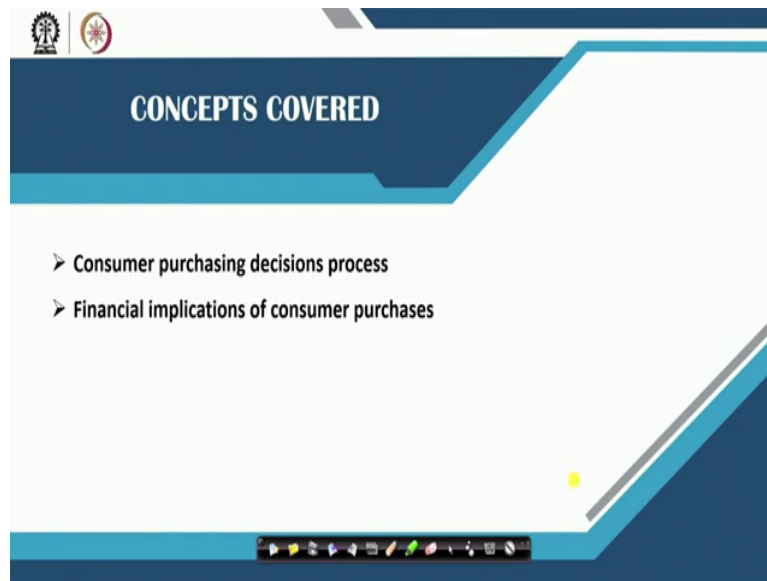


Behavioral and Personal Finance
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Module – 02
Personal Finance
Lecture – 33
Purchasing Decisions

Hi there, welcome back to the course Behavioral and Personal Finance. Second module on personal finance where we have been discussing about different avenues for investment for individuals. And what are the factors that influences our decision with respect to choosing a particular investment avenues. So, far we have discussed about different investment choices where people can invest their money such as, equity investment, mutual funds, and bond investment. Now, we move on to the next topic which is basically focused on purchasing decisions.

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In this session we will discuss mainly two topics, these topics are the process of making consumer purchasing decisions which is basically the buying process of individuals. And we will also touch upon the financial implications of consumer purchases. Suppose you have to buy some consumer durable goods such as a motor car, or a fridge, or a television, or an audio system.

And to make this purchasing decision you depend on a lot of sources where you can get information and make your decisions accordingly. Most of the time we spend lot of energy and resources on gathering information on various sources where we can find relevant inputs with respect to our decisions. Whereas, what we miss mostly is the financial implication of such a decision. In this session we will try to integrate the process of consumer buying behavior and the financial implications thereof.

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Buyer Decision Process: Financial Context

Why is it important?

- Wise buying decisions combine 'understanding personal needs and wants' with 'relevant research and information gathering' about purchase alternatives.
- Unplanned and careless buying decisions → affects long-term financial security
- Impulse buying habits of a few hundred rupees → unproductive spending of thousands of rupees in just a couple of years.

The flowchart illustrates the process: Personal Wants & Needs and Relevant Information lead to the Buying Decision-making Process. Behavioral Factors also influence this process. The result is Better Cost-benefit Analysis, which leads to Optimized Resource Allocation.

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graph LR; A[Personal Wants & Needs] --> D[Buying Decision-making Process]; B[Relevant Information] --> D; C[Behavioral Factors] --> D; D --> E[Better Cost-benefit Analysis]; E --> F[Optimized Resource Allocation];
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When we start to understand the buyer decision process typically in a financial context, we understand that it is very important. Because a particular decision with respect to consumer durables or any consumer buying decision starts with understanding the personal needs and wants which we have typically. And gathering relevant information through our research, and in sources of information which can lead to the purchasing alternative analysis and thereby making the decision finally.

