Management of Commercial Banking
Professor. Jitendra Mahakud
Department of Humanities and Social Sciences
Indian Institute of Technology, Kharagpur
Lecture 60
Management of Bank Capital 4

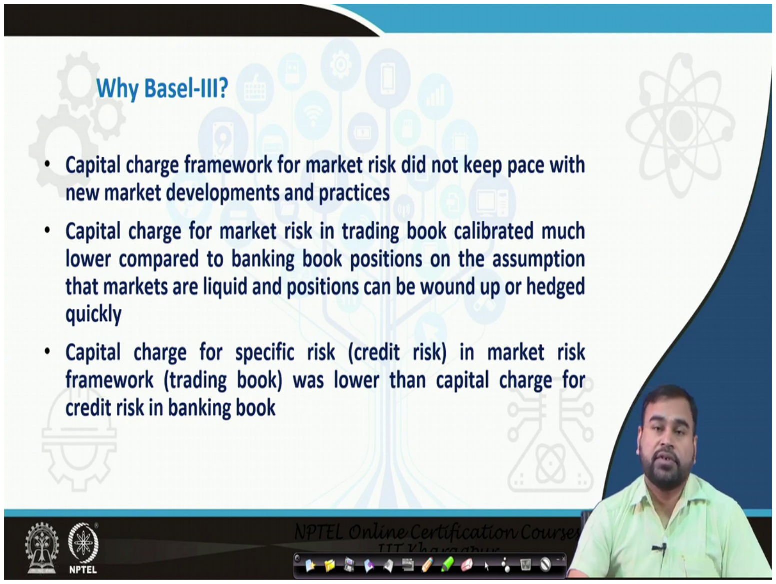
After the discussion on the Basel 2 and the different kind of revisions are made against that, mostly what we have seen, the Basel 2 is basically, is extension of the Basel 1 and in the Basel 2 we have given the importance of operational risk, that is number 1 and as well as we also have developed certain different approaches to calculate the credit risk, market risk and operational risk by that the proper capital requirements can be considered, can be calculated accordingly.

(Refer Slide Time: 00:51)

So, then we can come to the Basel 3 which a new norms, which was started up late particularly. This was started in 2010, then after a series of meetings and all this particular kind of norms came into existence and those kind of things were developed to overcome the shortcomings of the Basel 2 and there is some kind of advancement what the Basel 3 has made, in terms of the requirements of the capital adequacy ratio and as well as there are some other type of aspects or importance has been given to the liquidity and other aspects of the commercial bank.

So, today we will be discussing both these things, then through that they are trying to manage the capital in a better way to make this bank more stable and as well as, we can say that the sustainability of the banks will be maintained and the failure will be less.

(Refer Slide Time: 01:53)



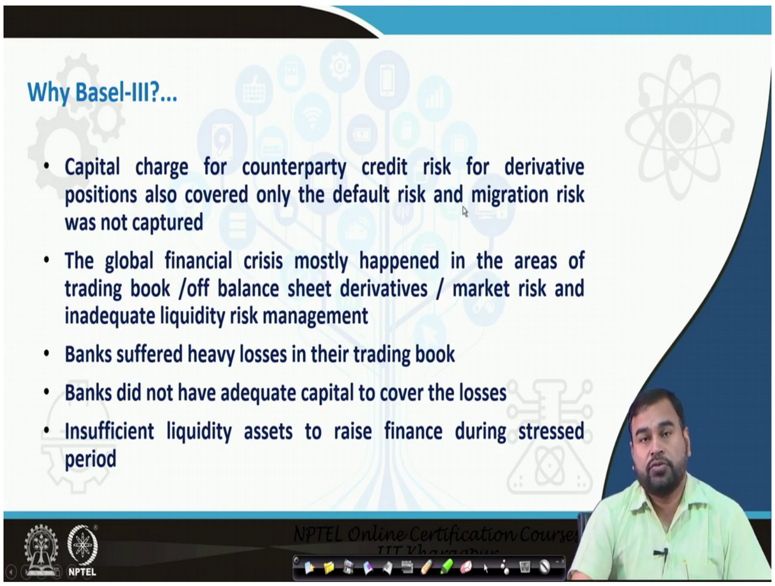
So here, first question is why Basel 3? The Basel 3 was started because there was some limitations, some loopholes were there in the Basel 2, then what are those loopholes? First of all, the Basel 2 was not designed, it was not structured, for the framework, for the changes in the market risk due to the new market developments and the practices. Because of the developments, because of certain changes in the market, banks are more exposed to market risk, what are the dynamics of those changes has not been captured through, the norms which are given by the Basel 2, this is number 1.

The capital charge for the market risk in the trading book calibrated much lower, much lower compared to the banking book positions on the assumptions that markets are liquid and positions can be wounded up or be hedged quickly, but which is not real. So, the positions what the banks have, they cannot be hedged up very quickly, they cannot control, they cannot minimize the risk so easily. Because the market is more dynamic and the changes and fluctuations in the market also is very much random.

So, in this considerations, a kind of cautionary or precautionary move or approach has to be followed by the bank to observe all those losses, what the bank can expect from the market fluctuations. So, those things are not basically were there, whenever we have discussed about the Basel 2. So, bank capital charge for specific risk in market risk framework was lower than the capital charge for the credit risk in the banking book.

The banks are really exposed to more risk, but those kind of risks were basically not considered, there was no scope in the Basel 2 norms that how those things can be captured through the actual problems what the bank is facing and for that, is there any kind of provisions, any kind of cautions should be there. So, those kind of things is basically not explained through the Basel 2 norms. So, because of that, they were trying to develop or they are trying to expand that Basel 2 norms in such a way, that those dynamics can be captured through that.

(Refer Slide Time: 04:28)

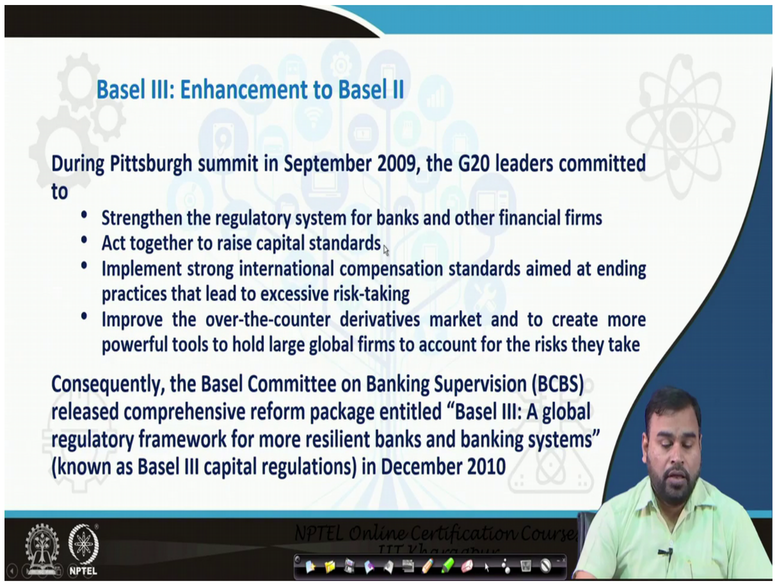


The counter of capital charge for counterparty credit risk for derivative positions, also covered only the default risk and the migration risk which was not captured in the Basel 2. The global financial risk which has happened in 2008. This was basically happened mostly in the areas of trading book, off-balance sheet derivatives.

