Behavioral and Personal Finance
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Module - 01
Behavioral Economics and Finance
Lecture - 10
Prospect Theory and Behavioral Finance

Hi there, welcome back to the course Behavioral and Personal Finance. In this session we will touch upon two important issues of the application of behavioral theory of utility which is basically the prospect theory. So, far we have learnt that prospect theory explains how individuals behavior changes depending on the certainty and uncertainty associated with any outcome. And we have also learned that presentation of choices or outcomes determine the peoples ability to undertake risk and decision.

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This particular session covers two topics basically we will touch upon the mental accounting bias and we will also touch upon few issues related to behavioral finance. So, far we have known that framing of choices and framing of decision situations affect individuals decision making process, let us try to contextualize this particular bias towards more of financial decision making perspective. When we talk about mental accounting we basically talk in terms of mental or cognitive of blockings of individual decision making processes.

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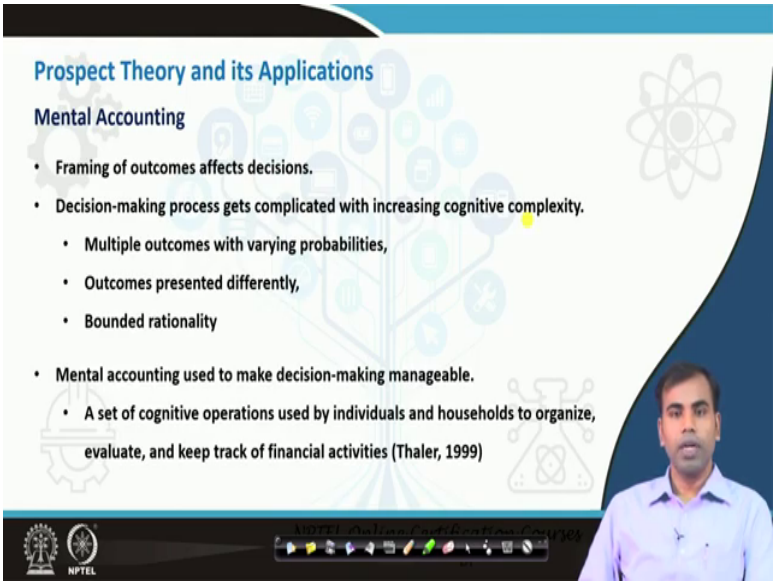

We know that decision making process is very complicated and as we add more cognitive complexities, the decision making process for individuals become even more complicated. The reason behind these decisions are complicated are as follows. We know that we are faced with several outcomes with varying probabilities, we know that there are many outcomes of our decisions and we tend to assign different probabilities or likelihood of those outcomes.

So, the uncertainty involved in those possible outcomes becomes even higher. We know that situations that we face might be presented differently in different circumstances and the presentation of outcomes would determine whether a person is going to take that decision or not. And at the end we all are human being and in the words of simone, we are suffering from bounded rationality which means we have limited ability to process the information and if we are bombarded with a lot of information our decision making process gets affected.

So, these are three major reasons for which the decision making becomes complicated. We as human being tend to evolve through different situations and mental accounting is one such situation, which basically decision maker undertakes to make the decision making process manageable. So, Richard Thaler in his work in 1999 defined mental accounting as a set of cognitive operations used by individuals or households to organize, evaluate and keep track of financial activities.

Now, if we go little further, basically mental accounting is most relevant in terms of household and personal finance decisions. Let us try to understand how we keep different mental accounts for different set of its activities with respect to economic and financial decisions.

