Investment Management
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Lecture - 24
Risk Indicator of a Mutual Fund

Hello there. So, we are discussing mutual funds in the MOOC course Investment Management. And so far, we are familiar with the concept of mutual fund, the advantages and disadvantages of investing in mutual funds. In today's session we will discuss about the riskiness or the Risk Indicator of a Mutual Fund which is prescribed by the regulatory authorities in India.

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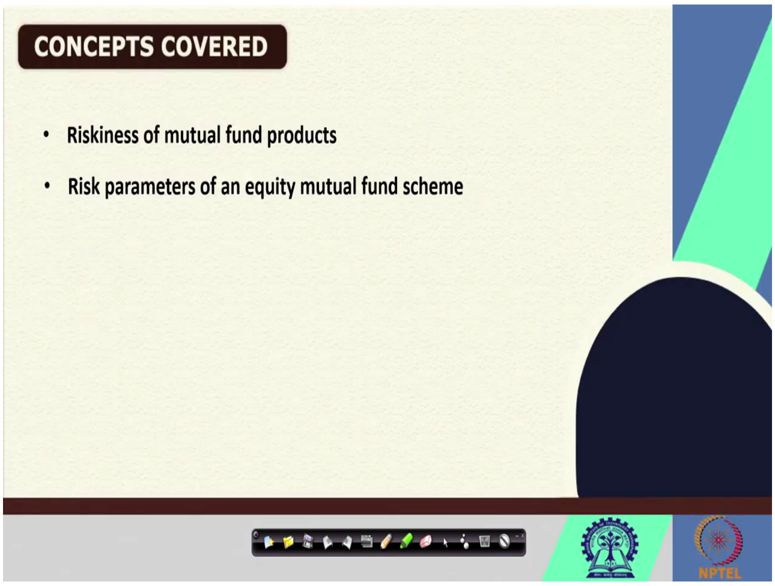

Basically, we are going to talk about the riskiness of mutual fund products, basically mutual fund schemes. And also, I will pick up a unique case of an equity mutual fund scheme and explain what factors might contribute to the riskiness and how we can arrive at the riskiness indicator for an equity mutual fund scheme.

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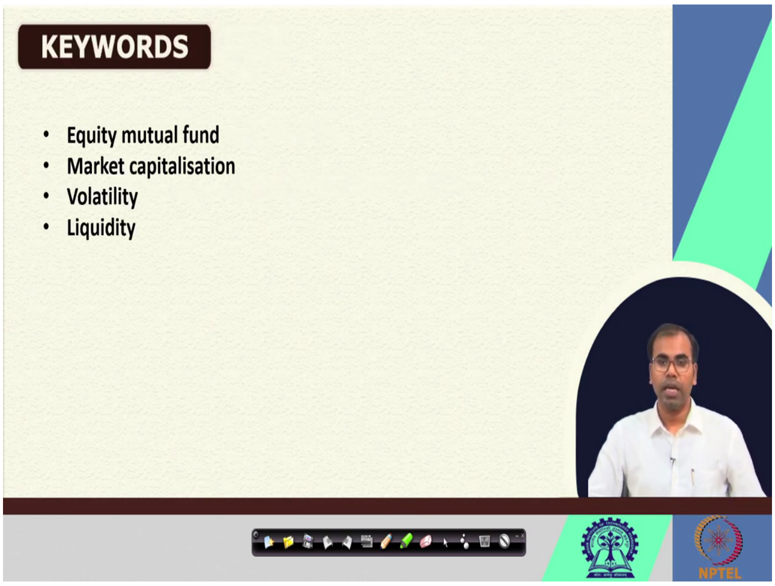

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Basically, as we know already most of the time, we have multiple instruments or financial securities or assets where we can invest our funds. But the selection of instruments or financial security for investment depends on the riskiness or to be precise risk return trade-off of that particular instrument or financial security.

When we get to choose across multiple asset types for example, debt or equity or derivatives or fixed assets or real assets and so on, we always look at individual securities or individual instrument from risk return perspective. If we are taking too much risk, we should expect higher return than the typical security. And if we are not willing to take up much of risk then we can manage with even lower return. And the same concept goes along in case of mutual fund selection.

So, we have multiple type of mutual fund schemes which might have equity schemes, debt schemes, a hybrid scheme which might have both equity and debt instruments. We have solution oriented schemes, where we have schemes such as retirement savings scheme or housing loan scheme and so on.