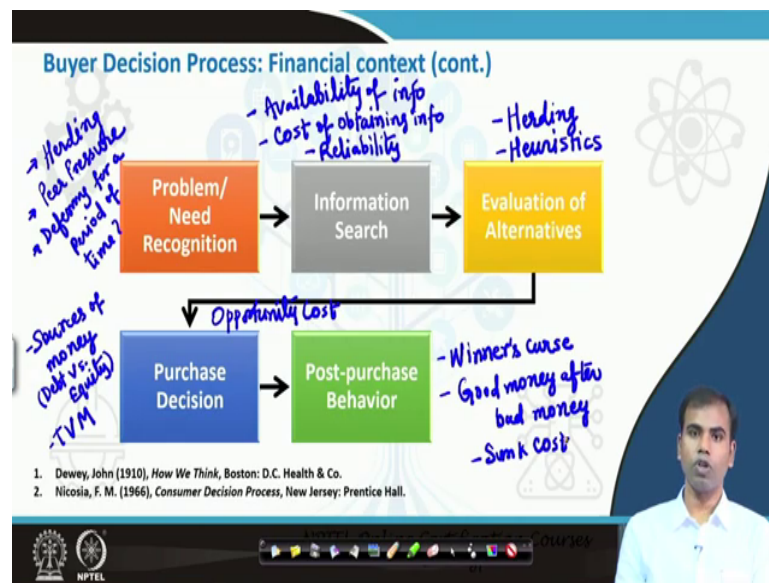
If we make some mistake such as any unplanned and careless buying decision, we typically tend to affect our own short term as well as long term financial goals. We end up hurting ourselves financially if we make any incorrect financial decisions. We also observe that impulse buying are habits related to impulse buying in short run can cost us a few hundred rupees.

But if it is repeated for a couple of years or so it eventually lead us to lose a thousands of rupees of money. And no one would want to end up doing that this is why understanding the consumer buying process and the financial implications of these steps is very important.

Typically, we understand that a buying decision making process begins with understanding and identifying our own wants and needs where we try to gather information on these needs and alternatives that we have to satisfy those needs. When we move on to buying decision making our decision making is affected by several behavioral factors.

And if we are able to incorporate those behavioral factors in our consumer buying process we end up making better cost benefit analysis that eventually leads to an optimized resource allocation and utilization. Thereby getting our financial goals closer to us, this is why it is important to understand the whole consumer durable buying process.

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According to John Dewey who proposed the idea of consumer buying process as a five step process. And this buying decision process is eventually validated and tested across different markets and products across geographies by several research studies. So, we will start with this standard five step consumer buying process the process as discussed earlier starts with problem or need recognition which then further leads to information search.

And then we try to or find the alternatives which we evaluate subsequently we make purchasing decisions. And accordingly after making purchasing decisions we understand or we try to highlight the post purchase behavior. Now, the issue that we want to highlight here is that at each and every step of this consumer buying process we as individuals are affected by several factors including social, economic, and behavioral factors.

If you try to highlight the factors that affect our problem or need identification, we know that herding is one such tendency among humans which is driven by how our people other people around us are behaving. If we see that our neighbor neighbors have purchased some consumer durable goods we tend to feel that we need to buy that as well. Similarly, if we see that there are a lot of people recommending a particular product or investment choice we feel that we should also go for that.

So, problem or need recognition in general is affected by several behavioral factors including herding. So, we can say that problem identification is affected by herding behavior, it also gets affected by peer pressure which is basically resulting in a herd behavior. And subsequently a behavioral tendency that shows that the individual can differ it for certain period of time.

So, these three factors might be important to understand when you are talking about problem or need recognition. Now, once you are able to understand the problem and need recognition process step which is basically identifying your own needs and wants. And you know that the needs or wants that you have identified are less affected by these factors such as herding, or peer pressure, or the ability, or tendency to differ it for a certain period of time we move on to gather information.

Now, in first module of this course we have already discussed how information availability lead to several heuristics or behavioral issues and also that information can be costly. And if the information is not very costly which is let us say available for free this information cannot be relied upon. So, when we talk about information search we can say that the behavioral factor that comes into play is availability heuristics.

Because the information that are available easily and freely in most cases are most used by purchasing by individuals for their decision making. So, if information is available for free or with less effort people tend to incorporate such information in their buying behavior.

At the same time if it is available for free the which is basically translate into cost of getting or obtaining that information. If it is not very high then comes the issue of reliability. For

example, if we are going to buy a second hand car and we rely on the information given by the salesman himself or herself we are probably making a mistake. Because, we need to be an expert to understand the efficiency and affordability of a second hand car.