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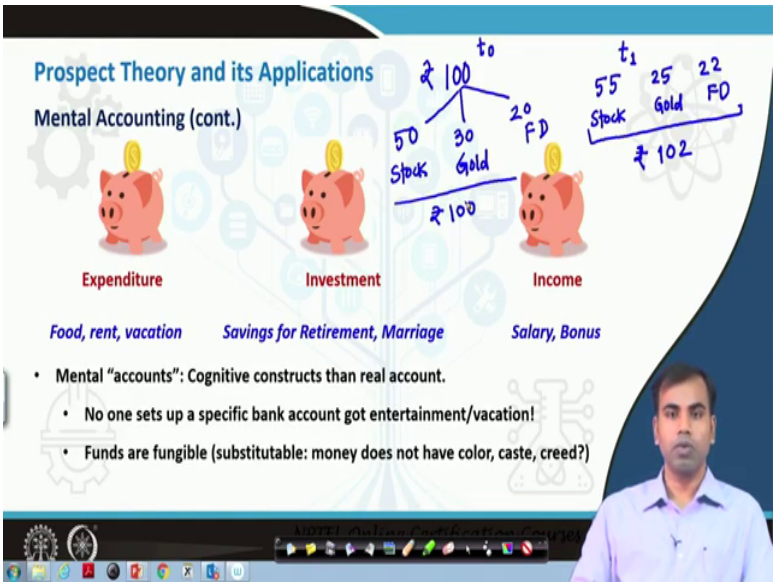

Suppose, you are managing your own money basically either you are making financial personal finance decisions or you are making household finance decisions, we tend to keep a separate set of expenses and similarly for investment and incomes in different blocks. We could keep it physically or in our minds.

So, we keep let us say maintain three different accounts one account is meant for expenditure such as food, rent, vacation, entertainment second account is meant for investment; let us say savings for retirement or savings for education or maybe buying a car or possibly savings for marriages. So, these are certain investment to be incurred in future and the third account is basically income where we try to associate salary, bonuses or other income that we get.

Basically, most of us maintain these accounts in our mind. So, these are mental account which is basically cognitive constructs rather than real account. When I say real account I

mean that when we try to maintain separate accounts for let us say entertainment, we do not set up specific bank account for entertainment or vacation rather we maintain let us say in most cases one account only in our bank, but the expenses that we incur on different activities are associated with each of these activities separately.

The underlying assumption is funds are fungible which means you can substitute 1 rupee today with another rupee coming from a different source and that is why it is fungible, which basically in a lighter way you can known as money does not have color caste or creed and it does not discriminate, but in real money does have these things which means you in your mind maintained separate accounts and treat money separately in different context.

Let me cite an example here. Suppose you have 100 rupees of money and you want to invest in three different investment of venues let us say stock market, bank deposit and precious metals. So, you invest 100 rupees in stock market, 20 rupees in bank deposit and 30 rupees in gold. So, if we try to see this example this way. So, I have 100 rupees of investable fund and this has been invested in 50 rupee in stock, 30 rupee in gold and 20 rupee in let us say FD.

This could be in terms of percentage or in terms of real money, now this is at time 0. Now time 1 your stock market has grown of from 50 to 55. So, the value of your stock investment becomes 55, the value of your gold in investment becomes 25 you lose some money on the value of gold and you get 22 rupees value in your fixed deposit basically you have gained 2 rupee.

So, if you look at the investment in in terms of segregation of the losses or gains, you actually hold a portfolio or an investment value worth. So, the value of your investment portfolio is basically 102 which is definitely higher than the initial investment that you had made on time 0, but most of us tend to integrate our losses also or in the same time we tend to segregate our losses or gains.

So, here in this case probably your decision to buy more gold or invest more money in fixed deposit or invest more money in stock market would determine from determine by the expenses your decision to invest more in gold or fixed deposit or stock market would be

determined by the experiences that you have in these respective investments. So, in this context since you have had a better experience in investing in stock market, next time if you get some additional money to invest you would allocate more funds to stock market and less fund to gold which might not be beneficial in next term; which means in next period probably stock market would not do as well and gold market do better.

So, this is how we treat our moneys differently and this is because of the cognitive construct that we have in our mind in terms of mental accounting separately for each of these avenues. Let us try to understand this with a more sophisticated example.

