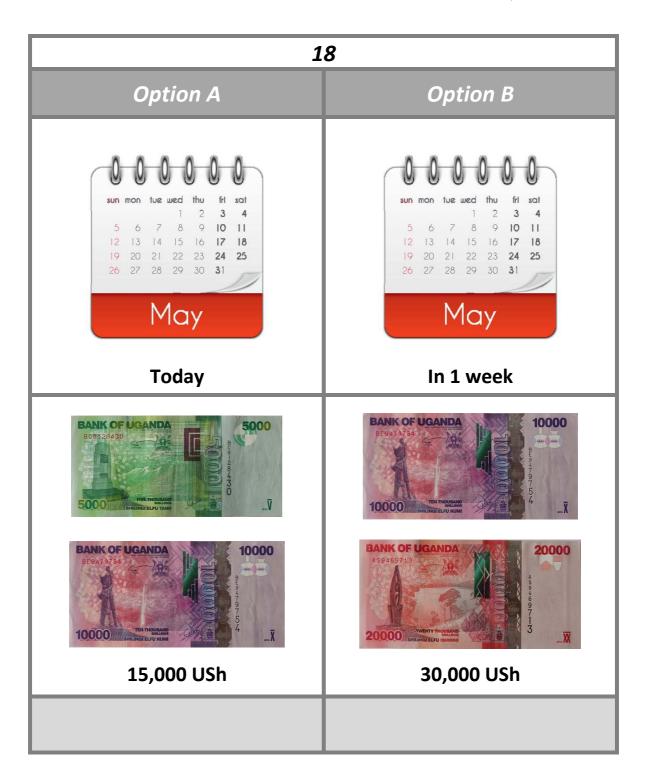
1	3
Option A	Option B
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
Today	In 3 months
CHB 251194 CHB 251194 CHB 251194 CHB THOURARD CHB THOURARD SHILLING REPO MICAA	BUA908478 BUA908478 TO THOUSAND SHILLING ELEPTI MILLING
BANK OF UGANDA BOD 29430 DO DO D	BANK OF UGANDA Brown 250 Brown 250 B
6,000 USh	12,000 USh

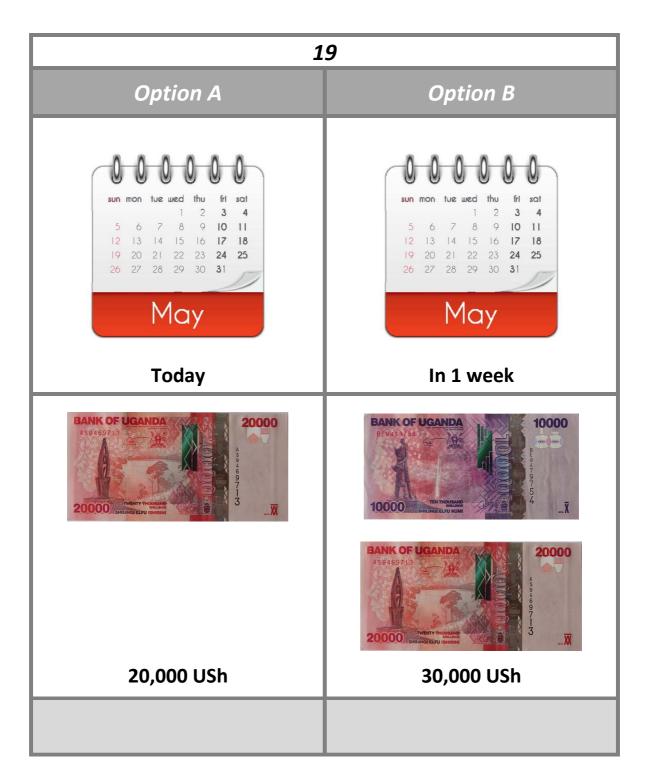
14			
Option A	Option B		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		
Тодау	In 3 months		
DESTINATION OF UGANDA NB 251194 DESTINATION OF TRANSPORT	BANK OF UCANDA BU4908478 2000 TO TREMAN BRIANCIELD MILLI		
BANK OF UGANDA BU4908478 2000 TO THOUSANT BANK OF UGANDA BU4908478 BU4908 BU49	BANK OF UGANDA BEDUTATSA BEDUTATSA DE DE D		
BANK OF UGANDA DOTIZIONO DOTIZIO DOTIZIONO DOTIZIO DOTIZIONO DOTIZIO DOTIZIONO DOTIZIO			
8,000 USh	12,000 USh		

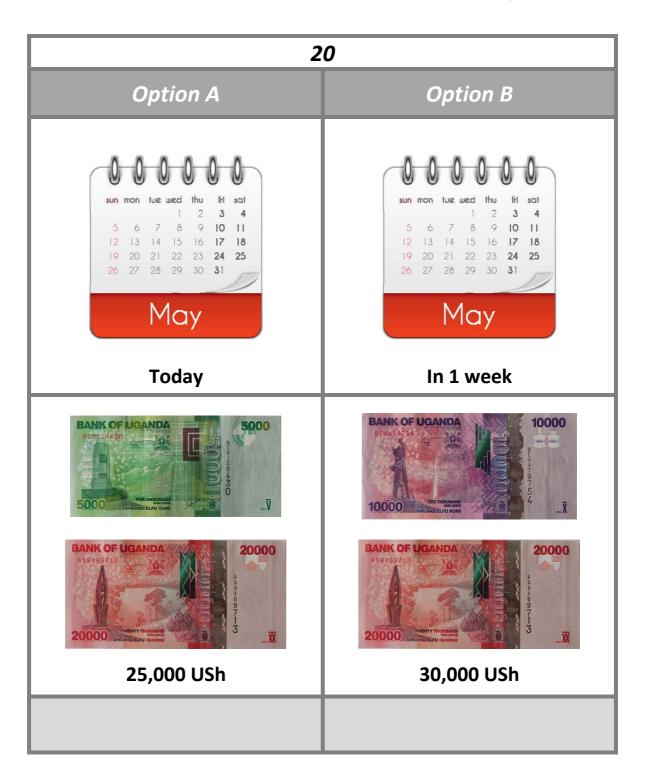
15	
Option A	Option B
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
Today	In 3 months
BANKOF UGANDA De9474734 De9474734 Demokratik Demokratik Britisho B	BANK OF UGANDA BU4908A78 U4908A78 U1000 ENERGY DATA TO THORNAN ENERGY DATA
	BANK OF UGANDA BEBUTATSA DEBUTATSA TETTHOUSAND TODOO EMERICACE FOR MAN
10,000 USh	12,000 USh

