



FINANCIAL EDUCATION WEEK 2019

March 4 - 9, 2019

Student Handbook

Contents

1 CURRENCIES OF THE WORLD	3
2 INCOME AND EXPENSES	7
3 ASSETS AND LIABILITIES	12
4 INVESTMENT RETURN	15
5 INFLATION	19
6 TAX	21
7 FIXED DEPOSITS AND OTHER FIXED INCOME INVESTMENTS	23
8 STOCK MARKET INVESTMENTS	25
9 MUTUAL FUNDS	29
10 SAMPLE FAMILY FINANCIAL QUOTIENT TEST	31

1 Currencies of the world

We in India earn in Rupees, while someone in America get paid in Dollars, and Japanese get paid in Yen. There are 180 official currencies across the world. Currencies are the dominant medium of exchange across the world. The complete list of currencies can be found on Internet. Sample of some of the currencies are provided below. Can you find out which country they belong to and what they are called?

Currency	Which Country? What they are called?
	
	









Why do we need different currencies?

2 Income and Expenses

2.1 Income

All of us need money, so that we can live comfortably. We can get money either by working or have money from our investments. When we get money from working we are working for money, when we get money from Investments money is working for us. While in the initial part of our life we will have to work for money, sooner or later we will have to make money work for us.

It is important to understand classification of Income. Income can be classified as

1. Active Income
2. Passive Income

Active Income: When we earn money by working hard, it is called Active income. Some Active incomes are

1. Salary Income – If we don't work then we may not get salary
2. Bonus

Passive Income: When we earn money without working it is called Passive Income. Some examples of Passive Income are

1. Interest earned from Fixed Deposits : We don't have to do any work to earn interest from Fixed Deposits
2. Dividend from Mutual Funds or Equity Shares
3. Pension Income after Retirement

To live comfortably we must have good Active to Passive Income Ratio. For an average Salaried professional an ideal scenario of Passive and Active Income could be

Age	% of Active Income	% of Passive Income
20 -25	100%	0%
25-30	95%	5%
30-35	90%	10%
35-40	80%	20%
40-45	75%	25%
45-50	70%	30%
50-55	65%	35%
55-60	60%	40%
After 60	0%	100%

It is expected that one may not be able to work after 60 years of age and hence after 60 years the expenses will have to be met by Passive Income only. So as we can see, the proportion of Active Income reduces as we grow older and proportion of Passive income increases as we grow older.

Till the time a family can manage sufficient passive income, there is always a threat of families suffering from want of money.

The threat can come from

1. Job Loss due to poor economic conditions

2. Loss of Life of the breadwinner from Accidents or calamities

Loss of job, in all probability will be temporary situation and sooner or later economic will bounce back and one can hope to have the job back soon. Till the time family can depend on the savings.

But, Loss of Life of the important person in the family is permanent and cannot be changed. If such a thing happens, then the remaining earnings of the important member is lost. To protect this future earning, families must consider Insurance. As a rule of thumb, 8 times present annual income of the key family member can be considered for sum assured through insurance.

It is important here to understand that Insurance is neither an Investment nor a Tax saving tool, but it is a tool to protect future earnings for the family.



What do we need to do to increase Passive Income?

2.2 Expenses

Like we have different types of Income, we also have different types of expenses. Some expenses can be eliminated or reduced, some expenses cannot be eliminated. For example – expenses that are incurred on our Food cannot be eliminated; where as expenses on going to Movies can be eliminated or reduced. Those expenses which are mandatory and must be spent are known as Non-Discretionary expenses, and those that are not mandatory or may be completely eliminated are known as discretionary Expenses.

Classify the following as discretionary or non-discretionary expenses

Expenses	Discretionary/Non Discretionary
School Fees	
School Uniform	
Vacation to Darjeeling	
IIT JEE Preparation Course	
Rs 35,000 Smartphone	
Rs 8000 Smartphone	
Monthly Groceries	
Pizza	

Library Membership Fees	
Rs 400 worth New Story book from Book Store	
Car	
Insurance Cover for Life	
Insurance Cover for Motor Bike	
Tax Expenses on Income	
Electricity Bill	
Expenses incurred on Mineral Water bottle	
Fees for Hobby Activities	



What do we need to do to increase our Savings?

