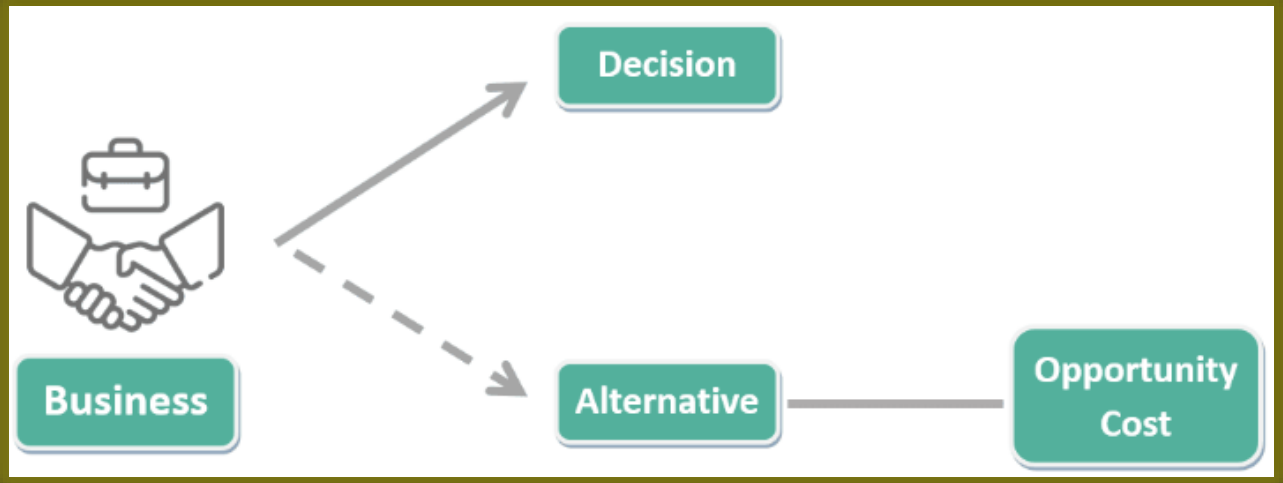
Chapter 02

Fundamental Principles

CONCEPTS OF ECONOMICS

1. Opportunity Cost

1. Opportunity Cost



1. Opportunity Cost - Examples

Education vs Work

If a person decides to pursue a full-time degree, the opportunity cost is the potential income they could have earned by working during that time.

Investing

Choosing to invest money in one stock instead of another means giving up the potential gains or benefits from the alternative investment.

Time Allocation

Spending time on leisure activities might mean sacrificing the opportunity to develop new skills or engage in productive endeavors.

Business Decisions

A company deciding to invest its resources in expanding Product A may miss out on the opportunity to invest in the potentially more profitable Product B.

1. Opportunity Cost - Examples

Government Spending

When a government allocates funds to one sector (e.g., defense), it may reduce the resources available for other sectors like education.

Personal Expense

Choosing to spend money on a luxury vacation might mean giving up the opportunity to save for a down payment on a house.

Entrepreneurship

An entrepreneur starting a new venture may sacrifice a stable job with a regular income in pursuit of potential long-term business success.

Natural Resource

A country exporting its natural resources may gain revenue but lose the opportunity to use those resources for domestic development.

1. Opportunity Cost

Accounting Profit VS Economic Profit

#1. Meaning

Accounting Profit	Economic Profit
	
Net income earned during an accounting year;	Surplus remaining after deduction of total costs from total revenue;

#2. Relevance

Accounting Profit	Economic Profit
	
Practical from a financial perspective.	May was not the precise picture since certain aspects are estimated.

1. Opportunity Cost

Accounting Profit VS Economic Profit

#3. Benefit

Accounting Profit	Economic Profit
	
Reflects the profitability of the firm;	Highlights efficiency of the company in resource allocations.

