BALANCING ACT: A Microfinance Accounting Game

GAME OVERVIEW FOR TRAINERS

The use of a structured experience such as a game provides participants with significant opportunities to experience learning. By experience - we mean to learn from one's personal involvement as opposed to being told by the trainer what should be learned from it. While the game experience provides the vehicle for learning – the learning comes about by actually undergoing the experience. Therefore debriefing occurs at two levels - game analysis AND its application to the real world. While the structured event/game itself is not reality, the learning from it is very real indeed.

While this guide provides detailed instructions on the mechanics of the game, we recommend that the Trainer has at least an intermediate understanding of accounting principles, preferably as they apply to either traditional banking or microfinance institutions. Trainers should be very comfortable in the role of group instructor and facilitator. We recommend a maximum ratio of 10 participants per trainer.

Where possible, the Trainer should assess the participants' level of understanding prior to beginning the session. In many, but not all, cases the game will be used to conclude a course in microfinance accounting. The impact of the game should serve to provide participants with an enthusiastic dose and durable reminder of the course content. For those who are playing the game as an independent learning tool, the game should provide a link between the general accounting knowledge they bring to the session and the field of microfinance.

OBJECTIVES

By the end of the session participants will be able to:
i. Practise skills in accounting and decision making
ii. Produce financial statements from information generated by their participation in a microfinance accounting game

TECHNIQUE / TIME

Game and discussion
8 hours (i.e.: one full working day to introduce, play and wrap-up the session)

MATERIALS

i. Overhead projector, overhead projector markers (optional for larger groups).
ii. Appropriate number of complete game sets - boards, cards and dice (we suggest that players use one single die per roll).
iii. The maximum suggested group size per board is 4-5 players. We recommend a maximum ratio of 1 trainer to 10 players.
iv. Playing pieces. Trainers will need to supply these. We suggest using local coins, buttons, etc.
v. Semi-annual expense cards to place on Square 26.
vi. Handouts (make photocopies):
    - H-1 Game Directions for Players
    - H-2 Sample Entries and Calculating Interest Revenue
    - H-3 Chart of Accounts
    - H-4 Opening Balance Sheet
    - H-5 Ledger paper for General Journal (distribute 2-3 per person)
    - H-6 Ledger paper for CASH Ledger (distribute 2 per person)
    - H-7 Ledger paper for General Ledger (distribute 2-3 per person)
    - H-8 Ending the Game Guide / Tracing Errors in the Trial Balance
    - H-9 Blank Trial Balance Sheets (distribute 2-3 per person)
    - H-10 Blank Income Statement
    - H-11 Closing Balance Sheet

It may be useful to have the following forms for use on an overhead projector:

- 0-1 Blank General Journal
- 0-2 Blank General Ledger - Cash 101
- 0-3 Sample Entries & Calculating Interest Revenue
- 0-4 Tracing Errors in the Trial Balance

ACTIVITIES

1. (2 minutes)

   Trainer introduces the session by telling participants that they will participate in an accounting game designed specifically for microfinance institutions (MFIs).

   During the game, participants will each be acting as Managers of separate small MFIs. The game is about activities of the MFI over a one-year period.

   The game is called Balancing Act: a Microfinance Accounting Game. It was developed by CALMEADOW, a Canadian NGO specializing in providing technical assistance to MFIs.

2. (5 minutes)

   Trainer introduces the game and some basics of play. Each participant will start the game with the same Balance Sheet - Assets, Liabilities and Equity. By virtue of rolling a die and moving around a game board they will encounter "transactions" that they will need to account for by keeping a General Journal and a Cash Ledger. The game proceeds for 52 weeks and the participants continue to make entries. At the end of the game each participant will produce Account Ledgers, a Trial Balance, Income Statement and a 'balanced' closing Balance Sheet. Each participant's statements will be different, depending on what squares they landed on during the game. The results will depend on chance and the luck of the die.

