

Finance - Self Study Guide for Staff of Micro Finance Institutions

LESSON 6

CASH FLOW MANAGEMENT

Objectives: Central to financial management of a micro-finance organization is effective management of its cash flow. Too much cash in a branch or organization results in lost income, while too little cash results in missed loan opportunities, delayed bill payments or high borrowing costs (overdraft charges). It is important to forecast cash needs accurately to reduce the amount of idle funds yet have enough cash available for operations.

All staff members of a micro-finance organization play a role in forecasting cash needs and ensuring adequate liquidity at the branch level. This lesson will discuss how to forecast cash requirements and how to calculate liquidity ratios, an effective cash management practice.

The lesson will focus on the branch forecast. You will learn how to manage the flow of cash in a branch including forecasting cash requirements. Topics covered include:

- Forecasting cash flows
- Cash shortage/idle funds
- Liquidity ratios



Forecasting Cash Flows

Why does the branch of a microfinance organization need to hold cash? Some examples are: bill payment, loan disbursement, payment of salaries, purchase of supplies, transportation expenses, emergencies, etc.

To forecast cash requirements, the organization must calculate its anticipated cash receipts and its anticipated cash disbursements. A cash forecast is created showing the cash inflows and cash outflows expected over a period of time. The cash forecast:

- i) identifies points in time when there could be a shortage or an excess of cash;
- ii) identifies when there might be a need for a large amount of cash; and
- iii) enables the organization or branch to plan a smooth cash flow.

The first task in forecasting cash requirements is to select the period of time to be covered. If cash flows are expected to be stable, then the cash forecast can be for a longer term. If cash flows are uncertain, a shorter period should be selected. For a micro-finance organization, a cash forecast should be created on a monthly basis.

(Usually a minimum of three months should be forecast, but the forecast should not exceed a period of time beyond which the projections become so uncertain as to be of little value.) Cash flow may be affected by the season or the time of year (holidays), so monthly cash forecasts will show the fluctuation of cash requirements from month to month.

Only actual cash items are included in a cash forecast. As explained in the Accounting Study Guide, depreciation or Loan loss provisions do not affect cash flow. List potential cash items for a branch of a typical micro-finance organization. Examples of cash inflows are: loan repayment, savings collected, service charges, bank interest, and funds from head office. Examples of cash outflows are: loan disbursement, debt repayment, transportation costs, salaries, benefits, supply purchases, training materials, rent, utilities, food, etc.

The cash forecast begins with the determination by the Credit Officers of the amount of loan disbursements and loan repayments that are expected in the month. It then incorporates other cash items as fixed costs and variable costs. This will usually be done by the Branch Manager or Accountant. The Net Cash requirements for the month are then determined by adding all cash inflows and subtracting cash outflows.

A shortage of funds requires a request to Head Office for additional funds. An excess of funds requires a decision as to whether funds should be returned to Head Office or held in local short term investments. Some idle funds should be held at all times to compensate for late payments or to pay for emergencies. This amount needs to be balanced with the loss of income experienced when holding idle funds. Generally, Head Office will determine the appropriate amount of idle funds to be held at each branch. All branch forecasts (or cash requirements) need to be consolidated to result in a cash flow forecast for the organization as a whole. If the organization finds it needs extra cash, it will need to borrow funds or access funds from donors.

The cash flow forecast must consider the recovery rate in each branch individually. If loan repayments due are \$100,000 but the branch only has a 90% repayment rate, then estimated loan repayments must be adjusted to \$90,000.

Refer to the Branch Cash Flow Forecast below:

BRANCH CASH FLOW FORECAST

Opening Cash At Beginning of Month	Loan Payments Due (Including Interest)	On-time Repayment Rate (%)	Expected Loan Payments	Expected Loan fees Collected	Expected Savings Collected	Expected Loan Disbursements	Expected Payments Fixed Costs	Expected Payments Variable Costs	Expected Savings Withdrawals
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
Jan 1/95 50,000	600,000	65%	390,000	9,000	15,000	300,000	50,000	30,000	0
Feb 1/95 50,000	400,000	75%	300,000	8,250	13,750	275,000	50,000	27,000	5,000
Mar 1/95 50,000	375,000	95%	356,250	10,500	17,500	350,000	50,000	33,000	0

Note: At the beginning of each month, the maximum cash per branch is 50,000.