All these things are basically, was not discussed or maybe was not explained through the Basel 2 norms and the most important thing is the major problem, also the global financial crisis always contributes or maybe the responsible factor for the global crisis is the liquidity problem. So, the liquidity aspect was not given due considerations in the Basel 2 also.

So, banks have suffered heavy losses in the trading book and banks did not have adequate capital to cover those losses whenever this kind of crisis has taken place. So, insufficient liquidity asset to raise finance during stressed period, the liquid assets were not sufficient. If they are not sufficient, then raising more kind of or to cover up those losses, what are the banks are immediately facing, due to the different crisis, then that is also, was a problem for the banks because they are not able to cover up those liquidity positions. So, liquidity should be given the due considerations that was very much needed, but Basel 2 was totally silent about that.

(Refer Slide Time: 06:03)



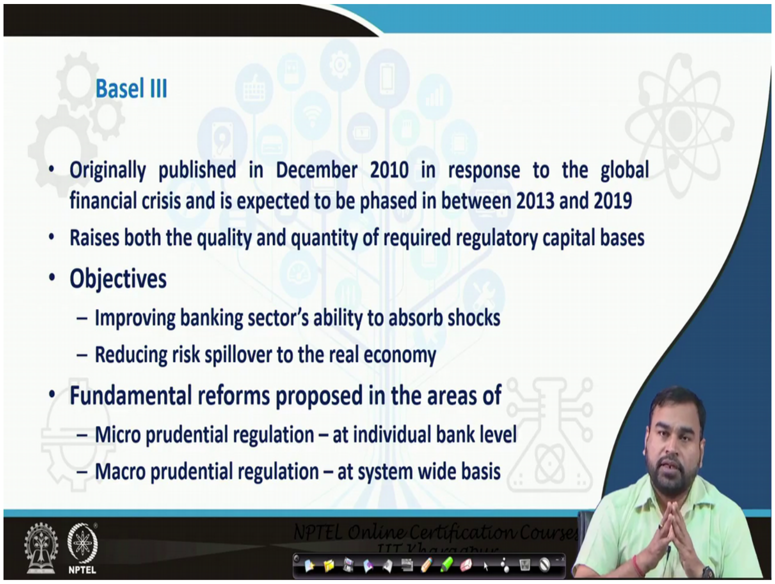
So, in this considerations in 2009, the G20 leaders have thought of that, we should have expanded and strict regulatory norms by that the banking sector can be made more stable and as well as the liquidity problems should not be much higher in that context.

So, their objective was, they are basically committed to strengthen the regulatory system for the banks and other financial firms which are operating in the different countries. Act together to raise the capital standards, the capital standards should be improved. Implement strong international compensation standards, which can aim at the lending practices that lead to excessive risk taking. The banks should not take excessive risks because they are handling with the public money, the public deposits.

They have also committed to improve the over the counter derivatives market to create more powerful tools to hold the large global firms to account for the risk whatever they have. So, these are the different kind of agenda, whatever they have kept and with this, there is the emergence of the Basel 3. So, that is what the Basel Committee and Banking Supervision that is, released the comprehensive reform package, which is known as the Basel 3.

A global regulatory framework for more resilient banks and banking systems, which is known as the Basel 3 capital regulations and they just started in December 2010 and with series of the modifications, it came into the force in 2013.

(Refer Slide Time: 07:49)



So now, what basically has happened that originally it was published in 2010, after this G20 summit and from 2013 to 2019 in the different phases, this, this has to be implemented in the different countries and the regulatory bodies responsibility is to ensure that all commercial banks are basically following that particular practices or particular kind of guidelines what the Basel 3 has recommended.

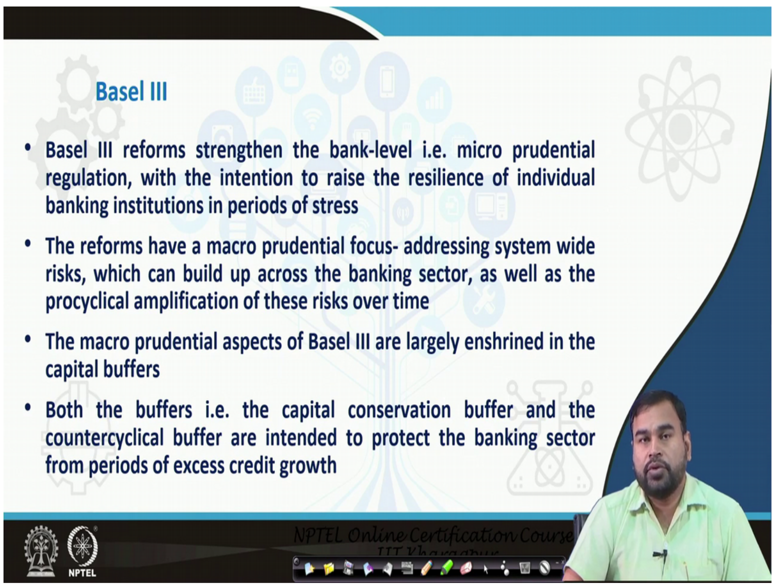
So, in this context, it raises both quality and quantity of required regulatory capital base of the commercial bank and the basic objective of the Basel 3 is to improve the banking sectors ability to absorb the shocks, which are very much random in nature and the shock can be captured or shock can be always created with respect to the changes in the policy. The shocks also can be expected with respect to other kind of market fluctuations.

So, how this banks can able to absorb those losses? So, those for that they have basically revised the guidelines in such a way, by that the banks will be able to capture those losses and absorb those losses and make that particular system more stable and also, it has another objective to reduce the risk spillover to the real economy, that if there is any kind of problem happens that the spillover effect from the banking sector to the economic real sector should be relatively less.

So, in this case, there are two measures regulations, the broad regulations they have made, that covers of both the individual bank level that is called the micro prudential regulations, then the system wide basis or the macro prudential regulations. So, some kind of guidelines is targeting towards the individual banks policies and some of the guidelines were basically targeting the whole aggregate economic policies.

By that, we can say that a kind of coherence can be maintained between the individual banks or banking sector with respect to the real economic indicators. So, then the probability of failure in that particular system will be relatively less.

(Refer Slide Time: 10:11)



So, whenever you talk about the micro and macro prudential. The micro prudential is basically, the basic intention was to raise the resilience of the individual banking institutions in the periods of the stress, if there is any problem with respect to different kinds of unsystematic risk, the bank is facing.

Then, how the bank can maintain their stability, that is basically the micro prudential approach or micro prudential regulations, what the Basel committee was trying to give the emphasis and the reforms also have a macro prudential focus, which tries to address the system wide risk, which can build up across the banking sector as well as the procyclical amplification of these risks over time.