3 Assets and Liabilities

We live to earn and spend, then how are assets and liabilities created? Every year we earn and spend.

What happens if Earnings – Spending > 0?

If earnings are greater than spending, then we invest the surplus money in either Fixed Deposit or Mutual funds or Shares or Gold or Home. When we invest like this we create “Assets”

What does “Assets” do for us?

Assets get us more income. Fixed Deposit will give us interest and increases our income. So in the next year we have more income and will have more surpluses next year, and we invest in more Assets. This positive spiral can go on forever and our assets will keep on increasing.

What happens if Earnings – Spending < 0?

If Spending is more than Earnings, then to meet the shortfall, we may have to borrow. When we borrow we create liabilities.

What do liabilities do to us?

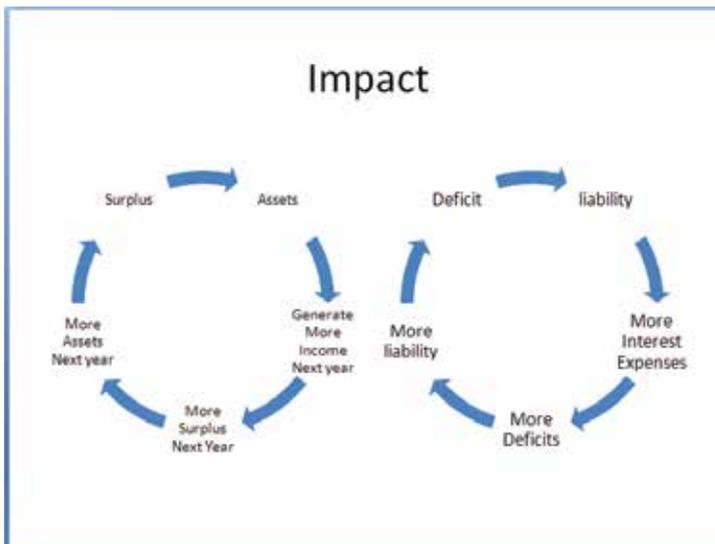
Liabilities increase our expenses further, because we have to pay interest on the amount we borrowed. We will more expenses

next year and our deficit will further increase leading to more borrowing. This negative spiral can go on forever and one day we might become bankrupt when our interest expenses alone become more than our earnings.

Sometimes we can have both Assets and Liabilities, in that case

$$\text{Assets} - \text{Liabilities} = \text{Networth.}$$

Every year our Networth must increase. If it is not increasing then we may soon fall into debt trap.



Summary

Assets	Liability
Created when Income > Expenses	Created when Income < Expenses
Provides additional Income or (reduces expenses – For example a home bought with own money can reduce our rent expenses)	Increases Expenses, because we have to pay interest

Classify the following as Assets or Liabilities

Item	Assets or Liability
Fixed Deposit	
Mutual Fund	
Home without Loan	
Car with Loan	
Gold Coin	
Credit Card Loan	
Degree from IIT	



Are all liabilities bad?

4 Investment Return

In the last chapter we learnt that when we earn more than what we spend, we invest to create assets. When we invest one of the factors we consider is the Investment Return.

All of us know the formula for Investment Return

$$A = P(1+r)^n$$

The “r” in the above equation is called the Investment return.

While studying school this equation become simple, but this most important equation become difficult to apply in real life.

For e.g how can we calculate return on Fixed deposit which doubles in 9 years

Here the equation is $2000 = 1000 (1+r)^9$

How to calculate “r”? We can simplify the above equation by applying “**Rule of 72**”. Rule of 72 states that if investment doubles in “n” number of years then

$$\text{Investment return} = 72/n$$

So a fixed deposit which doubles in 9 years will give a return of

$$R = 72/9 = 8\%$$

Calculate

1. What is the return on investment if the investment doubles in 6 years?
2. If the investment is giving 10% return, in how many years will the investment double?
3. If investment is doubling every 6 years an investment of Rs 1 Lakh will become how much in 24 years?