The calculation for determining Net Cash at the end of each month is as follows:

$$\text{Net cash} = (A + D + E + F) - (G + H + I + J)$$

By looking at the above example, we can calculate the Net Cash at the end of each month and determine how much cash the Branch will return to Head Office or request from Head Office:

$$\begin{aligned} \text{Net Cash on January 31, 1995 is} & \quad (50,000 + 390,000 + 9,000 + 15,000) \\ & - (300,000 + 50,000 + 30,000) \\ & = 84,000 \text{ (return 34,000 to Head Office)} \end{aligned}$$

$$\begin{aligned} \text{Net Cash on February 28, 1995 is} & \quad (50,000 + 300,000 + 8,250 + 13,750) \\ & - (275,000 + 50,000 + 27,000 + 5,000) \\ & = 15,000 \text{ (request 35,000 from Head Office)} \end{aligned}$$

$$\begin{aligned} \text{Net Cash on March 31, 1995 is} & \quad (50,000 + 356,250 + 10,500 + 17,500) \\ & - (350,000 + 50,000 + 33,000) \\ & = 1,250 \text{ (request 48,750 from Head Office)} \end{aligned}$$

Complete the following Branch Cash Flow Forecast Exercise. Calculate the net cash at the end of each month, indicating how much cash is to be returned to Head Office or alternatively, requested from Head Office. Consider how your cash flow forecasts would be affected if the repayment rate *decreased*. Cash inflows will be lower and cash outflows should remain the same resulting in a higher cash requirement.

BRANCH CASH FLOW FORECAST EXERCISE

Opening Cash At Beginning of Month	Loan Payments Due (Including Interest)	On-time Repayment Rate (%)	Expected Loan Payments	Expected Loan fees Collected	Expected Savings Collected	Expected Loan Disbursements	Expected Payments Fixed Costs	Expected Payments Variable Costs	Expected Savings Withdrawals
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
Jan 1/95 100,000	600,000	75%	450,000	18,000	27,000	450,000	90,000	45,000	3,000
Feb 1/95 100,000	650,000	85%	552,500	15,000	22,500	375,000	90,000	37,500	1,000
Mar 1/95 100,000	450,000	98%	441,000	16,500	24,000	400,000	90,000	40,000	0

Note: At the beginning of each month, the maximum cash per branch is 100,000.

Calculate* the net cash at the end of each month, indicating how much cash is to be returned to Head Office or requested from Head Office.

Net Cash on January 31, 1995 = _____

Net Cash on February 28, 1995 = _____

Net Cash on March 31, 1995 = _____

* *Answers at end of lesson*

Cash Shortage/Idle Funds

Forecasting cash needs accurately is important for a number of reasons. If too little cash is on hand, it may not be possible to disburse new loans in a timely fashion. (This can have consequences not only for profitability but also for delinquency. If there is not enough cash available to make loans, borrowers will have less incentive to repay existing loans since they will think that a new loan is not available to them. The incentive of continued access to credit contributes largely to the on-time repayment of loans.) In addition to missed payments or opportunities, too little cash on hand can result in additional costs. For example, if a branch inaccurately forecasts their cash requirements and runs short, they will have to borrow short-term funds (if available) which are generally expensive.

Another example is the construction of a new branch office. If cash needs are not forecast correctly and there is not enough money to pay for materials or contractors, construction may have to be postponed until additional funds can be sent to the branch. If the construction is postponed, not all the costs associated with it can be postponed. Contractors and other hired workers may have to be paid whether construction continues or not. Also, the move to the new branch office may have to be delayed, thereby incurring additional rent for the old building.

If an alternate source of short-term funds, such as a bank overdraft, is available for the organization (or branch), the interest rate is likely to be higher than budgeted. There are also transaction costs, associated with having to borrow additional funds, which must be considered. Thus inaccurate cash flow forecasting resulting in a shortage of cash can increase costs.

On the other side, *too much* cash can be expensive as well. Cash that sits idle does not earn any income and consequently affects profitability. If a branch has excess cash it is losing the interest revenue which it could be earning if that cash were in the hands of borrowers. If the funds are borrowed, then the organization is not only foregoing revenue but also incurring a cost for that money. At the very least, excess cash should be deposited in the bank in a liquid account (easily accessible) to earn *some* interest.

Idle Funds refer to funds which an organization has that are not earning any revenue, or less revenue than could be earned if lent out to borrowers.

$$\text{Idle Funds Ratio} = \frac{\text{Cash} + \text{Near-Cash}}{\text{Total Outstanding Portfolio}}$$

Near-cash refers to non-interest bearing deposits and deposits that earn a very low rate of interest. Near-cash is so named because generally the money is highly liquid, i.e. available on demand.