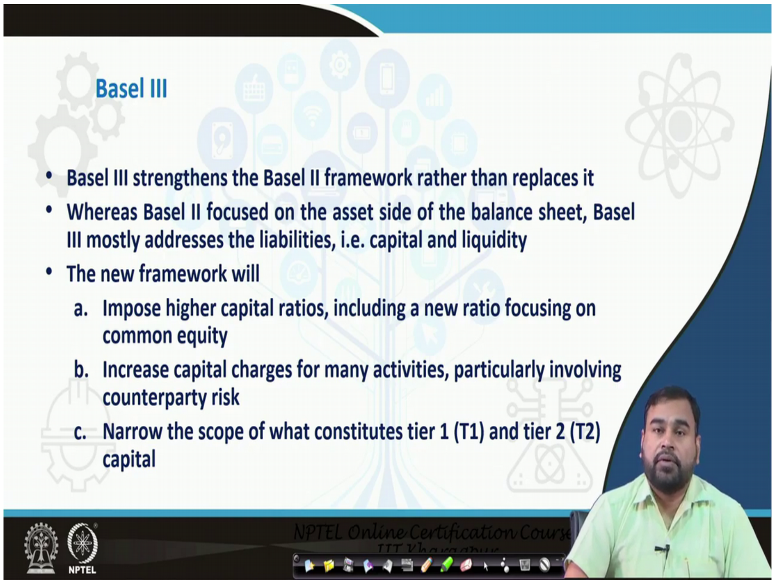
So, in this context, these are the two things, one is overall development of the banking sector, another 1 is the sustainability of that particular bank in the bad times or in the stress times. So, these are two major things, what the Basel 3 was trying to highlight, whenever they were talking about the emergence of the regulatory norms for the commercial banks in terms of the management of the capital.

So, the macro prudential aspect of the Basel 3 has largely concentrated in the capital buffers, they have started a concept of capital buffers and due to the fluctuations in the market, the buffers should be there by that, whatever losses the bank is going to face, that losses can be absorbed through these capital buffers.

So, because of that, they have started the concept of the capital conservation buffer and the counter cyclical buffer, which is related to the economic fluctuations and the basic intention of keeping those buffers is to protect the banking sector from periods of the excessive credit growth.

So, if the bank is exposed to more credit risk or the bank is exposed to more market risk with respect to the market fundamentals since, then what we can do? That those kind of conservation buffer will help the bank to get out of that particular problem or the losses can be absorbed through that particular buffer whatever the banks hold.

(Refer Slide Time: 12:22)



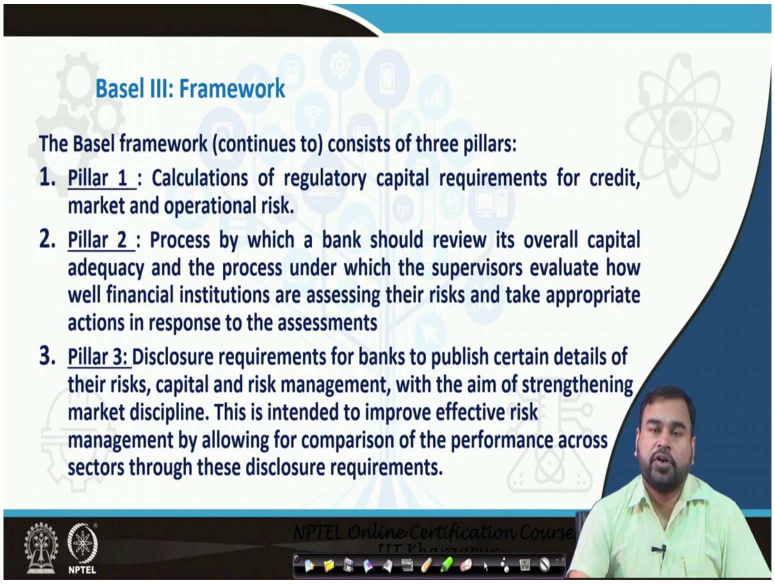
So, in this context what Basel 3 has done, Basel 3 has not replaced Basel 2, it is basically strengthens Basel 2 and Basel 2 basically focused on the asset side of the balance sheet. But Basel 3 mostly addresses the liability side like your capital and liquidity. So, they are mostly highlighted on the risk weighted assets, how to risk weight should be given. How basically we can say that the denominator can be controlled and by that the capital adequacy ratio can be controlled.

But here in the Basel 3, they try to cover up that loopholes because in Basel 2, if you observe, the capital was not that we control, the capital regulations were relatively less with respect to the numerator of the capital adequacy ratio. But whenever you talk about the Basel 3, mostly they are trying to highlight the liquidity side of the commercial banks, who is comprised of both capital and the liquidity.

So, new framework will basically impose a higher capital adequacy ratio, including a new ratio focusing on common equity. Which also focus on the increased capital charges for many activities particularly who are involved in the counterparty risk of that particular process.

It also focuses or maybe we will try to narrow the scope of the tier 1 capital and tier 2 capital. That means it is a stricter, more we can say that robust kind of ratio, what the Basel 3 has recommended, whenever they were talking about the different type of, capital adequacy ratios measurement of the commercial banks.

(Refer Slide Time: 14:08)



So then again, here also they have three pillars, first pillar is the calculation of the regulatory capital requirements for credit market and operational risk, which was there before in Basel 2 with certain modifications. Then pillar 2 talks about the supervision again, that how the process can be reviewed for the overall capital adequacy and the process under which the supervisors evaluate, how well the financial institutions are assessing the risk and accordingly take appropriate actions, in response to that assessment.

That means political assessment of the capital adequacy ratio has to be done and what kind of supervisory policy the policymakers are taking up, to regulate that particular thing and if there is certain kind of loopholes with respect to that and how that loopholes is going to be overcome by this regulatory bodies using this different implementations of the regulatory norms.

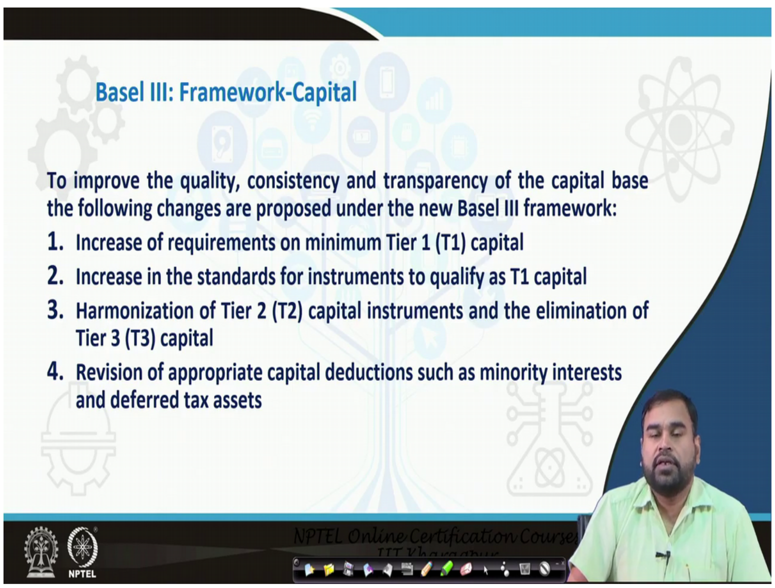
Then pillar 3, again it based upon the disclosure norms only, what are those things the bank has to disclose to everybody in the public forum and as well as to the regulatory bodies and this disclosure requirements for the banks basically to publish certain details of the risk capital and the risk management with an aim of basically strengthening the market discipline and if there is a lot of transparency and in terms of the actual disclosures the bank will make.

Then it will improve the effective risk management by allowing the comparison of the performance across the sectors through this disclose requirements, because the bank will come to know, that what the other banks risk management policy, they are adopting by that to their credit exposure and other things like capital adequacy ratio is maintained and as well as they are less exposed to credit risk, market risk or the operational risk.

