Block

4

MANAGING RISK IN GLOBAL FINANCIAL MARKETS

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BLOCK 4: MANAGING RISK IN GLOBAL FINANCIAL MARKETS

This block emphasizes on managing risks in global financial markets arising out of various events such as the 'Financial Crisis of 2007' which had impacted Credit Rating & Sovereign Risk across all the economies. This block also focuses on Integrated Treasury Operations and Regulatory Aspects in Global Financial Markets keeping corporate governance in view. It explains what went wrong in the 2007 crisis, the financial implications of Brexit (exit of Britain from Euro zone) on global financial markets, different dimensions of credit rating methodology and process, integration of rupee and foreign exchange transactions, list of regulatory authorities in major markets and key elements of corporate governance, etc. This block has five units.

Unit 15: *Understanding Subprime Mortgage Loans (2007) & Brexit (2016):* The Impact of subprime lending fiasco and the exit of UK from Euro zone have a greater impact on Financial Markets in the new millennium. The crisis of the late 90's continued with the burst of dotcom bubble in March 2000 leading to a global recession. Subprime lending fiasco and Brexit added fuel to global financial turmoil. This unit explains the genesis of the US mortgage crisis, process of securitization; the dynamics of the US housing market and the lessons from the Credit Crisis on the global markets. This unit also explains about the impact of Brexit on global financial markets.

Unit 16: *Credit Rating & Sovereign Risk* enumerates that credit rating is essentially a symbolic indicator of the relative grading of the investment/credit qualities of financial instruments and reflects the relative ability of the issuers of such instruments to meet the servicing obligation as and when they arise. This unit also discusses about the concept, meaning and features of credit rating, methodology and process of credit rating agencies, what sovereign risk is and the parameters that measure it, status of emerging markets in the eyes of sovereign risk rating and the prudential methods to tackle sovereign risk through credit rating. The sovereign risk encountered by Srilanka and the impact of downgrade of sovereign rating were explained briefly in the Unit.

Unit 17: *Dealing Room Operations* deals with day to day operational issues of a dealing room in financial institutions/corporate treasury. This unit initializes discussion on dealing room operations and its structure. It connects dealing room operations to integrated treasury functions and its regulatory framework. It explains how the internal and external audits of dealing room operations take place. Finally, the unit ends with revaluation of currency and analytics of dealing room operations. The concept of Standing deposit facility introduced in May 2022 by RBI was briefly discussed.

Unit 18: *Regulatory Aspects and Corporate Governance in Global Financial Markets* outlines the various regulatory related issues in global financial markets. It discusses the core principles for effective banking supervision across various economies, regulatory systems in respective global markets. This unit also explains about the conceptual issues and key elements of corporate governance.

Unit 15

Understanding Subprime Mortgage Loans (2007) & Brexit (2016): Their Impact on Financial Markets

Structure

"In the end, pragmatism requires a workable compromise.
But none exists on Brexit"

- Andrew Adonis, Baron Adonis a British Labour Party politician and journalist

15.1 Introduction

Now let's study some of the most important crisis faced in the last couple of decades, by the global economy like the Subprime Mortgages and the Brexit.

Unit 14 dealt with Mutual funds, Exchange Traded Funds (ETFs), Hedge funds and sovereign wealth funds. It also discussed Alternative Investment Funds (AIF) which employ diverse or complex trading strategies by investing in complex products, including listed and unlisted derivatives.

This unit deals with major events that shook the finance world in the past 15 years.

The new millennium started with the boom and bust of dotcom bubble in March 2000 leading to a global recession. As a policy response to ensure heightened level of economic activity, the Federal Reserve maintained a soft interest rate regime for a longer period than required. This was supported by the higher growth trajectory of emerging economies. In developing countries, boom in commodities and metals followed, due to excess liquidity in the market that enhanced the savings capacity. As dollars got recycled back to the USA, interest rates cooled down further and demand for housing surged to consume those dollars. Too much money chased too few housing assets resulting in appreciation of property prices. Existing property owners unlocked the home equity (excess of market price of property over the mortgage loan) and used it for personal purposes.

Increase in demand was due to rising purchasing power backed up by top up loans from home equity. This encouraged builders to go for new constructions to meet the rising demand. Mortgage lenders started offering teaser rates at 2% p.a. to entice borrowers. They also engaged in reckless lending by underwriting mortgages for longer tenors (up to 50 years), offered over 100% LTV (Loan-To-Value) ratios, innovated new products such as ARM (Adjustable-Rate-Mortgages) to make all and sundry eligible, packaged mortgage receivables as CDOs (Collateralized Debt Obligations) and sold it off to institutional investors like pension funds. As nothing lasts forever, slowly global investors started pulling funds out of the USA. Credit crunch made home buyers to postpone their purchases. Property prices tanked making more customers to default on mortgage commitments leading to a glut in housing property. This mortgage crisis which originated in the US during July 2007 had spread globally creating the ‘Great Recession’.