And then there are other schemes which might be thematic funds or thematic schemes on offer for investors. But when we have to choose between these schemes, we need some indicator which will tell us about the riskiness of those particular schemes.

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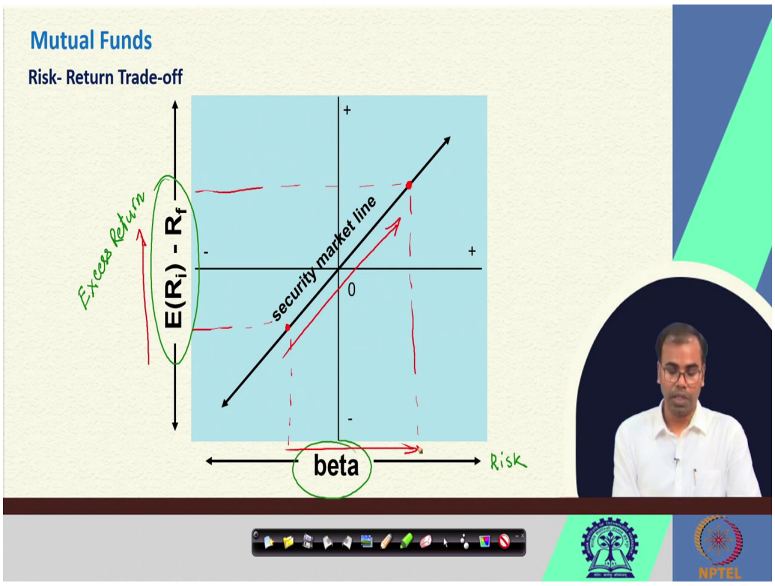

And riskiness is important because ultimately it is about the risk return trade off. We know that in most of the portfolio context we have riskiness that is indicated by beta and then we have expected return or we can also call it risk premium. So, we know that this axis indicates risk and this axis indicate excess return; which is basically the return over and above the risky risk free rate of return.

Which means if an investor is going to earn 4 percent of risk free rate of return which means without taking any risk she can earn a 4 percent of return. Anything over and above that 4 percent of risk free rate of return will be considered excess return and that should come along with some certain risk. And we know through security market line the we can figure out for what level of riskiness we should have what level of excess return.

We know that as we move along this security market line, we are assuming more risk in the form of beta and accordingly we are expecting higher return from those instrument. A portfolio here versus a portfolio here will have different level of riskiness and corresponding expected return or excess return for that matter.

And this concept is equally applicable in case of mutual funds. Because mutual funds are also based on the two fund theorem which tells us about the combination of assets in a portfolio and subsequently we can create as many portfolio as we want from the given level of return.

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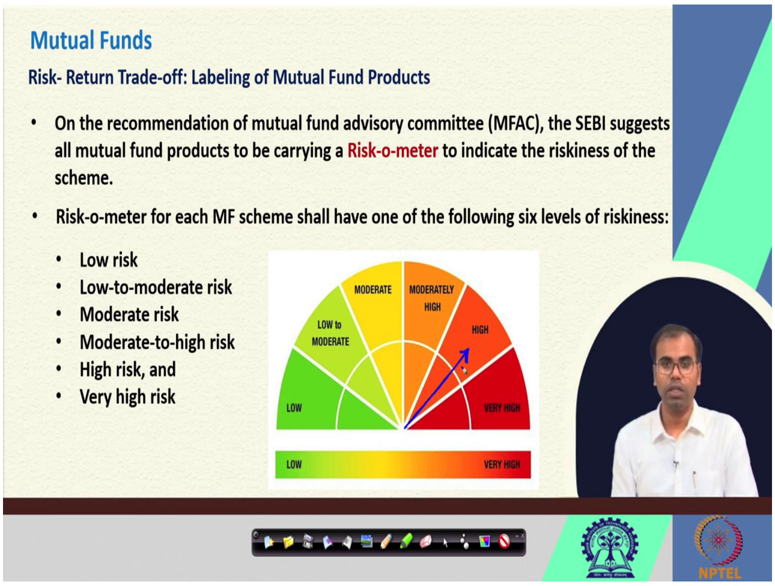

Now, with this understanding of risk return trade-off we can proceed further and try to understand what levels can be assigned to mutual fund products or to be precise mutual fund schemes. We know that SEBI is the regulator for financial markets in India and on the recommendation of mutual fund advisory committee security and exchange board of India suggests all mutual fund products to be carrying an indicator called risk-o-meter. And this indicator basically indicates the riskiness of a particular mutual fund scheme.