#4. Formula

Accounting Profit	Economic Profit
	
Total Revenue – Explicit cost.	Total Revenue – (Explicit costs + Implicit costs)

1. Opportunity Cost

Accounting Profit VS Economic Profit

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1. Opportunity Cost

Suppose you have a small business selling handmade jewelry. Given year, your business experiences the following financials:

Accounting Profit

Total Revenue: $100,000

Explicit Costs:

- Cost of materials: $30,000
- Wages paid to employees: $20,000
- Rent for the shop: $12,000
- Utilities and other expenses: $8,000

To calculate accounting profit:

Accounting Profit = Total Revenue - Explicit Costs

Accounting Profit = $100,000 - ($30,000 + $20,000 + $12,000 + $8,000)

Accounting Profit = $100,000 - $70,000

Accounting Profit = $30,000

Economic Profit

Assume that before starting this jewelry business, you were offered a job with an annual salary of $50,000 in a financial firm. You turned down the job to pursue your business venture.

To calculate economic profit:

Economic Profit = Total Revenue - (Explicit Costs + Implicit Costs)

Economic Profit = $100,000 - ($30,000 + $20,000 + $12,000 + $8,000 + $50,000)

Economic Profit = $100,000 - $120,000

Economic Profit = -$20,000

1. Opportunity Cost

Key Takeaways:

Accounting Profit VS Economic Profit

Inclusion of Implicit Costs	Accounting profit only considers explicit costs, while economic profit accounts for both explicit and implicit costs
Positive vs Negative Profit	Accounting profit can be positive even if economic profit is negative.
Decision-making Perspective	Economic profit is more relevant for decision-making because it reflects the real economic benefit.