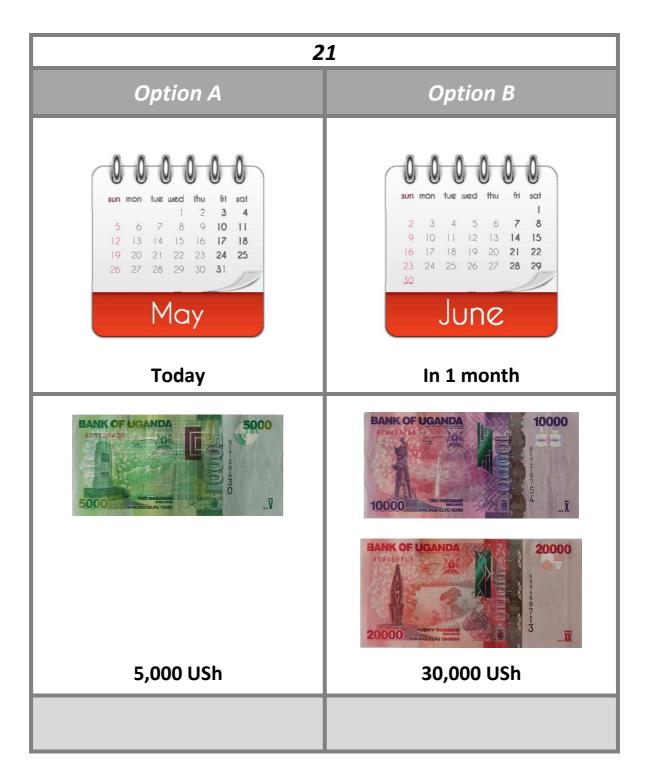


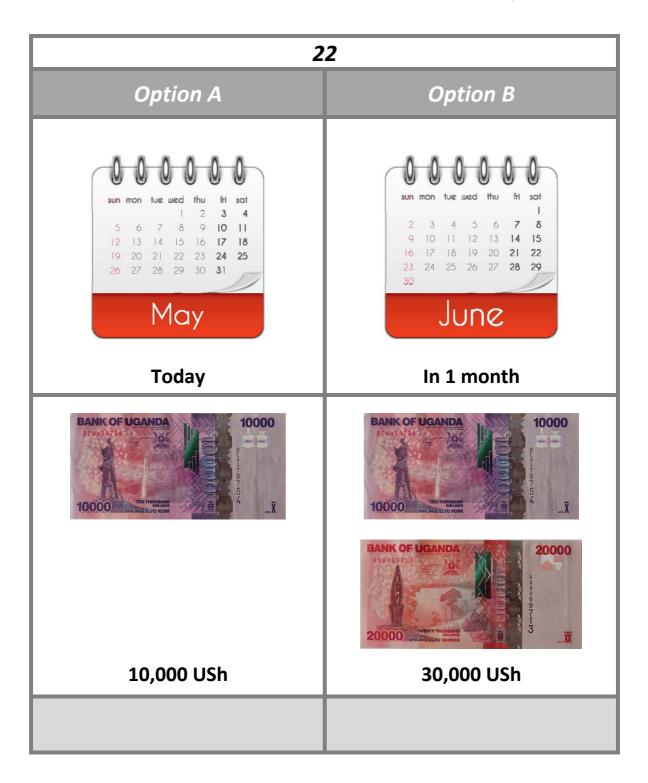


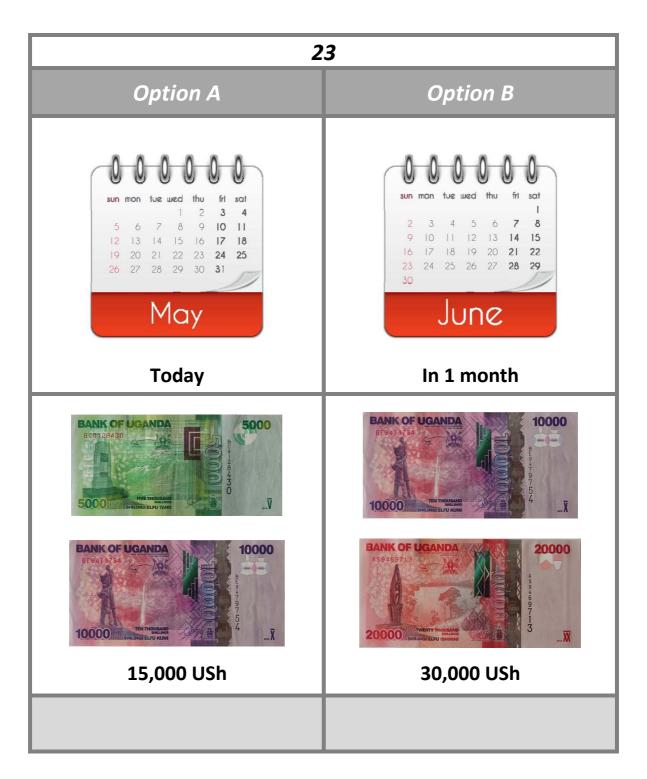




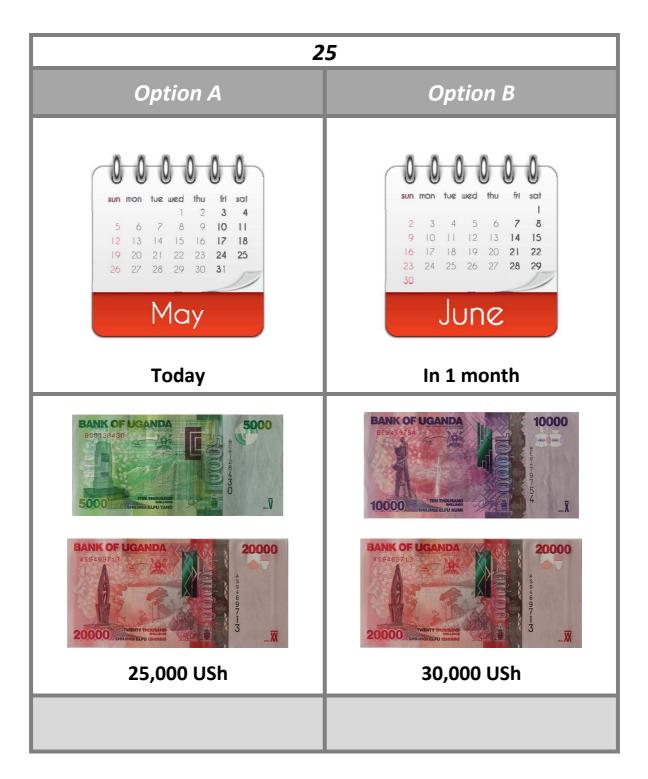






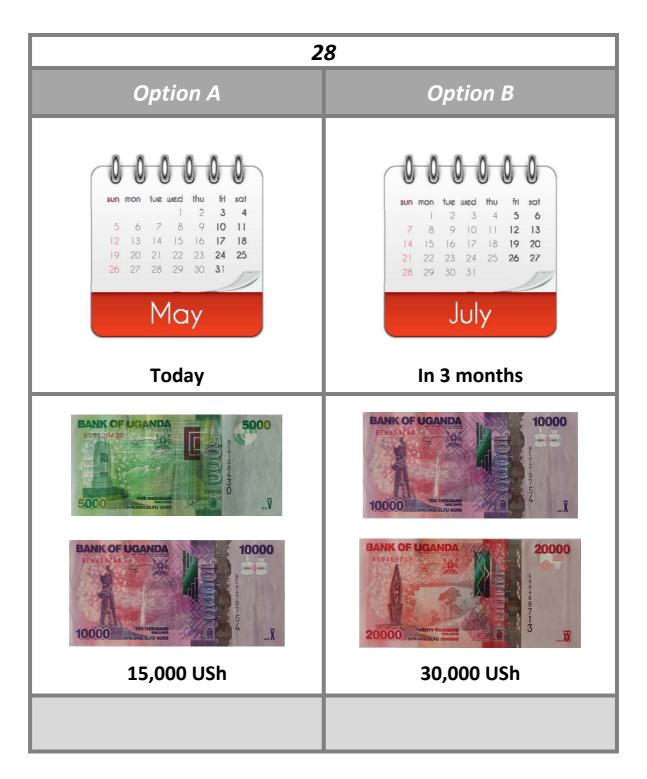


24	
Option A	Option B
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
Today	In 1 month
AS9469713 AS9469713 BRINT Process 20000 THEFT Process SHILLINGTERU ISHIRIN	BANK OF UGANDA BE9979754 DOCO ENTROLEMENT BALLING ENTROLEMENT BALI
