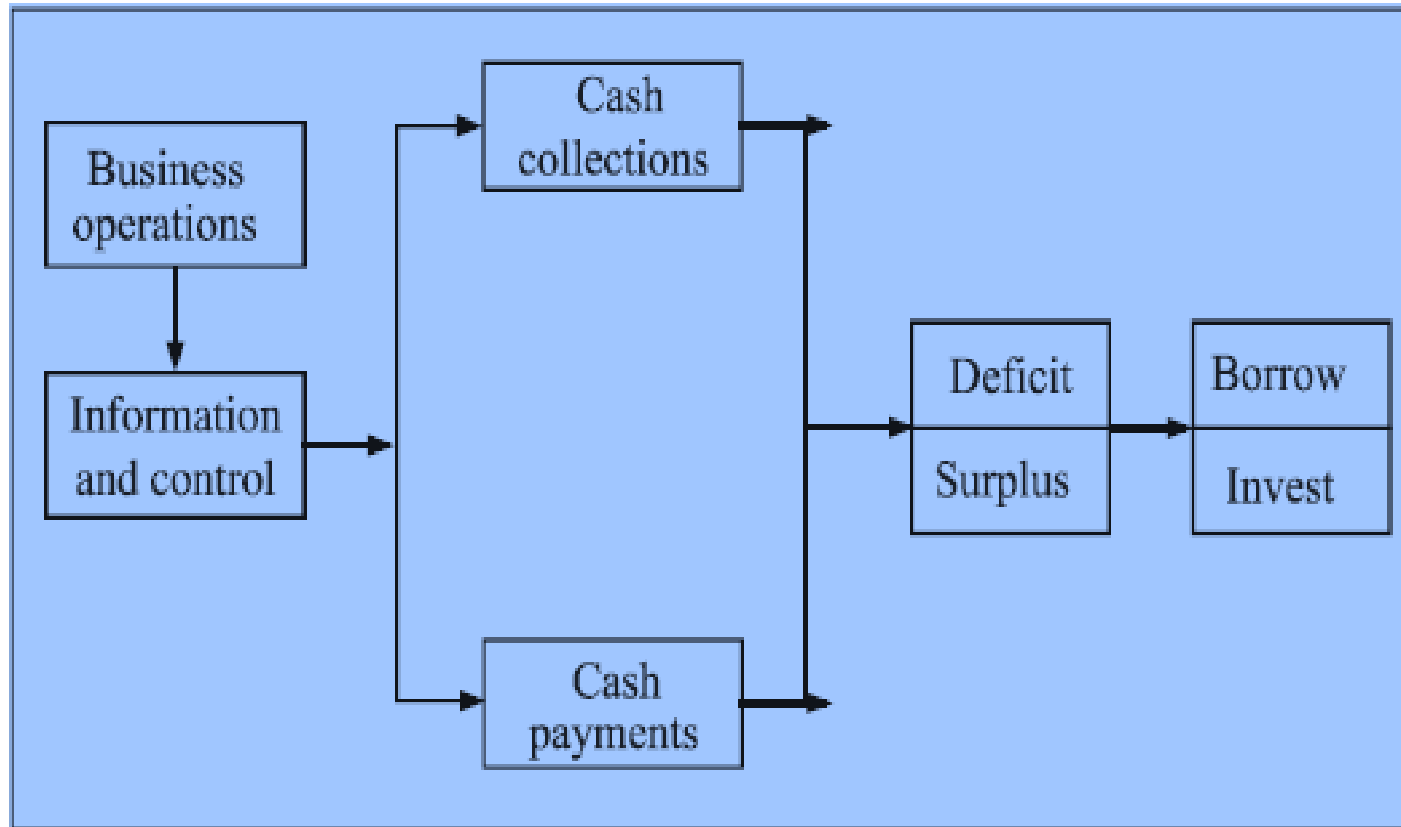# Management of Cash

Cash Management

- *Cash management is concerned with the managing of:*
  - *cash flows into and out of the firm,*
  - *cash flows within the firm, and*
  - *cash balances held by the firm at a point of time by financing deficit or investing surplus cash*

Cash management cycle

Four Facets of Cash Management

- *Cash planning*

- *Managing the cash flows*

- *Optimum cash level*

- *Investing surplus cash*

Motives for Holding Cash

- The transactions motive
- The precautionary motive
- The speculative motive

Cash Planning

- **Cash planning is a technique to plan and control the use of cash.**

- **Cash Forecasting and Budgeting**
  - **Cash budget is the most significant device to plan for and control cash receipts and payments.**
  - **Cash forecasts are needed to prepare cash budgets.**

Short-term Cash Forecasts

- *The important functions of short-term cash forecasts*
  - To determine operating cash requirements
  - To anticipate short-term financing
  - To manage investment of surplus cash.
- *Short-term Forecasting Methods*
  - The receipt and disbursements method
  - The adjusted net income method.

