Behavioral and Personal Finance
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Module – 02
Personal Finance
Lecture – 40
Structured Finance

Hello, welcome back to the course Behavioral and Personal Finance. And for last few weeks we have been discussing about the concepts and application of finance theory, in the context of behavioral and personal financial decision making. This week's discussion is focused on Structured Finance and alternative investment. We have already discussed about tools and techniques of alternative investments in the context of individual and retail investors.

Today we will discuss about structured finance as a tool for financial management and decision making for individuals and household. Structured finance by definition is related to an emerging field or an interdisciplinary field known as financial engineering.

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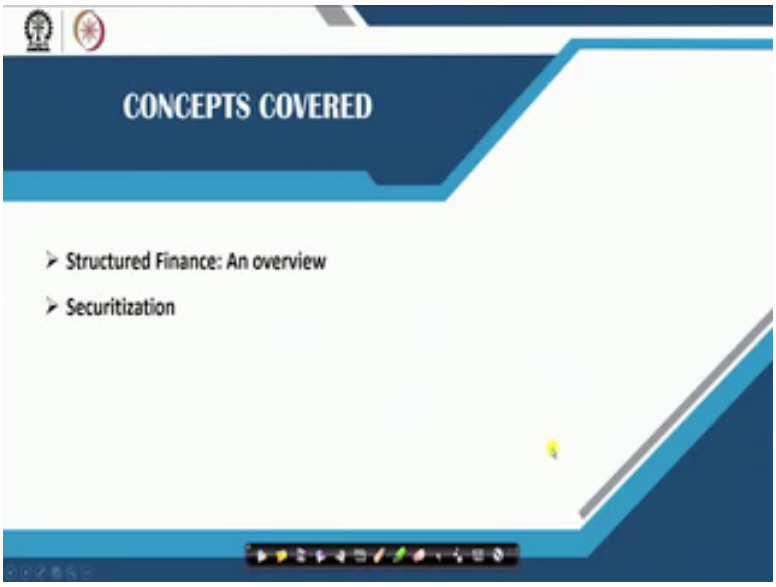

Basically, in this session we will talk about an overview of structured finance, such as tools and techniques belonging to structured finance domain. And we will also touch upon the idea of securitization of assets in the context of financial engineering industry.

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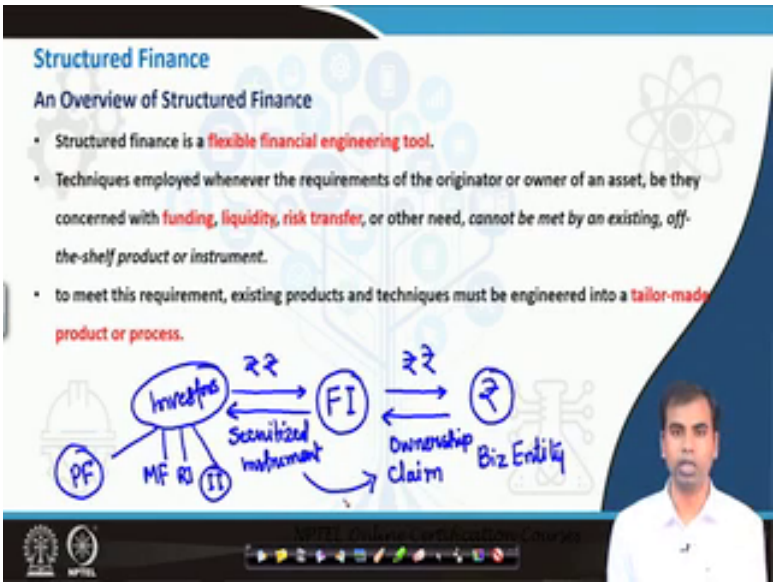

Structured finance is defined as the flexible financial engineering tool which is basically aiming to cater the requirement of the industry for quite some time. Basically, these are techniques that are employed whenever the requirements of the originator or the owner of the asset is not fulfilled by the traditional financial tools. For example, if there is an organization or business entity that requires some amount of money to fund its business activities.

But cannot raise that money from traditional sources of finance such as debt and equity. It will typically aim to raise that amount of money with the help of structured finance in terms of financial engineering tools that can be applied and the assets can be used for creating such an tool for raising funds. Basically, the characteristic of financial engineering tools or structured finance as a tool to raise finances is focused on funding that is the amount of money required for financing the business activity.

