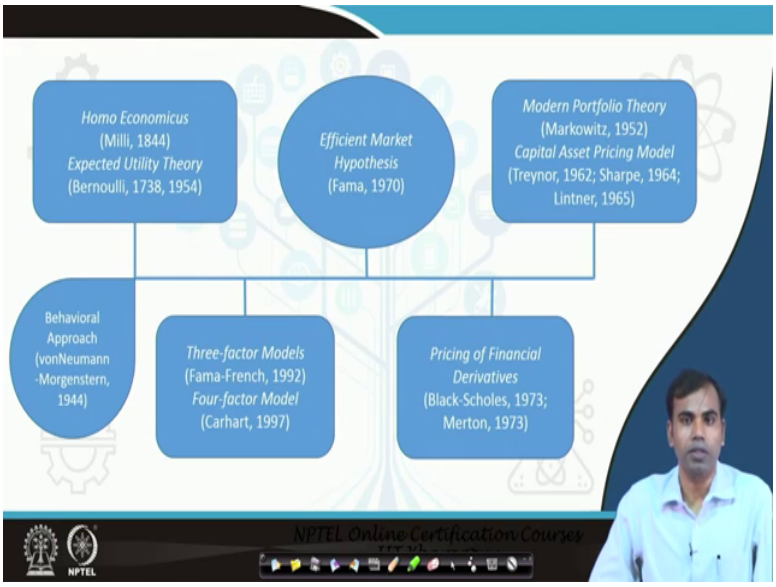
**Behavioral and Personal Finance**
**Prof. Abhijeet Chandra**
**Vinod Gupta School of Management**
**Indian Institute of Technology, Kharagpur**

**Module - 01**
**Behavioral Economics and Finance**
**Lecture - 02**
**Introduction to Behavioral Economics and Finance**
**(Contd.)**

Hello there, welcome back to the course Behavioral and Personal Finance to continue where we had left in last session. We had so far covered the topics related to different type of decisions that involve financial implications for individuals as well as for corporations.

To bind all these individual financial decision making structures together there are theories and concepts that we need to understand. So, to explain the important financial theories and concepts in a historical framework; let us try to touch upon the topics that actually connects all those financial theories together.

(Refer Slide Time: 00:59)




So, the history of financial decision making or finance theory in general starts when economist started talking about utility theory and they started assuming that individual human beings are basically a homo-economicus which means, they try to evaluate all the alternatives in terms of utility that they expect to derive and weigh each of the options that are available in a ranking framework and then make a decision.

So, these decision making theories or economic theories are basically based on expected utility theory given by Bernoulli and later on by von Neumann Morgenstern. After the basic utility theory has been used in several research and to explain how individuals make decision, certain financial theories and concepts are important to understand.

So, if we try to focus on several major finance theories. One of the most important finance theories is actually efficient market hypothesis. In 1970, Eugene Fama gave this proposition

that financial markets are efficient and the level of efficiency of financial markets ranges from weak, weak efficient markets to strong efficient market. The underlying idea was whether individuals or any decision maker can understand from the prices of any asset in a financial market to determine the level of information efficiency.

For example, if a financial market in general and an economic in particular reflects all those information that are historical in nature in the prices of the assets. This kind of financial market is known as weakly efficient markets. If the markets reflect all the historical and present information in the prices of the assets, this market is known as semi strong efficient market. And, if the markets reflect all the prices and all the information that have historical nature and the information that are present as well as expected in the market. This type of market is known as strongly efficient market.

The implication of this market efficiency hypothesis was basically in terms of the valuation of assets when an individual or an investor wants to invest his or her money in financial instruments or financial assets, he or she wants to determine the right value of the asset. And, the value can be determined on the basis of the information that are available to the decision maker and the prices that reflect the historical or present or expected information. If you could recall in the net present value approach also most of our decisions are based on the present value of expected future cash flows.

So, if the present value of any assets reflect the correct value of expected cash flows generated from different investment or any decision then the markets actually reward the investor appropriately. Having developed this efficient market hypothesis, Fama and other researchers started proposing the implication of this market efficiency hypothesis to different asset pricing theories. So, several researchers including Markowitz, Treynor, Sharpe and Lintner started working on utilizing this efficient market hypothesis to explain the pricing model in financial markets.

So, they give theories such as capital asset pricing model and Markowitz portfolio theory that try to assess the value of an asset, and how the risk and return characteristics of an asset could be used to determine how much to invest in which assets. These theories led to the

development of the pricing theories and models for different type of assets such as options and futures.