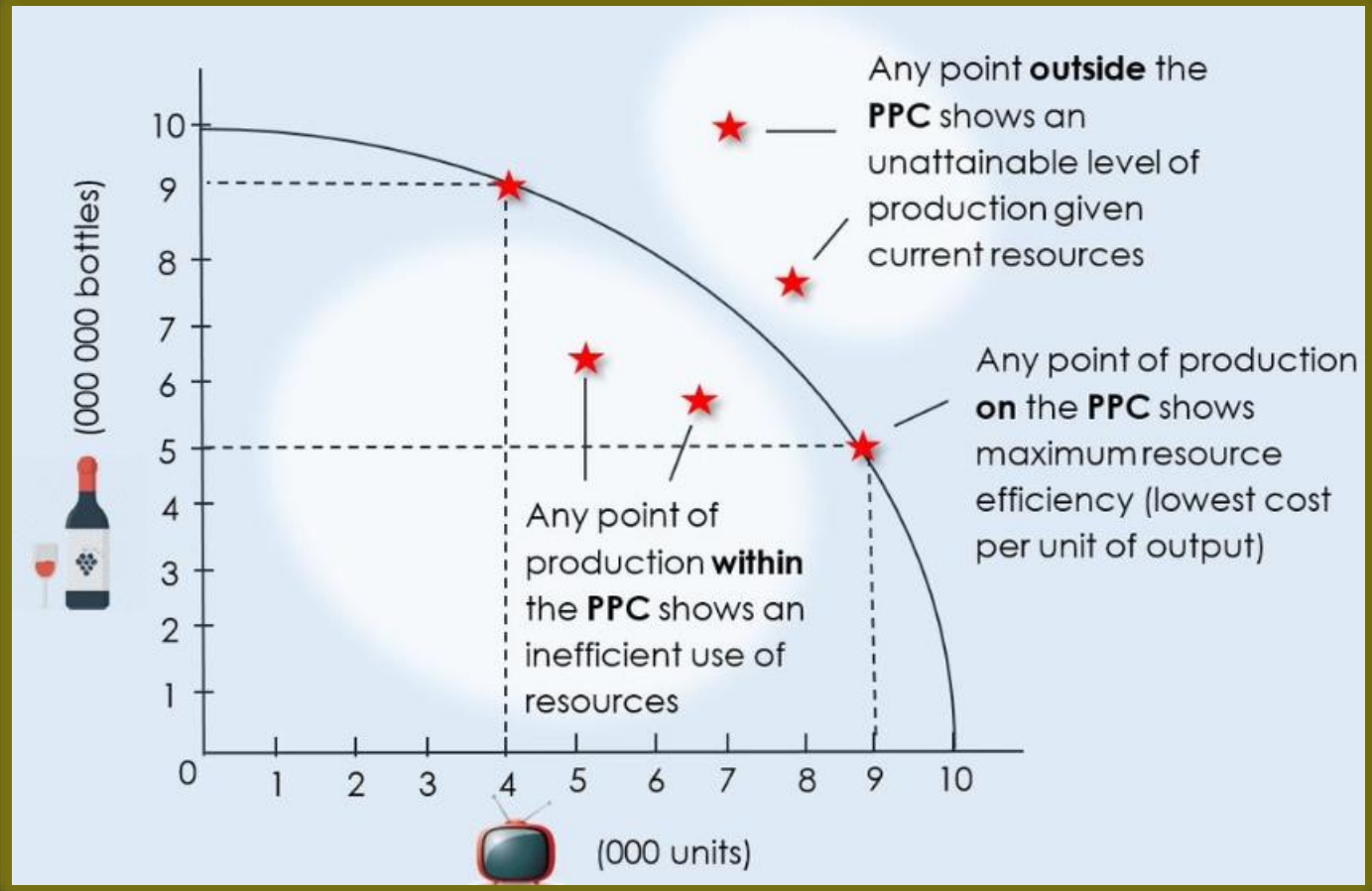
1. Opportunity Cost

Production Possibility Curve

Production Possibility Frontier

[prə-'dək-shən ˌpä-sə-'bi-lə-tē ˌfrən-'tir]

An economic model showing how an economic actor, such as a company or a nation, could make tradeoffs in the production of different commodities.



2. Time Value of Money

Would you prefer to have Rs 1 million now or Rs 1 million 10 years from now?

- Time preference for money is an individual's preference for possession of a given amount of money now, rather than the same amount at some future time.
- Four reasons may be attributed to the individual's time preference for money:

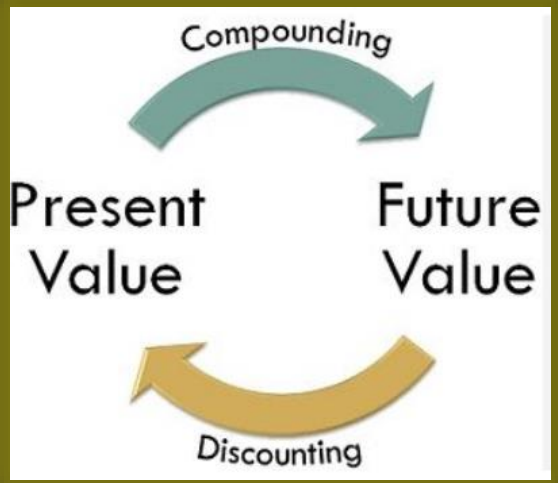
- **Spending**: With the same amount of money today, we can buy more goods than in what we can in future.
- **Saving**: Saving money today has value in future in terms of fulfilling our future necessities.
- **Borrowing**: To enjoy the benefits of a car today, you borrow money and repay it slowly in future.
- **Investing**: Investing money will result maximizing the value of our surplus money.