So, basically, we are talking about a particular indicator which will tells which will tell us about the riskiness or risk level of a mutual fund scheme or a mutual fund product. Basically, what risk-o-meter does is to assign some level of riskiness or risky score and accordingly categorize those schemes or those mutual fund schemes according to these six criteria which are basically ranging from low risk to low to moderate risk, moderate risk, moderate to high risk, high risk and very high risk.

And accordingly, these mutual fund schemes or mutual fund products categorized will have some sort of visual description or visual indicator about this risk-o-meter. So, if you look at this visual, it essentially tells us about the different levels of riskiness and when we particularly choose a mutual fund scheme or a mutual fund product, we get to see the riskiness of that particular scheme.

So, for example, if I have a mutual fund scheme or a mutual fund product which will carry very low level of risk, then this particular scheme document should have some indicator such as this, where it will show that this particular mutual fund product is having low risk.

If I look at a mutual fund product which will have high level of risk, then this product should have some sort of indicator which will show that this particular product is carrying high level of risk. And accordingly, this visual description can be supplied can be obtained with respect to each and every mutual fund scheme or mutual fund product in the form of risk-o-meter.

Now, how do we get to know about the risk level or riskiness of a mutual fund scheme? Of course, the these are the this riskiness depends on several factors, including the assets or the components of mutual fund. As we know that mutual funds are basically combination of multiple securities put together and created a single asset of out of which multiple units or multiple shares have been created and distributed among the unit holder or shareholders of the mutual fund.

So, the riskiness of mutual fund scheme depends on the type of assets that the mutual fund holds or the holding of the mutual fund and also about their tenure and the market condition with respect to each of those asset holding. So, let us try to understand the mechanism to arrive at the risk-o-meter score or risk-o-meter level for an equity mutual fund in general. And then we will pick up a unique example through which we will discuss the mechanism to arrive at the risk-o-meter level or risk-o-meter score.

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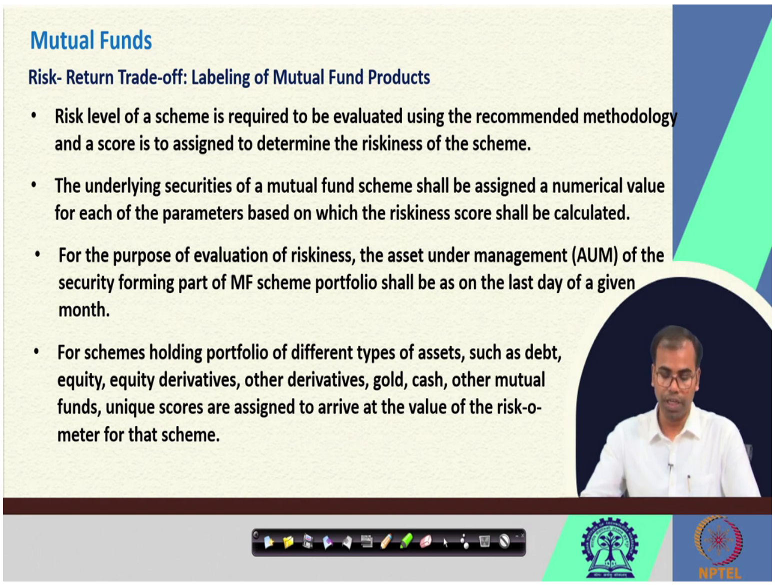

So, when we start the active the process of labeling a mutual fund product, basically we will try to give a risk level or we will try to assign a risk level of a particular mutual fund scheme that is required to be evaluated with the using the recommended methodology as suggested by the mutual fund advisory committee. And following that methodology a particular score is assigned to determine the riskiness of the scheme.

And the underlying securities of a mutual fund scheme are also assigned numerical value for each of the parameters based on which the riskiness of course will be calculated. Now, the parameters that we are talking about will depend on what kind of security is the mutual fund is holding. If a debt mutual fund scheme is to be evaluated or to be assigned a riskiness score.

Then of course, we have to look at different parameters compared to a mutual fund which will have equity instrument or equity securities as holdings. So, the parameters on which the riskiness score will is calculated varies from different assets from different mutual fund schemes having different constituents or components in it.

