Cash Management

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What is Cash?

- In narrow sense: currency and generally accepted equivalents of cash like cheques, drafts etc.
- In broad sense: includes near-cash assets, such as marketable securities and time deposits in banks.
  - They can be readily sold and converted into cash.
  - Can serve as a reserve pool of liquidity.
  - Also provide short term investment outlet for excess cash.

Meaning of 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

Four areas of Cash management

- Cash planning
- Managing the cash flows
- Optimum cash level
- Investing surplus cash

Motives of holding cash

- Transaction motive
- Precautionary motive
- Speculative motive
- Compensating motive

Transaction motive

- Holding of cash to meet routine cash requirements to finance the transactions which a firm carries on in the ordinary course of business.
- Cash is held to pay for goods or services. It is useful for conducting our everyday transactions or purchases.

Precautionary motive

- The cash balances held in reserve for random and unforeseen fluctuations in cash flows.
- A cushion to meet unexpected contingencies.
  - Floods, strikes and failure of imp customers
  - Unexpected slowdown in collection of accounts receivable
  - Sharp increase in cost of raw materials
  - Cancellation of some order of goods
- Defensive in nature

Speculative motive

- Is a motive for holding cash/near-cash to quickly take advantage of opportunities typically outside the normal course of business.
- Positive and aggressive approach
- Helps to take advantage of:
  - An opportunity to purchase raw materials at reduced price
  - Make purchase at favorable prices
  - Delay purchase on anticipation of decline in prices
  - Buying securities when interest rate is expected to decline

Compensating motive

- Is a motive for holding cash/near-cash to compensate banks for providing certain services or loans.
- Clients are supposed to maintain a minimum balance of cash at the bank which they cannot use themselves.

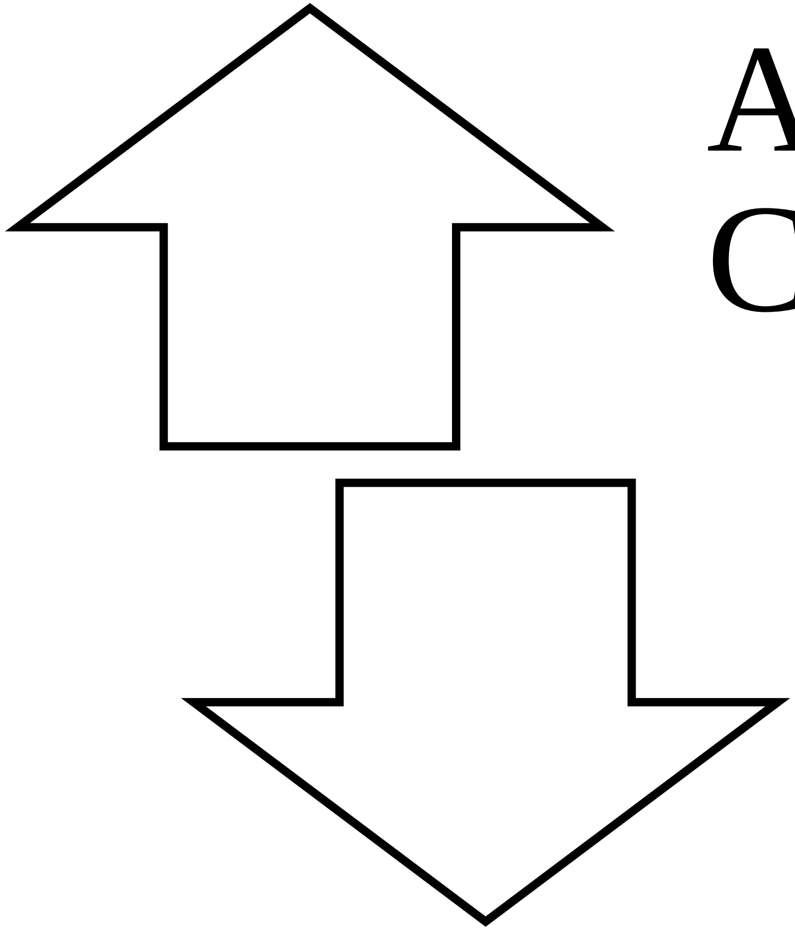
Objectives of Cash management

- Meeting payments schedule
    - It prevents insolvency relationship with bank is not constrained
    - Helps in fostering good relationships
    - Cash discount can be availed
    - Strong credit rating
    - Take advantage of business opportunities
    - Can meet unanticipated cash expenditure with a minimum of strain.
- Minimizing funds committed to cash balances
    - High level of cash: large funds remain idle
    - Low level of cash: failure to meet payment schedule

Factors determining cash needs

- Synchronization of cash needs
- Short costs:
  - Transaction costs
  - Borrowing costs
  - Loss on cash discount
  - Cost associated with deterioration of the credit
  - Penalty rates
- Excess cash balance costs
- Procurement and Management
- Uncertainty and Management