	RANK OF UGANDA AS9469710 AS9469710 AS9469710 AS96070 AS9600 AS9600 AS96000 AS96000 AS96000 AS
20,000 USh	30,000 USh

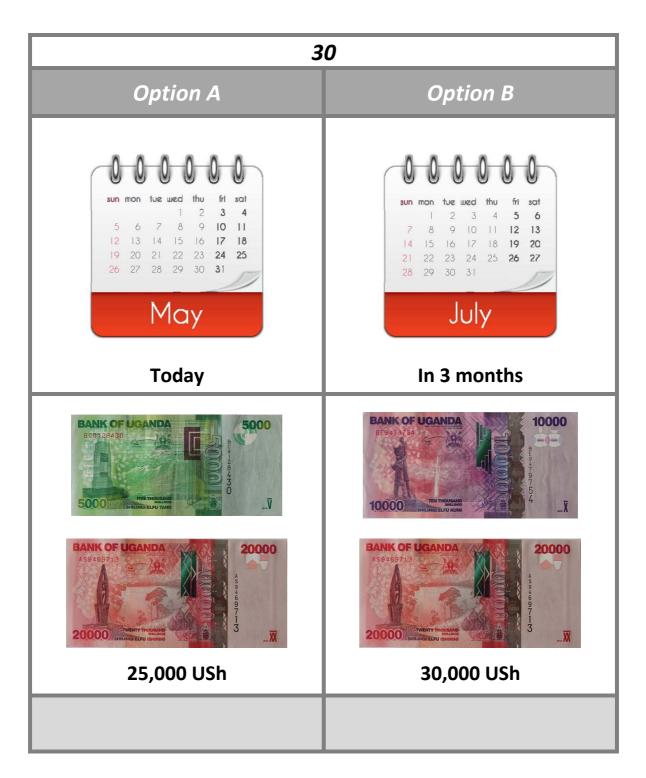


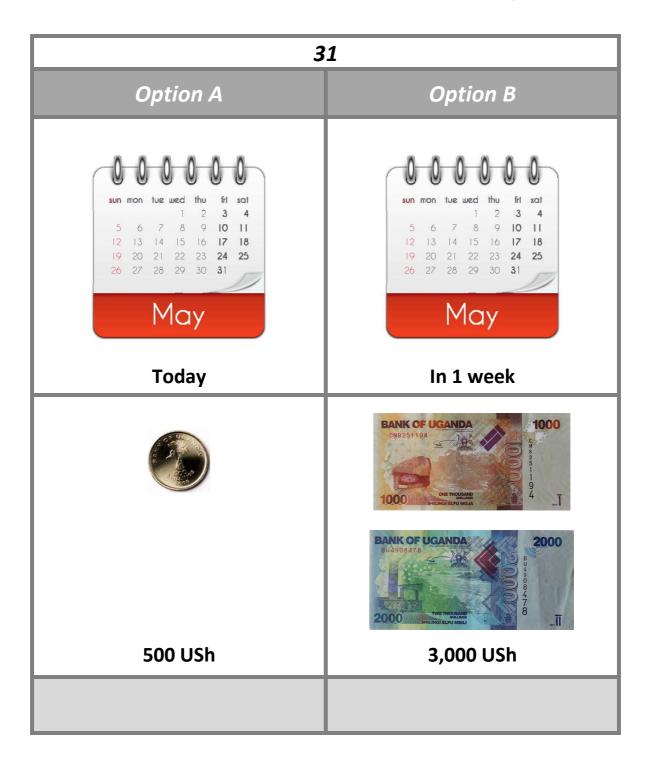
26	
Option A	Option B
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
Today	In 3 months
BANK OF UGANDA BOTH 20430 BOTH 20430 References Social Participation of the social soc	DEGULATSA DEGULA
	BANK OF UGANDA A 59459713 A 59459710 A 59459710 A 59459710 A 59459
5,000 USh	30,000 USh