Example: Performance of Home Sales in Q2 of 2022 in USA

As the housing market continues to adjust to a world of rising prices and higher mortgage rates, in April 2022. the sales of pending homes fell by 3.9% in the US. According to the National Association of Realtors, sales of new homes in April 2022 are down about 27% from a year ago i.e. April 2021. The mortgage rates raised, with the 30-year fixed rate loan in April 2022 at about 5.47% which was around 3% in 2021. Popular forecasts for pending-home sales are off by 9% in 2022, while home price appreciation was expected to slow down to 5% by the end of 2022, which would be a sharp drop from recent gains of nearly 20% annually.

Source: i) https://www.usnews.com/news/economy/articles/2022-05-26/existing-home-sales-fall-3-9-in-april-as-market-confronts-higher-mortgage-rates, dated: 26 May 2022. (Accessed on June 14, 2022)

ii) https://www.nationalmortgagenews.com/list/5-signs-homebuyer-demand-is-slowing-according-to-redfin, dated: 10 June, 2022. (Accessed on June 14, 2022)

In a historical referendum on June 23rd 2016, the citizens of Britain voted for Britain’s exit from the European Union, in what is known as ‘Brexit’. This outcome prompted jubilant celebration among the citizens of Britain, at the same time it sent shock-waves to the global economy. As a result of this verdict given by the British citizens, the pound fell to an all-time low since 1985. The FTSE 100, the London blue-chip index fell 7% in early trading to just over 5,800 points but ended the day 3.15% lower at 6,138. The Brexit thus demonstrated a long lasting impact on the global economy.

15.2 Objectives

After going through the unit, you will be able to:

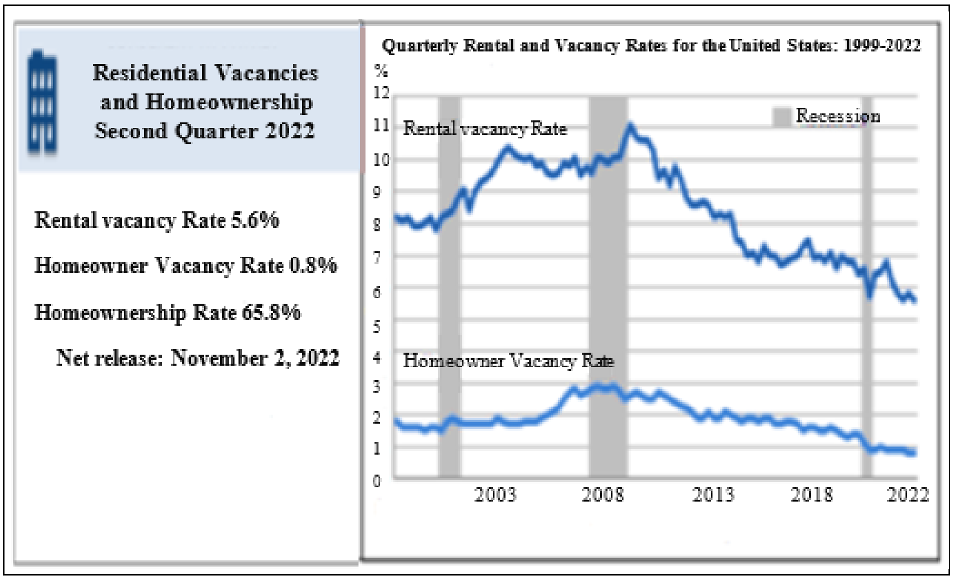
- Discuss the importance of housing market and its impact on the US economy.
- Describe the genesis of the US mortgage crisis and how it impacted the financial markets across the globe.
- Define the process of securitization and how it creates more avenues for the individual organizations to create higher asset base.
- Discuss various financial turmoil’s that took place in the global financial system and their impact on the global market.
- State the impact of Britain’s exit from the European Union on the global financial markets in the short term and long term.

15.3 The USA Housing Market

Housing is an important component of investment. In many countries housing makes up the largest component of wealth. For instance, in the United States, real estate accounts for roughly a third of the total assets held by the nonfinancial private sector. The majority of households tend to hold wealth in the form of their homes rather than in financial assets. Housing booms have different characteristics across countries and time periods. When the bust comes; it very often damages financial stability and the real economy. Let us examine the impact of the US Housing market on its economy and its effect on global markets.

The sharp rise in the stock market indices of the mid-nineties resulted in enhanced purchasing power of the US public. Triggered by the stock market boom, consumption of goods increased due to the newly found wealth resulting in trade deficits for the USA with the emerging markets. Emerging markets recycled these dollar surpluses by investing back in the US markets in search of a safe haven. As the pace of dollar inflows into the US had been faster than expected it required to be deployed in large dosages quickly and the housing sector could alone absorb this magnitude of cash flows. The lowering of interest rates in the aftermath of dotcom bust encouraged tenants to become owners as innovation in mortgage financing made EMIs (Equated Monthly Installments) cheaper than rent. As demand for housing stock increased, builders created housing assets to meet the rising appetite of the US public whose home ownership rate from 2003 to 2022 is depicted in the Figure 15.1 given below.