So, by that the sound banking system can be created through this market discipline and once the transparency will be created through this, in the context of pillar 3, the disclosures were giving lot of importance to that. But again, we will come back to our basic objective is how the capital is regulated under the Basel 3.

So, again the same thing basically same philosophy or same logic they have adopted whatever policy or whatever logic was adopted in the Basel 2 implementations. In the Basel 3, they have basically kept certain fundamental things intact and have made certain modifications to make that particular thing more robust.

(Refer Slide Time: 16:37)

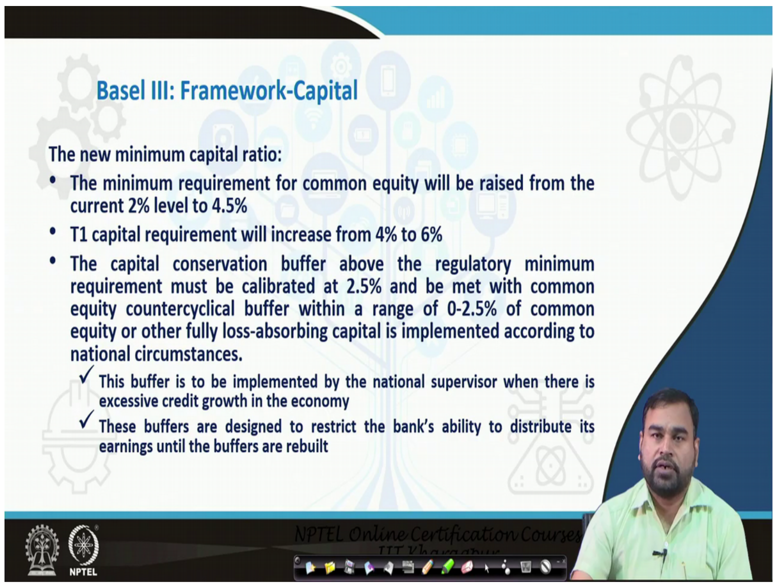


So, here this basic objective was increase the requirement of minimum tier 1 capital, increase the standards of instruments to qualify as tier 1 capital, because all the capitals comes under a particular category cannot be considered as the tier 1 capital. This, they have increased the standards to make it more qualitative, then harmonization of tier 2 capital or the instruments and the elimination of tier 3 and Basel 3 has recommended there is no need of tier 3 capital.

The tier 1 and tier 2 are sufficient enough to understand the dynamics of the capitals. There is no need to have a separate capital requests for the market risk part. Then they also revise the appropriate capital reduction such as minority interest and deferred tax assets whatever the commercial banks have. Then accordingly, what happens that the total capital adequacy ratio is going to be changed.

Because if you are making a lot of changes in the numerator, which is nothing but the capital, then automatically your capital adequacy ratio is going to be changed, even if the other risk aspects, whatever Basel 2 has recommended that will be kept intact. So, then, what are those recommendations the Basel 3 has given?

(Refer Slide Time: 17:55)



The Basel 3 has kept again that 8 percent, minimum 8 percent capital adequacy ratio as usual, which was there before and they have made sense that the minimum common equity, which they should have, that is the 2 percent which was before they have increased to 4.5 percent and the tier 1 capital, which was their 4 percent minimum, they have increased to 6 percent.

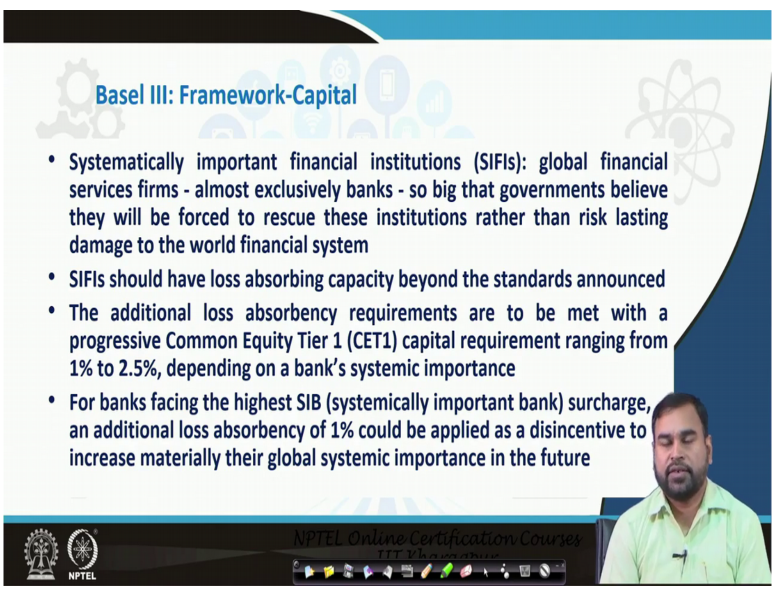
So, these are the major changes whatever they have made, because their basic importance was to always they have given towards the tier 1 capital and they also have narrowed down the definition of the tier 1 capital, which was there in the Basel 2, to make that particular system more stringent and by that, at any kind of, at any point of time, if this bank is exposed to any kind of problems and or any kind of liquidity issues or any kind of loss issues, then that can be easily compensated by the capital base what the bank is holding.

That is why they have, in the context of the market fluctuations in the context of the cyclic changes in the economy, they have started the capital conservation buffer. So, in this case, they have kept the capital conservation buffer above the regulatory minimum requirement of 2.5 percent and met with the common equity counter cyclical buffer with a range of 0 to 2.5 percent, which is basically depends upon the country and that particular buffer they want to keep to fully loss, observe the losses for the capitals, fully observed the losses of the activities, what the bank is intended to get in the future.

So, the buffer is to be implemented by the National Supervisor like the Central Bank, when there is excessive credit growth of the economy and this buffers basically are designed to restrict the bank's ability to distribute its earnings until the buffers are rebuild. So, the return earnings basically can be or whatever earnings the bank has this can be distributed among the shareholders, but unless the particular level of capital is not maintained, then there is a restrictions in terms of the distribution of the earnings, what the particular bank is making.

So, this is basically the major kind of changes, which have been recommended by the Basel Committee and it was basically the capital regulations part whatever we are discussing with respect to Basel 1 and the Basel 2.

(Refer Slide Time: 20:41)



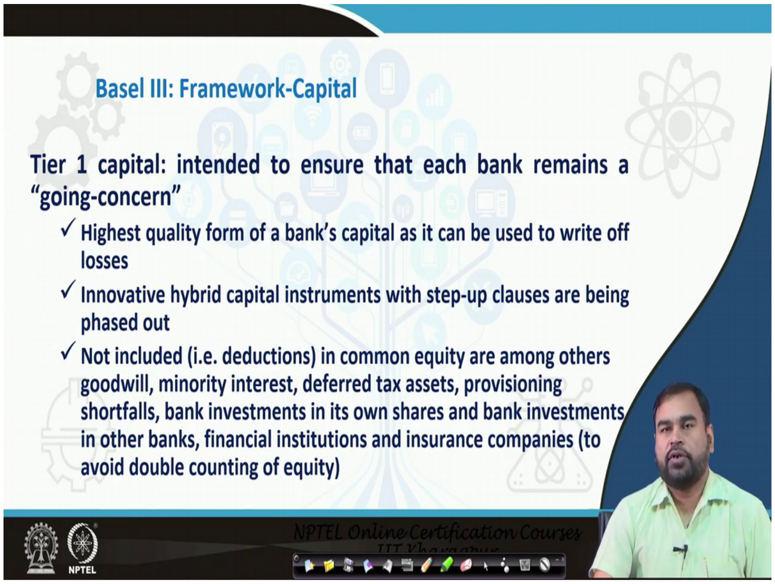
So, another recommendations what they have given that, global financial services funds some of the firms are called the systematically important financial institutions, almost exclusively the banks they are so big, that governments believe that they will be forced to rescue these institutions rather than risk lasting damage to the world's financial system.