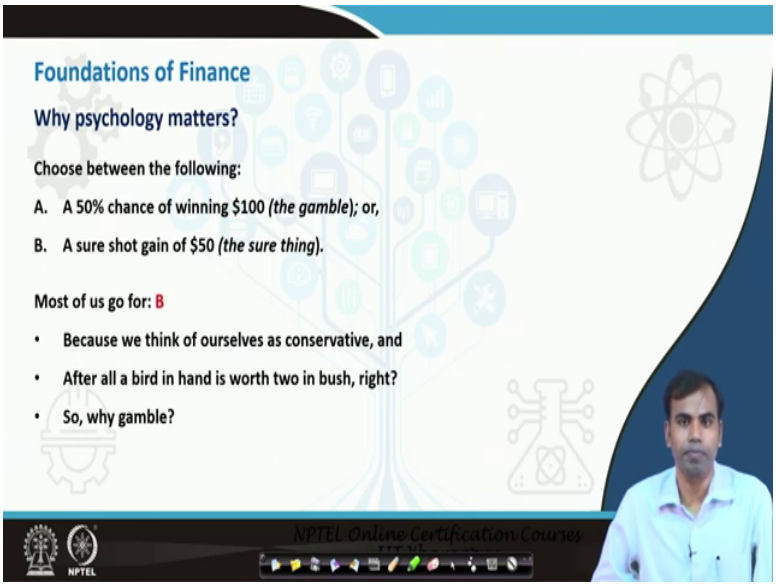
In late 70's, several researchers proposed a framework that will help to understand pricing of financial derivatives which has certain underlying assets, such as equity shares or bonds or maybe over the time. We have seen that there are financial derivatives which could be related to whether or any other asset in general.

These financial theories actually led to the development of financial markets across the world and over time. We have seen that many upgraded theories in terms of more sophisticated calculation methods, more recent tools and techniques in terms of econometric analysis and vast amount of data have been used to develop these theories and model.

And, some of the examples if you can see include factor models which actually consider several risk factors to determine the value of assets and all these theories actually contribute to the development of the field of finance. And, finance theory in general that will ultimately help us understand how financial decision making can be based on one or more of these theories.

How these theories can help us understand the better financial decision making process and a behavioral aspect of, financial decision making can be understood with the help of behavioral approach of expected utility theory given by vNM, that actually adds all these traditional finance theory and behavioral economic theories together. Now, the question here is why a behavioral aspect of financial decision making is important, which actually implies why behavior actually matters.

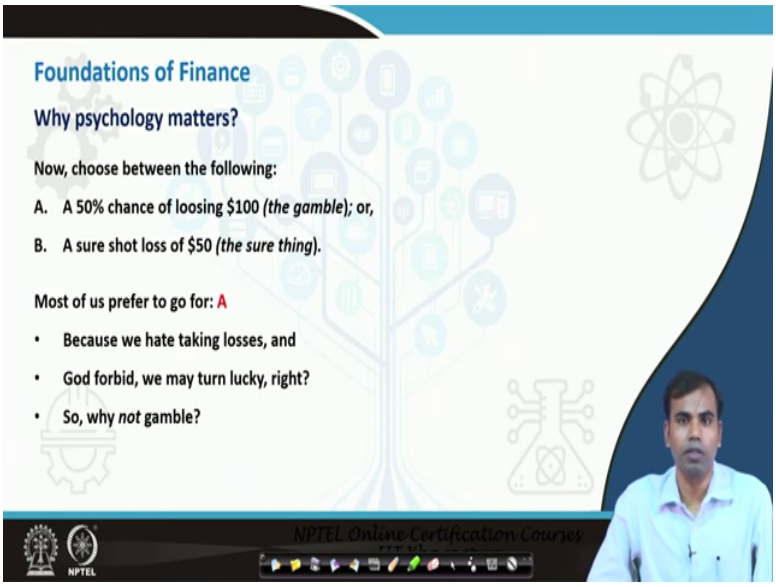
(Refer Slide Time: 08:43)




So, let me try to show an example here. Suppose you have the following choices, choice A will expect you to choose bit choose a 50 percent chance of winning 100 dollars and choice B will expect you to get a sure short gain of 50 dollars. Between these two choices which one will you prefer, most of us actually go for B.

If you try to understand why, because we are risk averse which means we think that we are conservative and it is very general tendency that a bird in hand is better than two in bush. So, why should we gamble, this is the reason why we choose a sure shot gain of 50 dollars instead of a 50 percent chance of winning 100 dollars. Now, let me tweak this example little bit and try to and help you make a difference between how changing the context might affect your decision making.