Figure 15.1: Home Ownership Rates 2003 to 2022



Source: pio@census.gov U.S. Census Bureau, Current Population Survey/Housing Vacancy Survey, August 2, 2022. Recession Data National Bureau of Economic Research,

The U.S. Census Bureau announced the following residential vacancies and homeownership statistics for the second quarter 2022. National vacancy rates in the second quarter 2022 were 5.6 percent for rental housing and 0.8 percent for homeowner housing. The rental vacancy rate was 0.6 percentage points lower than the rate in the second quarter 2021 (6.2 percent) and not statistically different from the rate in the first quarter 2022 (5.8 percent).

The homeowner vacancy rate of 0.8 percent was not statistically different from the rate in the second quarter 2021 (0.9 percent) and virtually the same as the rate in the first quarter 2022 (0.8 percent).

The homeownership rate of 65.8 percent was not statistically different from the rate in the second quarter 2021 (65.4 percent) and not statistically different from the rate in the first quarter 2022 (65.4 percent).

Historically, the US homeownership gained 0.8 percentage points during (2000-07) reaching 68.6% in 2004. During the housing bubble of 2007, homeownership rates moved in tandem with prices and subsequently when the prices had a free fall, ownership rates also dropped as most mortgages did not have the owner's skin in the game. As property prices fell, the outstanding mortgage loans were still higher than the property values due to mild servicing during initial years of the loan. These underwater mortgage phenomena made all kinds of mortgage borrowers to default on their commitments. There was one set of borrowers who could not afford to pay their mortgages because of their inability and there was also another category of borrowers who had the ability but no willingness to pay called 'strategic default'. In August 2015, the homeownership rate hovered around 63.7% erasing all the gains made during the boom period. In 2022 second quarter it was around 65.4%, median asking sales price for the period 1998-2022 was given below in Figure 15.2.

Figure 15.2: Median Asking Sales Price for Vacant for Sale Units: 1999-2022

Source: pio@census.gov United States Census Bureau, Current Population Survey/Housing Vacancy Survey, August 2, 2022. Recession data National Bureau of Economic Research

The Federal Reserve responded aggressively to the financial crisis that emerged in the summer of 2007, including the implementation of a number of programs designed to support the liquidity of financial institutions and foster improved conditions in financial markets.

The Federal Reserve's Response to the Financial Crisis and Actions to Foster Maximum Employment and Price Stability

The Federal Reserve responded aggressively to the 2007 financial crisis by implementing a number of programs which were designed to support the liquidity of financial institutions and foster improved financial conditions.

While these crisis-related special programs have expired or been closed, the Federal Reserve continues to take actions to fulfill its statutory objectives for monetary policy: maximum employment and price stability. Over recent years, (prior to 2010) many of these actions have involved substantial purchases of longer-term securities aimed at putting downward pressure on longer-term interest rates and easing overall financial conditions.

The tools described in this section can be divided into three groups. The first set of tools, which are closely tied to the central bank's traditional role as the lender of last resort, involve the provision of short-term liquidity to banks, depositories and other financial institutions. The traditional discount window falls into this category, as did the crisis-related Term Auction Facility (TAF), Primary Dealer Credit Facility (PDCF), and Term Securities Lending Facility (TSLF). Because bank funding markets are global in scope, the Federal Reserve also approved bilateral currency swap agreements with several foreign central banks. The swap arrangements assist these central banks in their provision of dollar liquidity to banks in their jurisdictions.

A second set of tools involved the provision of liquidity directly to borrowers and investors in key credit markets. The crisis-related Commercial Paper Funding Facility (CPFF), Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF), Money Market Investor Funding Facility (MMIFF), and the Term Asset-Backed Securities Loan Facility (TALF) fall into this category.

As a third set of instruments, the Federal Reserve expanded its traditional tool of open market operations to support the functioning of credit markets, put downward pressure on longer-term interest rates, and help to make broader financial conditions more accommodative through the purchase of longer-term securities for the Federal Reserve's portfolio. For example, starting in September 2012, the FOMC decided to increase policy accommodation by purchasing agency-guaranteed Mortgage-Backed Securities (MBS) at a pace of $40 billion per month in order to support a stronger economic recovery and to help ensure that inflation, over time, is at the rate most consistent with its dual mandate. In addition, starting in January 2013, the Federal Reserve began purchasing longer-term treasury securities at a pace of $45 billion per month. Starting in January 2014, the FOMC reduced the pace of asset purchases in measured steps, and concluded the purchases in October 2014.

Example: Dropping Volumes of USA's Housing Market

According to the U.S. Census Bureau and Department of Housing and Urban Development, rising prices and higher mortgage rates crimped the enthusiasm of buyers and the Sales of new homes in April 2022 tumbled by 16.6%. The drop in the volume of sales in March 2022 was to an annual rate of 709,000 and in April 2022 was to 591,000. The sales in April 2022 were down 26.9% from April 2021. The sharp dip was perceived as the early sign of the impact of inflation. The median price of a new home in 2022 jumped 21% higher compared with 2021, pushing the monthly mortgage payment to about $ 660 higher, which amounts to a 52% increase in the average mortgage rate.