Because you know that the importance of the bank is so large, the bank is so important and in that context the dependency on the common mans, is always on the banking sector is quite high. So, therefore, they want to have certain kind of precautionary moves, they want to have always to impose a kind of precautionary move by that the probability of failure of that particular system will be relatively less.

Though the systematic finance in institutions of loss absorbing capacity they should have and the additional loss observance requirement had to be made with a progressive common equity tier 1 capital requirement, which range from 1 percent to 2.5 percent. So, if there is any kind of problems happens with respect to this, then the n of capital base should be maintained in that particular system in such a way by that this particular loss can be observed through that particular buffer whatever they are holding.

For banks facing the highest SIB, Systematical important bank surcharge and additional loss observance of 1 percent could be applied as a disincentive to increase the materiality their global system adding importance in the future. Some banks are not considering about the cost aspect and other thing. So, in the due process, they are incurring the loss. So, because of that a 1 percent loss, additional loss absorbency is applied to those banks to make them more streamlined or more uniform, whenever they want to have some kind of business in the banking sector. So, these are the different measures, kind of guidelines, whatever they have given.

(Refer Slide Time: 22:51)

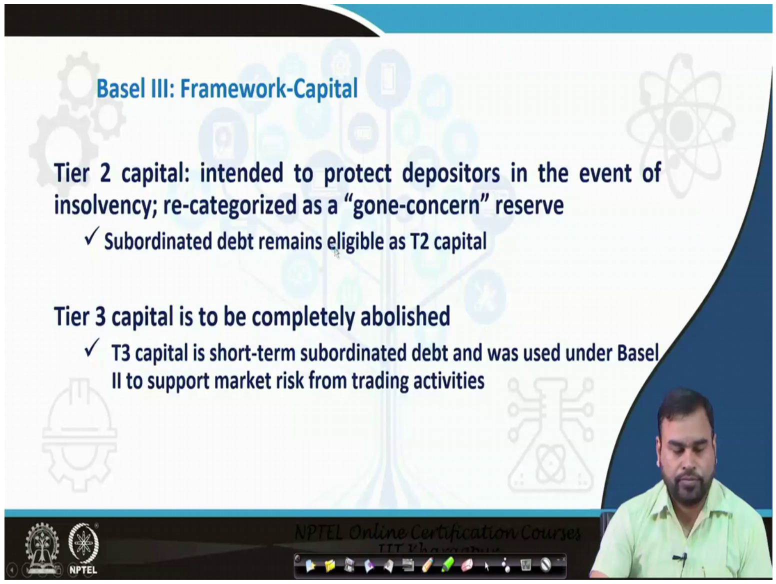


And according to Basel 1, that bank basically remains a going concern approach that whenever they are providing these loans and are these things, they should have idea that what kind of future cash flow this particular entity is going to generate in the future and whether the loans whatever the particular entity has taken, we can say that, the bank should have enough kind of capital with them or any kind of quality of the capital should be with them by that they can capture or they can absorb any other losses from the credit disbursement for the bank has already made.

It is the highest quality form of the bank's capital as it can be used to write up the losses whatever the bank has, because the capital is going to compensate that. Then they also have added this hybrid or trying to intent the hybrid capital instruments, with set up for clauses, which has been phased out. Which are not included in this, that reductions which are there common equity are among others.

Goodwill, minority interest, deferred tax asset, provisioning, shortfalls, bank investments in its own shares and bank investments in other banks, financial institutions in insurance companies are not considered in this particular context, because to avoid this double counting of equity. So, these are the basically tier 1 capital part, what the, that is mostly it is the common equity what the bank has to keep and the capital base would be, quality should be so high, that at any point of time they can write off those losses, what they are going to incur.

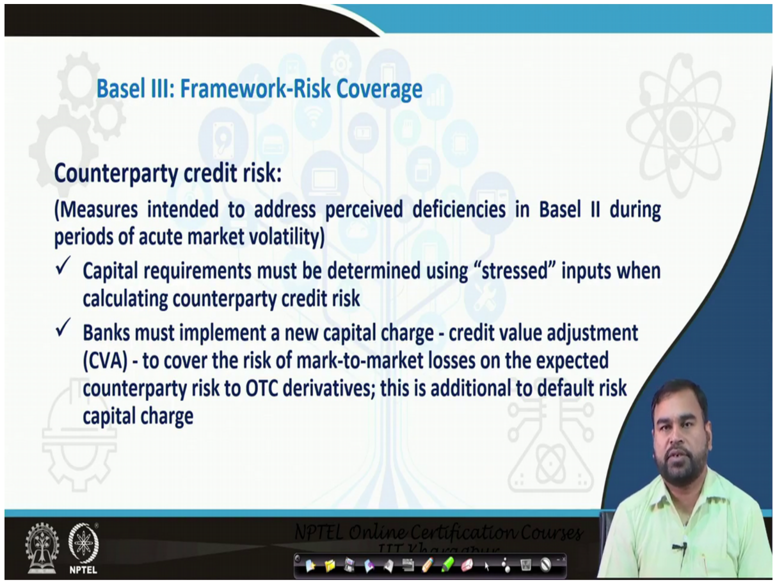
(Refer Slide Time: 24:32)



The tier 2 capital's objective was to protect the depositors in the event of insolvency and it is basically recategorized as a going concern reserve, the reason is that it is, the subordinated debt again is eligible. So, here basically at any point of time the depositors should not have any kind of problem in terms of their liquidity requirements and other things, by that the tier 2 capital should be kept in a particular level.

So, to observe any kind of losses, what the bank is expected to make, whenever they are dealing with this tier 2 capital like this and the concept of tier 3 capital was completely abolished by the Basel 3 and the T3 capital is the short term subordinated debt, debt was used under Basel 2 to support the market risk, but that concept is not there in the Basel 3. So, the concept of the, we can say that tier 3 is totally absent in the Basel 3 norm or the Basel 3 recommendations to avoid any kind of confusions in the market.