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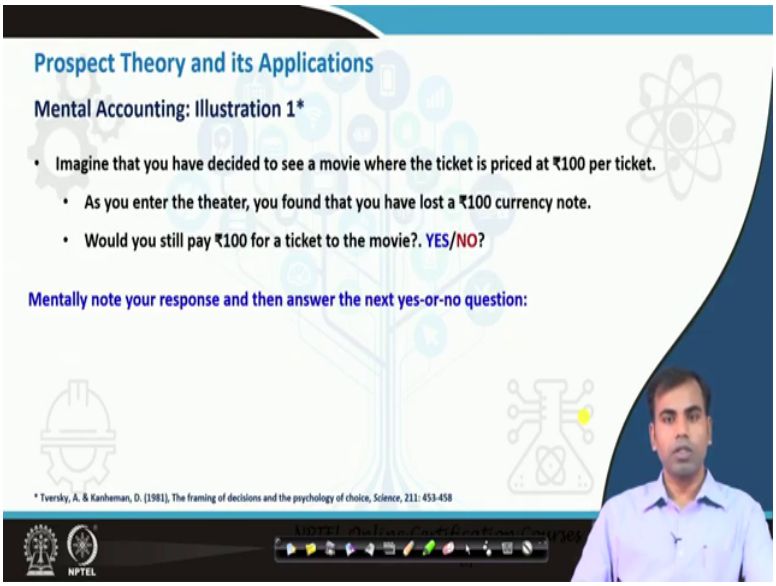

Suppose, you are in a situation where you have decided to go for a movie and the ticket is priced at 100 rupees per ticket. So, if you want to and take admission in that movie you have

to pay 100 rupees per ticket price. As you enter the movie premise the theatre, you found that you have lost 100 rupees of note from your wallet.

Now if I ask you whether you would still pay 100 rupees for a ticket and go for the movie what would be your answer? Take a minute think about it and keep that answer in your mind. And as you think over this particular situation where you have to decide whether to go for a movie or not or even after losing 100 rupees of note, let me ask you another question with similar yes or no response.

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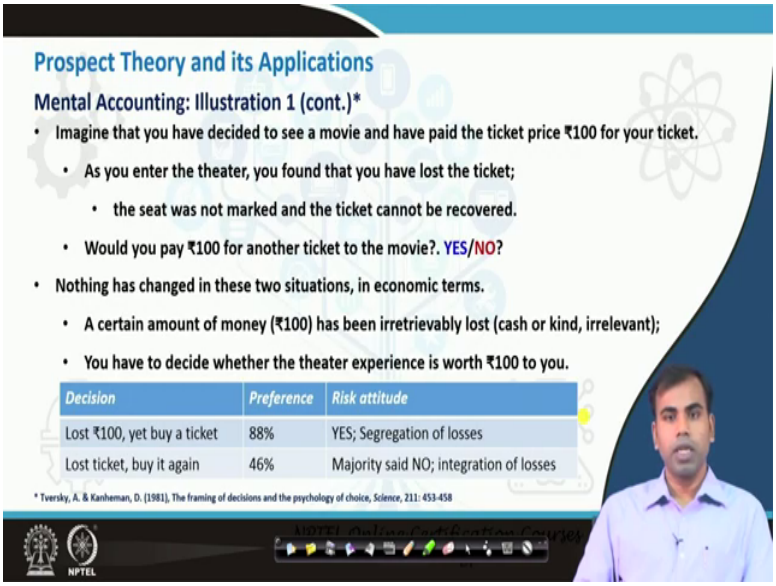

Now the situation here is you are again going for a movie and you have already paid the ticket price which is 100 rupees and the moment you entered the movie theater you found that, the ticket has been lost which means the seat was not marked and the ticket cannot be recovered.

So, you have lost the ticket effectively. Now the question here is would you still pay 100 rupees for another ticket and go for a movie.