When projecting future revenue, it is necessary to recognize that a certain amount of funds held by the organization will not be earning the effective interest rate charged to clients. A balance must be reached between how much idle cash or near-cash is required for liquidity purposes and how much revenue is being lost by having idle funds. It is important to minimize the amount of idle funds yet still ensure that there is adequate cash in the system for loan disbursement and bill payment, etc. This is done by calculating the liquidity adequacy ratio.

Liquidity Ratio

Liquidity refers to the ability of a business to meet the immediate demands for cash, e.g., for loan disbursement, bill payments, and debt repayment.

One of the quickest ways to seriously undermine a micro-credit programme is to stop lending funds. If an organization finds that it does not have enough money to meet anticipated loan disbursements, it must borrow short-term funds. Borrowing money short-term is generally expensive and consequently affects the profitability of an organization. By calculating the Liquidity Adequacy ratio, management can ensure that there is enough cash available for disbursements and also determine whether or not there is too much idle cash in the organization.

$$\text{Liquidity Adequacy} = \frac{\text{Cash \& Expected Cash Inflows in the Period}}{\text{Anticipated Cash Disbursements in the Period}}$$

The liquidity ratio should *always* be greater than one.

The accuracy of the Liquidity Adequacy ratio is dependent on the accuracy of the projections of cash receipts and disbursements. The period chosen can vary but is generally between one and three months.

Answer to Branch Cash Flow Forecast Exercise

$$\text{NET CASH} = (A + D + E + F) - (G + H + I + J)$$

$$\begin{aligned} \text{Net Cash on Jan 31, 1995} &= (100,000 + 450,000 + 18,000 + 27,000) - (450,000 + 90,000 + 45,000 + 3,000) \\ &= 7,000 \text{ (request 93,000 from Head Office)} \end{aligned}$$

$$\begin{aligned} \text{Net Cash on Feb 28, 1995} &= (100,000 + 552,500 + 15,000 + 22,500) - (375,000 + 90,000 + 37,500 + 1,000) \\ &= 186,500 \text{ (return 86,500 to Head Office)} \end{aligned}$$

$$\begin{aligned} \text{Net Cash on Mar 31, 1995} &= (100,000 + 441,000 + 16,000 + 24,000) - (400,000 + 90,000 + 40,000) \\ &= 51,000 \text{ (request 49,000 from Head Office)} \end{aligned}$$



EXERCISES

Complete the “Cash Flow Management” Exercises on the next page.

Cash Flow Management

EXERCISES

1. How does too much or too little cash cause difficulties for a micro-finance organization?
2. Give two examples of non-cash expenses for an organization.
3. What are idle funds? What is the formula for the Idle Funds Ratio?
4. What does liquidity refer to?
5. Give the formula for the liquidity ratio.

6. The following revenues and expenses were incurred by a branch for the month of January 1995:

<u>Activity</u>	<u>KSh</u>
Loan Disbursements	100,000
Interest Expense	3,000
Fixed Asset Purchase	15,000
Salaries	30,000
Rent	20,400
Utilities	5,200
Transportation	4,000
	<u>177,600</u>

The branch received KSh. 125,000 in loan payments, KSh. 30,000 from loan fees and collected KSh. 5,000 in forced savings. The branch's opening balance January 1, 1995 was KSh. 20,000.

The branch manager must create a cash budget for February, 1995 taking into consideration the following assumptions for February, 1995:

- i. loan payments due (including interest) are KSh. 135,000
- ii. the on-time repayment rate is expected to be 90%
- iii. loan disbursements will be increased by 10% from the previous month
- ii. fixed asset purchases of the branch will be reduced to KSh. 5,000
- iii. salaries, interest and transportation expenses will be the same as the previous month
- iv. rent will be increased by 2% from the previous month
- v. utilities expenses will be increased by KSh. 200
- vi. loan fees will be increased by 10% from previous month
- vii. borrowers are required to save 5% of the loan received
- viii. the maximum monthly opening cash balance a branch can have is KSh. 20,000
- ix. no borrower savings will be withdrawn.

From the above information, calculate the cash requirement of a Branch for the next month using the sample Branch Cash Forecast outline provided.

BRANCH CASH FLOW FORECAST

Opening Cash At Beginning of Month	Loan Payments Due (Including Interest)	On-time Repayment Rate (%)	Expected Loan Payments	Expected Loan fees Collected	Expected Savings Collected	Expected Loan Disbursements	Expected Payments Fixed Costs	Expected Payments Variable Costs	Expected Savings Withdrawals
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
Jan 1/95 100,000									
Feb 1/95 100,000									

Net Cash on January 31, 1995 = _____

Net Cash on February 28, 1995 = _____