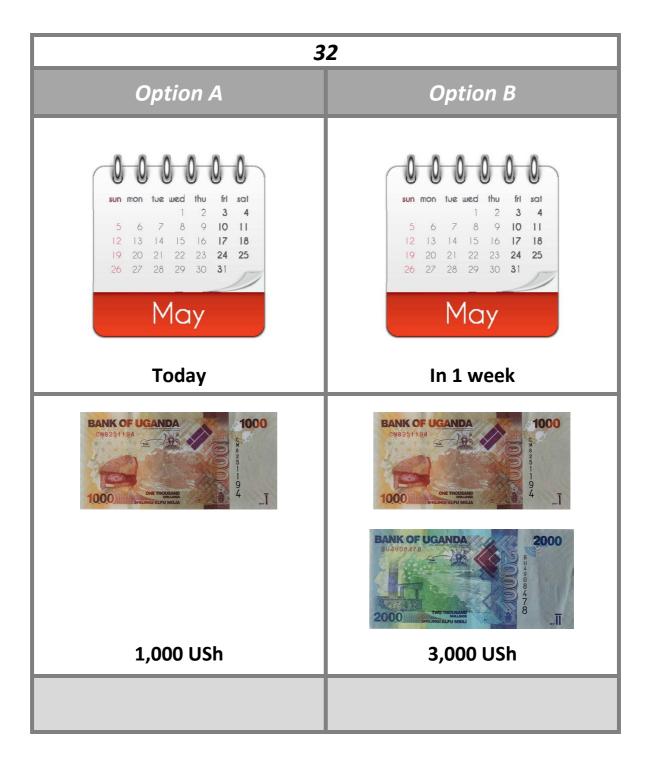
27	
Option A	Option B
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
Today	In 3 months
BANK OF UGANDA BENJA794 DECOMENSIONE BELINER FLUX KEMIN	BANK OF UGANDA BEOGRAFIA B
	BANK OF UGANDA S9469713 DEBY TOURAND ENTROTEED IDENTIFY
10,000 USh	30,000 USh

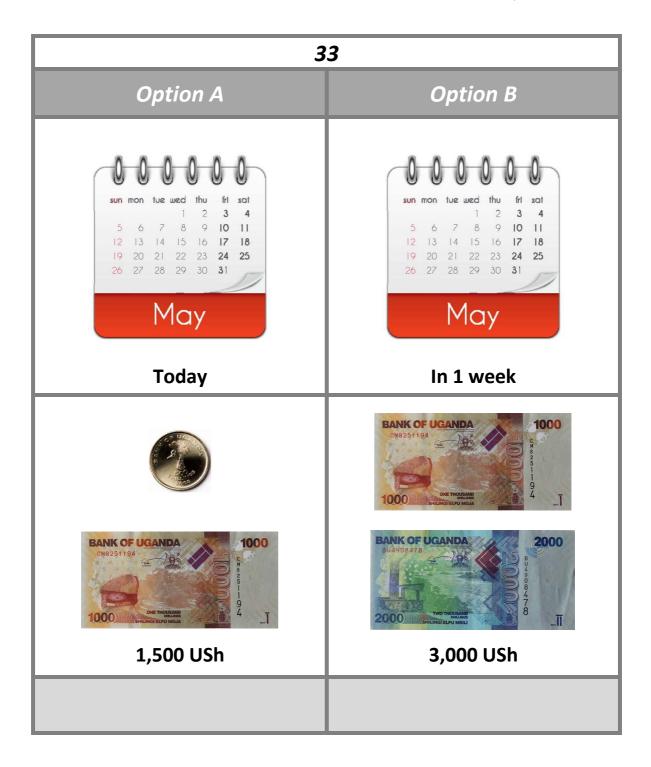


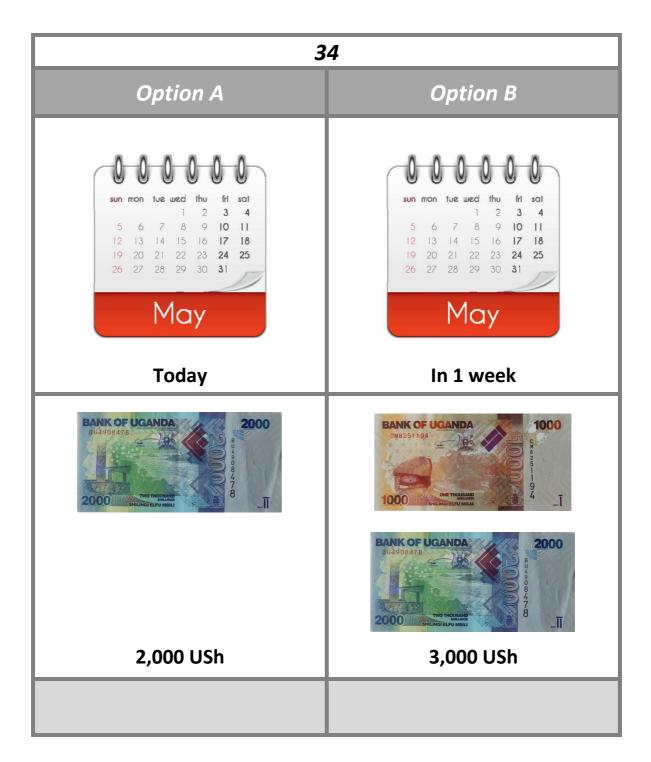
29	
Option A	Option B
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
Today	In 3 months
BANK OF UGANDA S9469713 20000 THENTY THOUSAND SHERINGTERU BRINN	BANK OF UGANDA Brodrads Brodra
	BANK OF UGANDA S9469713 DEBUT TOURNE 20000 TOURNE BALANDA BALA
20,000 USh	30,000 USh