The Receipt and Disbursements Method

- **The virtues of the receipt and payment methods are:**

  It gives a complete picture of all the items of expected cash flows.

  It is a sound tool of managing daily cash operations.

- **This method, however, suffers from the following limitations:**

1. Its reliability is reduced because of the uncertainty of cash forecasts. For example, collections may be delayed, or unanticipated demands may cause large disbursements.

2. It fails to highlight the significant movements in the working capital items.

The Adjusted Net Income Method

- **The benefits of the adjusted net income method are:**

  It highlights the movements in the working capital items, and thus helps to keep a control on a firm's working capital.

  It helps in anticipating a firm's financial requirements.

- **The major limitation of this method is:**

  It fails to trace cash flows, and therefore, its utility in controlling daily cash operations is limited.

Long-term Cash Forecasting

- **The major uses of the long-term cash forecasts are:**

✓   It indicates as company's future financial needs, especially for its working capital requirements.

✓   It helps to evaluate proposed capital projects. It pinpoints the cash required to finance these projects as well as the cash to be generated by the company to support them.

✓   It helps to improve corporate planning. Long-term cash forecasts compel each division to plan for future and to formulate projects carefully.

Managing Cash Collections and Disbursements

- **Accelerating Cash Collections**
  - *Decentralised Collections*
  - *Lock-box System*

- *Controlling Disbursements*
  - *Disbursement or Payment Float*

Features of Instruments of Collection in India

Instrument	Pros	Cons
1. Cheques	• No charge • Payable through clearing • Can be discounted after receipt • Low discounting charge • Requires customer limits which are inter changeable with overdraft limits	• Can bounce • Collection times can be long • Collection charge
2. Drafts	• Payable in local clearing • Chances of bouncing are less	• Cost of collection • Buyers account debited on day one
3. Documentary bills	• Low discounting charge • Theoretically, goods are not released till payments are made or the bill is accepted	• Not payable through clearing • High collection cost • Long delays
4. Trade bills	• No charge except stamp duty • Can be discounted. • Discipline of payment on due date	• Procedure is relatively cumbersome • Buyers are reluctant to accept the due date discipline
5. Letters of credit	• Good credit control as goods are released on payment or acceptance of bill • Seller forced to meet delivery schedule because of expiry date.	• Opening charges • Transit period interest • Negotiation charges • Need bank lines to open L/C • Stamp duty on usance bills

Clearing

- The **clearing process** refers to the exchange by banks of instruments drawn on them, through a **clearinghouse**.

- Instruments like cheques, demand drafts, interest and dividend warrants and refund orders can go through clearing.

- Documentary bills, or promissory notes do not go through clearing.

- The clearing process has been highly automated in a number of countries.

Controlling Disbursements

- Delaying disbursement results in maximum availability of funds. However, the firms that delay in making payments may endanger its credit standing.

- While, for accelerated collections a decentralized collection procedure may be followed, for a proper control of disbursements, a centralized system may be advantageous.

- Some firms use the technique of '**playing the float**' to maximize the availability of funds. When the firm's actual bank balance is greater than the balance shown in the firm's books,

  the difference is called **disbursement** or **payment float**.

Optimum Cash Balance

- **There are two models which can be used to calculate the optimum balance of cash to be maintained . They are**

❑**Optimum Cash Balance under Certainty: Baumol's Model**

❑**Optimum Cash Balance under Uncertainty: The Miller–Orr Model**

Baumol's Model–Assumptions:

- The firm is able to forecast its cash needs with certainty.
- The firm's cash payments occur uniformly over a period of time.
- The opportunity cost of holding cash is known and it does not change over time.
- The firm will incur the same transaction cost whenever it converts securities to cash.

Baumol's Model

- The firm incurs a **holding cost** for keeping the cash balance. It is an opportunity cost; that is, the return foregone on the marketable securities. If the opportunity cost is k, then the firm's holding cost for maintaining an average cash balance is as follows:

$$\text{Holding cost} = k(C/2)$$

- The firm incurs a **transaction cost** whenever it converts its marketable securities to cash. Total number of transactions during the year will be total funds requirement, *T*, divided by the cash balance, *C*, i.e., *T/C*. The per transaction cost is assumed to be constant. If per transaction cost is c, then the total transaction cost will be:
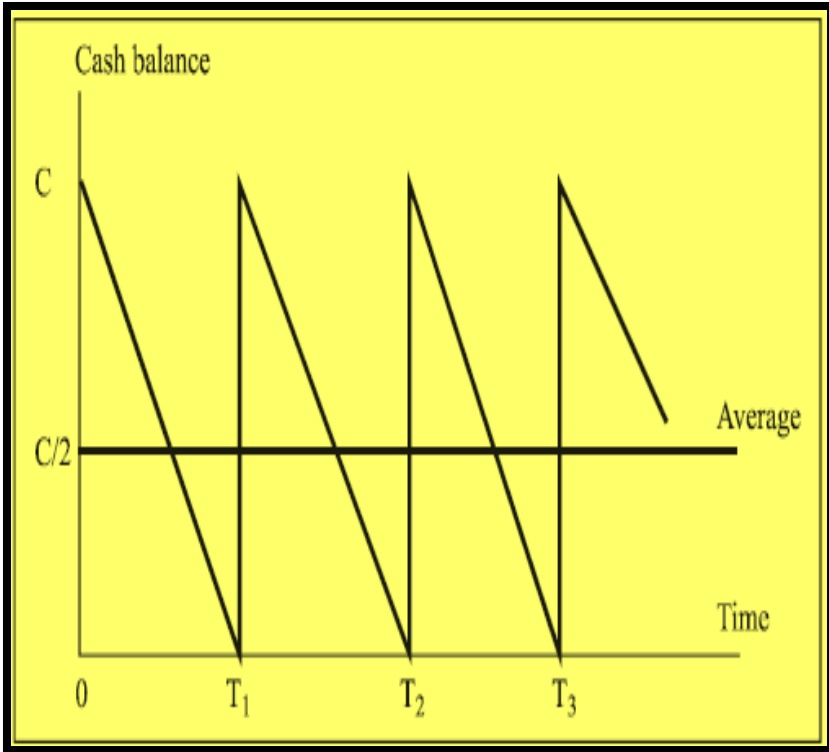
$$\text{Transaction cost} = c(T/C)$$
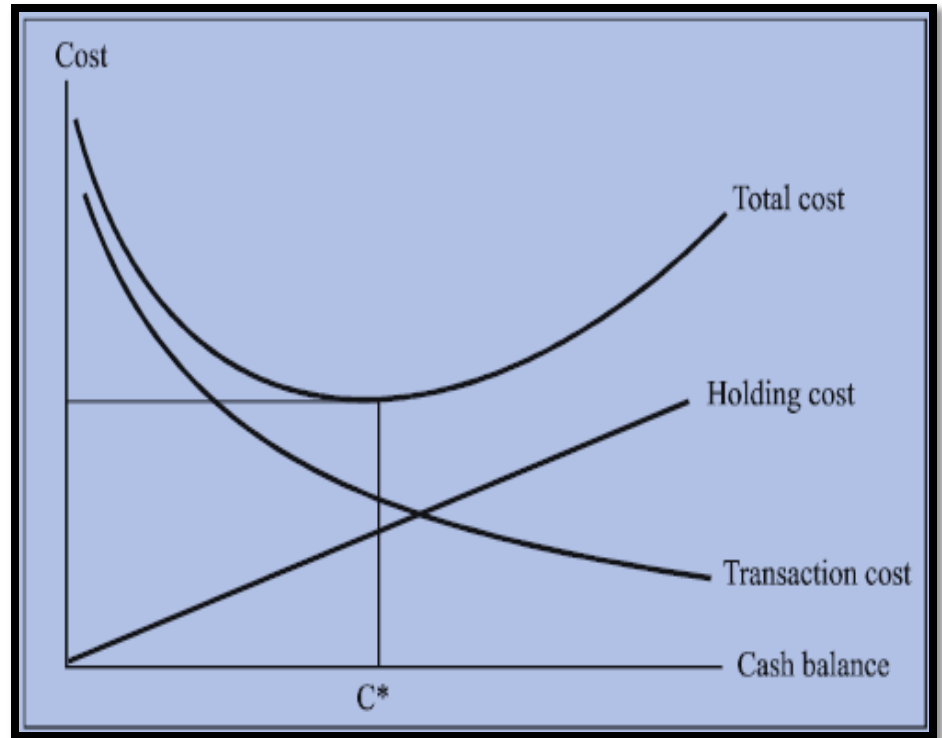
- The total annual cost of the demand for cash will be:

$$\text{Total cost} = k(C/2) + c(T/C)$$

- The optimum cash balance, *C**, is obtained when the total cost is minimum. The formula for the optimum cash balance is as follows:

$$C^* = \sqrt{\frac{2cT}{k}}$$

Baumol's model for cash balance

Cost trade-off: Baumol's model

The Miller–Orr Model

- The MO model provides for two control limits–the upper control limit and the lower control limit as well as a return point.

- If the firm's cash flows fluctuate randomly and hit the upper limit, then it buys sufficient marketable securities to come back to a normal level of cash balance (the return point).

- Similarly, when the firm's cash flows wander and hit the lower limit, it sells sufficient marketable securities to bring the cash balance back to the normal level (the return point).