Liquidity which is basically the ease of buying and selling that particular asset or the tool that is created on the basis of the value of asset and risk transfer. So, risk transfer the transfer indicates that the amount of risk that investors are taking is distributed across a wider pool of assets or vice versa. Where the risk associated with a particular asset or an investment is distributed across a larger pool of investors.

And it also focuses on tailor made product or services that will fulfill the requirement of funds for business entities or organizations. Basically, if you have recall there was a time when business organizations used to fund their activities by traditional sources of finance; such as debt and equity.

But as the business organizations and the economic environment becomes complex the traditional route of raising funds through debt and equity was not sufficient. In that case the complications arising in terms of the access to a wider pool of investors and the risk mitigation practices adopted by different industries, in different context, become more important and that is where financial engineering tools come handy.

In a simple example, financial engineering tool can be by designing an investment product, where the product has a value that is derived from an underlying asset that is held by some business organization. Whereas, the investment is taken care of by the mediator or financial institution that is helping in the process.

And the tool is used to be sold across a wider set of investors. A simpler way to explain this example would be as follows. Suppose you have to invest certain amount of money and you have been looking for an investment tool where you can put that saved money that you have kept aside for investment.

Now, a business organization will have some requirement of fund and that requirement of fund will be communicated by business entity to the financial institution. So, business entity has certain amount of money to raise and this amount of money will come from a financial institution.

Which promises the business entity to give that money in return for the asset or the ownership of the asset, or claims across over the asset for financial institutions to business entity, and in return for the money that has been required by the business entity. Now financial institution can raise that fund which it has promised to pay to business entity from different set of investors.

So, that money might come from investors of different type and investor would get securitized investment. So, essentially it is a flow of money from investor to financial institution to business entity. And this investor would have different type of investor base, let us say pension fund, mutual fund, retail investor, institutional investor and so on.

Now all these types of investor would have claims over the assets that have been promised by the business entity. So, basically business entity will have as the ownership of the asset, but the ownership will be transferred or given on collateral to financial institution to investors and in returned for the investor's money that is coming to business entity through financial institution. So in this process of taking the money from investor to business entity.

The financial institution or intermediary will play a significant role in creating assets that will have customized requirement for business entity, and customized tool of investment for investors in terms of risk and return combinations. So, for example, here pension fund would require an investment to be made where the return is assured or less volatile and risk is limited. Whereas, institutional investor would like to invest in money that might be highly risky, but also likely to give higher return.

So, financial institutions role here becomes important to create customized asset for investor's base also. Where they would create tranches of securities, where some securities will be of high risk and return combination where as the other set of securities will be low risk and low return combination. And in the process financial institution or intermediary would make certain amount of money to facilitate the business.

So, this is a generic explanation of how structured finance can help businesses to raise funds depending on their customized need. Where they cannot raise the, that same amount of money from a generic set of investors or from financial markets or any other traditional sources of finance.

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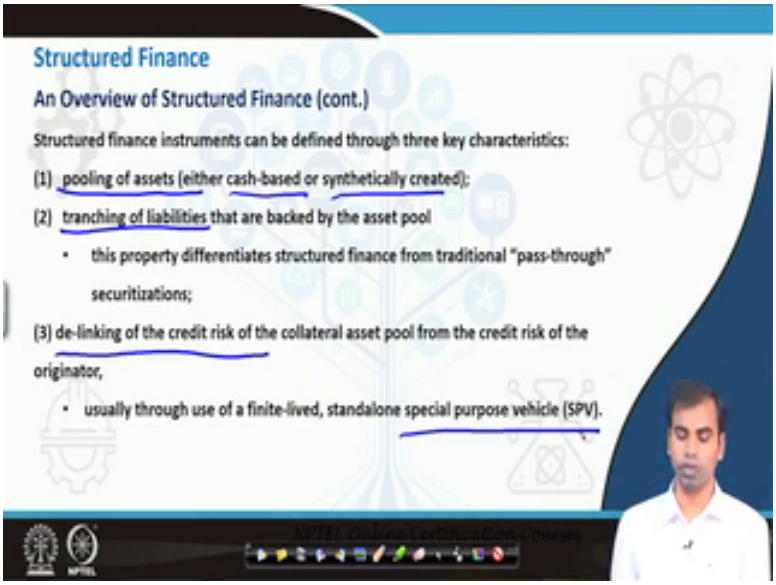

So, continuing the discussion about structured finance, we know that it can be defined through three key characteristics, as explained earlier. The first characteristic that we have to keep in mind or we have to identify in terms of structured finance is pooling of asset.