We need to be expert or we need to be informed enough to understand the technical and other aspect of a second hand vehicle and that is how we can make a better decision. If we rely on the information that is easily available, let us say given by the salesman herself we are making probably a mistake that might cost us quite a few of our money. Similarly, if we incorporate the information availability and we try to avoid availability heuristics in the process of information search we can make a better decision and move on to the next step that is evaluation of alternatives.

Now, evaluation of alternatives could be affected or influenced by several behavioral factor again and one prominently being herding. Because, herding is something which affects our behavior every now and then more particularly when we are making some financial decision. At the same time, we can also be affected by heuristics; for example, if you are buying let us say a financial product or you are buying a house which cost you a lot of money.

You tend to buy a house that might be located in a very nice locality and cost you a lot of money. But actually the locality is very far away from your office location and that is how you make a mistake by choosing a house that is away from your office. So, you cost you spend lot of money on buying a good house in a locality that is far away and we have spent eventually a lot of money on commuting from your home to your office and return.

So, that is how you tend to make a decision because of your herding influences or heuristics which are easily available in your decision making process. Once you have evaluated the alternatives we typically make our decision, we spend lot of money on making the decision and in most cases these decisions are irreversible, so we have to stick to it for quite some time.

Now, let us say we are buying a car and we have to spend a lot of money on purchasing this vehicle. We have done the need recognition step we have collected information from all

possible sources we have evaluated the alternatives. And we decided that we will go for a particular model of a car. Now, when we have to make a purchasing decision the factors we should be careful about is the source of money.

Where which is used for buying that car which essentially means if you are borrowing or using your own money to buy this car. Similarly, you also consider time value of money here, because you spend a lot of money at a time where for which benefit can be gained or derived in future time. So, these two factors are most important while you consider purchasing decision in general, and when it is of significant amount of money to be spent. You should be more careful in these two factors namely the sources of funds, or sources of money to be spent on this purchasing decision and the time value of money.

We have already discussed that time value of money is a factor or an input that makes a better decision for individuals. Because you compare the present value of cash flows occurring at future time and the present value of the investment that you are making today. So, that you can compare both the cash flows in terms of inflows and outflows and make a sensible financial decision.

Sources of money here imply that if you are buying a car and you are planning to buy it on a vehicle loan from a bank. For example, you have to spent some money on interest payment and you have to also spend some money on fuel and maintenance. So, it cost you quite a substantial amount of money to own that car and maintain that as well.

Now, if the benefit that you are deriving is not sufficient enough to cover that cost then it is not a wise decision to purchase this car. So, whereas, if you try to purchase this car with your own money that you have saved over the years the cost of owning that car will be less. Because, you do not have to pay the interest and the maintenance of the car will be the only cost that you have to incur directly. And the benefit that we are going to derive hence be compared with lesser cost of owning the car.

At the same time the opportunity cost is an important factor which you should always keep in mind. Because, opportunity cost is going to determine whether the cost of purchasing that car

is lesser or more than the benefit that you are deriving from the ownership of the car. Post purchase behavior is the final step in the buying behavior process and it basically implies the tendencies or behavior of individuals after making the decision.

We have discussed behavioral tendencies such as winners curse which we have understood in behavioral finance context. Where we know that if you have purchased or you have invested your money in a share and soon after investing your money or buying that share. You realize that it you should have waited for quite for some time, so that the price would have gone down and then you could have owned or you could have bought.