Miller-Orr model
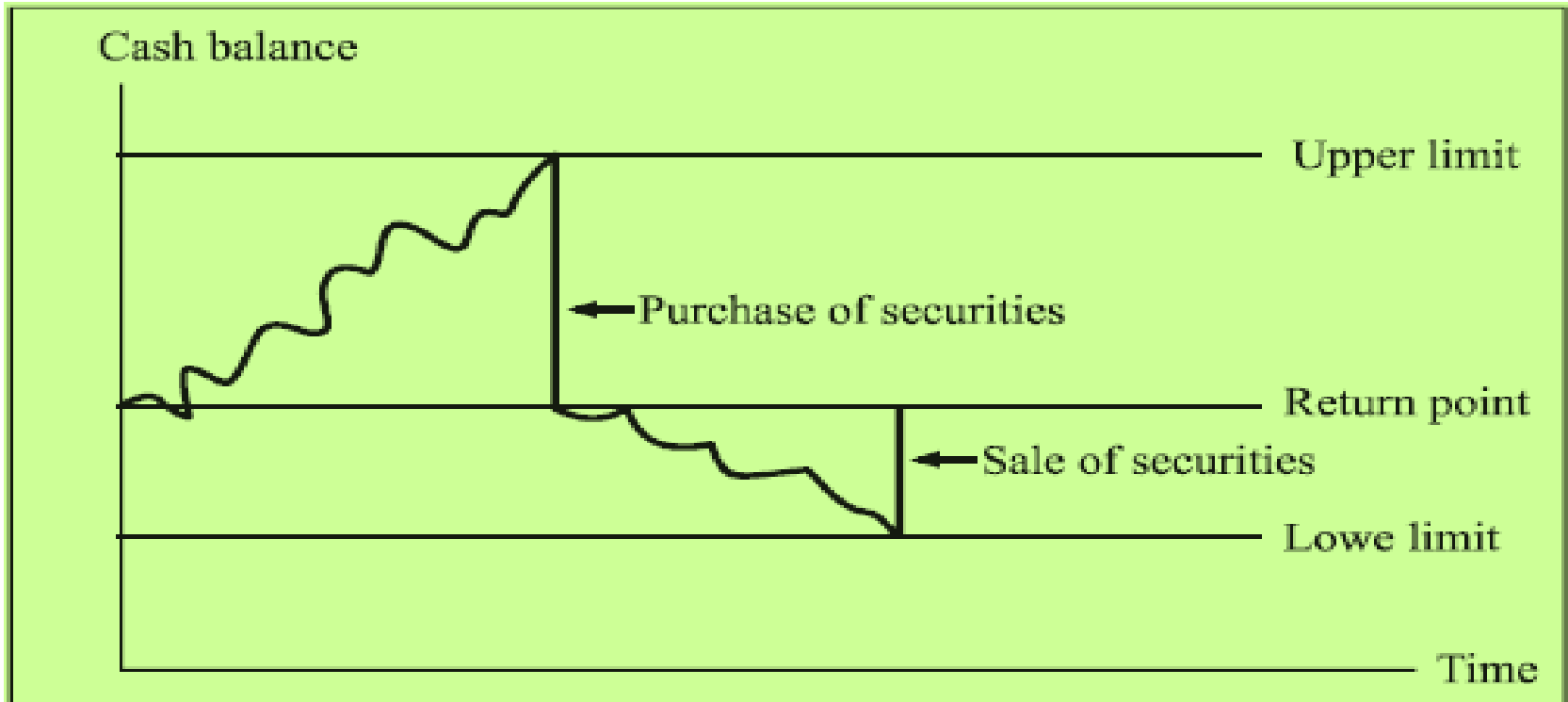
The Miller-Orr Model

- The difference between the upper limit and the lower limit depends on the following factors:
  - the transaction cost (c)
  - the interest rate, (i)
  - the standard deviation (σ) of net cash flows.
- The formula for determining the distance between upper and lower control limits (called Z) is as follows

$$(\text{Upper Limit} - \text{Lower Limit}) = (3/4 \times \text{Transaction Cost} \times \text{Cash Flow Variance} / \text{Interest Rate})^{1/3}$$

$$\text{Upper Limit} = \text{Lower Limit} + 3Z$$

$$\text{Return Point} = \text{Lower Limit} + Z$$

The net effect is that the firms hold the average the cash balance equal to:

: $\qquad$ Average Cash Balance $=$ Lower Limit $+ 4/3Z$

INVESTING SURPLUS CASH IN MARKETABLE SECURITIES

- **Selecting Investment Opportunities:**
  - *Safety,*
  - *Maturity, and*
  - *Marketability*.

Short-term Investment Opportunities:

- *Treasury bills*
- *Commercial papers*
- *Certificates of deposits*
- *Bank deposits*
- *Inter-corporate deposits*
- *Money market mutual funds*