Sources: i) https://www.usnews.com/news/economy/articles/2022-05-24/new-homes-sales-tumble-in-april-down-nearly-27-from-a-year-ago, dated: 24 May, 2022. (Accessed on June 14, 2022)

ii) https://www.nationalmortgagenews.com/list/5-signs-homebuyer-demand-is-slowing-according-to-redfin dated: 10 June, 2022. (Accessed on June 14, 2022)

15.4 Securitization

Financial institutions mobilize funds for the purpose of deployment and mobilization. 'Securitization' is the process of creating securities by pooling together various cash flow producing financial assets. These securities are then retailed to investors. In its most basic format, securitization is a method of financing assets. Banks make loans, sell those loans, securitize the loans and use that money to make more loans. If we sell off, or securitize our accounts receivable, they become a cash asset on our balance sheet and do not increase our liabilities. Our credit rating remains intact as there is no increase in liabilities and we don't have monthly debt payments. Securitization of accounts receivable allows us to use the money for current expenses rather than borrowing to cover cash flow needs.

Securitization is a powerful tool in the hands of financial institutions as it converts an illiquid asset into a tradable security. All the loans and advances provided by a bank/financial institution are assets in nature. They are generally illiquid as the borrowers who availed them pay the principal and interest over a period of time. The life of these assets may vary from few days to few decades. The longer the age of these assets, the greater the credit risk for the bank. Personal/corporate loans can be up to 3 years while residential loans go up to 30 years. During the peak of the mortgage crisis, reckless lending by some lending institutions resulted in underwriting 50-year mortgages especially in California. Term loans provided to corporates also range between 15-20 years. Considering the risk associated with long term loans, a bank insulates itself with interest rate risk by going for a floating rate loan and default risk by seeking collateral of the underlying asset.

As banks and financial institutions cannot afford to wait till the loans get redeemed, they pool these loan receivables and package them into different types of borrowing classes (super-prime, prime, and sub-prime[1]). Considering the easy access to funds from the banking system, more sub-prime customers were inclined to buy property. The economic boom ensured high rates of employment making the lenders to believe that sub-prime lending cannot be risky. Also because of the fact that a self-occupied property in the sub-prime category is more likely to be retained during crisis than a second/third property of a prime or a super-prime borrower, banks were betting more on sub-prime lending.

Subsequently, banks get these pools of loans rated by a third party agency to establish a high credibility quotient. Institutional investors such as pension funds, provident funds, retirement funds, insurance companies, etc. have long term funds and wish to acquire securitized paper because of a higher yield than government securities. They take comfort from the fact that these securities are backed up by receivables that are valued by independent rating agencies. Normally, receivables can be any loans such as credit cards, personal loans, corporate loans, mortgage

[1] Borrowers with lower credit ratings or those who have a reasonable chance of defaulting on repayment.

loans, vacation loans, etc. During the boom period of the new millennium in the USA, majority of securitized assets were Mortgage Backed Securities (MBS) providing liquidity for bankers. As the lendable resources of the banking system improved because of higher take-off of such papers, they were encouraged to take greater exposure to housing assets and hence the housing bubble was created. Securitization process of MBS and its merits and demerits are discussed below.

Example: Offloading of Mortgage Backed Securities by the Federal Reserve

In February 2020, the Federal Reserve was rapidly offloading its holding of $ 1.4 trillion in mortgage-backed securities (MBS). But as the pandemic hit, the central bank went for quantitative easing and began a new round of MBS purchases taking that number to $ 2.7 trillion. As a result, mortgage rates were down, and home buying and refinancing activity rose rapidly. The Federal Reserve to combat inflation sought to tighten monetary policy, and by September 2020 wanted to reduce the mortgage portfolio by up to $35 billion per month.

Sources: i) https://www.axios.com/2022/05/18/fed-mortgage-portfol, dated: 18 May 2022. (Accessed on June 14, 2022)

ii) https://www.reuters.com/markets/us/feds-williams-mbs-sales-could-be-an-option-down-road-2022-05-16/, dated: 16 May 2022. (Accessed on June 14, 2022)

15.4.1 Securitization Process for Mortgage Backed Securities (MBS)

If a company gives its customers 30, 60, 90 days or longer to pay for purchases, it is creating accounts receivable that goes on the asset side of the balance sheet. When the company packages accounts receivable and sells them to an investor, it is removing these account receivables from the balance sheet and replacing it with cash. This enables the company to finance without taking out a loan, and is called off-balance sheet financing; since it isn't a loan, it doesn't qualify as a liability. This is called securitization.

Securitizations typically rely on the cash flows generated by one or more underlying financial assets (such as mortgage loans), which serve as the principal source of payment to investors, rather than on the general creditor claims paying ability of an operating entity. Securitization allows the entity that originates or holds the assets to fund those assets efficiently, since cash flows generated by the securitized assets can be structured, or tranched in a way that can achieve targeted credit, maturity or other characteristics desired by investors. Securitization played a crucial role in the housing bubble in the USA.

Broadly, the process of mortgage-backed securitization involves the following steps (Refer Figure 15.3):

Step 1: A lender/banker originates loans to a home-owner.

Step 2: Securitization structure is created. The bank sells or assigns mortgage receivables to a SPE/SPV (Special Purpose Entity/Vehicle).