So, Money grows by Rule of 72

If someone invests in NSC, say for your entire working life which could be for 27 years what will happen to money



Suppose if NSC were giving 12% (before 2000 NSC was giving 12%) what will happen to your money.

What is the rate you are getting? $72/12 = 6$ years. Money will double every 6 years.



Can you see the impact?

You have become richer by twice in a shorter period of time. Every 3% improvement in return doubles wealth by twice in 25 year period. We don't need very high returns to become rich; we need reasonable returns and stay invested for a longer period of time.

If money is tripling then we can apply Rule of 114. For example if Rs 1 Lakh has become 3 Lakh in 19 years what is the return?

$$\text{Return} = 114/19 = 6\%$$



What is the formula if money becomes 4 times in “n” years?

5 Inflation

In the last chapter we saw how our money grows. Not only has our money grown, but also our expenses. Every year our expenses are also increasing. Can you find out following information from your grandfather or some elderly person at home?

Product	Cost in 1990	Cost in 2014
1 Litre of Milk	Rs.	Rs.
1 Pencil	Rs.	Rs.
1 Movie Ticket	Rs.	Rs.
1 Kg Wheat Flour	Rs.	Rs.
Monthly Travel Expenses	Rs.	Rs.
Monthly School Fees	Rs.	Rs.
Regular Monthly expenses	Rs.	Rs.

Can you apply Rule of 72 or 114 or 144 to find out how much our expenses are growing every year?

In general, you will find that what every costing Rs 100 in 1990 must have grown atleast 5 times if not more. Every year Government of India also publishes an Index called cost inflation index, which lets us know how prices of various

essential items which we buy for day to day living is increasing every year.

Can you find out the following from Internet?

Period	Cost Inflation Index
1980-81	
1990-91	
2000-01	
2010-11	

Based on the above information, answer the following questions?

1. If cost of 1 litre of Milk in 2014 is Rs 32, what would have been the cost of milk in 1980-81?
2. If the cost of 1 Kg of Rice in 1990-91 is Rs 5 what would have been the cost of 1 Kg rice in 2000-01



Is inflation the only thing that is increasing our expenses?

6 Tax

There are two major expenses which everyone would like to escape but we can't. They are Taxes and Insurance.

Anyone who is above 18 years and planning to earn money must apply for PAN Card. PAN can be applied online very easily. Once PAN card is issued we must file the returns every year before 31st July. PAN card has become necessary today for all investments.



How does a PAN No look like? **AAAAA1111M**

1. The first 3 “AAA” are just a sequence – from AAA to ZZZ
2. The 4th Alphabet can be C in case of Company, P in case of Individual, or H in case of HUF
3. The 5th Alphabet is the First letter of the Surname of the individual or Name of the Company
4. The last alphabet is the alphabetic checklist

Anyone who is below 60 years and having income needs to pay Tax as follows

Income between Rs 2Lakhs and 5 Lakhs	10%
Income between Rs 5 Lakhs and 10 Lakhs	20%
Income above Rs 10 Lakhs	30%

Also as per the Income Tax there are different types of Income and they are taxed differently. While we can't minimize tax on the salary income, it is possible for us to minimize tax on the Income we may get from Investments.

How Investment Incomes are taxed?

Interest on Fixed Deposits or Recurring Deposits	10% or 20% or 30% depending on over all income
Dividend Income from Mutual Funds	No Tax
Interest Income from Public Provident Fund	No Tax
Capital Gains from Debt Mutual Funds held for less than 1 year	10% or 20% or 30% depending on over all income
Capital Gains from Debt mutual fund held for more than 1 year	10% without indexation or 20% with indexation
Capital Gains from Equity Mutual Funds held for less than 1 year	15%
Capital Gains from Equity Mutual Funds held for more than 1 year	No Tax

7 Fixed Deposits and other Fixed Income Investments

We can invest in 2 ways. One we can invest by way of giving loan to someone or we can invest by way of taking part in some one's business and share their profit or loss. In this chapter, we will discuss about investments by way of giving loans and in the next chapter we will discuss how we can take part in profit and loss of companies.

Who all can we give loan to?