(Refer Slide Time: 09:59)

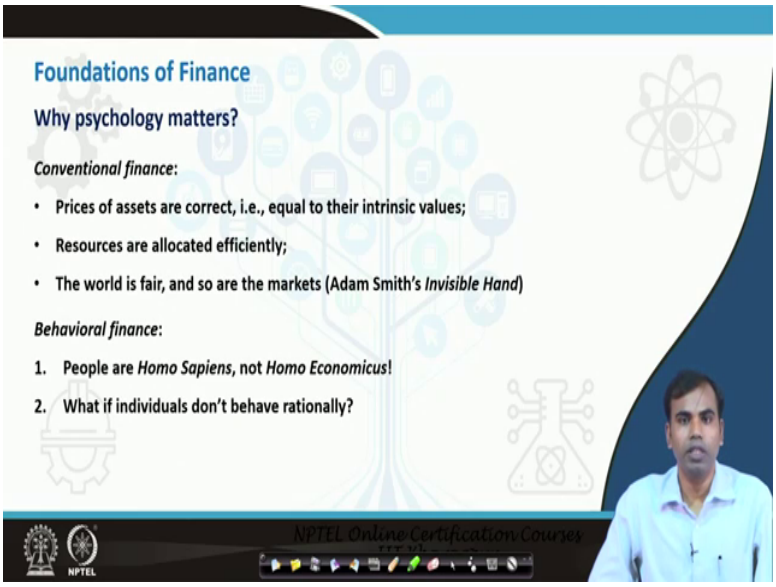



Assume that the choices are as following. A will give you a 50 percent chance of losing 100 dollars and B will actually make you lose 50 dollars for sure. Now, when it comes to losing you actually go for A and the reasons are we hate taking losses which means we are loss averse and we also believe that we might turn lucky and we do not lose anything else. So, why not gamble here.

The inference from these two situations is actually the affect; the inference from these two choice these two alternative examples is actually how our behavior is affected by the context or the change in presentation or the change in nature of the situation that we are in. This particular illustration explain why we behave in a risky situation differently than we behave in a certain situation. So, the argument here is our decision making process is influenced by different factors including financial and behavioral ones.

So, it is important for us to understand how behavioral financial decision making is actually helping us become a better decision maker.

(Refer Slide Time: 11:47)



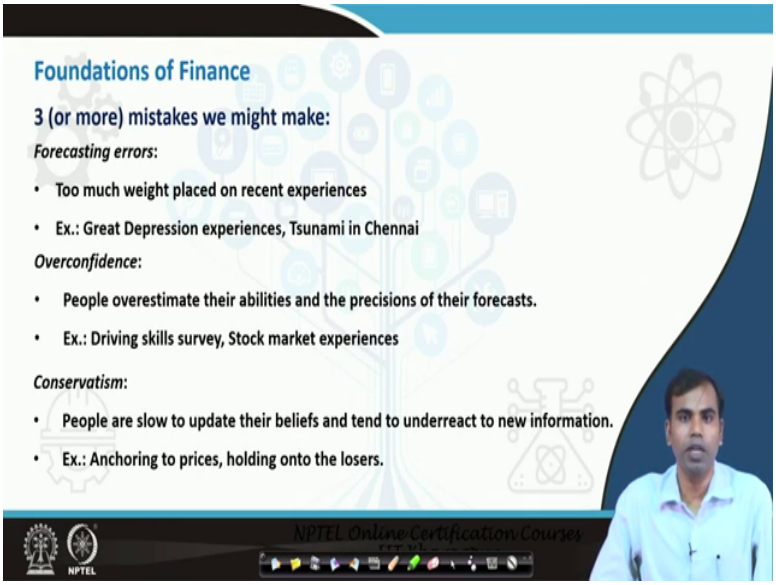

Now, what could be the reason our behavior is important in financial decision making? Most of the conservative finance theories are based on three major assumptions. First assumption is that the prices in financial markets are correct which means the financial markets are in equilibrium and they reflect the correct prices of the assets that you want to invest.

At the same time it also assumes that resources are allocated efficiently which means individual human beings cannot affect the process of resource allocation too much. And, the market itself will be taking care of itself which is based on the great Adam Smith's invisible

hand theory, which tells us that the world is fair and in long run the market will be achieving equilibrium anyway. So, we cannot influence the market too much at any given point of time.

All these assumptions are very important, but recently we have seen in research that human behavior cannot be considered to be rational. And, the reason being people are homo-sapiens and not homo-economicus as assumed by the traditional economic theory. And the second reason is the human being are not rational and that is why they are not expected to behave in a self interest way all the time and supposed to make mistakes that are systematic, and making such mistakes would eventually affect the financial markets in general and the economic wellbeing of the individual in particular.

(Refer Slide Time: 13:49)




So, if we try to summarize what are some major mistakes that we as individuals might be making I have highlighted 3 major systematic errors that individuals might be making. The

first one is explained by certain recent events for example, if you recall in India we had tsunami few years back and after tsunami lot of people living in those reasons started buying insurance policies.