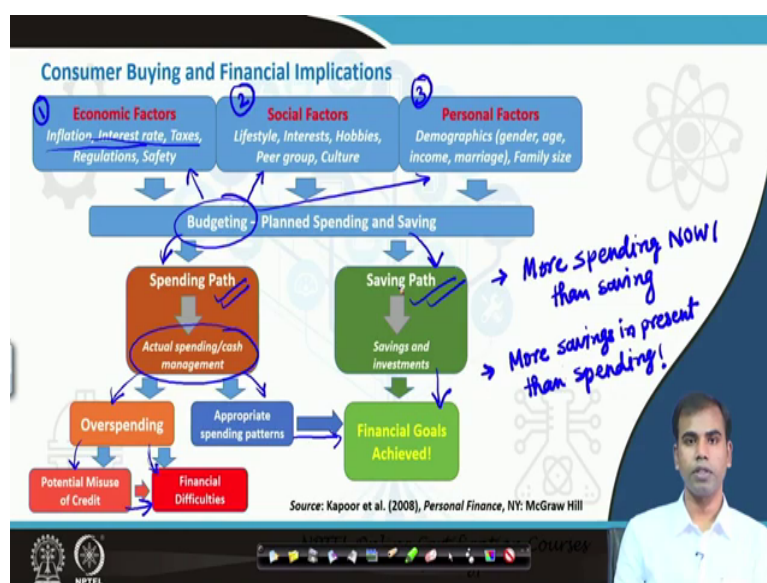
Then that tendency is typically defined as winner's curse. And in many consumer buying behavior steps we see that people make such decisions for which they slightly regret later on because of this tendency of winner's curse. They realize that if they had waited for little more time probably they would have got a better deal and bought that particular asset or that particular item for a lower cost.

This is one of the examples of post purchase behavior. Of course, other examples include if you have already invested some money and you know that this cannot be recovered then you spend some more money on it. And this tendency is known as in a very simple term we can call it good money after bad money.

So, essentially this is coming from a concept called sunk cost where you have spent some money that has already been spent and you cannot recover it. So, to justify this particular sunk cost or to do this already spent money you spend little more money on it, hoping that this money will result in some more benefit to justify your decision.

So, these are some behavioral factors and issues that you need to consider in while making this buyer behaving behavior process. If you are able to successfully incorporate these factors into your decision making process. It is more likely that your decision will be more beneficial and the cost benefit analysis will result in a better informed and financially rewarding decision.

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Moving on, we try to understand the financial implication of any consumer buying behavior or consumer buying process. Here, I present an adopted form of the steps or the flowchart of consumer buying behavior process. Where if you are successfully doing right things you will end up achieving your financial goals. And if you are not following the right path or right steps the financial goals will be not achieved and you will rather face financial difficulties.

We start with a simple analytical approach where we understand that our decision making with respect to any financial commitment such as buying finance consumer goods or investing your money in some rewarding investment avenues. All these things start with the simple analysis of the factors that influence your decision making. Here, the factors that influence our decision making are economic factors, social factors, and personal factors.

Now, economic factors such as inflation, interest rate, tax rate, government regulation, or safety guidelines, these are some economic factors that affect our decision making process in general. I have already discussed more details about these things when we were analyzing some investment of avenues in previous module. So, I am not going to elaborate on this, social factors include lifestyle in interest personal interests, hobbies, and peer groups behavior, and social culture.

These factors influence your decision making process. Because, these things will determine whether you want to own a particular asset or a particular item or not and if you are owning it what could be the possible reason? Third type of factors are personal factors such as demographic issues including gender is, marital status, income investment savings, size of the family and so on.

All these three factors together affect your budgeting decision or the decision related to your planned spending and saving. If you as an individual in terms of budgeting are moving towards a spending path which is basically the path where you spend lot of money on actual activities. And you are involved in cash management process where you invest some money in buying or selling some products or rather owning some products in return of some money to be spent.

If you are on spending path you can either go for overspending, if you are not managing your cash properly or you can follow a system where you spend appropriate money on different items and different goods and services. So, from budgeting which are affected by social, economic, and personal factors you move on to spending path where you spend actual money on different goods and services.

And if you do not plan it properly you move towards overspending, if you plan it suitably and you incorporate behavioral, and social, and cultural factors; you plan your spending on appropriate systematic way. If you overspend you are likely to end up misusing your credit which is basically leading towards financial difficulty.

In general overspending also leads you towards financial difficulty; whereas, if you are following your appropriate spending pattern you can achieve your financial goals successfully. If you are following saving path which is basically more saving and investment rather than spending, you can achieve your financial goal very easily.