Step 3: Securitization structure is legally insulated from management.

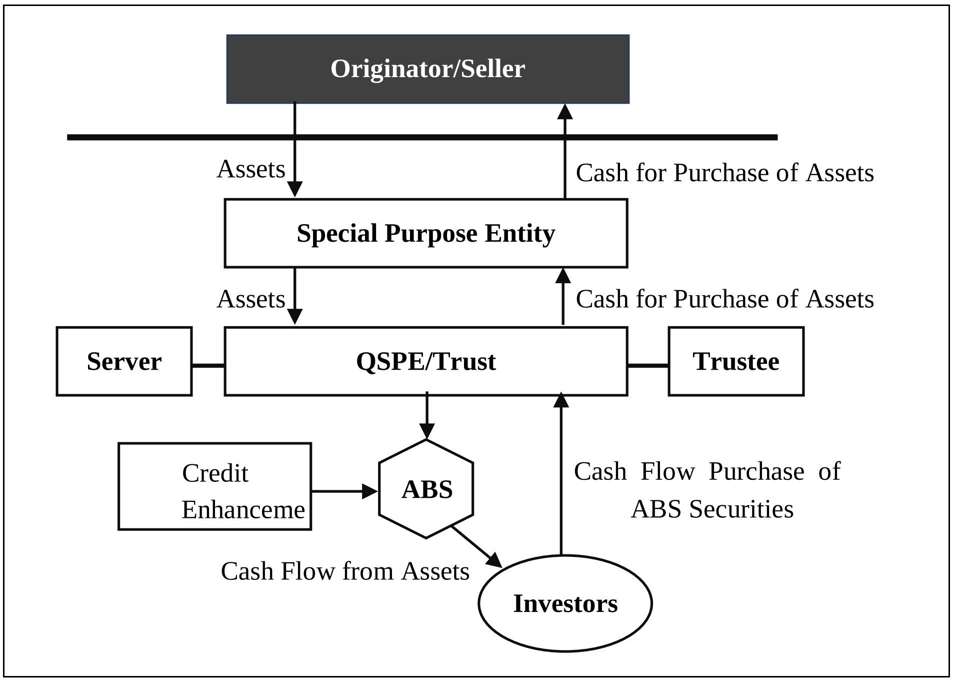
Step 4: Trustee takes responsibility for administering the SPE or Trust that holds the securities.

Step 5: Third Party provides Credit and Liquidity enhancement to meet the expectations of the prospects.

Step 6: Rating Agencies review the quality of mortgage receivables and issue ratings based on certainty.

Step 7: The SPE issues debt, dividing up the benefits (and risks) among investors on a pro rata basis.

Figure 15.3: Securitization Process



Source: Federal Deposit Insurance Corporation https://www.fdic.gov/

Activity 15.1

As a credit card recovery manager of DCC credit card company, what securitization process for mortgage backed securities do you adopt for your customers?

Answer:

15.4.2 Merits & Demerits of Securitization

Securitization provides liquidity to the company. This securitization has its own advantages and disadvantages.

Merits and Demerits for Issuers

One of the major reasons why issuers prefer securitization is because of its off-balance sheet treatment as assets included in the reference portfolio are wiped off from the originator's financial reports. Financial institutions stand to gain as securitization frees up regulatory capital - the assets that banks are obligated to hold by their financial regulators so as to remain solvent. Securitization can make it possible for issuers to get better credit ratings and slash borrowing costs.

One major disadvantage for issuers is that it is trickier to structure securitization than to design traditional types of debt, such as a bank loan or a corporate bond. Securitization transactions sometimes may not always lead to off balance sheet treatment, diminishing the benefits to financial institutions.

Merits and Demerits for Investors

Investors get dangerously attracted to securitized paper because of their investment grade credit ratings, believing that they will not lose their money with these investments. These high ratings are made possible through a combination of features, such as bond insurance[2], letters of credit[3] and senior-subordinate credit[4] structures. Investors also are excited because of the benefits of diversification associated with securitization. However, certain securitizations carry pre-payment risk, the chance that the deal's cash flows accelerate from expectations. For example, a pool of mortgages might prepay from refinancing, returning money to investors in a lower interest rate environment.

15.5 Mortgage Products

During the run up to the US housing crisis, a variety of mortgage products were fabricated through the securitization process which were mostly beneficial for the issuers rather than investors. Such products are either Asset-Backed Securities (ABS) or Asset-Backed Securities Collateralized Debt Obligations (ABS CDOs), which are explained in detail below.

15.5.1 Asset-Backed Securities (ABS) (Refer Figure 15.4)

A portfolio of receivables such as mortgages and subprime mortgages will be offered by the originators to a Special Purpose Vehicle (SPV) and the cash flows are allocated to different tranches say the senior tranche, the mezzanine tranche and the equity tranche.

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[2] It is a method of securing the payment of interest and principal amounts to the bond holders. The issuers buy such insurance to give confidence to the investors in their company.

[3] Letter of credit is an assurance given by a bank on behalf its client in favour of a third party for payment of money due from its client

[4] In the case of default by a company, senior debt holders will be given preference over the subordinate debt holders while repaying the amounts by a borrowing company.