Basically, it is an activity or a mechanism through which assets are pulled together either on cash based or synthetically created. For example, assets for an infrastructure company can be pooled together depending on their risk and return profile. And that can be put on for the

investment or similarly of assets can be created by financial institution that is in the business of giving loans.

So, these loans could be club together or pool together to create a base of asset or pooling of asset. So, it could be either cash based or synthetically created. Now at the same time the liabilities has to be tranched in terms of the backing by the asset pool. So, for example, a financial institution that is in the business of giving education loan or different types of loan can be clubbing the all the loans that they have given.

And then on the basis of that asset pool they create a liability and liabilities will be given different tranches in terms of the differentiation, between the structured finance from traditional finance or traditional sources of money. And third characteristic is de-linking the credit risk of the collateral asset pool from the credit risk of the originator.

As explained in previous example of businesses raising money through financial institutions, and the money coming from different set of investors, for different unique set of assets. Basically the credit risk of collateral asset pool is de linked from the credit risk of the originator.

Typically it is done using a finite lived standalone special purpose vehicle. Which is basically a sort of entity which is created in order to raise this particular set of money and it is created specially for the purpose. And that is why it is known as special purpose vehicle, where it serves as an intermediary for raising funds from investors of different types for the benefit of the originator which is basically the business entity or financial institution.

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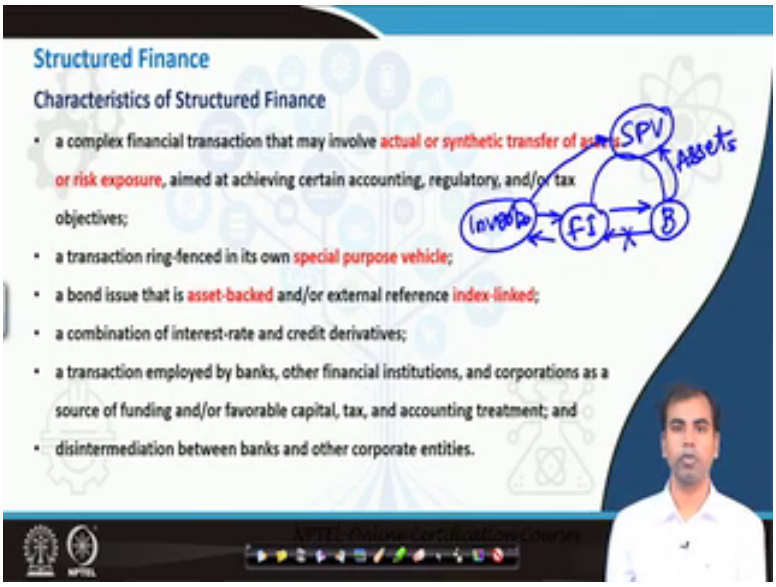

Talking about structured finance following are the characteristics that we should understand. It is basically a complex financial transaction that may involve actual or synthetic transfer of assets. As explained earlier the ownership of the asset pool created by the originator or the financial institution. Can be transferred in actual or it can be synthetically transferred by creating unique assets or unique securitized instruments.

It could be a transfer of risk exposure as well; for example, if financial institutions has created a pool of assets in terms of loans. That are given to different people they can collect all the loans together they can create a pool of loans and transfer the risk exposure to other investors. For example, if there are p number of people in that pool of borrowers default that default risk can be transferred to a pool of investors, who would be betting on their probability of default.

This is basically aimed at achieving certain accounting regulatory or tax objectives most of the time it is also created and implemented in order to mitigate the risk or transfer the risk from the originator to the investors and vice versa.

Another characteristic has relationship with the transaction that is ring fenced in its own special purpose vehicle. As we said this earlier the amount of money that is raised by business entity, through financial institutions can directly be raised from financial institutions in return for the ownership or the exposure of the asset. Or it can be raised through some special purpose vehicle which is created just for that purpose, where special purpose vehicle will take the ownership of that asset.

So, assets are given to the special purpose vehicle in terms of ownership or the transfer. And then investor would be investing that money, through financial institutions or through a special purpose vehicle which is basically taking the ownership of the asset in directly or it is taking the risk exposure for the benefit of the investors.

Structured finance can also be a bond issue that is typically asset backed or externally referenced indexed linked. For example, index related to any currency exchange, foreign exchange or any other market based index where the bond issue will be linked or connected and based on that the risk can be transferred.