As we know that a mutual fund can be of pure equity mutual fund or debt mutual fund or hybrid mutual fund, sometimes equity derivatives mutual fund, derivative mutual fund, real estate mutual fund and so on. So, we will try to see from the context of equity and then we will try to extend the discussion as well.

So, when we initiate the process of evaluation of riskiness the asset under management of the security which are forming the part of mutual fund scheme portfolio shall be as on the last day of a given month when the risk-o-meter score is to be released. So, we look at the components of the mutual fund portfolio.

If a mutual fund portfolio has 10 assets, we will see what weight is of total mutual fund portfolio is allocated to each of the 10 assets. And whether these 10 assets belong to a particular type whether they are equity or debt or equity and debt combined together. And accordingly, the value is considered as on the last day of the month.

And when we have schemes that hold portfolio of different types of assets such as debt equity, equity derivatives, other derivatives, gold, sometimes cash, sometimes mutual funds may have holdings of other mutual fund as well. Unique scores are to be assigned and then we arrive at the value of the risk-o-meter for the scheme. And based on the value of the risk-o-meter we give them a category of whether it is of low risk or low to moderate risk or moderate risk or moderate to high risk, high risk or very high risk.

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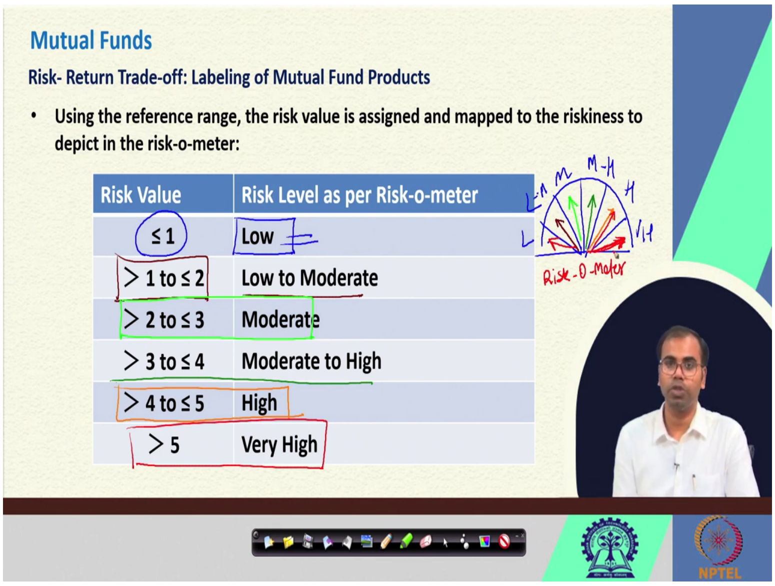

Let us try to understand this from the riskiness level and in the context of risk-o-meter. So, when we calculate the risk-o-meter score or riskiness score for a particular mutual fund, we will get numerical value. And this numerical value will be indicating the riskiness of a particular mutual fund scheme.

So, if a mutual fund scheme has a risk value of equal to less than 1, then we know we call it a very low level of riskiness with respect to that mutual fund scheme. For example, if a mutual fund is holding only cash as its holding or all the holdings of a mutual fund is in the form of cash, then obviously, this will be the least risky mutual fund and we can categorize this as low risk as per the risk-o-meter.

So, when we have this risk-o-meter in diagram or visual where we have 6 indicators where low, low to moderate, moderate, moderate to high, high and very high score. In that case the first category of risk value that is 1 or less than 1 will always be falling into this particular category. If we have risk value between 1 to 2 or rather less than 2 then we can call it low to moderate and this mutual fund or this scheme will typically have a risk-o-meter indicator somewhere around this.

If it is moderate then of course, we will go to moderate level where the value should be between 2 to 3 and the indicator will have somewhere here. If the risk the value of risk will be between 3 to 4 then it will be moderate to high and the risk-o-meter will indicate somewhere here. And if it is high between 4 to 5 then the risk-o-meter score will be falling between high.

And subsequently if it is more than 5 then risk-o-meter should show a very high level of risk for that mutual fund scheme. Now, based on this ranges these ranges we can see that mutual fund schemes can be carrying a low level of risk to very high level of risk. And this categorization essentially is supposed to help investors to make informed decisions.