Managing cash



Accelerating
Cash Collections

Controlling
Disbursements

Cash Management Models

- A number of mathematical model have been to develop to determined the optimal cash balance.
- Two of such model are as follow;
  - William J. Baumol's inventory model
  - M. H. Miller and Daniel Orr’s Stochastic model

William J. Baumol's inventory model

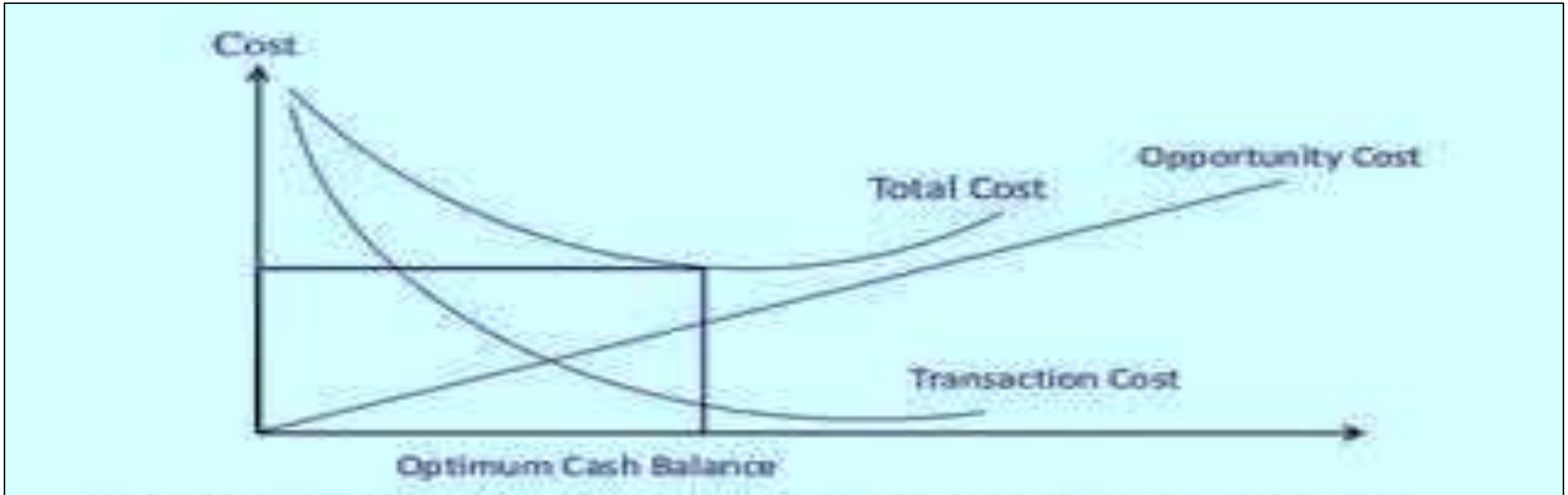
- William J. Baumol (1952) suggested that cash may be managed in the same way as any other inventory and that the inventory model could reasonably reflect the cost – volume relationships as well as the cash flows.
- In this way, the economic order quantity (EOQ) model of inventory management could be applied to cash management.
- It provides a useful conceptual foundation for the cash management problem.

Terms used in model

- The cost of money is the opportunity cost of holding money instead of investing it, depending on the rate of interest.
- The cost of any decision includes the cost of the most forgone alternative.
- The cost of money is the opportunity cost of holding money in hands instead of investing it.
- In a financial sense, transaction costs include brokers' commissions and spreads, which are the differences between the price the dealer paid for a security and the price the buyer pays.

Baumol's model of cash management

- Trades off between opportunity cost or carrying cost or holding cost & the transaction cost. As such firm attempts to minimize the sum of the holding cash & the cost of converting marketable securities in to cash.
- Helps in determining a firm's optimum cash balance under certainty



(Baumol's Model : Tradeoff Between Holding cost and transaction cost)

Assumptions of model

- Cash needs of the firm is known with certainty
- Cash Disbursement over a period of time is known with certainty
- Opportunity cost of holding cash is known and remains constant
- Transaction cost of converting securities into cash is known and remains constant

$$C = \frac{\sqrt{2AF}}{O}$$

- C = Optimum Balance
- A = Annual Cash Distribution
- F = Fixed Cost Per Transaction
- O = Opportunity Cost Of Holding