1. Friends & Relatives
2. Companies
3. Government

But, what if my friends do not need money and not willing to take a loan from me or I don't know of any company who wants to borrow.

Many times it becomes difficult for us to find someone to we can give money and get some interest from them. This is where banks come in and help us. They take our money or borrow from us and they in turn give it to our friends, companies and government.

Who do you think is the biggest borrower in the country today?

1. Top 50 companies in India
2. Government of India
3. State Governments of India

4. Individuals

Yes. Govt of India is the biggest borrower in the country and we individuals can not lend to Government directly. We can give money to government through

1. Banks
2. Mutual Funds

When you give money to Government through Banks it is called as Fixed Deposits, when you give through Mutual Funds it is called as Fixed Maturity Plans or Debt Funds or Liquid funds.

Fixed deposits and Investments through Mutual funds are same except in tax treatments. If we give loan to Govt or companies through Mutual funds they have lesser tax compared to Fixed deposits, provided we invest for a period more than 1 year.

8 Stock Market Investments

Chintan decided to set up a company that will manufacture Pencils for School Children. He needed Rs 25,000 but had only Rs 10,000 with him. He called 3 of his friends and explained to them his plans of starting the Pencil manufacturing business and informed them that number of children going to school in that area is increasing every day and this will certainly be a profitable business. His friends readily agreed to give Rs 5000 each and he could get the required capital of Rs 25,000/=

1. What is the total capital of the company?
2. What is share of Chintan's Capital in the company?
3. If Chintan's company makes a profit of Rs 5000, how much will each of the friends who contributed to the capital will receive? What is their % return?

Actually, Chintan made a profit of Rs 7500/= in the first year because there was so much of demand. So, Chintan decided to open one more plant to manufactures more pencils. Chintan did not distribute any dividend to his friends and instead told them that he is going to use the profits to build one more plant, for that he said he will use the profit of Rs 7500 and needs another Rs 17,500 investment.

While 2 of his friends agreed to contribute more capital, third friend felt there is no need for a second plant because they will not be able to sell so many pencils, he also felt that more and

more students have started using computer and the need for paper and pencil is also reducing at school. So he fought with Chintan to distribute the dividend and not go for further expansion. But Chintan and other 2 friends did not agree and they decided to go ahead with the investment and two his friends contributed Rs 8500 each.

At the beginning of the second year the investments in the company stood as follows:

Person	Original Investment	Profits reinvested	Additional Investment	Investment at the beginning of the year
Chintan	Rs 10000	Rs 3000	0	Rs 13,000
Friend A	Rs 5000	Rs 1500	0	Rs. 6500
Friend B	Rs 5000	Rs 1500	Rs 8750	Rs 15,250
Friend C	Rs 5000	Rs 1500	Rs 8750	Rs 15,250

It was now becoming complex for Chintan to manage the % of shareholding in the company by various Friends. So he decided that Rs 50000 investment will be converted in Share certificates, each share certificate with Face Value of Rs 10.

4. How many Share certificates will Chintan create?
5. How many shares will Friend A get?

As warned by Friend A, Chintan could not sell all the pencils from second manufacturing plant and in the second year, the company made a loss of Rs 8000.

6. Will Company be able to declare any dividend in the second year?
7. What is the earnings per share at the end of Second year?
8. What was the % return company gave to investor in the first year?
9. What was the % return company gave to investors in the second year?
10. Why the returns are varying from one year to another year?
11. What is the variation in this return called?

While Friend B and Friend C invested additional investments in Chintan's company in the second year, Friend A invested Rs 8500/= in a different company which was creating online courses. He received 850 shares from this company. The second company declared Earnings per share of Rs 5 and distributed Rs 4 per share to all the share holders as dividends.

12. What is total dividend amount received by Friend A?
13. What is the total return for friend A from both investments?



14. Why did Friend A earn more compared to Friend B and Friend C?
15. What was the investment strategy adopted by Friend A called?