Because if I know that I cannot bear very high risk and if I look at the risk-o-meter, then I know that if the mutual fund product offered to me is having risk-o-meters level at this stage, then I cannot afford to invest in that instrument or that mutual fund because I cannot afford that much of risk.

So, for a risk averse investor risk risk-o-meter value should always be between low or low to moderate depending on her risk bearing capacity. And subsequently if the investor is willing to take up more risk, then we can say that there is a mutual fund with high level of risk-o-meter score or risk-o-meter level can also be offered to that particular investor.

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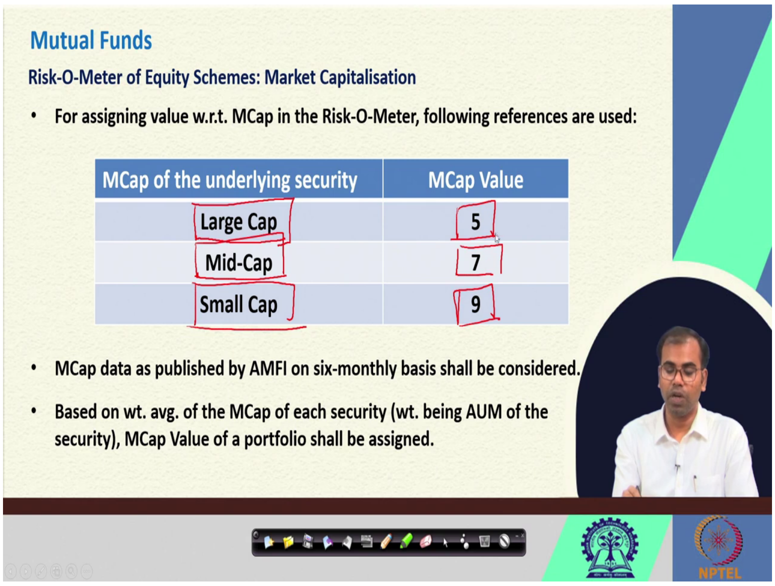

So, let us try to look at the risk-o-meter for an equity scheme and to start with we have three parameters under which equity scheme is evaluated. So, when we have an equity scheme in which a mutual fund is created which essentially implies that the mutual fund product with investment in equity securities. So, if we have equity securities as part of the mutual fund portfolio, then we will follow three parameters.

One is market capitalization; another is volatility and third is liquidity. So, to begin with if you look at the market capitalization. So, for assessing the riskiness of mutual fund scheme with investment in equity securities and assign value for market capitalization in the risk-o-meter we use the following level as suggested. So, if the security belongs to large cap portfolio or large cap stock then a value of 5 is assigned.

If the security that mutual fund has invested in is large cap then we assign a market cap value of 5. If it is mid cap then we assign a market cap value of 7 and if it is a small cap then we assign market cap value of 9. We can understand that higher values are assigned for more riskier products. So, we know that large cap stocks are less riskier compared to mid cap or a small cap. And mid cap is more riskier than large cap and less riskier than small cap and small cap is more riskier than large cap and mid cap.

And accordingly, market cap value based on market cap are value of 5, 7 and 9 respectively are assigned to these three categories of securities. So, if a mutual fund scheme has invested in large cap stocks only, we can we can assign a market cap value of 5 for calculating the risk-o-meter score. And when it comes to the reference data, market cap data as published by AMFI on six-monthly basis shall be considered. And based on the weighted average of the market cap of each security, market cap value of the portfolio shall be assigned.

Here when we try to calculate the weighted average, basically weight of asset under management of this individual security will be used for weight. So, for example, if a mutual fund has 10 securities and 10 percent of total portfolio value is invested in each of those 10 securities then weight will be 10 percent for each of the security. And if those security belong to three different categories, then we will assign value according to their categories, we will calculate the riskiness score for market capitalization. Now, second parameter is volatility.