Now, tsunami is basically a low probability and high impact event. It does not occur on a very frequent basis, but individual investors or individuals in general based their decision on their recent experiences and they assign higher probability to the recent events that they have witnessed. This is known as forecasting errors or this is basically reflected in the decision making of individuals when they make their financial decisions.

And, this can be explained from an older example where people have who have seen the great depression or great financial crisis, they always are apprehensive about the financial markets and they have not been investing their savings or their money in financial instruments in the stock market. So, most of their decisions with respect to financial asset allocation are based on their recent experiences. This is one major systematic error that we make.

Second systematic error that we might be making is overconfidence. For example, overconfidence as a mistake explain that people tend to over rate their abilities and skills, and in the process they make choices that might cost them heavily in terms of financial implications. For example: if you ask individuals who are active in stock markets about their abilities to trade in financial markets, they would consider themselves to be over smart and they believe that they are better than many others. In fact, they might rate themselves as better than average, but when you aggregate the data of individual investors you would probably see that a lot many investors are losing money.

So, if they are smarter than many others and they are better than average then why should they be losing money. A similar example was explained in a survey conducted on drivers in a certain region of USA, where they were asked to rate their driving skills. And, when their rating was compared with the accident data, it was seen that people rated themselves to be a better than average drivers whereas, there were a lot of accidents. So, of course, there might

be certain other reasons of accidents, but if drivers are better than average then then that should not definitely affect the accidents data in that particular region.

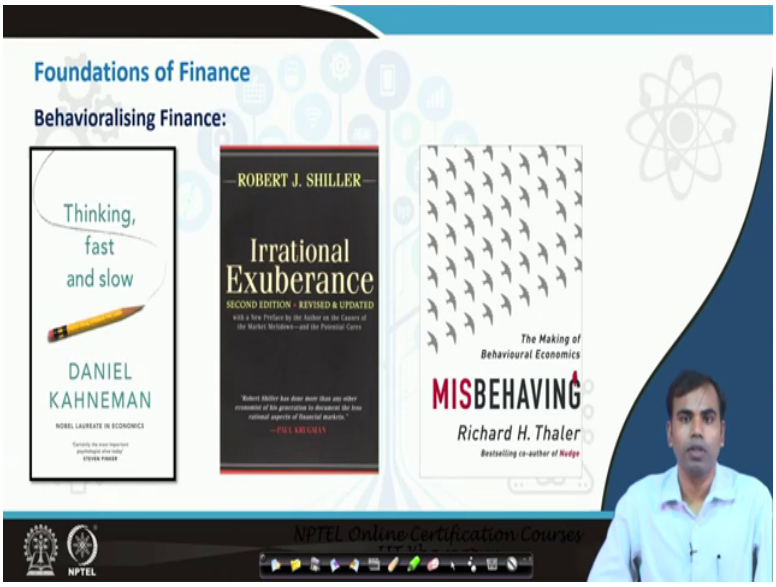
So, the summary here is people typically behave over confidently when it comes to their own decision making abilities and this is basically a systematic error that we might observe in financial decision making as well. Last systematic error that we will discuss here is the tendency of conservatism. The conservatism tendency explains the tendency of conservatism explains that people are very slow to update their skills and they do not want to change their belief.

Essentially, it is related to inertia which means if you have certain beliefs about certain events you do not want to change it immediately, unless you have experienced some dramatic incidents. You do not want to upgrade your beliefs and in the process you might be making some financially fatal decisions. For example, if I buy a share in stock market for 100 rupees and a couple of days down the line the price of that share falls to 95.

Ideally, I should be selling that shares, because I am losing money, but since I am anchored to the price that at which I have purchased that share, I would rather stick to that price and wait for the time when the price reaches back to 100 rupees to sell. Now, this is a very common mistake that we see in stock market in particular and in financial decision making in general, where we wait for certain prices to reach at a level at which we are stuck. This particular tendency is known as anchoring and these results in holding on to losers and selling the winners.

So, this kind of tendency has been seen among several categories of investors where they prefer to hold the stocks which are losing their value, but they want to sell the stocks that have been appreciating over time and make money in the process. So, essentially they are selling the winners and holding on to the losers.

(Refer Slide Time: 20:09)




There are several other systematic errors that individuals make if you observe around you or if you observe your own behavior. You might see that you will be making one or the other systematic errors in your traditional decision making in life and in general and in financial decision-making in particular.

The course will discuss the theories and concepts of behavioral economics and finance which are derived basically from major works of researchers such as Daniel Kahneman, Richard Thaler and Robert Shiller. So, these are three major research streams in behavioral economics and behavioral finance that is the basis of financial decision making process in the context of behavioral theories. And, we will be learning several aspects of behavioral decision making in throughout this course for now this is it.

Thank you.