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CLASS: IX-X Financial Literacy

Understanding Investment

Investment: It is an asset or item that is purchased with the hope that it will generate income or appreciate in future.

Process of Investing Money: The extra fund which we earn can be invested in shares, debentures, bonds, bank deposits, mutual funds and property to earn a higher return. If you opt for a safe investment you may invest your savings in bank deposits for different periods with varied rate of interest or if you are willing to take risk you may invest in capital market in shares, debentures, bonds or mutual funds.

Three Pillars of Investment:

Safety: A well functioning system helps people reduce their exposure to risks. For example, you expect to earn 15% rate of interest on your investment but in actual you earn only 12% thus you fail to minimize your risk. Safety is an important factor to consider while allocating funds to assets.

Liquidity: Liquidity is conversion of your assets into cash. Investment of funds in some securities may provide high return after a fixed period of time. In the mean time if you need cash, buyer may not be available as they may be infrequently traded shares. Here you may have to compromise by selling at a lower price. We see, that this share was not easily converted into cash and hence not so liquid. However, there are other assets **like --------which are considered to be more liquid and may be converted into cash when required. Thus, our portfolio should consist of different kinds of assets.

Growth: When we invest money we get some extra money in return, it is called interest on investment. This interest increases the investment. This increase in the investment is the growth of the investment.

A best investment decision is that decision which ensures safety, liquidity and growth of investment.

Diversification as a risk mitigation tool

Inflation: It refers to the rise in general price level in the country over a period of time. During the period of inflation, there is an increase of the money supply. It causes the currency to lose its purchasing power which leads to an increase in the price of goods and services.

Effect of Inflation: Inflation affects different people differently. When price rises or the value of money falls, some groups of society gain, some lose and some stand in between. Let's discuss the effect of inflation:

1. **Effect of Inflation on Business Community:** Inflation is welcomed by entrepreneurs and businessmen because stand to profit by rising prices. They find that the value of their inventories and stock of goods is rising in money terms. They also find that prices are rising faster than the cost of production, so that their profit is greatly enhanced.
2. **Fixed Income Groups:** Inflation hits wage-earners and salaried people very hard. Since wage do not rise at the same rate and at the same time as the general price level, the cost of living index rises and the real income of the wage earner decreases.
3. **Farmers:** Farmers usually gains during inflation, because they can get better prices for their harvest during inflation.
4. **Investors:** People those who invest in debentures and fixed income securities, bonds etc lose during inflation. However, investors in equities benefits because more dividend is yielded on account of high profit made by joint-stock companies during inflation.

Indicators of Measure of Inflation are Whole-sale price index (WPI) and Consumer price index (CPI).

WPI(Whole-sale price index): reflects average price changes of goods that are bought and sold in the wholesale market. WPI in India is published by the Office of Economic Adviser, Ministry of Commerce and Industry. Further, the data for WPI is monitored and updated on a weekly basis taking into account all the 676 items that form the index. The various commodities taken into consideration for computing the WPI can be categorized into primary article, fuel and power, and manufactured goods. Primary articles included for the computation of WPI include food articles, non-food articles and minerals. In the fuel, power, light and lubricants, electricity, coal mining and mineral oil are included. The manufactured goods category encompasses food products; beverages, tobacco, and tobacco products; wood and wood products, textiles; paper and paper products; basic metals and alloys; rubber and rubber products and many others. An, important point to take note of is the whole sale price index (WPI) does not includes the cost of services. Further, as WPI accounts for changes in general price level of goods at wholesale level, it fails to communicate actual burden borne by the end consumer. WPI is the primary measure that is used by the Indian central government for ascertaining inflation as WPI in contrast to CPI accounts for changes in price at an early distribution stage.

CPI(Consumer price index): is computed by executing a weighted average on a particular set of goods and services. The computation of CPI takes into account price changes and the actual inflation that affects the end consumer. CPI is thus a reflection of changes in the retail prices of specified goods and services over a time period which are traded by particular consumer group.

While earlier the Reserve Bank of India used WPI inflation to manage monetary policy expectations, it is now the CPI inflation which is largely taken into account. The RBI highlights its inflation expectations based on the CPI inflation data that comes in. For example, it sets targets on CPI Inflation and monitors it accordingly. Many analysts for long had suggested that the RBI

should move to the CPI data Vs the WPI data, which had now happened in the last couple of years.

For the common man it is always better to keep retail inflation which is the CPI or the Consumer Price Inflation number in mind. It is a better measurement of what is largely happening with consumer prices. WPI inflation on the other hand is better known to individuals who track the wholesale prices and is of better significance to them. In any case both are a measure of inflation.

How Inflation affect our investment:

If we have surplus money we need to invest it in a profitable investment. If we want to invest our money then we have to see whether our rate of return on investment is higher than the rate of inflation or not. If the rate of return on investment is higher than rate of inflation than this investment will be called as profitable investment or if the rate of return on investment is lower than the rate of inflation than this investment will not be profitable. It will be further clear by the following example:

Let's see at what price did you buy your school bag last time? Will you get it for the same price today? The answer is probably no. This means the price of things keep on increasing. This phenomenon of price rise is called Inflation. Now let us assume, the price of your school bag was Rs.200 last year and it costs Rs.210 this year, the inflation rate therefore is 5% (=10/200 *100= 5%). Now if you had saved Rs.200 last year and expected to buy the bag this year with your saving you would be short of Rs.10. Therefore, if you have invested Rs.100 at the rate of 10% and the inflation is 5%, then you have actually earned only 5%. (10%- 5% = 5%). This 5% is your real rate of return.