It is a combination of interest rate and credit derivative a typical example of derivatives. Where they try to transfer the interest rate risk and credit risk from the originator to the investor or the special purpose vehicle to financial institutions or investors and vice versa. Transaction in structured finance typically is employed by banks or other financial institutions and corporations as a source of funding.

And in terms of raising capital in favorable terms or trying to manage tax or accounting regulations, many times the risk management becomes more critical. And that is one of the major objectives of raising funds through structured finance. It is basically disintermediation between banks and other corporate entities because banks cannot directly take the ownership

of assets. So, they take the ownership through, a special purpose vehicle and thereby mitigating the risk or bypassing the risk exposure directly. So, these are basically the characteristic of business finance structured finance in business context.

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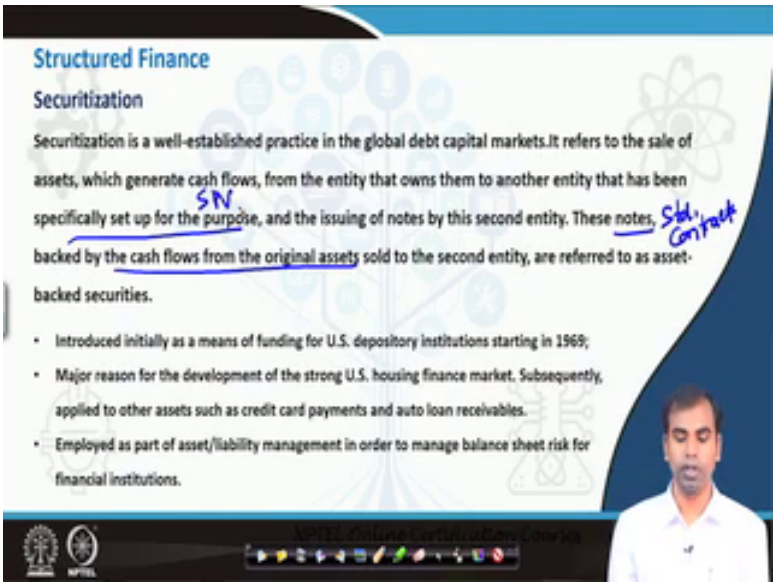

One of the most common examples of structured finance is securitization of assets, basically its standardizing the contract between the financier or the originator and the entities that is raising fund and investors. So, typically securitization is a well established practice in the global debt capital markets.

It is also referring to the sale of assets with generate cash flows from the entity that owns them to another entity that has been specifically set up for this purpose, also known as the special purpose vehicle. And the issuing of notes or the standard contracts by the second entity.

So, these notes or standard contracts basically these are standard contracts written between the two parties at and sometimes it is more than two parties also. So, these standard contracts are basically backed by cash flow from the original asset sold to the second entity, and referred to as asset backed securities in debt market or mortgage market as well.

So, basically this is about special purpose vehicle helping the business entities to raise funds from investors and through assets that are backed by certain ownership of assets in the business organization. Going by the history of securitization typically it was introduced in the very beginning as a mean of funding for US depository institutions in 1969 since, then it has been widely used in most of the markets across world. And major reason for the development of the strong US housing financial market is structured finance through securitization. Subsequently, it securitization approach is applied to other assets such as credit card payment and auto loan receivables.

Nowadays, it has been implemented or to almost each and every type of loan market or debt market. It is also employed as a part of asset liability management in order to manage balance sheet risk for financial institutions. So looking at the securitization as a process of structured finance for businesses the example can be shown as following, suppose there is a corporate entity which is into the business of form manufacturing or form equipment manufacturing.

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So, suppose there is a corporate entity or a business organization which is in to form a equipment manufacturing. So let us consider this as a company which is into this business. And this business is basically in the need of funds and it is selling the form equipment to customers.

So, customers would buy farm equipment, many times farm equipment will be sold on credit. So, in that case the company makes a loan to the customers, because it is selling the product or farm equipment on credit. Now since the company is in the manufacturing of farm equipment it will be in the need of money and funds and that fund can be generated through special purpose vehicle.

Let us consider this as financial engineering institutions or also known as asset management trust. So, this farm equipment company will transfer all the loans, so basically it sell customers

loan to financial engineering organization or as asset management trust, and in return they receive cash for these loans.