In the case of conventional mortgages, the SPV effectively purchases a bank's mortgage book for cash, which is raised through the issue of bonds backed by the income stream flowing from the mortgage holder. In the case of sub-prime mortgages, the high levels of risk called for a different type of securitization, achieved by the creation of derivative-style instruments known as 'Collateralized Debt Obligations' or CDOs.

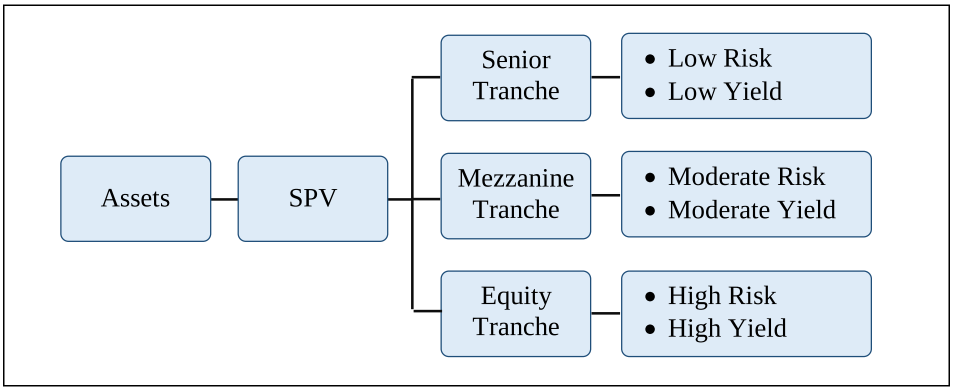
For a pool of mortgages taken over by the SPV, three tranches of CDOs are created:

- **Tranche 1** (highest risk) known as the 'equity' tranche and normally comprising about 10% of the value of the mortgages in the pool. Throughout the CDOs' life, the equity tranche will absorb any losses brought about by default on the part of mortgage holders, up to the point that the principal underpinning the tranche is exhausted. At this point, the investment is worthless.
- **Tranche 2** (intermediate risk or 'mezzanine' tranche) consists of around 10% of the principal and will absorb any losses not absorbed by the equity tranche until the point at which its principal is also exhausted.
- **Tranche 3** (AAA or 'senior' tranche) consists of the balance of the pool value and will absorb any residual losses.

Investors in senior tranche are exposed to least risk, and hence their yield will match their risk appetite. On the contrary, equity tranche investors assume the highest risk and are likely to earn highest yield.

From the accounting point of view, the issuer of an ABS removes these items from its balance sheet. Since the receivables are taken out of balance sheet with the securitization, the company can mobilize more resources to increase the asset base and thus facilitate to expand new business base. The buyers – usually institutional investors can pick up additional yield relative to government bonds and augment their portfolio diversification.

Figure 15.4: Asset-Backed Securitization



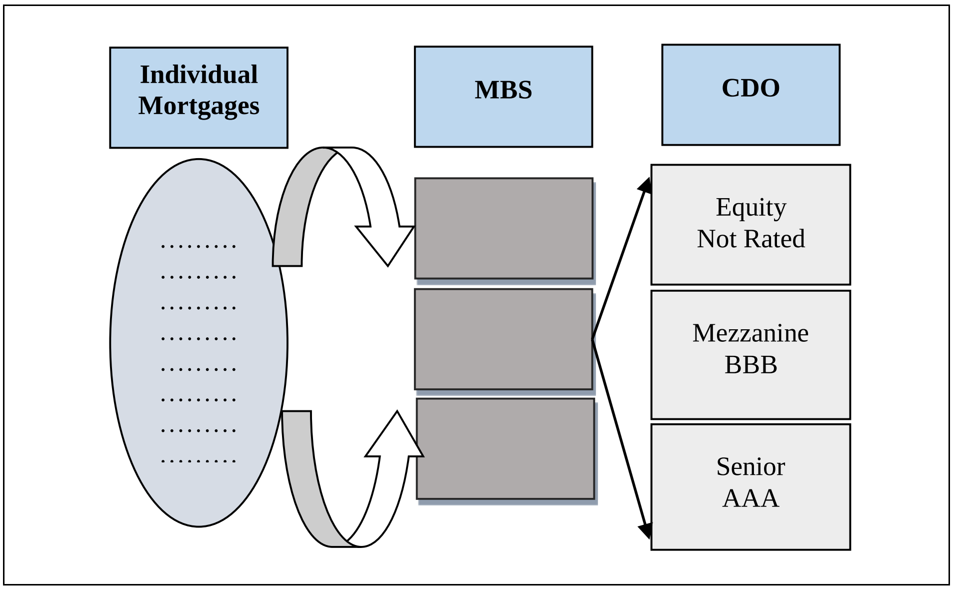
Source: ICFAI Research Center

ABS shall have fixed income securities as its underlying securities. CDOs can be drawn from such rated ABS. In such a scenario, the senior tranche investors will lose money only after equity and mezzanine tranche. So they (senior tranche investors) are highly secure and easily saleable.