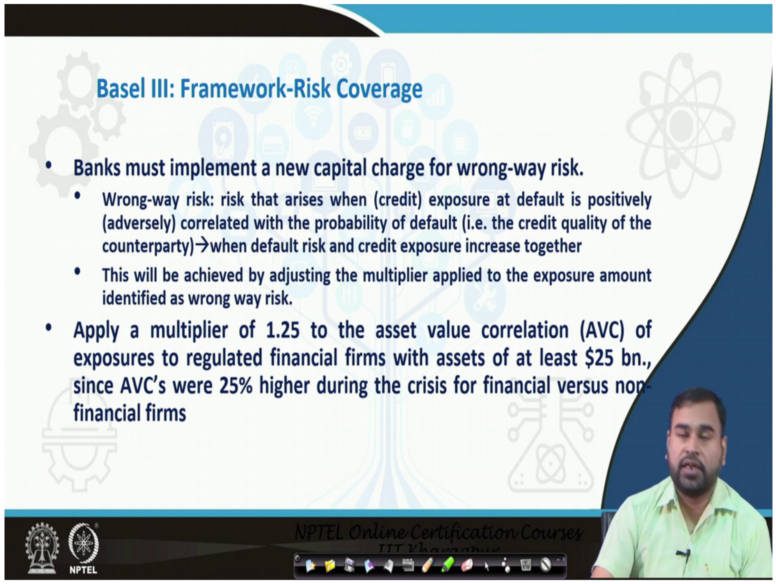
(Refer Slide Time: 25:37)



Then, there is a counterparty credit risk, here it basically measures the intended to address the perceived deficiencies in the Basel 2 during the period of acute market volatility. Already to some extent, we have discussed this, but here what they are trying to say, the capital requirements must be determined using the stressed inputs when calculating the count party credit risk.

So, in the normal condition, it should not be always calculated, it would be considered in the stressed conditions, the banks must implement a new capital charge that is basically your credit value adjustment charge to cover the risk of the mark-to-market losses on the expected counterparty risk to the OTC market or OTC derivatives. This is basically additional default risk for the capital charge. So, because of that some extra amount of capital can be kept to overcome any kind of losses what they are expecting for investment in that particular kind of assets.

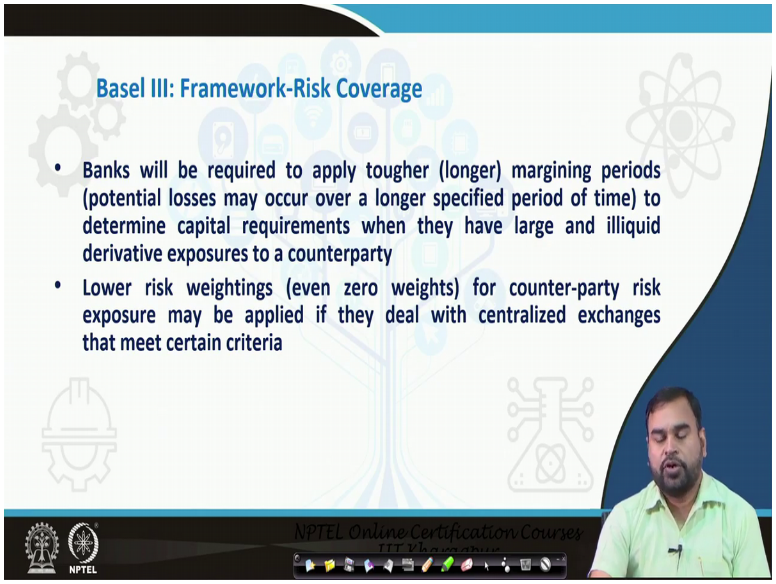
(Refer Slide Time: 26:35)



Then we have another thing is that, the bank must implement a new capital charge for the wrong way risk. The wrong way risk is basically arises when the credit exposure at default is positively or you can say that, the credit is adversely and exposure is when the exposure at default is positively correlated with the probability of default and when the default risk is there the credit exposure increases.

So, in that context they have to ensure that, what is the probability that this particular thing is going to happen. So, considering that what basically they do, they basically apply a multiplier of 1.25 to the asset value correlation of exposure to basically find out or to regulate financial firms with assets of 25 billion dollar. Since, the AVC or the asset value correlations were 25 percent higher during the crisis of the financial versus non financial firms. So, this is basically the, another regulations or another kind of recommendation the Basel 3 has given.

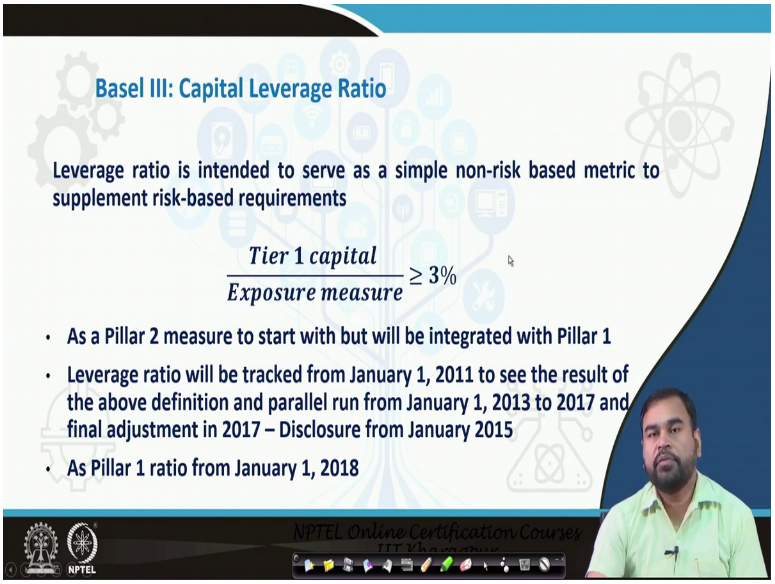
(Refer Slide Time: 27:44)



The banks will be required to apply the tougher margining periods to determine the capital requirements whenever they have large and illiquid derivative exposure to the counterparty. Then the lower risk weightings for counterparty risk exposure may be applied if the deal with the centralized exchanges that meet certain criteria.

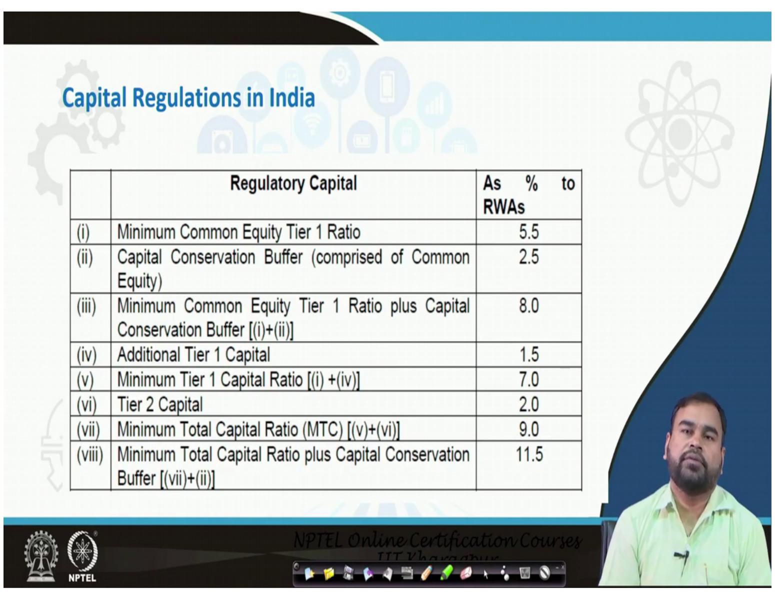
If any company is doing the business in the foreign exchange business or foreign sector, then it is very much required to have also that how that particular risk is captured or the particular losses what the bank is going to make due to the fluctuations of those in terms of the capital base whatever they have. So, this is the way basically this framework has been designed to adjust the risk of the commercial bank, but mostly the Basel 3 has highlighted in the capital part not in the risk part.