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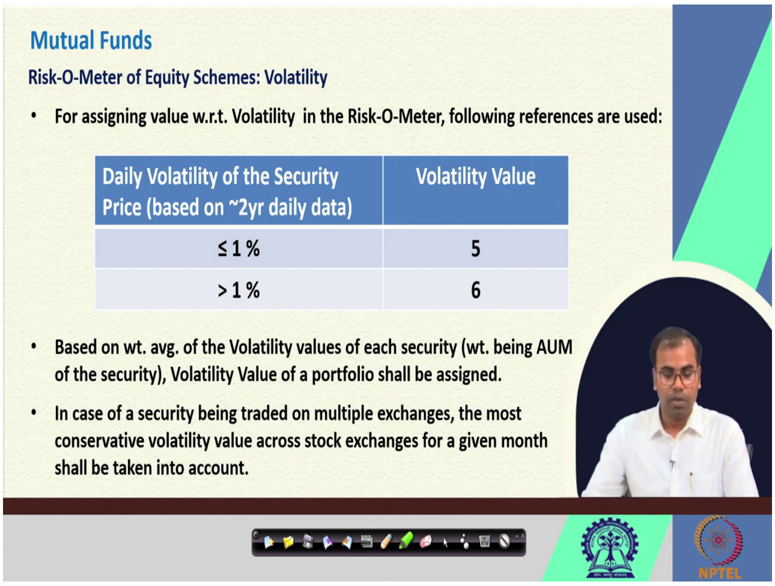

So, when we have to assign value with respect to volatility in the risk-o-meter we use the following reference values. If the daily volatility of the security price based on 2 years past daily data is less than or equal to 1 percent then we assign a value of 5 for the volatility parameter in the risk-o-meter. And if the daily volatility of the security price based on last 2 years daily price data is more than 1 percent then we assign a volatility value of 6 and accordingly we calculate the risk-o-meter.

So, this percentage of daily volatility is based on the weighted average of the volatility value of each security where weight is going to be the percentage of total portfolio money invested in each of the security which is essentially the asset under management of the security and volatility value of the portfolio shall be assigned.

Many times, we might see that we can have or mutual fund can have security that are traded on multiple exchanges. So, when it comes to assigning the value for volatility the most conservative volatility value across stock exchanges for a given month are taken into account and accordingly the value is assigned. So, we do not consider the lesser percentage of volatility rather we will take the case where we have the most conservative volatility estimate.

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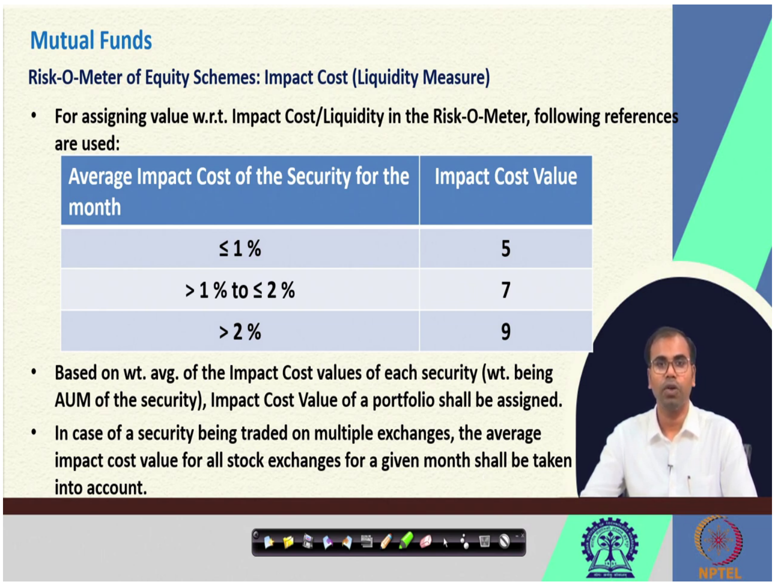

Then comes the third parameter which is basically the liquidity measure also known as or measured in terms of impact cost. So, when we have to assign value for impact cost or liquidity in the risk-o-meter we use the following reference point where if the security has the average impact cost of less than equal to 1 percent then we assign an impact cost value of 5.

If the impact cost, average impact cost of the security for the month is between 1 percent and 2 percent then we assign a value of 7. And if the average impact cost of the security for the month is more than 2 percent then we assign an impact cost value of 9. Now, again here when we have to calculate the value for the entire holdings in the portfolio, we will use the weighted average of the impact cost value of each security where weight is going to be the asset under management of the security or percentage of total portfolio invested in individual securities.

And subsequently impact cost value or liquidity measure value will be assigned to the particular security. Similar to the previous case where a security being traded on multiple exchanges the average impact cost value for the for all the stock exchanges for a given month shall be taken into account. And subsequently it will be assigned a value of either 5, 7 or 9 depending on the percentage of impact cost being less than 1 percent or 1 to 2 percent and more than 2 percent.