Now this is a simple structure which can be understood with the help of this example. So, here the company is actually selling the product on credit, so it is using lot of money to manufacture the product and sell it for no cash immediately. And the loan is actually transferred to financial institutions or financial engineering company or asset management company which in terms of paying the loan, paying the money in return for those loans.

So, for this company basically this is asset these, these loans are asset and the money that is there that they are paying in return for loan is paid in return for the assets that they are holding. Now, since financial engineering or asset management company is a in another business organization they can also raise money from investors. So suppose there is another set of investors let us say people like you me and all so, they have some spare funds and that fund can be invested in different investment instrument.

So, financial engineering trust or asset management trust will sell securities in return for the cash or investment. So, basically investor would invest cash in financial engineering or asset management trust in return for the security, which are basically these securities are basically backed by the loans which is coming from the farm equipment business.

So, as customers would start paying money this money will start coming to farm equipment business this money will be paid back to financial engineering company which will ultimately pay the money back to the investors in terms of return. So, this is how this structured finance through securitization process can be implemented in a three party contract.

Where customers are the beneficiary of the loans that form equipment companies are making, the loans are sold to financial engineering company. And financial engineering company creates securities which are sold to investor in return for cash and when customers start paying from the uses of the asset that money comes back to financial engineering company or asset management company which will finally, pay that money to investors as a return.

Now, if you look at the scenario here, if this process is not done rightly the flow will breakdown and there will be a chaos. So, if you imagine a scenario where customers do not pay any cash so they do not have money and that is why they default.

Now the moment they default there will be no flow of cash coming here, so financial engineering company will not have any cash at all which means investor would not get any cash and their trust their faith in the asset management trust will also be gone. So, they will not like to invest further which means financial engineering company will not have money to invest in loans that farm equipment company or any other business entity is making.

So, in that process the company might not have sufficient cash to produce equipment and thereby there will be shortage of equipment, so ultimately this whole chain might will be affected. Now a more structured way of looking at this securitization process is to understand with the help of in incorporating more parties to it.

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So, suppose you have you are the originator here and, so basically you are the originator of the loan. And you have created an asset pool, so asset pool is basically created by you for making the investment proposal.

Now you actually go to an issuer which is basically another financial engineering company or another financial institution and this issuer will take the ownership of that asset pool and. So, basically this issuer will have the ownership of that particular asset pool and in return for the cash that they are, so money will be given to the originator.

Now, issuer since it is in SPV which is special purpose vehicle created for this particular purpose. We will be doing the contract between the parties which is basically the contract that

they have with the originator. So, let us say the contract is a note or piece of paper as a contract between the issuer and the originator for ownership of the asset pool.

So, note restructuring will be done, and in the same process credit enhancement will be implemented because they will need funds to keep the asset liquid. So, issuer will be doing the credit restructuring in return for the proceeds of sale of nodes.

And in return the issuer will issue securities basically the contract or the standardized contract issued. Now that restructuring will be done with a purpose of credit tranching. So, tranching is basically an exercise where different type of assets or different type of investments are created or categorized according to the different tranches.

So, we will be trans in different categories of assets, so let us say you create different tranches of different level of risk and return. So, basically the this will be let us say class x grade or let us consider this as to the extent of 4.

So, assuming that you have only four different types of tranches you have class D notes, then you have class C notes, then you have class B notes and class A notes. Now the unique characteristic of these class A class, B class, C class, D notes are they are based on risk and return profile, which means some notes are highly risky with a promise to provide you a high return whereas, some notes are less risky and it is promising you a less amount of return.

So, basically if you look at the credit rating this will be triple A rated investment, this will be double A rated investment or A rated investment. This will be double B rated investment or triple B related investment and this will be B minus or B plus depending on which rating you are considering that will be enhanced, entranched in terms of investment.

Now that money will flow from here to the issuer which is a special purpose vehicle and then these tranches will be sold to different type of investor based on risk and return. So, suppose you are an investor who would be willing to assume high amount of high level of risk. You will be investing an investor would be investor who is risk seeker, which means he would want to assume more risk he would be investing in this type of investment which is highly risky.

And at the same time it will promise a higher rate of return. If there, there are investor who are risk averse they would invest in, there will be investor who are risk averse they will be investing in assets which are less risky and they promises relatively lower return.

So, depending on your risk and return you would be investing in either of these notes or contracts or standardized securities for investment. So, basically this is how a securitization process happens, and anywhere if the due diligence or the investment procedure that is not followed properly that might create problem for the entire system and the entire flow of securitization process might break down.

So with this I end the session here.

Thank you very much.