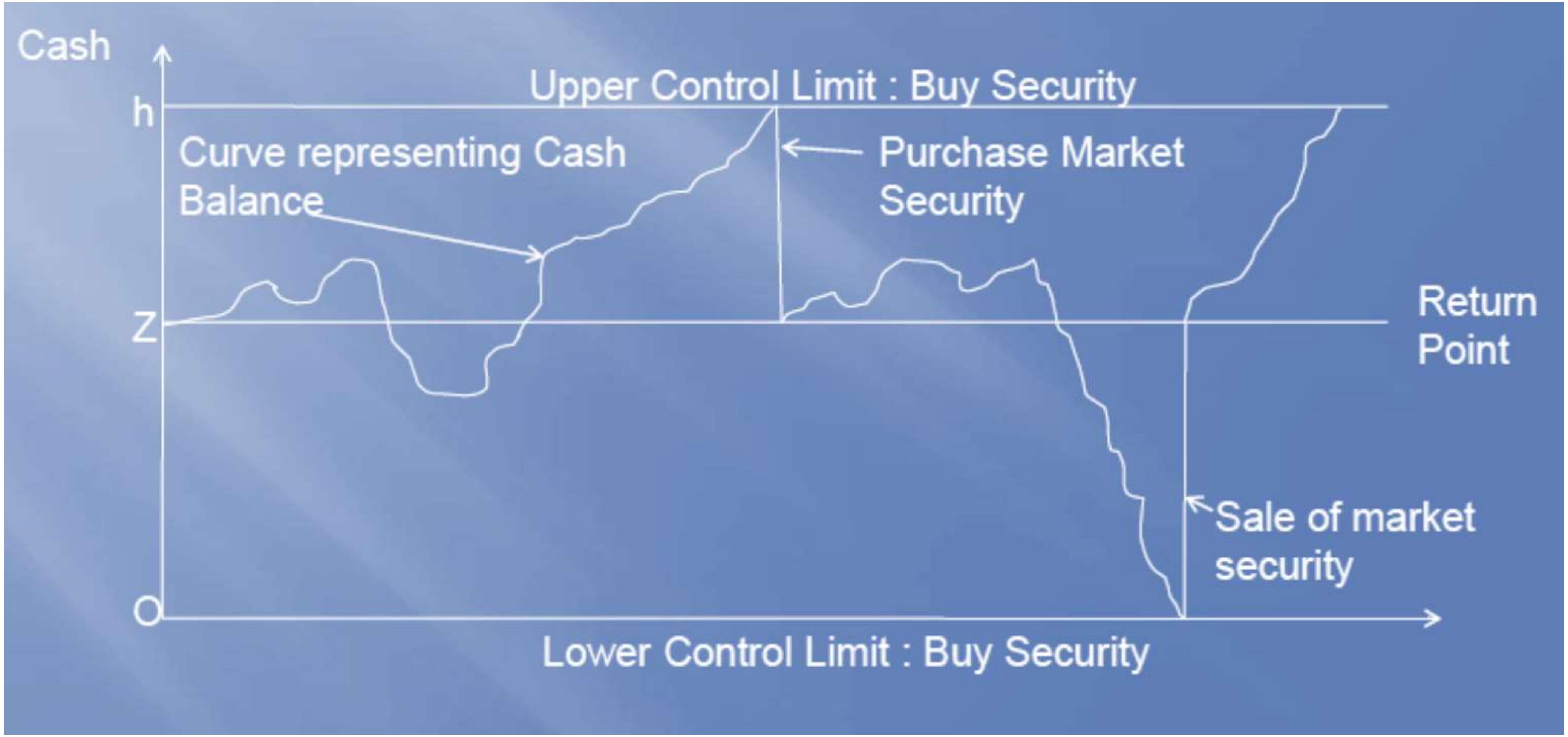
Application of model

- The Baumol’s model enables companies to find out their desirable level of cash balance under certainty.
- The Baumol’s model of cash theory relies on the tradeoff between the liquidity provided by holding money (the ability to carry out transactions) and the interest foregone by holding one's assets in the form of non-interest bearing money.
- The key variables of the demand for money are then the nominal interest rate, the level of real income which corresponds to the amount of desired transactions and to a fixed cost of transferring one's wealth between liquid money and interest bearing assets

MH Miller and Daniel Orr's Stochastic Model

- The Miller and Orr model of cash management is one of the various cash management models in operation.
- It is an important cash management model as well.
- It helps the present day companies to manage their cash while taking into consideration the fluctuations in daily cash flow.
- As per the Miller and Orr model of cash management the companies let their cash balance move within two limits
  - Upper Control limit
  - Lower Control Limit

MH Miller and Daniel Orr's Stochastic Model



MH Miller and Daniel Orr’s Stochastic Model

- Along with a return point when the cash balance touches the upper Control limit (h), the marketable security is purchased to the extend till it reaches normal cash balance (Z)
- In the same manner when the cash balance touches lower limit (o), the firm Will Sell the Marketable security to the extent till it reaches normal cash Balance (Z)

Benefits and Limitations of model

- Allows for net cash flow in a random fashion. transfer can take place at any time and are instantaneous with a fixed transfer cost.
- Produce control limit can be used as basis for balance management

- May prove difficult to calculate.
- Monitoring needs to be calculated for the organizations benefits becomes a tedious Work.

Application

- Finding out the approximate prices at which the salable securities could be sold or bought
- Deciding the minimum possible levels of desired cash balance
- Checking the rate of interest
- Calculating the SD (Standard Deviation) of regular cash flows
- This Stochastic model can be employed even in extreme uncertainty
- When the cash flow fluctuate violently in short period it will give optimal result

References

- https://www.accountingnotes.net/financial-management/cash-management-models/top-2-cash-management-models-with-diagram/11114

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