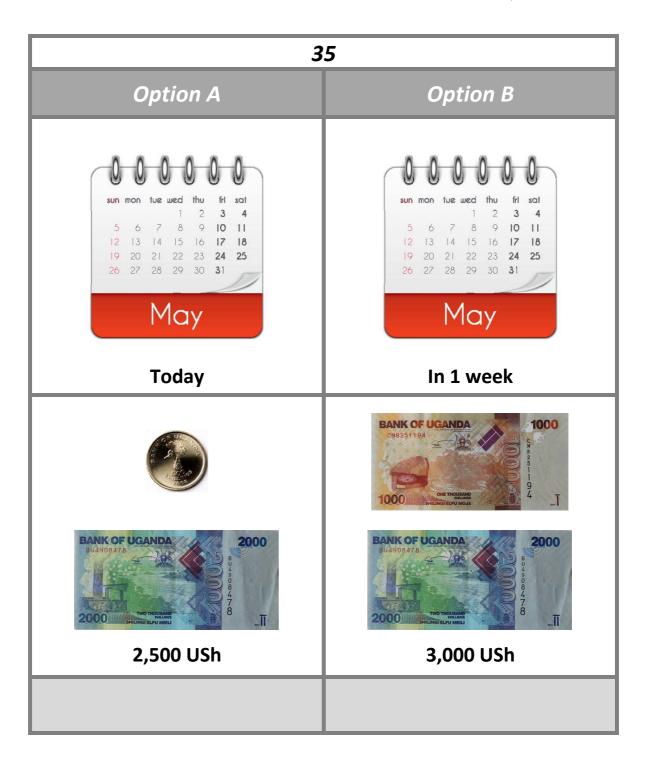


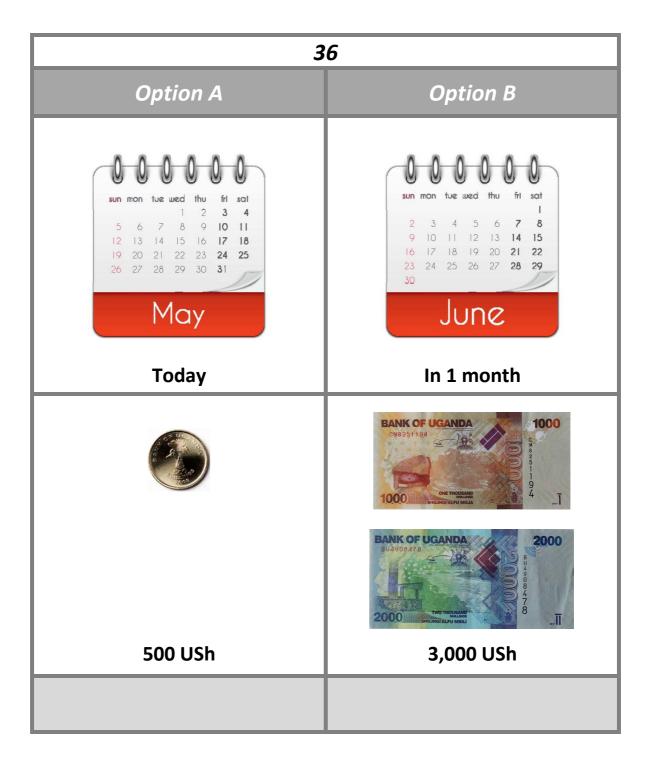


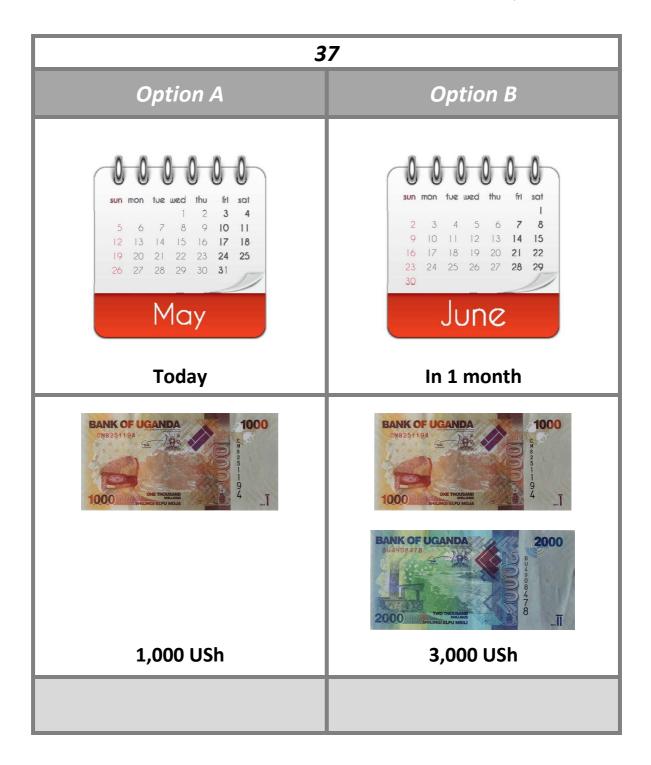


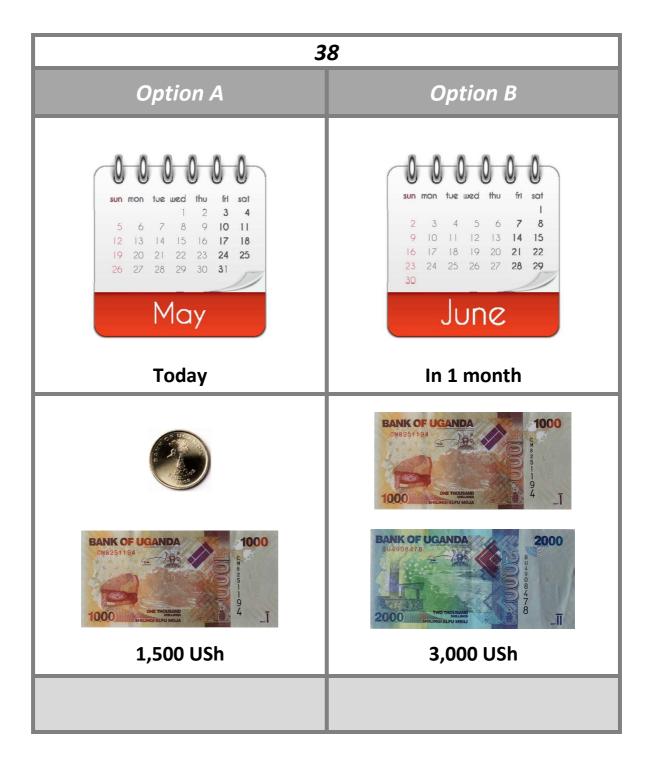


50

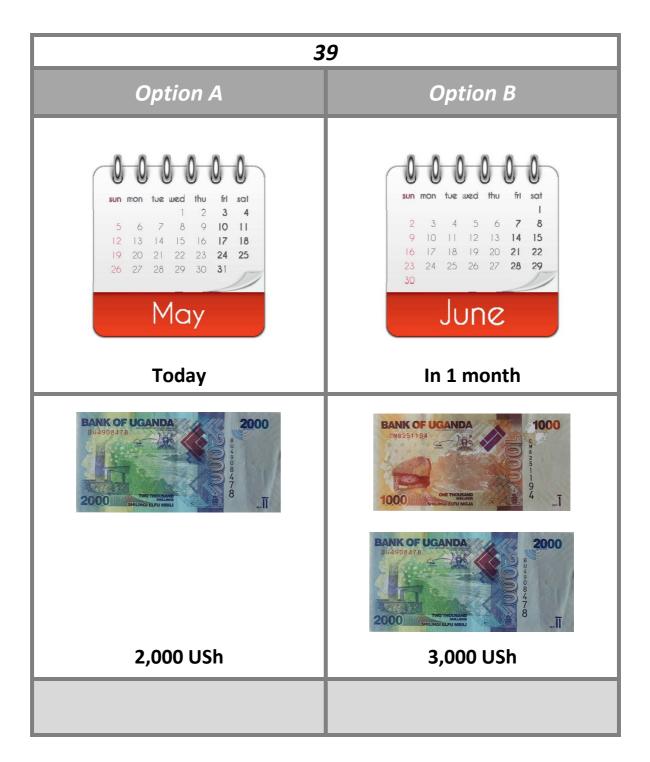


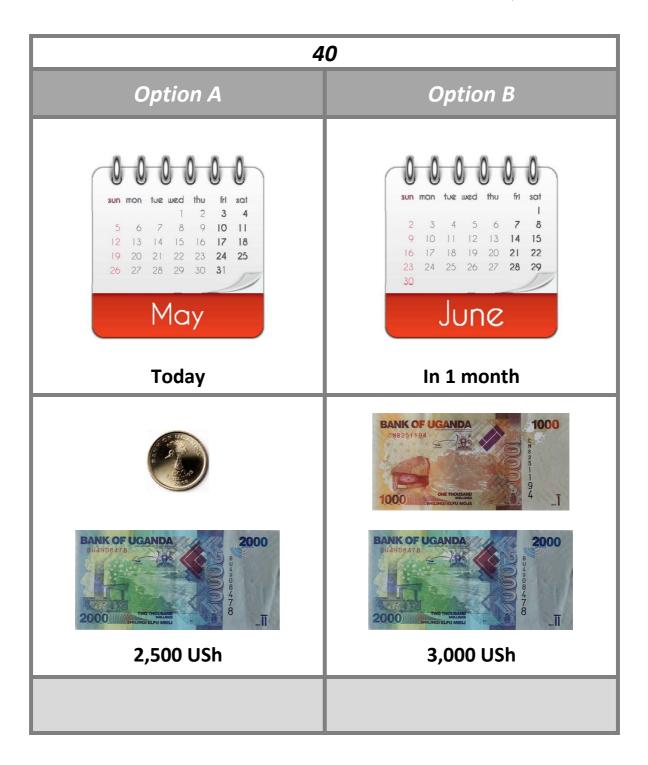






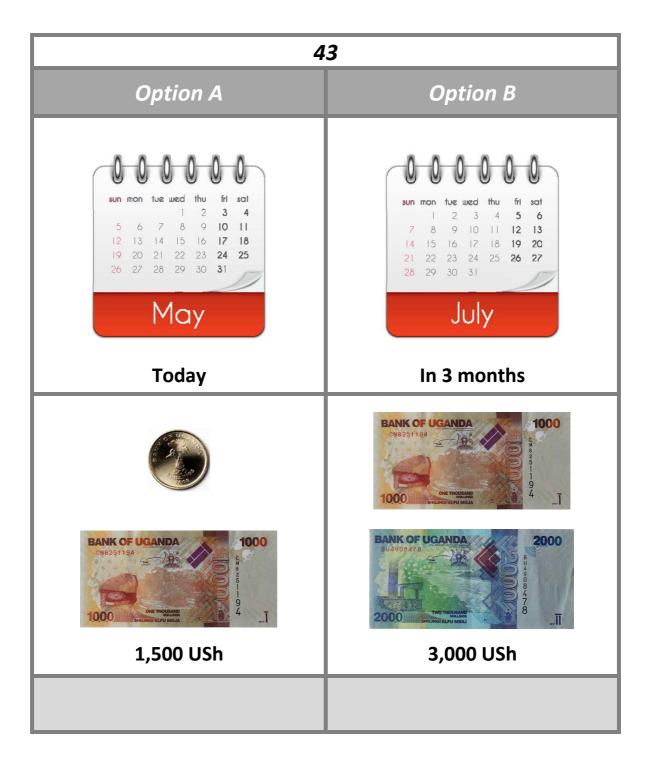