2. Time Value of Money

Choosing from Different Alternatives

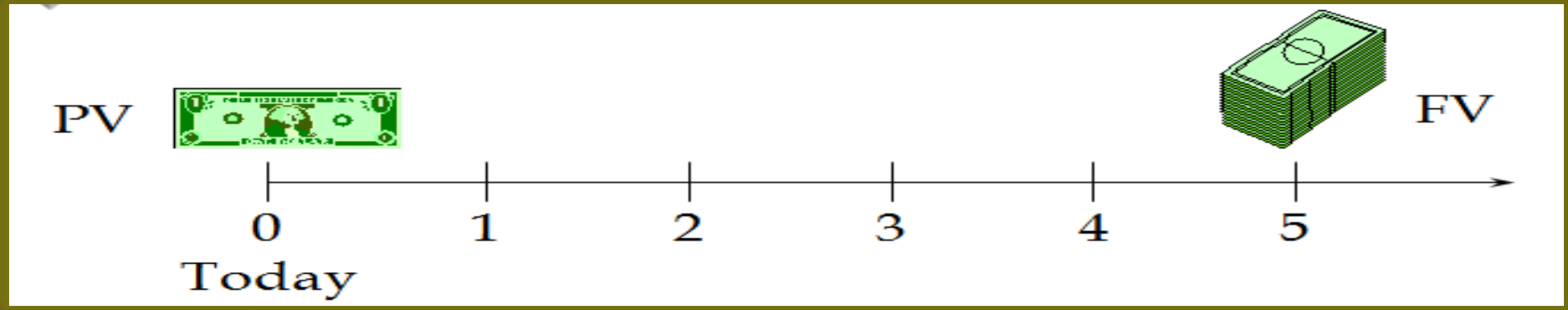
- You have three choices:
  - ✓ Rs 20,000 received today
  - ✓ Rs 31,000 received in 5 years
  - ✓ Rs 3,000 per year indefinitely

To make such comparisons, we must be able to compare the value of money at different point in time.



2. Time Value of Money

Timelines



Present Value

[ˈpre-zᵊnt ˈval-(ˌ)yü]

The current value of a future sum of money or stream of cash flows given a specified rate of return.

Future Value (FV)

[ˈfyü-chər ˈval-(ˌ)yü]

The value of a current asset at a future date based on an assumed rate of growth.

2. Time Value of Money

Future Value of a lumpsum

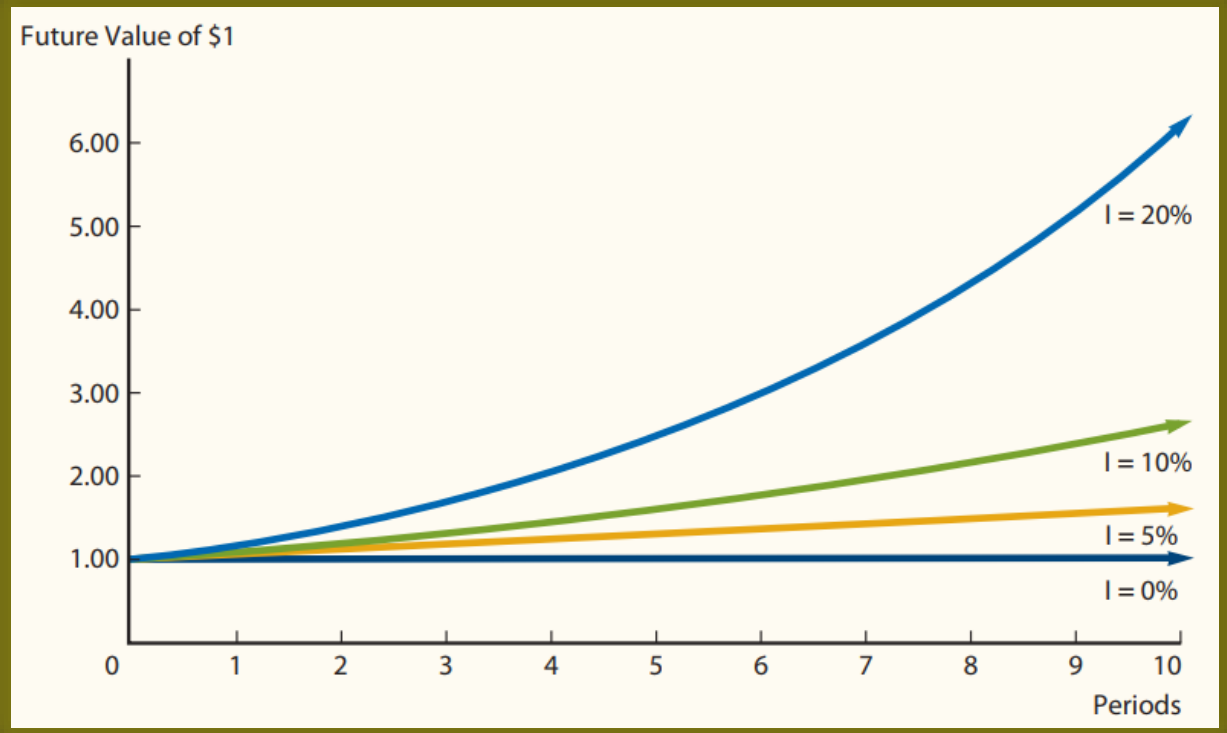
$100 compounded for 3 years at 5%.