These two situations in terms of economic value lost are same, in first case you lost 100 rupees from your wallet and in second case you lost the ticket that you have purchased for 100 rupees. So, the lost economic value is same in both cases that is 100 rupees now nothing has changed. So, the certain amount of money 100 rupees has been lost and it is irrelevant whether it has been lost in terms of a currency note or the ticket and you have to decide whether the theatre experience is worth 100 rupee or not.

In the experiment conducted by Kanheman and Tversky, they found an interesting observation. If you look at the outcome of that experiment you see that the situation where people lost 100 rupees of currency note and they are asked if they would buy a ticket 88 percent of respondent would say yes they would buy their ticket and go for a movie and here basically you can relate to the previous example that shows people are segregating their losses.

In second scenario, where the ticket was lost and they are asked if they would buy the ticket again 46 percent would agree that they would buy which means majority would say that they would not buy the ticket because they are integrating the losses. So, effectively they are tagging the lost ticket to the entertainment account and that is why they are not willing to buy another ticket for watching for that movie.

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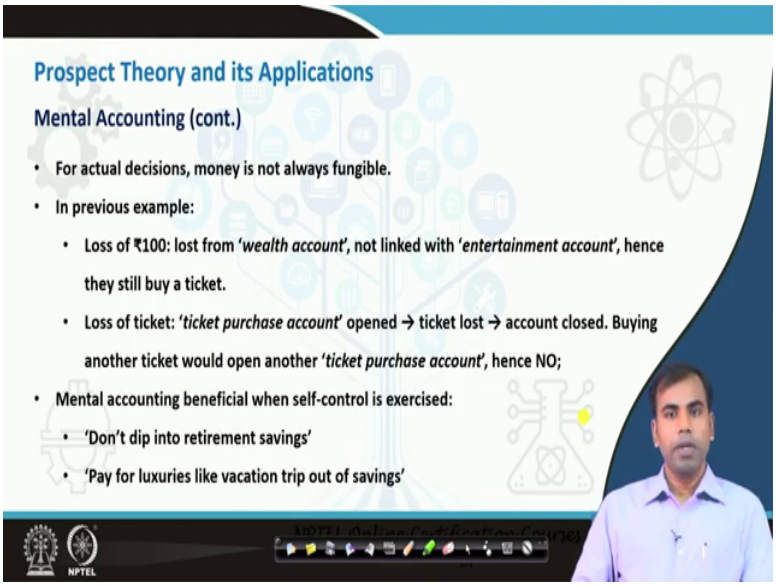

This is a very simple and interesting example of mental accounting. We have seen that loss of 100 rupees which was lost from wealth account which is basically your wallet in terms of currency notes, is not linked with the entertainment account that you might be maintaining in your mind and that is why people agree to buy a ticket again and go for the movie.

In second scenario, where the ticket was lost people had already purchased the ticket and their ticket purchase account was opened. So, it could be closed only if you completed watching the movie. Now the situation is you have lost the ticket and that is why account is closed. So, once the account is closed buying an additional ticket would mean that you are opening another account.

So, if you have allocated certain funds for entertainment, buying another ticket would mean that you would exceed that allocation of money for entertainment whereas, in first case it was

not allocated to entertainment as yet because he had not purchased the ticket and that is why you would probably agree to buy a ticket even after losing 100 rupee of currency note.

So, mental accounting influence our personal and financial decisions very much and we know that it also helps in exercising self control. So, if you have heard somewhere that do not dip into retirement savings or pay for luxuries like vacation trip and all out of the savings that you have made, these are basically tools for self control and creating mental accounts to help you make better personal finance decisions.