A senior tranche, due to its AAA rating, is marketable and the riskiest equity tranche is retained by the originator, the real challenge is to transfer the risk associated with the mezzanine tranche. Hence, bulk of the CDOs is essentially the mezzanine tranche of mortgage receivables.

Figure 15.5 will depict the scenario:

Figure 15.5: Collateralized Debt Obligations



Source: ICFAI Research Center

Example: Mortgage Products in India

According to CRISIL, in the last quarter of 2021-22, loan securitization volumes in India rebounded by more than 50%, i.e., more than ₹ 50,000 crore. During the year 2021-22, the total value of loan assets securitized was ₹ 1.35 lakh crore, compared with around ₹ 90,000 crore in 2020-21. This was comparable to the pre-pandemic level of ₹ 1.9 lakh crore. More than 130 financing entities securitized their assets during the year. In the asset-backed securitization (ABS) segment, the share of commercial vehicle loans was 25%, gold loans was 10% and two-wheeler loans was 2%. In addition, microfinance loans drew traction in the last quarter of fiscal 2022, taking 10% of volume.

Source: https://economictimes.indiatimes.com/markets/stocks/news/loan-securitisation-volume-rebounds-over-50-in-march/articleshow/90901240.cms, dated: 18 Apr 2022. (Accessed on June 14, 2022)

Check Your Progress - 1

1. Which of the following the processes is related to Securitization?
   a. Distributing profits
   b. Mobilizing assets
   c. Deploying assets
   d. Financing assets
   e. Financing liabilities
2. Which of the following is the mezzanine tranche of CDO?
   a. Equity tranche
   b. Senior tranche
   c. Intermediate risk tranche
   d. Highest risk tranche
   e. AAA tranche
3. What is the term used when the existing housing loan borrower takes further loan on existing property?
   a. Brand equity
   b. Loan equity
   c. Home equity
   d. Sweat equity
   e. Bank equity

15.6 2007 Crisis: What Went Wrong?

During the initial years of the boom phase that started in the new millennium, the unemployment rates were pretty low and hence the default rates were much lesser than expected. The FICO[5] scoring models that are used for credit underwriting were not calibrated to reflect the changing economic environment. Banks that were originating these mortgages went overboard as the risk could be transferred through the structured financial products like securitized paper. There was a high appetite for such financial instruments from institutional investors as foreign capital inflows into the USA came from countries that were enjoying current account surplus with the USA or those countries which have the US dollars as reserve currency.

[5] A FICO score is a type of credit score created by the Fair Isaac Corporation. Lenders use borrowers' FICO scores along with other details on borrowers' credit reports to assess credit risk and determine whether to extend credit.

On the strength of these foreign capital inflows, banks were diluting their credit underwriting standards making all and sundry eligible for a mortgage. NINJNAs (No Income, No Job, and No Assets) had access not only to plastic cards during the credit bubble but also could avail housing loans because of an extremely friendly banking climate. There was no justification for staying in rented properties as the EMI would be lower than the rent for similar property if the mortgage deal is well structured. But as nothing lasts forever, these conditions also changed leading to pricking of the mortgage bubble.

As the economy slowed down during 2006, unemployment rate started climbing up to make matters worse, adjustable rate mortgages were getting reset after the initial teaser rate period making it difficult to service mortgages. Conditions worsened by 2008 and it reached a flashpoint when Lehman Brothers collapsed in September 2008. Economy’s turmoil was the result of the Lehman Brothers’ bankruptcy. Banking sector became very hostile as credit lines were cut, making the economy illiquid. The world’s largest insurer, AIG had to be bailed out to ensure that there was no chain reaction in the economy.

Even credible borrowers were finding it difficult to raise funds. Default rates were relatively lower in the owner-occupied properties than those who bought property as an investment. Rental values nose-dived resulting in higher defaults. Property prices started moving southwards making more properties to go underwater. This triggered strategic defaults where property owners who had the ability to pay also started defaulting because of falling property prices being lower than outstanding mortgage loans. Scoring models have not assumed this phenomenon as they generally assess the credit worthiness in terms of ability and stability of the borrower and not their willingness to pay.

Default rates increased across-the-board for all types of credit products and mortgages were no exception. ABS which had all kinds of receivables in its pool was in the news for all the wrong reasons. Investors were shying away from structured financial products as senior tranches also suffered mounting losses. Banks were saddled with such loans as they could not transfer the risk. Making matters worse were the plummeting housing prices resulting in huge losses. The Obama administration later rolled out schemes like MHA (Making Homes Affordable) to abort the falling trend. MHA schemes provided subsidies at both federal and state levels to new home buyers.

The NPAs (Non-Performing Assets) of the banking system bought by the US Federal Reserve, initially offered emergency loans to stem the systemic risk. It infused large dosages of capital into the economy by buying out toxic assets of the banking system through TARP (Troubled Assets Relief Program). This breathed life into the banking system again as Citigroup, UBS, Merrill Lynch, Wells Fargo, etc., were in a very tight spot. The logic for saving the banking system from further collapse is captured in the Obama’s phrase “Too Big to Fail”.

Subsequently, such government bailouts were extended to automobile sector too especially General Motors and Chrysler when they filed for bankruptcy. It was widely believed that there was a higher probability of occurrence of the second Great Depression.