Formula

$$FV = PV(1+r)^n$$

$$FV_3 = \$100(1.05)^3 = \$115.76$$

Growth of $1 at Various Interest Rates and Time Periods



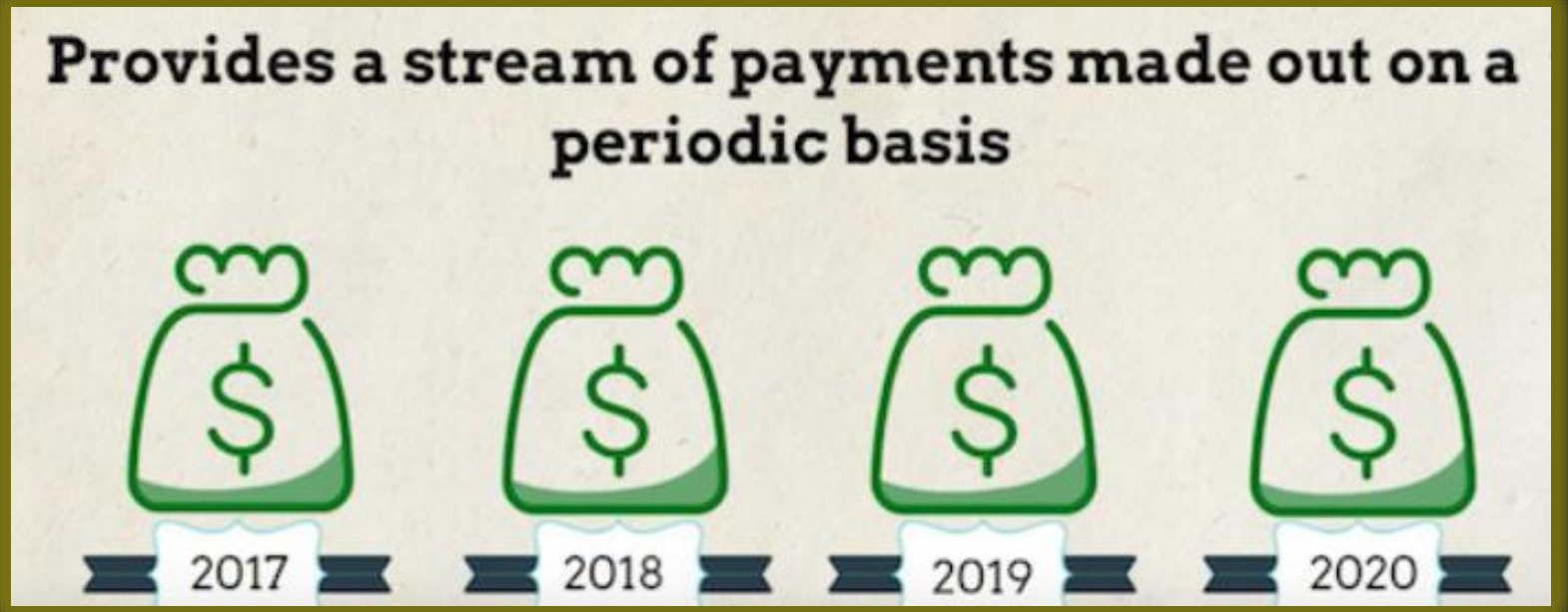
2. Time Value of Money

Present Value of a lumpsum

Present value of $10,00 received two received from now at discount rate 10%.