54



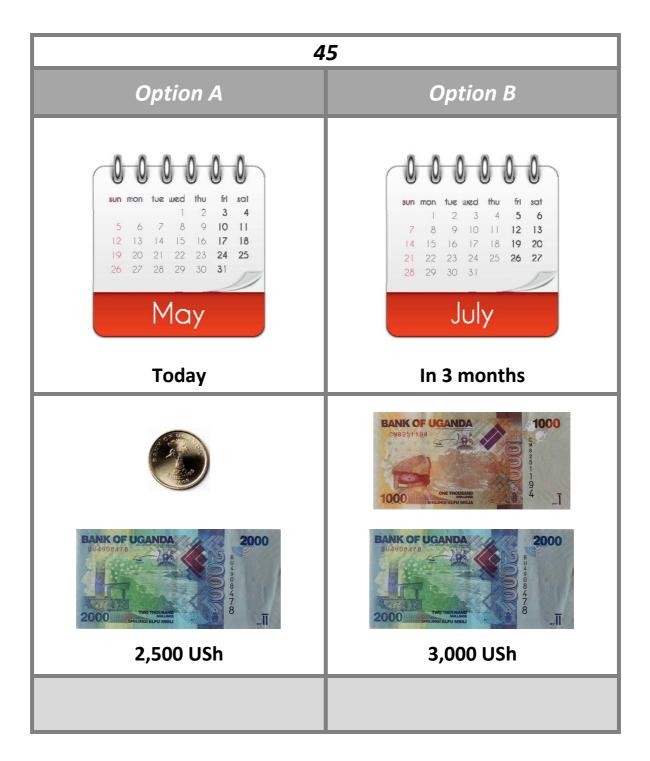


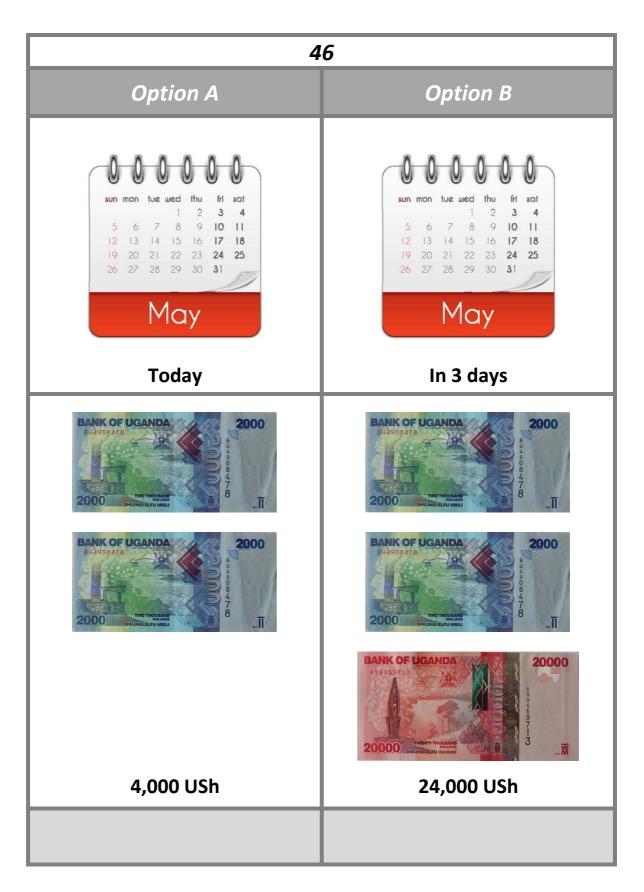
41	
Option A	Option B
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
Тодау	In 3 months
	DOO CHE THEIREAN BALLINGTELEP MOAN
	BANK OF UGANDA BU3908478 2000 THOTHOSENT BRIENCIELPU MILL
500 USh	3,000 USh