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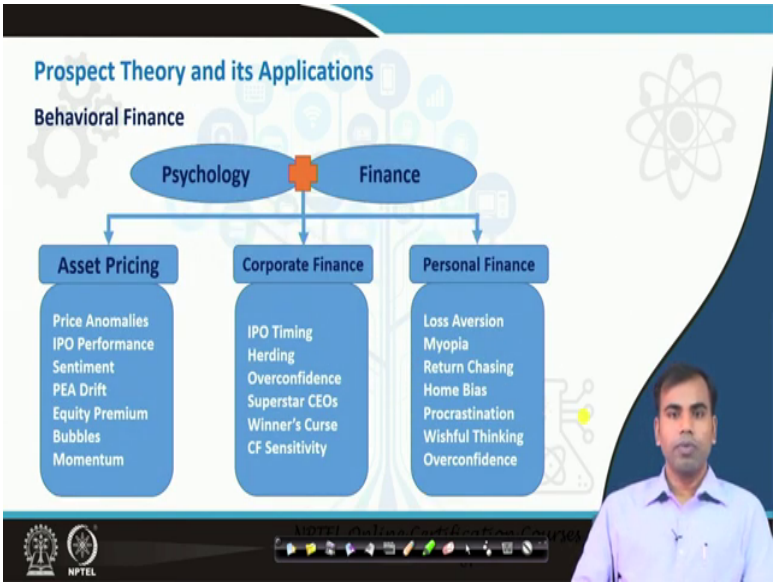

When you talk about the implication of these biases and heuristics such as framing effect or reference point or mental accounting, we basically try to understand how these things would affect the financial decision making in individual or household context. Now when we talk

about behavioral finance, we essentially mean the integration of psychology with financial decision making.

Now, that financial decision making would be relevant for corporations as well. As we know financial decision making in case of a businesses and corporation would have implications on several aspects, three of which has been mentioned here. So, let me try to touch upon the issues related to financial decision making with respect to asset pricing which basically is finding the right value of an asset or corporate finance which is basically the financial decision making for corporation and businesses and then personal finance.

These behavioral biases and learnings from prospect theory or similar theories coming from behavioral economics and finance domain, essentially mean a lot for financial decision making in terms of corporations and businesses. So, if you have heard of these terms its fine if you have not let me try to explain some of these terms with the help of learnings from the previous lessons. So, if we talk about behavioral finance and it is implication in asset pricing one of the most important phenomenon that we see is pricing anomalies.

So, when we talk about pricing anomalies we essentially mean that, a particular asset being priced differently by different set of people. So, in the context of a stock market, let us say there is a share of a company which need to be priced for selling or buying. Now there are two different sets of investors one sets a set of investor is let us say retail or individual investors, another set of investors is basically institutional investors. Now these two investors have different attributes meaning that they will have different amount of money to invest, they will have different investment horizon.

They should have different risk bearing capabilities and they will have different information processing abilities. And that is why the value of the asset that they arrive or calculate would be different and this will result in one set of investors being right and another set of investor going wrong. And the person or the set of investor that goes wrong would probably lose money in the stock market.

So, pricing anomaly basically implies that different people have different understanding of the valuation of assets and that is why they might make money or lose money in the process. Similarly another behavioral phenomena that we see in asset pricing context is IPO performances. So, IPO as we know is Initial Public Offering which is basically the first time a company offers the share of itself and that is sold to common investors for which the price prices are determined by the standard processes.

Now, when the IPO is released and people are asked to invest their money in the IPO, they arrive at a price at which the share is listed in the stock exchange. Now the moment share is listed in the stock exchange, it becomes public and then there are multiple people trying to trade that particular stock. Depending on the perception of those people about the company and its valuation, they would quote a higher or a lower price.

In many cases we have seen; in many cases we have seen that right after IPO listing share values or the prices of the share go down and people who have invested they might lose the money in the process. Similarly another behavioral phenomena that is commonly observed investor sentiment that determines the asset pricing again, because how people perceive a particular outcome or the situation would determine how much they are willing to take risk and how much they are willing to pay in terms of price and that is dependent on the investor sentiment whether it is positive or negative about a particular outcome.