3. (5 minutes)

   Trainer places copies of the playing board so that every 4-5 participants can see what it looks like. (*The participants, if all playing in the same room, could be divided into playing groups at this point.*)

   Trainer shows the board and reads some entries from the squares aloud. Trainer states that each participant will record and account for their transactions individually. Participants are encouraged to discuss transactions and help each other but each participant is responsible for producing her/his own statements in the end. (*Trainer may elect to have participants work in pairs depending on group level, or let participants choose to work individually or in pairs.*)

4. (60 minutes)

   Trainer presents the instructions as noted in section M-2. (*Trainer may wish to distribute handouts that go along with the topics presented at the same time - namely H-1 and H-2. Alternatively, trainer may choose to give them at the end as a review.*)

   Trainer should not go into the details of ending the game at this point and only alert the participants to the closing entries and that detailed instructions will be distributed at the end of the game.

   Trainer may elect to work through one roll of the die with the group. (*If the trainer is using an overhead projector they may use 0-1 and 0-2 to work through a sample entry.*)

   Special emphasis should be given to sample transactions for loan disbursements and repayments. Trainer distributes H-3 to illustrate (*and may refer to 0-3*).

   Trainer distributes remainder of all needed information and forms: H4-H8.

   Before proceeding trainer should allow time for participants to read materials and be very sure that EVERYONE understands the rules of the game.

5. (5-6 hours)

   Trainer pre-assigns participants into sub-groups of 4-5 each (*if necessary and if not previously done*) and asks them to begin the game. Trainer should have also previously identified workspace for each group to work in/at, preferably in the same large room but at least in close proximity to each other.

It is imperative that trainers circulate around the room(s) while the game is being played to answer questions and give assistance as the need arises. It should also be used as an opportunity to evaluate the participants' level of understanding of basic principles.

As the trainers are circulating among the groups, they should distribute the handouts for ending the game (H-9 to H-12) as they see participants reaching square 52. (*The handouts are distributed individually when players need them to end the game. This is to prevent participants from being overwhelmed with paper while playing.*)

6. (2 minutes)

   When sufficient time has passed so that all, or the vast majority of, players have prepared closing financial statements, the trainer should stop the game.

7. (15 minutes)

   Trainer asks each player (or group) to discuss their individual results in terms of what happened at their MFI.

8. (10 minutes)

   Trainer then debriefs the group, processing what happened, drawing conclusions and discussing applications of the event.

9. (10 minutes)

   Trainer asks: What problems did you have in balancing your books? How did you find your mistakes? Trainer distributes and reviews H-13 and shows 0-4 Tracing Errors in the Trial Balance.

10. (15 minutes)

    Continue to process the game through questioning (be Socratic!)
    The following questions can be used as a guide for this discussion:
    - What did you think about playing the game?
    - What were the pros and cons?
    - What did you learn from playing the game?
    - What skills did you think the game reinforced?
    - What skills do you feel you have mastered?

11. (20 minutes)

    Trainer asks specifically: "What questions do you still have about the concepts/skills?" OR "What aspects of the principles of accounting and logistics of the game might future groups find most difficult to understand?" OR asks participants to answer: "I am still unsure of how to..." Trainer should note the questions and answer them thoroughly. (This is the last chance for review.)

12. (2 minutes)

    Ask: What will you do with what the game has taught you back in the office? (Expect answers such as employ new techniques; take a refresher course in...) Trainer once again thanks the participants for playing "BALANCING ACT" and closes the day with a round of applause for all.

BALANCING ACT: A Microfinance Accounting Game

GAME DIRECTIONS FOR TRAINERS

TO BEGIN THE GAME

- Each player makes a strategic decision regarding the amount of risk they wish to take on their investments - either high, medium or low.
- Once the decision is made, roll the die to determine the rate of return you will earn on your investments. Rates are calculated based on the following formula: (low risk rate = 1 x die; medium risk = 2 x die; high risk = 3 x die). *So if you have chosen medium risk and roll a 5 on the die then the rate of return on your investments will be 10% during the game*.
- The same roll of the die also determines the interest rate each player will pay on the debt they carry (concessional loans = ½ x die; commercial loans = 2 x die). *If you rolled a 5, this means your concessional loan rate is 2.5% and your commercial loan rate is 10%.*
- Record the interest rates in the space provided at the bottom of the Opening Balance Sheet for future reference.

PLAYING THE GAME

- Roll the die to determine who begins the game. The highest roll begins and the next person is on the left (ie: move clockwise from starter).
- A turn consists of rolling the die and moving a marker around the game board by the number indicated on the die. There are 52 squares in total and four different types of squares - Disbursement; Repayment; Opportunity; and General – as well as the half year square. Once on a square, players follow the instructions on the square and make the appropriate entries into their General Journal and Cash Ledger.