Now, here the point to be highlighted is if you are an individual that believes in more spending now than saving versus a person who is more savings in present than spending. Now, these are two categories of individuals that you can come across. So, people prefer to spend more in present time than save because of several reasons. And one of the reasons could be the availability of funds or money at a cheaper cost or the rate of return that can be earned on the savings or the investment that individuals are making.

So, if you earn more interest on your savings you would like to invest your money rather than a spend it. And if you see that the interest rate is not very high on your deposits or on your savings you would rather spend it to gain utility then investing it in a different investment of avenues. So, the economic factors such as interest rate and taxes and inflation determine your choice to spend or save.

Similarly, social factors such as lifestyle, interest, hobbies, and peer group and culture also determine whether you are moving on to spending path or saving path. For example, India as an economy in general have always been a nation that have believed in saving more than spending. Whereas, in western culture it is always encouraged to spend more than save.

So, you have seen in data also that India has always had about 30 percent of savings rate for quite a few years till recently. Whereas, in recent times the tendency or the behavior of the next generation has changed from saving to spending pattern. So, these social and economic factors depend on other factors such as personal factors including age, income, marriage, family size and all.

For example, if there is a student who had just graduated from the college and got into job market. And she has started earning that person would be likely to spend more money than

save in general. Whereas, if the financial planning is done right that person can save more because she has no liability in beginning. So, more money can be saved for a better and more financially rewarding future.

So, the factors such as economic factors, social factor, and personal factor can determine your choice to go on saving path or spending path. If you move to saving path it is easy for you to achieve your financial goals, if you go on a spending path and you do appropriate spending by managing your cash appropriately still you can achieve your financial goals.

However, if you go on overspending path you end up in misusing your credit which is often seen when you have a credit card you overspend in general. And end up having higher debt compared to your other peers. If you have potential misuse of credit you end up in financial difficulties.

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Consumer Buying and Financial Implications (cont.)

- Consumer buying choices affected by several factors
 - One-time large investment vs. small but multiple spending
 - Desire to own something vs. willingness to manage without owning it
 - Comparison of cash flows and *time value of money*
- E.g.: Getting your clothes washed at laundry versus buying a washing machine
 - Average weekly spending on cloth washing & ironing: ₹100 (52 weeks) *25,200*
 - Driving to the laundry for the job costs ₹10 extra; maybe, extra charged for home delivery
 - Cost of buying a washing machine: ₹25,000 (life: 10 years)
 - Costs of water and electricity, if done at home: ₹10
 - Assume a TVM factor rate of 3% *← Avg. rate of return on Savings bank A/c.*
 - What to do?

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Having understood these financial implications of the consumer buying decision process we must not forget that all these factors include one important aspect of financial implication that is the time value of money. We know that consumer buying choices get affected by several factors including the choice between investing a lot of money right now versus a smaller amount of money infrequently. It is also affected by personal choices or desire to own something versus managing without owning it.

And of course, comparison of cash flows compared to different points of time. Here I have got an example where we can discuss how a choice of owning something versus getting it done without owning it can be evaluated for consumer buying decision. And the situation here is as follows, suppose you have a task to do and the task is getting your clothes washed at laundry versus buying a washing machine. You have two choices either get your clothes done from outside and the second choice that you have is to own a washing machine.

Now, if you look at the financial side of these two choices, if you spend an average amount of money of 100 rupees per week on getting your clothes done from a laundry in a 52-week year you end up spending about 5200 rupees. In general on clothing maintenance of clothes. If you have the laundry little away from your place of living you spend some money on traveling to the job to get it done that is let us say 10-rupee per week extra or maybe if you have the service of home delivery.

Let us assume that this 10 rupee of extra charge is for home delivery. If you do not go for this laundry service you own a washing machine which will cost you some 25000 rupees and the cost of this washing machine is 10 years. If you buy it you have to spend some money on water and detergent and electricity. So, let us say every time every week you do it, so you cost you spend some 10 rupees on an average per week for water electricity and detergent.

Assuming that a time value of money factor rate is 3 percent which is basically the average rate of return on your savings bank or savings bank account. What should we do? Whether we

should own the washing machine or we should get that clothes done from a laundry. If we try to understand this from a finance perspective this is how we can actually evaluate it.