42	
Option A	Option B
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
Today	In 3 months
CH8251194 DOO ENERGIANDA CH8251194 ONE TROUBLE SHIENCIERPI MOLA	DOCO CONTROLLANDA CNB 251194 CONTROLLANDA
	BANK OF UGANDA BU4008478 2000 THO THOUSAN HILLINGTERU MILL
1,000 USh	3,000 USh

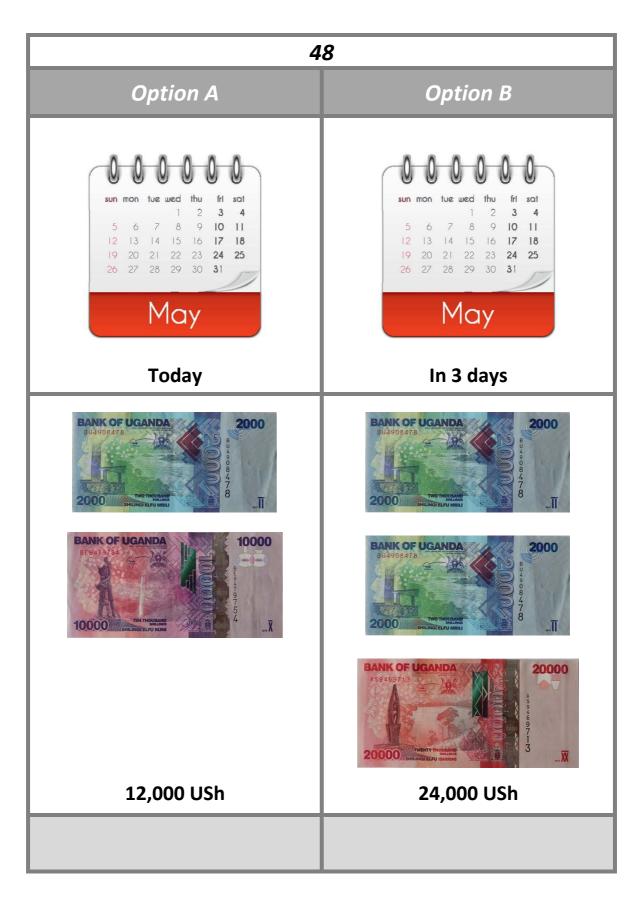


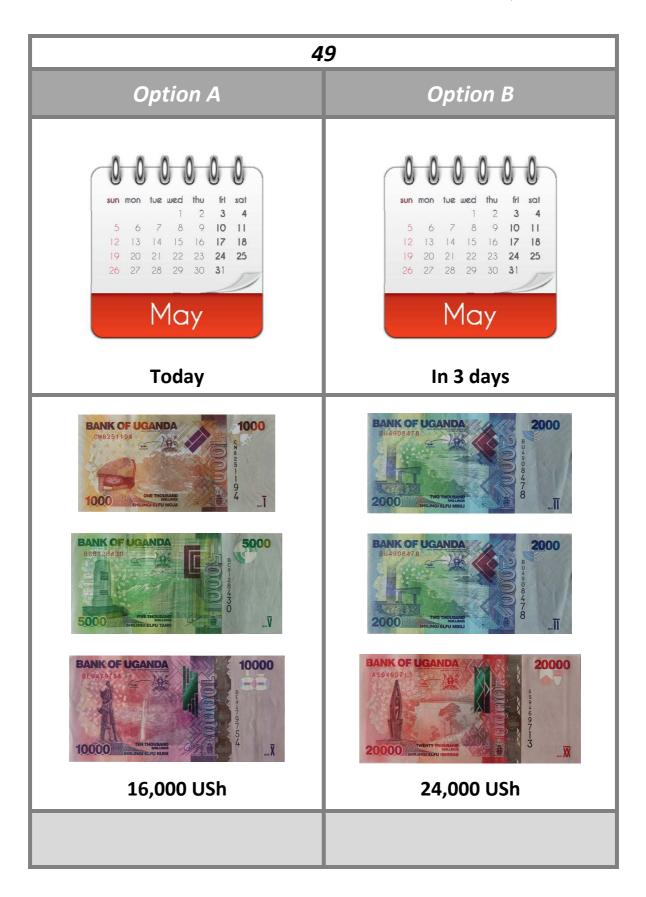
44	
Option A	Option B
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
Тодау	In 3 months
BANK OF UCANDA BU4908478 TO THOUSAND SHEAME EPU MILL SHEAME EPU MILL	DOD ON THOMAS OF UGANDA
	BANK OF UGANDA BU4908478 TO MORISME BULINCIPLIPU MILL BULINCIPLIPU MILL
2,000 USh	3,000 USh