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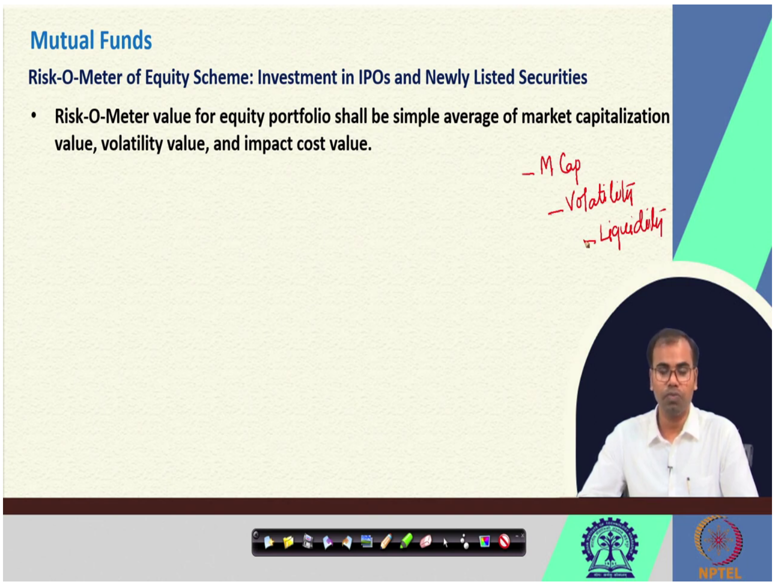

Now, that we know that we have 3 parameters for equity securities. And these 3 parameters are market cap, volatility and liquidity. And the mutual fund scheme that are holding equity securities in its portfolio will have to evaluate their securities for these 3 parameters market cap, volatility and liquidity and assign respective scores according to their categories.

But many a times we might find that the investment of mutual fund is in IPOs which are Initial Public Offerings or sometimes newly listed securities where we might not have sufficient historical data. For example, if we look at the previous case where we have to calculate the volatility and subsequently, we will have to assign the value for volatility.

We know that the volatility value has to be calculated on the basis of last 2 years historical daily price data. But in case if it is newly listed company or IPO, we might not as well have the historical data of that duration. So, risk-o-meter value for equity portfolios shall be calculated as a simple average of market capitalization value, volatility value and impact cost value.

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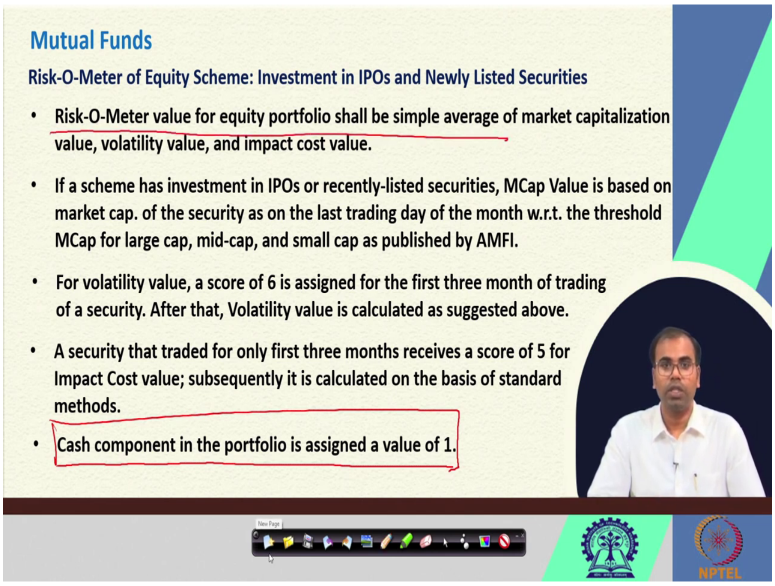

And when it comes to the schemes that have invested in IPOs or sometimes recently listed securities, market cap value is based on market cap of the securities as on the last trading day of the month with respect to threshold market cap for large cap or mid cap or small cap as published by the AMFI.

Now, here it is important to note that when we do not have historical data for long time in case of IPOs or recently listed value. But we have to indicate risk-o-meter score for these 3 parameters that are market cap, volatility and impact cost. So, we will just look at the threshold market cap for mid cap, large cap and small cap as published by AMFI.