  Cash Ledger - players are asked to keep a Cash Ledger (a record of all cash transactions) during the game so that they know their cash balance at all times. This is necessary in order to know whether or not the player needs to borrow additional cash to make loans or pay for expenses, and/or whether or not the player has excess cash to invest. *For expenses less than $5,000, players have the option of using short-term credit or cash.*

  Line of Credit - if at any time during the game a player does not have enough cash to either (i) make loan disbursements, or (ii) pay expenses, s/he must access their line of credit. The annual interest rate charged is 15% flat payable annually. For simplicity, assume that the line of credit is never reduced (i.e. paid down) and is outstanding for the full year (rather than pro-rated based on the number of weeks the loan was outstanding). This means that the interest expense must be accrued at the end of the year. (*See sample journal entry on H-3*.)

LANDING ON A SQUARE

Disbursement Squares "D"

- When a player lands on a "D" square, s/he picks up a "D" card from the middle of the board and disburses loans in the amount stated on the card. All loans disbursed during the game are 12 month (52 week) loans at 26% flat annual rate with a lump sum payment due at the end of the loan term.
- Loan fees (5%) are collected when the loan is disbursed.
- All interest is collected and recorded upfront. However, since the interest represents 52 weeks of revenue, only a portion is recorded as interest received in this year and the remainder is recorded as deferred revenue to be recognized next year. The portion recorded as interest this year is calculated based on the number of weeks the loan will be outstanding this year (See sample journal entry on H-3).
  Note: if a player does not have enough cash to make the required loan disbursements, s/he must access the 'line of credit' as described earlier.

Repayment Squares "R"

- When a player lands on an "R" square, s/he picks up an "R" card from the middle of the board and records a loan repayment. Repayments received during the course of the game are from loans that were disbursed 52 weeks prior (with the same 26% flat annual rate of interest).
- As described above, when the loan was initially booked in the year prior, interest revenue was received upfront with a portion being recorded as interest revenue and a portion being recorded as deferred revenue. When a repayment is received, any deferred revenue is recognized now (See sample journal entry on H-3)

Opportunity Squares "?" *- Choice*

- Opportunity squares are represented on the game board by a question mark (?) indicating an opportunity for players to decide whether or not they wish to take advantage of the instructions on the square. There are two types of "opportunity squares" - 'Investments' and 'Long-term Debt'.
- Players may choose to take advantage of an Investment Opportunity if they have excess cash they want to find a productive use for. However, they may turn down this opportunity if (i) they have no cash to invest, or (ii) they are risk averse. (*Remember that the rate of return earned on investments was determined at the beginning of the game when each player chose low, medium, or high risk and rolled the die.*)
- Similarly, players may choose to take out a long-term loan if they are cash-short or they may choose not to if they have excess cash. Some players may choose to take a long-term loan, even if they are not cash-short, if they think they may land on a "D" square in the near future. The advantage of borrowing long-term is the lower interest rate (maximum of 12%) for long-term debt compared to the interest rate on the line of credit (15%).

General Squares

- The remaining squares represent typical transactions or events that an MFI experiences. Landing on a general square requires players to make accounting entries to record the transaction of the event.

Half Way Point - Square 26

All players must STOP on this square to:

- Calculate semi-annual operating expenses. Players will do this by picking a card on the square and following the directions.
- Disburse loans as indicated on the card.

RECORDING ENTRIES

A Handout (H-3) has been prepared showing step by step how loan disbursement and repayment entries are calculated and entered into the books. Since these entries are so key to playing the game, we suggest that the trainer work through the examples with the players (*using Overhead 0-3 if necessary*).

The following is a suggested example to work through:

Loan disbursements:

i. If $15,000 in loans was disbursed in the second week of the year, the General Journal entry is as follows:

Week #	Account Title and Explanation	Ref. *	**Debit**	**Credit**
2	Loans Outstanding - Current	102	15,000	
2	Cash	101		15,000

ii. If the loan has an up front fee equal to 5%, the calculation of Loan Fees earned is as follows:

LOAN FEES EARNED = Amount of Loan Disbursed x Loan Fee Rate

Loan Fees Earned = $15,000 x 5%

Loan Fees Earned = $750

The General Journal entry becomes:

Week #	Account Title and Explanation	Ref. *	**Debit**	**Credit**
2	Loans Outstanding - Current	102	15,000	
2	Cash	101		15,000
2	Cash	101	750	
2	Loan Fees	403		750

Note: the two entries into the Cash account could be consolidated into one Credit entry of $14,250. We show it as two entries for demonstration purposes. Players may choose the method that they are most comfortable with.

iii. Carrying on with the above example, the MFI collects full interest payment upfront, i.e.: at the time of disbursement, at a rate of 26% annual flat on its loans and the loan term is one year (52 weeks). The recognition of interest is split between two years as follows:

INTEREST REVENUE = Amount of Loan Disbursed x Interest Rate x
[Number of weeks the loan will be outstanding in the current year]

Note: In this example, the loan was disbursed in week 2.
Therefore it will be outstanding for 50 weeks this year.

Interest revenue = ($15,000 x 26% x 50/52)

Interest Revenue = $3,750

DEFERRED REVENUE = Amount of Loan Disbursed x Interest Rate x
[Number of weeks the loan will be outstanding in the next year]

Note: In this example, the loan was disbursed in week 2 of this year. Therefore it will be outstanding for 50 weeks this year and will remain outstanding for 2 weeks next year.

Interest revenue = ($15,000 x 26% x 2/52)

Interest Revenue = $150

The complete General Journal entry is:

Week #	Account Title and Explanation	Ref. *	**Debit**	**Credit**
2	Loans Outstanding - Current	102	15,000	
2	Cash	101		15,000
2	Cash	101	750	
2	Loan Fees	403		750
2	Interest Revenue (50/52 weeks)	401		3,750
2	Deferred revenue (2/52 weeks)	201		150

Note: The above entry uses accrual based accounting principals which the trainer should ensure all participants fully understand.

Loan Repayments:

i. When loan repayments of $15,000 are received on the second week of the year, for loans which were disbursed 52 weeks prior, the General Journal entry is as follows:

Week #	Account Title and Explanation	Ref. *	**Debit**	**Credit**
2	Cash	101	15,000	
2	Loans Outstanding - Current	102		15,000

ii. For an MFI that collects full interest revenue on a loan upfront and accrues the portion which comes due in the next year, a $15,000 current loan repayment in the second week of the year would have the following General Journal entry:

Week #	Account Title and Explanation	Ref. *	**Debit**	**Credit**
2	Cash	101	15,000	
2	Loans Outstanding - Current	102		15,000
2	Deferred Revenue (2/52 weeks)	201	150	
2	Interest Revenue (2/52 weeks)	401		150

ANTICIPATED QUESTIONS / DIFFICULTIES

- If a player lands on squares #13 and/or #39 be sure that the Investment account balance is calculated based on both the opening balance PLUS any investments made during the game.
- If a player is forced to borrow funds on the last day of the year to pay semi-annual operating expenses, they do NOT need to record an interest expense for those funds.
- When calculating semi-annual operating expenses, to determine the amount of expenses, each player calculates the size of their loan portfolio by taking the opening balance (gross loans outstanding) and adding any loan disbursements made during the game, and subtracting any loan repayments and loans written off during the game.
- When transferring entries from the General Journal to the General Ledger (G/L), the trainer should remind players to leave room in the General Journal for adjusting entries which will be made at the end of the game. Players will record adjusting entries in the Genera! Journal and then make a new "adjusted" Trial Balance which "adjusts" the Trial Balance to include all year-end adjusting entries.
- When the trainer and players are discussing results at the end of the game, the trainer should keep in mind that while attempts were made to make the game and resulting Financial Statements realistic, certain simplifications were made which directly affect players' results. For example, paying interest expense on debt for a full year regardless of when the debt was incurred and, likewise, earning interest on investments for a full year. These types of simplifications may overstate actual financial costs and/or financial income.
- Certain journal entries may be difficult for some players. Trainers may need to review the following entries:

i. Write-off a $350 current loan in week 41:

Week #	Account Title and Explanation	Ref. *	**Debit**	**Credit**
41	Loan Loss Reserve	104	350	
41	Loans Outstanding - Current	102		350

ii. Make a Loan Loss Provision of $750:

Week #	Account Title and Explanation	Ref. *	**Debit**	**Credit**
52	Provision for Loan Losses	503	750	
52	Loan Loss Reserve	104		750