Real rate of Return:

When savings are invested at a rate which is higher than the inflation rate, then we earn some money in return in real sense. This is called real rate of return. For example: If we invest Rs.100 at the rate of 10% and the inflation is 5%, then you have actually earned only 5%. (10%- 5% = 5%). This 5% is your real rate of return.

Time Value of Money:

Understanding of time value of money is very important in investment, as if we start investing at an early age and keep that money invested for long period of time then we will get good money in return.

Let us understand with the example of Uday and Rajesh. They both entered the job market at the age of 23. Uday decides to keep aside ` 25,000 every year from the age of 25 until he turned 30, that is, for a period of five years. After 30, he did not touch his investment that is he neither added nor withdrew anything from his capital till he turned 60.Rajesh, on the other hand decided to start saving only when he turned 35. From then on till he turned 65, that is, for the next 30 years, he kept aside ` 25,000 every year.

Guess who saved more?

At 65, Uday's investment of Rs. 1.5 lakh was equivalent to Rs. 54.2 lakhs, while Rajesh's savings of Rs. 7.5 lakhs yielded Rs. 45.23 lakhs.

Understanding Interest:

Simple Interest and Compound Interest

Interest is the charge against the use of money by the borrower. The same is profit earned by the lender of money. The amount which is invested in a bank in order to earn interest is called principal. The interest rate is normally expressed in percentage. Simple interest and compound interest are the two types of interest based on the way they are calculated.

Simple Interest:

Simple Interest is charged only on the principal amount. The following formula can be used to calculate simple interest.

Simple Interest (Is) = $P \times I \times T$

Where, P is the Principal amount.

I is the interest per period.

T is the time for which money is borrowed or lent.

Example:

Suppose Rs. 1,000 invested 1st January 2010, 10% simple interest rate for 5 years. Calculate the total simple interest on the amount.

Solution:

We have,

Principal P= Rs.1,000

Interest Rate i= 10% per year.

Time t= 5 years

Simple interest is Rs. 1,000x0.1x5=Rs.500

Compound Interest:

Compound interest is charged on the principal plus any interest accrued till the point of time at which interest is being calculated. In other words, Compound interest system work as under:

1. Interest for the first period charged on the principal amount.
2. For the second period, it is charged on the sum of the principal amount and interest charged during the first period.
3. For the third period, it is charged on the sum of principal amount and interest charged during the first and the second period and so on…

It can be proved mathematically, that the interest as per above procedure is given by the following formula:

Compound Interest (Ic) = $P \times (1 + i)\, n - P$

Where,

P is the principal amount.

I is the compound interest rate per period.

n are the number of the periods

Example 2

Consider the same information as given in example 1. Now calculate the total compound interest on the amount invested.

Solution:

We have,

Principal P = Rs. 1,000

Interest rate i = 10% per year.

Number of periods n= 5

Compound interest I= Rs. 1,000x (1+0.1)^5 – Rs.1,000

= Rs.1,000x1.1^5 – Rs.1,000

= Rs.1,000x1.61051 – Rs.1,000

= Rs.1610.51 – Rs.1,000= Rs.610.51.

Nominal Interest and Effective Interest rate:

Interest rates for saving and investment products are quoted either as nominal rates (NACM) or annual effective rates (NACA). The nominal rate is the actual interest earned over a month month period. The annual effective rate is the effective interest rate earned if you were to keep your investment(at the same nominal rate) for one year, hence the name “annual effective”. You will therefore earn interest on the capital portion plus on the interest already earned- the beauty of compound interest. That is why an effective rate will always be more than a nominal rate.

Suppose you invest Rs. 1,000 at a nominal interest rate of 5%. Compounded monthly, the calculation for the first month’s interest would be 4.17 (1000*5%/12). Now in the second month, you will earn interest on Rs. 1004.17. Therefore, the second month interest will be 4.18 (1004.17*5%/12). We can see that the amount of interest will increase every month, since the nominal interest is paid on the principal amount as well as all interest earned until then. By the end of the year, you would have earned Rs. 51.16 interest, which is Rs. 1.16 more than the interest would be if the nominal interest was compounded yearly.

Rule of 72

Rule says that Divide the number 72 with the rate of interest and witness the magical number which states number of years for your capital to double. Rule of 72 Example: For instance-1: Suppose Mr. Shah meets bank representative to get latest fixed deposit schemes. Mr. Shah uncover that best bank offer is 10% annual interest; let's see how many years it takes to double your investment capital with rule – 72. Formula says that Divide 72 by 10 (i.e. rate of interest) You will get result as where, your invested capital can be doubled in 7.2 years.

Rule of 144

Rule 144 is similar to Rule 72 in all ways only thing which makes it unique is that, Rule 144 will assist you to identify time duration required to quadruple your capital investment evaluated by compounding interest formula. Rule says divide 144 by interest rate to get the years essential to triple your money. Rule of 144 Example: For instance-1: Mr. Rahul read in one of the financial magazine that, country's GDP is growing with the average rate of 7% every year. Formula says that Divide 144 by 7 (i.e. rate of interest) pAs a result, It will take roughly around 20.6 years to quadruple country's GDP. For instance-2: Mrs. Renu repays its education loan at 12% per annum. Using formula (divide 144 by 12) As a result, aproximately within 12 years Mrs. Renu will repay quadruple amount towards education loan.