Solutions to Questions

1. Rs 25,000
2. 40%
3. Chintan's Profit : Rs 2000, Friend A's Profit : Rs 1000, Friend B's Profit : Rs 1000, Friend C's Profit. All 4 of them will earn a Return on Investment of 20%
4. 5000 Certificates
5. 650 Shares
6. No – because it made a loss of Rs 8000
7. $-Rs1.6 (-8000/5000)$
8. 20%
9. -16%
10. Returns on Company investments are dependent on the profits of the company and not a fixed amount
11. Risk
12. Rs 3400
13. Friend A holds 13% share in Chintan's company and hence his share of Loss from Rs 8000 is Rs 1040. He made a earnings of Rs 3400 from second investments and hence total returns in the second year are Rs 2,360
14. Because he had profits from different company.
15. Diversifying or simply "Do not put all your eggs in one basket"

9 Mutual Funds

In the previous chapter, we saw that Friend A made an overall profit of Rs 2,360 from his two investments with one investment giving a profit of Rs 3400 and another investment giving a loss of Rs 1040, while Friends B and Friend C did not make any profit as they invested all the money in one company. It is important to understand that it is not possible to make profits by making investments in only one company. We need to invest in more companies, so that even if one or more companies make a loss, we are able to make profits from other companies.

Further if we are investing in fixed income as discussed in Chapter 7, we are likely to get 7-9% returns where as profits from companies can be more than 20%. So if we want higher returns we can choose to go for profits rather than fixed returns by giving loans.

All of us can adopt a strategy adopted by Friend A in the previous chapter to get positive returns from the investments. But in reality, as per the statistics available with Ministry of Corporate Affairs there are more than 8,00,000 companies in India. Is it possible to select good companies in India from these 8,00,000 companies ?

This is where we need professional help from someone who is knowledgeable about identifying future profits of companies. The professionals who can help us identify the companies where we can invest are Fund Managers and they work for Mutual Fund companies. Mutual Fund companies do the same job as Friend A in the previous chapters. They collect money from us

and invest in different companies to get us a reasonable return on our investments.

Another factor we need to consider as we have seen from the previous chapter is the pencil making company made a profit of Rs 5000 in the first year and loss of Rs 8000 in the second year. We don't know what will happen in the third year. If we had invested all the money in the first year, then also there is a possibility of making a loss in the second year. We can see that if can spread the investments every year based on the situations, there is a possibility of making even better returns.

Mutual funds are best positioned to help us diversify and invest in small amounts to make best of out of our surplus financial resources.



How are Mutual Fund companies different from Banks?

10 Sample Family Financial Quotient Test

1. The Formula $A = P(1+r)^n$ is better known as
 - a. Simple Return
 - b. Compounding Return
 - c. Inflation Adjusted Return
 - d. Average Return

2. The Formula $A = PNR/100$ is better known as
 - a. Simple Return
 - b. Compounding Return
 - c. Inflation Adjusted Return
 - d. Average Return

3. If you have to invest Rs 100 for 2 years and options available to you are 10% Compounding Interest and 12% Simple Interest, which one will you choose?
 - a. 10 % Compound Interest
 - b. 12 % Simple Interest
 - c. It doesn't matter, because both are same
 - d. Rs 50 in 10% Compound Interest and Rs 50 at 12% Simple Interest

4. Assuming On 10th Feb 2009, NIFTY was 3000 and on 10th Feb 2014 NIFTY is 6000 what is the approximate return on Investment in NIFTY?
 - a. 100%
 - b. 10%
 - c. 15%

- d. 20%
5. If on an average NIFTY is giving a return of 12%, and if an investor stay invested for 24 years, how much will an investment of Rs 10 Lakh be at the end of 24 years?
- a. Rs 60 Lakh
 - b. Rs 90 Lakh
 - c. Rs 1.2 Crore
 - d. Rs 1.6 Crore
6. If a Fixed deposit offers 9% interest and 30% Tax has to be paid on the Interest received, Real return on the fixed deposit is
- a. Cannot Calculate since Investment Amount is not known
 - b. 5.2%
 - c. 6.3%
 - d. 7.4%
7. NIFTY Comprises of how many stocks?
- a. 20
 - b. 30
 - c. 40
 - d. 50
8. Which is the right representation of PAN?
- a. AADPR1123K
 - b. AADP12345K
 - c. AASDFF1234
 - d. 1234AAPPP



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