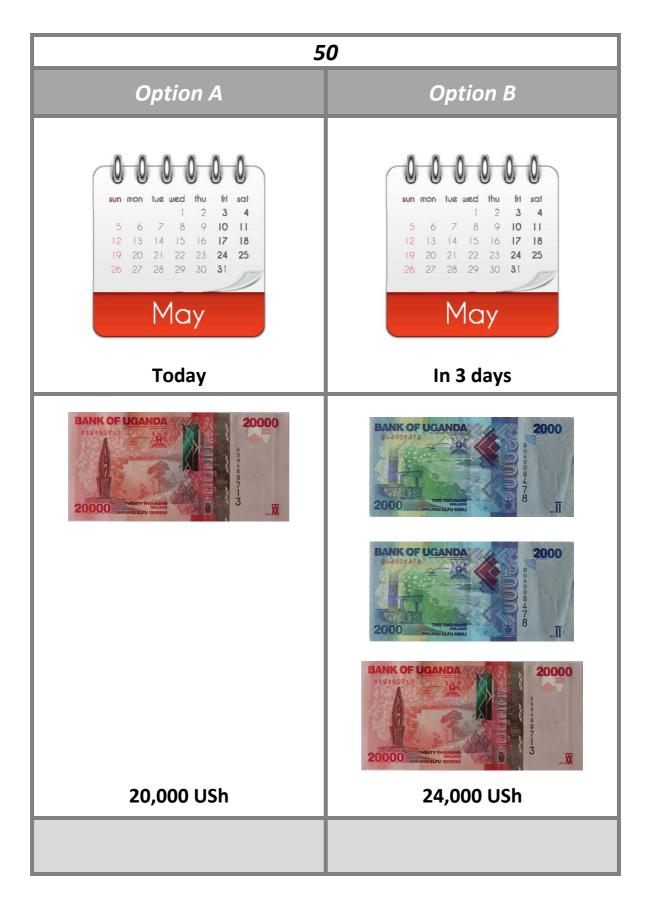




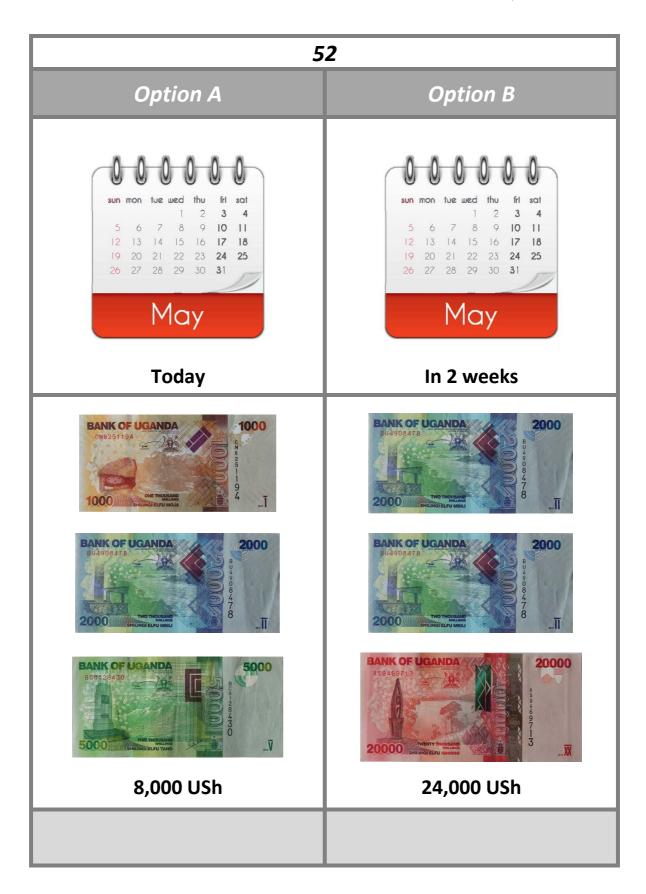
47	
Option A	Option B
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
Тодау	In 3 days
DIE TREMARDO DIE TREMARDO DOCO DIE TREMARDO DIE TREMARDO	BANK OF UGANDA Bid908478 2000 HILINGIELPU MILL
BANK OF UGANDA BU4908478 2000 TO THOUSAND BHILAND TO THOUSAND CHILAND TO THOUSAND CHILAND TO THOUSAND CHILAND TO THOUSAND	BANK OF UGANDA BU4908478 2000 THO THOUSAND BHILING ELLONG BHILING ELLONG BHILING BH
BANK OF UCANDA DOT 25430 TO 254300 TO 254300000 TO 2543000000000000000000000000000000000000	BANK OF UGANDA AS9469713 TO TO T
8,000 USh	24,000 USh

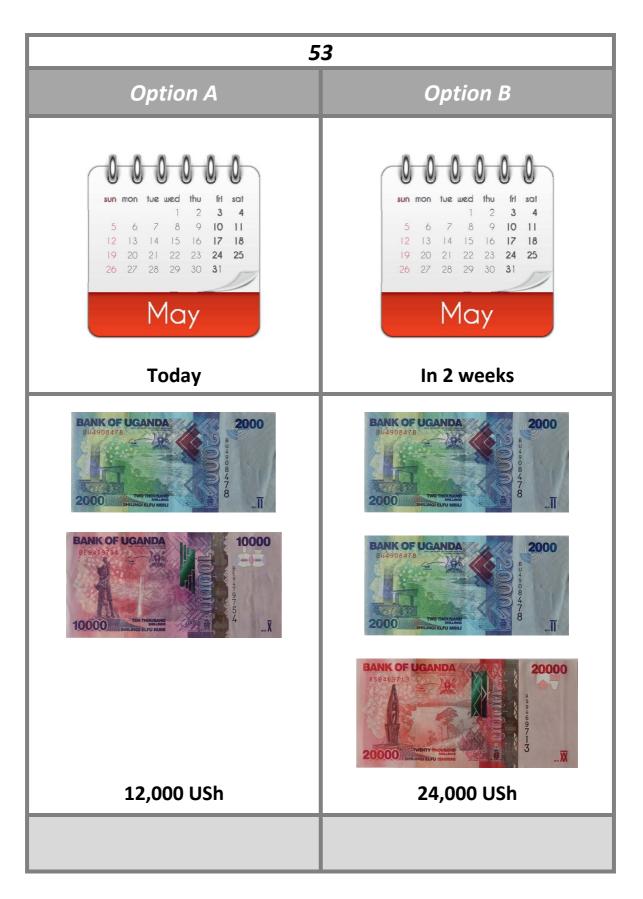






51	
Option A	Option B
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
Тодау	In 2 weeks
BANK OF UCANDA BU4908478 DU908478 TO TROBASS HILLING LEJ MELL	BANK OF UGANDA BU3908478 2000 TO THOREAS BUILDING LEVENSE BUILDING LEVENSE BUILDING LEVENSE BUILDING LEVENSE
BANK OF UGANDA BU4908478 2000 THOURAND BHEINKIE EPT MBLI	2000 INTERNET BALANCE
	BANK OF UGANDA AS9469713 AS9469713 ABANK BRILLOW BRILL
4,000 USh	24,000 USh





54	
Option A	Option B
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
Тодау	In 2 weeks
DUBDESTIDAT	BANK OF UGANDA Bid908478 2000 THOT TREAM CHILING LEPI MILL
BONK OF UGANDA BOT 20430 DOT 20430 PRENCISAN BOT 20430 PRENCISAN P	BANK OF UGANDA BU4908478 2000 THO THOUSANT HILLINGTERU MILL
BANK OF UGANDA BE9979784 TO THOUSAND BHENREELED KOM	BANK OF UGANDA AS9459713 ABANK OF UGANDA AS959713 ABANK OF UGANDA AS97713 ABANK OF UGANDA AS97710 ABANK OF UGANDA AS97710 ABANK OF UGANDA AS97710 ABANK OF UGANDA AS97710 ABANK
16,000 USh	24,000 USh

56	
Option A	Option B
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
Тодау	In 2 months
BANK OF UCANDA BU4908478 DU9908478 TO TROBAN BUHENCI EFU MILL	BANK OF UCANDA BU4908478 2000 TOT TRUMENT CHILING ELPY MILL
BLANK OF UCANDA BU4908478 2000 BHELMEETER MILL	DUSTORE DE LA CONTRACTA DE LA
	BANK OF UGANDA S9469713 TERMY TOURANT ENDINGERED REMAN
4,000 USh	24,000 USh