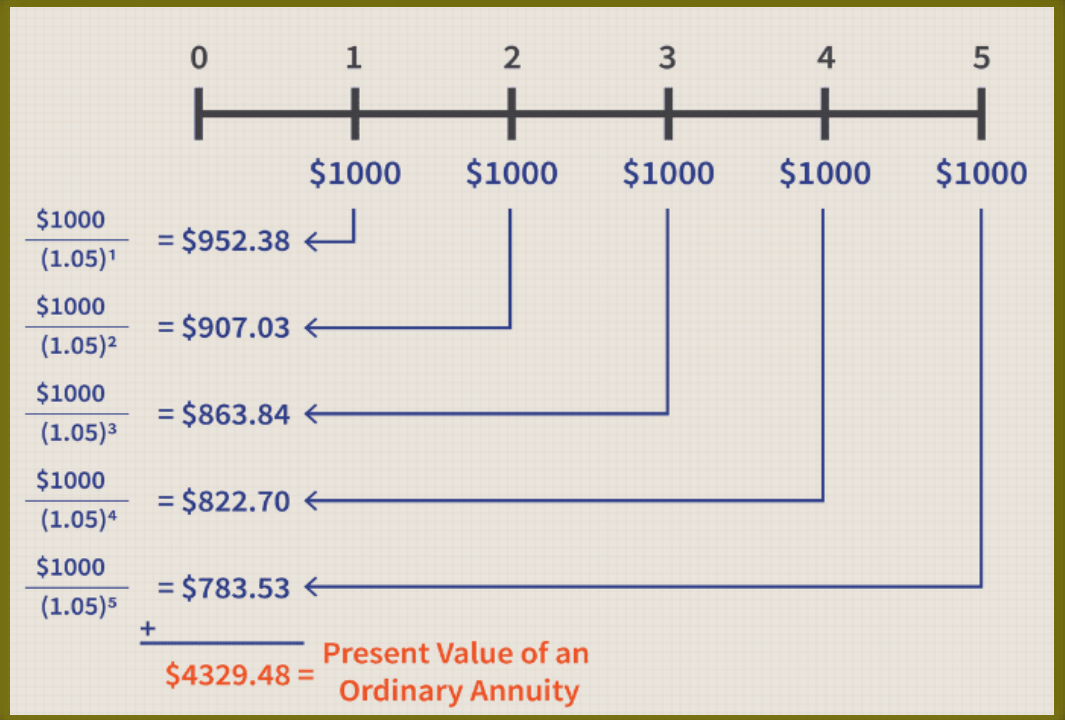
$$PV = \frac{FV}{(1+r)^n}$$

Annuity


Provides a stream of payments made out on a periodic basis
2017
2018
2019
2020

2. Time Value of Money

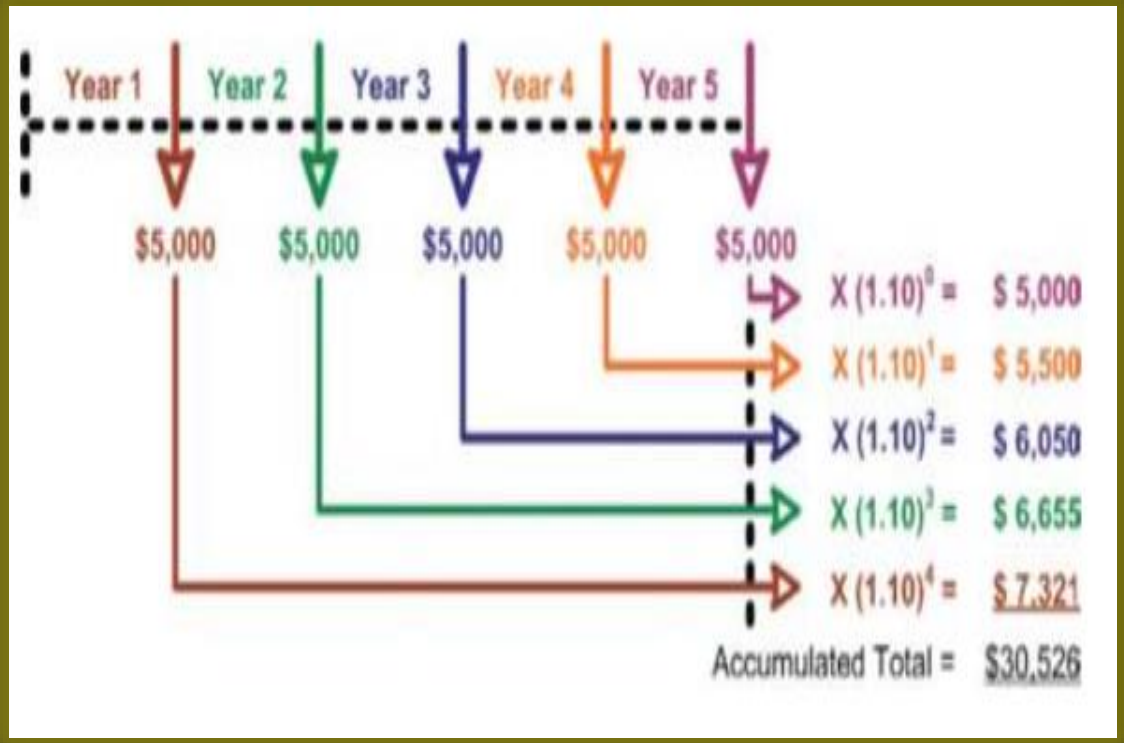
Present Value of an annuity



Present Value of Ordinary Annuity

$$P = A\left[\frac{1}{i} - \frac{1}{i(1+i)^n}\right]$$

Future Value of an annuity



Future Value of Ordinary Annuity

$$FV_n = A\left[\frac{(1+i)^n - 1}{i}\right]$$

3. Incremental Reasoning

A course of action should be pursued up to the point where its incremental benefits equal its incremental costs.

- **Incremental cost** may be defined as the change in total cost as a result of change in the level of output, investment, etc
- **Incremental Revenue** is change in total revenue resulting from change in level of output , price etc.

3. Incremental Reasoning

Some businessmen hold the view that to make an overall profit, they must make a profit on every job. The result is that they refuse orders that do not cover full costs plus a provision of profit. This will lead to rejection of an order which prevents short run profit.

Suppose a new order is estimated to bring in an additional revenue of Rs. 10,000. The costs are estimated as under:

Labour	Rs. 3,000
Materials	Rs. 4,000
Overhead charges	Rs. 3,600
Selling and administrative expenses	Rs. 1,400
Full Cost	**Rs.12, 000**

The order appears to be unprofitable. For it results in a loss of Rs. 2,000.

However, suppose there is idle capacity which can be utilised to execute this order.

If order adds only Rs. 1,000 to overhead charges, and Rs. 2000 by way of labour cost because some of the idle workers already on the pay roll will be deployed without added pay and no extra selling and administrative costs, then the actual incremental cost is as follows:

Labour	Rs. 2,000
Materials'	Rs. 4,000
Overhead charges	Rs. 1,000
Total Incremental Cost	**Rs. 7,000**

Thus there is a profit of Rs. 3,000. The order can be accepted on the basis of incremental reasoning. Incremental reasoning does not mean that the firm should accept all orders at prices which cover merely their incremental costs.