(Refer Slide Time: 28:41)



So, now, they have started the concept of capital leverage ratio. So, here you are tier 1 capital divided by the risk exposure limit should be greater than or equal to 3 percent. So, as a pillar 2 measure to start, but we will be integrated with pillar 1. Leverage ratio will be tracked from January 2011 to see the result of the above definition and parallel run from January 1, 2013 to 2017 and final adjustment in 2017 and it is disclosure from January 2015. As pillar 1 ratio from January 1, 2018 these are the different deadlines which has been given by the regulatory body to the commercial banks to implement this Basel 3 in the respective banks.

(Refer Slide Time: 29:29)

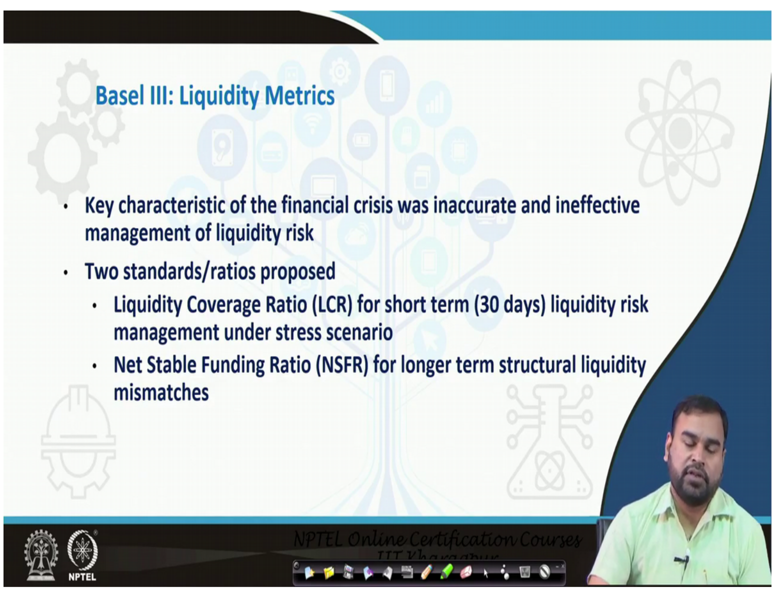


So, when I want to talk about India because as for the Basel 3 they have given certain guidelines, but those particular thing can we change with respect to the different countries. So, in this context, although the minimum common equity tier 1 ratio, the Basel has recommended of 4 percent, 4.5 percent RWA has made it 5.5 percent for the Indian commercial banks.

Capital conservation buffer, it can go up to 2.5 percent maximum we have kept it maximum that is 2.5. Additional tier 1 capital we have to keep that is, it can go from up to 2.5 percent but we have kept 1.5 percent, minimum tier 1 capital ratio should be 7 percent in this case. Tier 2 capital will be 2 percent. Minimum total capital ratio should be 9 percent. So, instead of 8 percent what the Basel 3 has recommended, which is the same thing, which was happening from Basel 1 to Basel 2 to Basel 3.

But in India we have kept the minimum capital adequacy ratio is 9 percent and the capital adequacy ratio plus capital conservation buffer, what just now we have discussed to overcome the business cycle problems or any kind of market fluctuations that should be 2.5. So, then we have the capital adequacy ratio the bank in true sense, has to be managed or has to be maintained by 11.5 percent. So, the minimum capital adequacy ratio, if we talk about including the conservation buffer of the capital, then we have the 11.5 percent with reference to India.

(Refer Slide Time: 31:11)

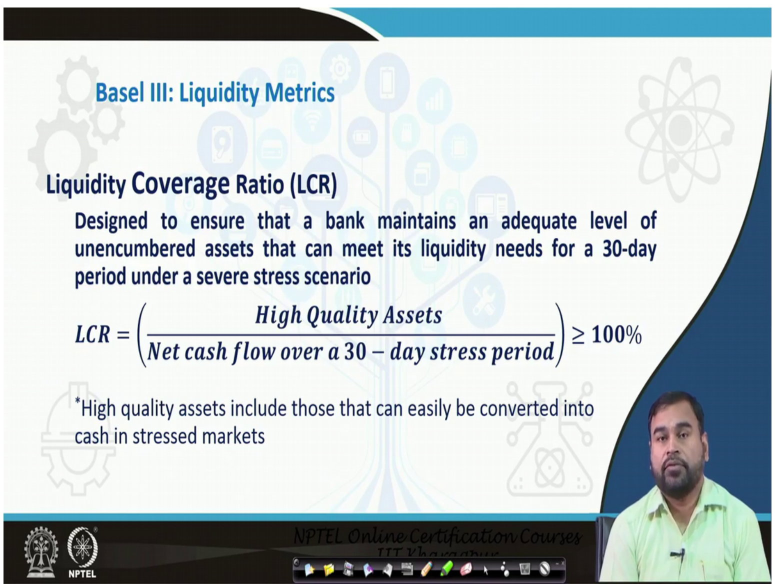


Then the Basel 3 has given a lot of importance to the liquidity measures of the liquidity matrix. So, mostly the financial crisis which have taken place in the Indian market and as well as the global market in particular, mostly it is not that way affected, that way affect the Indian market but mostly almost all over the world, this has lot of implications.

So, mostly the reason was the liquidity problem, liquidity crisis in the system. That is why considering that Basel 3 has given a lot of importance about the liquidity risk management. So, they have proposed two ratios and the bank has to maintain that ratio properly over the time.

One is our liquidity coverage ratio for short term, liquidity risk management under a different stress scenario that is a number one and number two, they have basically recommended another ratio called the net stable funding ratio, which is basically used for managing the longer term structural liquidity mismatch, which is the bank is facing over the time. So, these are the two different ratios which was basically suggested by the Basel 3 for maintenance of the maintaining the liquidity of the commercial bank.

(Refer Slide Time: 32:27)

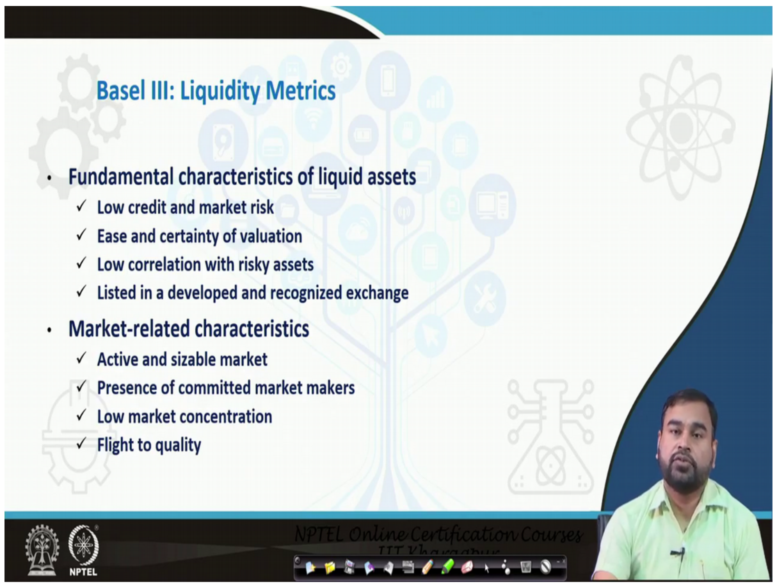


So, what is the liquidity coverage ratio? It is basically designed to ensure that, the banks maintains adequate level of, all income and assets that can meet that liquidity needs for a 30 day period under a severe stress scenario or if there is any kind of problem also at least how much LCR the bank is maintaining.