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Step 1. Cash Flows associated w/ this decision:-

+ve CF: Estimated amount that can be saved on weekly laundry services	$52W \times ₹100 =$	<u>5,200</u>
+ve CF: Driving cost/ Home delivery cost	$52W \times ₹10 =$	<u>520</u>
		<u>5,720</u>
-ve CF: Cost of water, electricity & etc.	$52W \times ₹10 =$	<u>520</u>
	Total amount saved	<u>5,200</u>

Step 2. Find the present value of this annual savings
 $₹5200$ p.a. for 10 yrs. @ 3%. $PV = \frac{C}{r} \left(1 - \frac{1}{(1+r)^n}\right)$

$$\frac{5200}{0.03} \left(1 - \frac{1}{(1.03)^{10}}\right) = 173,333 \times 0.2559 = 44,356$$

$$= 25,000$$

Step 3. Consider the cost of buying the washing machine
 Total NPV = 19,356

So, step 1 would be to understand all the cash flows which are associated with this decision. So, first of all let us try to understand all the cash flows associated with this decision. So, first of all positive cash flow, and positive cash flow one is estimated savings or rather estimated amount that you can save on weekly laundry services.

So, basically 52 weeks into 100 rupees, so let us say that you have 5200 rupees of savings on estimated amount that you can save without using that particular service. Another saving that is positive cash flow is driving cost, let us say driving cost that is 10 rupee per week or home delivery cost that you can save.

So, 52 weeks into 10 rupees, so that is 520 rupees. So, positive cash flow that you have is 5720, and negative cash flow that you have here is cost of water electricity and detergent. So, let us say 52 weeks 10 rupee again these are just arbitrary numbers, so you can assume any value which are more realistic and relevant.

So, the total amount saved is going to be 5200 and annually. Now, let us consider step 2, step 2 says the present value should be found out find the present value of these savings. So, 5200 of annual saving for 10 years at 3 percent of discounting rate or rate that we are considering. So, if you remember we had derived a formula earlier which says that cash flow basically the formula for present value is cash flow divided by r into $1 - \frac{1}{1 + r}$ to the power number of years. This should give us the present value of these 5200 years of cash flow, so basically this is our c , this is our n , and this is our r .

So, if we plug in these numbers into our formula we find the present value of this particular thing. If we try to plug in let us say the formula that can be that can be plug in is 5200 divided by $0.03 \frac{1 - \frac{1}{1.03^{10}}}{0.03}$. If we find the present value of this formula, we are actually coming to a 173333 into 0.2559 which is basically turning into 44350 the actual number is 356.

Now, step 3 is, step 3 is we consider the cost of buying that machine. If you remember from the example given the cost of buying that washing machine in today's term was 25000. So, the total saving that we have total net present value of saving that we are going to have out of this decision is basically 19356 in today's term.

So, this is how we typically should evaluate all the financial decisions are related to any consumer buying the item. For example, vehicle or consumer durable goods such as TV, audio system, or washing machine any anything that cost us a substantial amount of money. And can be used for several years or a longer period of time should be evaluated on the basis of net present value and accordingly the decision should be made only if the net present value is positive. So, this is one example of buying a consumer decision, if we go back to make a summary of whatever we have discussed today.

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CONCLUSION

- Every decision with some economic value should be evaluated for financial implications;
 - COST-BENEFIT ANALYSIS
- Consumer buying decisions influenced by multitude of factors:
 - Economic, Social, Personal Factors
- Carefully analyzed buying decisions help you achieve your financial goals.

In this session we know that every decision of ours as an individual has some economic value and these decisions should be evaluated in terms of cost benefit analysis. Where we need to consider all the cost of owning or buying that in item and benefit in terms of deriving the utility and any other benefit that are associated with the product or goods or services.

Typically, consumer buying a decisions are affected by economic social and personal factors. And these factors make you choose the path of spending versus the path of saving or is the path where you prefer to spend more money in present time than save money for future. And if we do our decision making process carefully in terms of comparing the cost and benefits we will achieve our financial goals more easily. More discussions about buying decisions related to different scenarios will be discussed in coming lectures.

Thank you very much for now.