And we will use the threshold to compare with the market value of the startup or the IPO or the newly listed securities on the last trading day of the given month when we are trying to create the risk-o-meter. And then we compare the market cap of this newly listed company on the last trading day with the threshold market cap. And accordingly, we will decide whether it is the newly listed security belongs to large cap or mid cap or small cap and we will accordingly assign score.

Remember, just to recall we know that we have to assign score according to their market cap data. So, if a particular security which is newly listed security and according to the comparison between comparison of the last trading day market cap of that newly listed security with the threshold for large cap, mid cap and small cap as published by AMFI.

We figure out that a particular security is comparable with mid cap threshold, then we will have to assign a value of 7 irrespective of whether it is an IPO or a newly listed security or any other type of security, equity security in this case. So, we will assign that case there.

Similarly, if we have to assign volatility value, score of 6 is assigned for the first 3 month of trading of a security, which means if a security is listed on the exchange on 1st January. So, we will take the data for from January 1st to 31st March of the trading data. And during this period, we will assign a value of 6.

And if subsequently we have to assign the value of volatility based on the score that we are supposed to calculate using the previous mechanism that we have seen here particularly with respect to volatility. If it is less than 1 percent based on the historical data, we will assign a value of 5. If it is more than 1 percent, then we assign a value of 6.

The same process goes for impact cost or liquidity parameter. If a security that is being traded only for first three month is assigned a score of 5 for impact cost value; and subsequently we will use the previous methodology that we have suggested earlier where the impact cost is being less than 1 percent will attract as impact cost value of 5.

If it is between 1 percent and 2 percent, then 7 and if it is above 2 percent, then it is going to be 9. So, this way we calculate the risk-o-meter value for market cap, volatility and impact cost value and subsequently we will give the simple average of the 3 scores and create a risk-o-meter for individual equity schemes.

Here it is interesting to note that in most of the cases when the mutual fund scheme is holding certain component of the portfolio in the form of cash, then cash is assigned a value of 1 and subsequently the risk-o-meter value is calculated. We will see how we calculate the risk-o-meter value for equity of mutual fund scheme.

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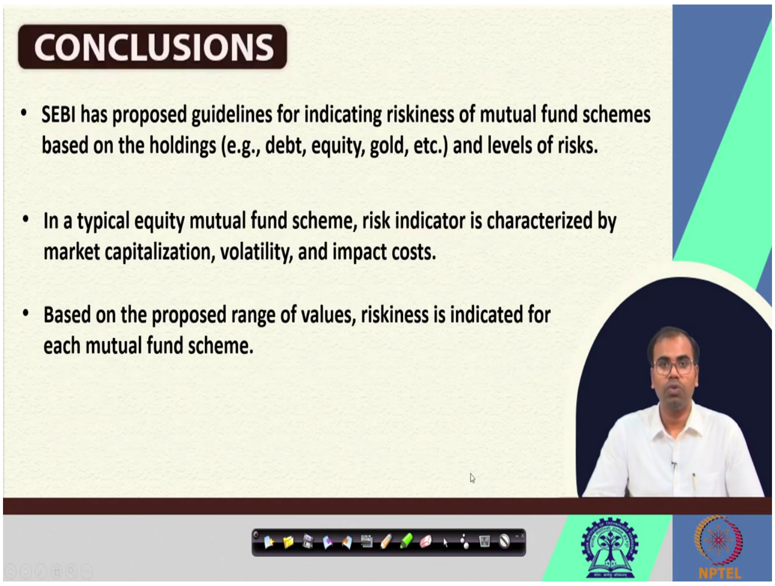

For now, to conclude we know that SEBI has proposed the guideline for indicating riskiness of mutual fund schemes and this guidelines take care of the holdings which is basically the debt equity, gold, real assets, real estate and so on. And the levels of risk, there are 6 categories of riskiness from moderate from low to low to moderate, moderate, moderate to high and high and subsequently the very high category of riskiness.

In a typical equity mutual fund, risk indicator is characterized by the risk market capitalization of the security, volatility level of the security and impact cost or liquidity level of the security. And based on the proposed ranges of values, riskiness score is calculated and this score is used to indicate whether the risk riskiness of the mutual fund scheme is belonging to low category, low to moderate category, moderate category, moderate to high category, high category or very high category.

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We will see through an example in the next session. For now, that is all.

Thank you very much.