It is high quality assets divided by the net cash flow over 30 days minus the day, 30 day, the net cash, net quality assets divided, high quality asset divided by the net cash flow over 30 day stressed period. So, it is, that is why it is considered as a liquidity coverage ratio because it is covering of this particular liquidity with respect to the asset whose maturity period is 30 days and that particular value should be greater than or equal to 100 percent that means, how much assets the bank is holding, which is covering up the liquidity requirements of the 30 days maturity.

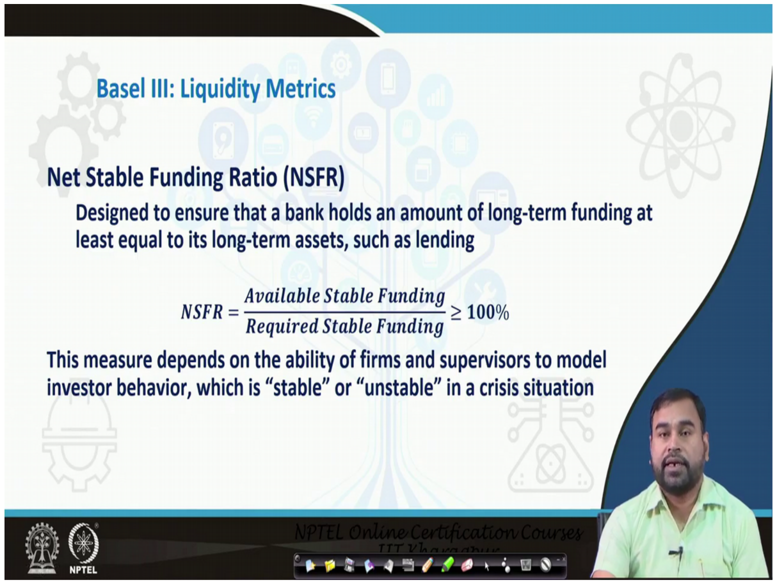
So, that is the, the basic intuition of the liquidity coverage ratio and the high quality asset include that can easily be converted into cash in the stressed market condition that means, easily those assets are marketable and we can convert those assets into cash in a appropriate time, whenever there is a requirement of the cash by the commercial banks.

(Refer Slide Time: 33:48)



So, the fundamental characteristics of liquid assets according to Basel 3, low credit and market risk, easy and uncertainty of valuation, low correlation with the risky assets, listed in the developed and recognized stock exchanges and they have some market related characteristics, they have active and sizable market presence of committed market makers for that particular asset, low market concentration that means market should be competitive, which should not be concentrated and the flight to the quality, the quality of the assets so high, which can be easily sold in the market at the appropriate time.

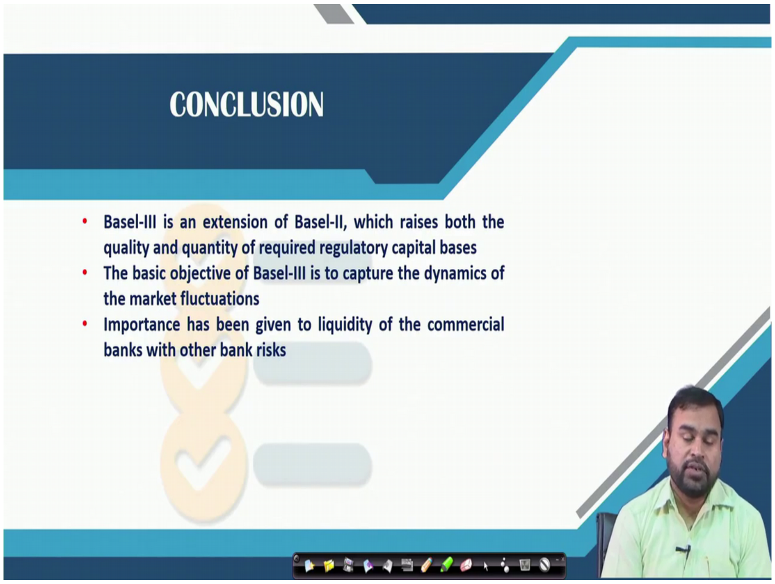
(Refer Slide Time: 34:27)



Then we have another ratio, they have basically suggested that is the net stable funding ratio. Though it is basically designed to ensure that banks hold an amount of long term funding, at least equal to its long term asset such as lending. That is why the NSFR which is, Net Stable Funding ratio is available stable funding divided by the required stable funding, which should be greater than or equal to 100 percent, then whatever thing is available that basically should be matched with the required stable funding of the bank.

This basically depends on the ability of the funds and supervisors to model the investor behavior which can be stable or unstable on a crisis situation.

(Refer Slide Time: 35:13)

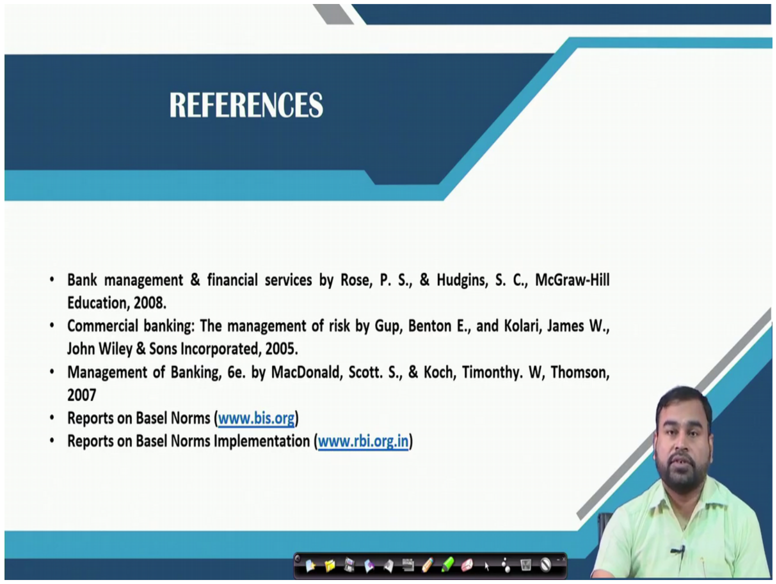


So, what we have discussed in this particular session that Basel 3 is an extension of Basel 2, which raises both quality and quantity of required regulatory capital bases. Both quality and quantity of regulatory capital bases has been taken into consideration on the Basel 3 norms and the basic objective of the Basel 3 is to capture the dynamics of the market fluctuations and accordingly how much capital base the banks would always have and it also gives importance to the liability side largely in comparison to the asset side.

And always the importance should be given to the liquidity of the commercial banks with other bank risk and the capital to maintain the liquidity in such a way that the probability of any kind of failure with respect to liquidity should not happen and which was the major cause for the financial crisis and the global financial crisis in the year 2008 and 9.

So, these are the ways basically the capital is measured and capital is basically always analyzed for the commercial banks and the capital is very important because it has the implication on the risk, it has the implications on the liquidity and it has also the implications on the performance of the commercial banks. That is why capital management is a very important issue or capital adequacy ratio has a lot of implications on the overall banking activities, including the performance and the other aspects.

(Refer Slide Time: 36:43)



These are the references, what you can go through all this. Thank you.