So, there are several other behavioral phenomena here which can influence decision making in asset pricing context. Similarly, if you talk about decisions with respect to corporate finance, we know that markets moved and investors behavior determine whether it is right time for an IPO or people who trade in stock market understand that they sometime behave in terms of herd behavior and maybe we can also observe overconfidence and other similar behavioral biases where people behave non rationally and that will affect the overall economic gains and or losses for the investor as well as other stakeholders in the market.

Behavioral biases influence significantly too in individuals and household and that is why personal finance decisions are mostly affected by how we understand the situation and how

we perceive a particular decision choices. Some of the major behavioral biases that we face in personal finance include loss aversion which we have already discussed where people do not take to under assumed loss and to avoid loss they start taking higher risk.

We have also understood briefly about narrow focusing of individuals, which essentially is a myopic decision making framework where people do not think beyond certain point of time and they miss calculate the probabilities or the possible outcomes and in the process they lose money or gain less than optimal money.

In markets we have also seen that people are return chasers which means that people go for winners and pay over price and they sometimes lose money in the process, because if you have purchased something for the higher price than its actual price, you are less likely to gain positively in future. Another behavioral phenomena that we observe in personal finance decision making is home bias which is again individual bias towards preferring or favoring familiar or known outcomes and giving higher value to them, and avoiding the situations which are more uncertain and assigning lower value to them.

Situations like procrastination or wishful thinking or overconfidence are another few examples of behavioral biases that individuals and households suffer when they take personal and financial decision making. Essentially what I mean to indicate here is, have not learnt the implications and applications of prospect theory in individual economic decision making, we could shift our focus towards more financial decision making in the context of individuals, household or corporations and these are some of the biases that we might observe very frequently.

So, in next few sessions we will touch upon these biases in more details with several examples and different context.

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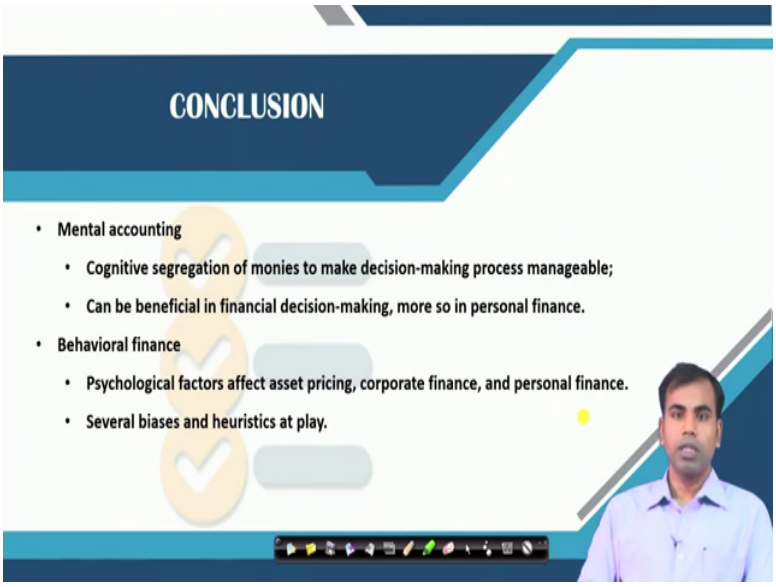

In this particular session we have just discussed two major concepts; one being mental accounting where we observe that people create cognitive constructs and they maintain separate mental accounts for different activities with economic value and this is done in order to make the decision making process more manageable.

Mental accounting can be beneficial for individuals if exercised with self-control. It is more important for personal and household financing decisions. We have also touched upon different biases and heuristics with respect to corporations and in financial markets. This is basically the beginning of a discussion on behavioral finance topics where we learned that psychological factors affect asset pricing in financial markets, corporate finance decisions and of course, personal finance decisions.

We have just exhibited few biases and heuristics that might be important to understand before we expedite our discussion to behavioral finance and financial decision making. This is all for now.

Thank you very much.