Looking back, it appears that such a government intervention was justified as the US government had not only recovered all its dues in a span of 6 years but also generated a marginal surplus. The government got $15 billion surplus on the investment of tax payer's money of $426 billion in auto and banking sectors. By end December 2014, the economy emerged strong from the worst crisis witnessed since the Great Depression. Housing prices stabilized and started looking up and builders again started building new properties.

Check Your Progress - 2

4. FICO scores are relevant for which of the following decisions?
   a. Investing
   b. Lending
   c. Insuring
   d. Depositing
   e. Withdrawing
5. Who takes minimum risk in a structured instrument?
   a. Equity tranche
   b. Mezzanine tranche
   c. Senior tranche
   d. Junior tranche
   e. Bond tranche

15.7 Brexit 2016 and Its Impact on Markets

To stay within the European Union or leave it was a 'Hamletian' dilemma (meaning a difficult decision) for the United Kingdom. It was the Cameron's government which held a referendum on 23rd June 2016 in England. The upshot: withdrawal of Britain from the European Union (most popularly known as Brexit). This major development of 2016 shook the financial markets globally as the United Kingdom is a very important constituent of the global economy. Its exit was likely to cause deep economic repercussions not only within the European Union but also across all other trade partners, trade competitors, trade suppliers etc.

According to the Standard & Poor's quick estimates on Brexit, around 100 bps (basis points) would be knocked off from UK's growth for 2017 while in the case of EU it would be around 50 bps. The analysts estimated that in the near term, investment inflows to the UK would be adversely affected as the investor fraternity would panic because of Britain leaving the EU. [6]The London School of Economics estimated that Brexit would lead to a 22% decrease in inward FDI flows over the next decade. The study looked at FDI flows across all 34 Organization for Economic Cooperation and Development (OECD) countries over the past 30 years and analyzed how investment is affected by EU membership after controlling for other FDI determinants. However, the UK's real GDP grew by 2% in 2016, well above predictions. Since the referendum, the country's economy grew faster than that of the euro zone. Business investment, employment and stock market performance had all exceeded expectations. The long term impact is to be seen 4 -5 years - post Brexit period.

Italy had a referendum in December 2016 wherein Italians overwhelmingly voted "NO" to constitutional reforms. Frontline European nations such as Germany, France, and possibly Italy went for polls in 2017.

In the federal elections held in Germany on 24 September 2017 to elect the members of the 19th Bundestag the Christian Democratic Union/Christian Social Union (CDU/CSU), led by Chancellor Angela Merkel, won the highest percentage of the vote with 33% and formed the government.

In France the legislative elections were held on 11 and 18 June 2017 to elect the 577 members of the 15th National Assembly of the French Fifth Republic. The two-round election won by Emmanuel Macron and he formed the government

In the Italian general election in 2018, no political group or party won an outright majority, resulting in a hung parliament. On 31st May 2018, following long negotiations and several impasses Prof Giuseppe Conte was appointed as the prime minister.

The Great Britain Pound (GBP) had plunged 15% after the Brexit referendum in June 2016. It had been moving southwards and sank to a 31-year low in 2016 at $1.2796 against the USD. This was because of the shaken confidence of the investor fraternity in the ability of the UK to sustain outside the EU. The Figure 15.6 below highlights the freefall of the GBP against the USD. The low levels were tested repeatedly and continued even in the beginning of January 2017.

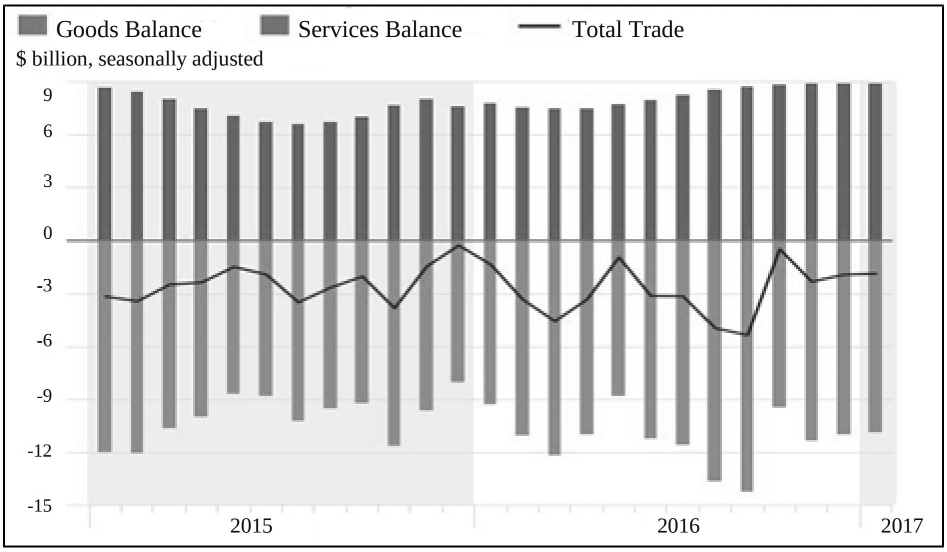
[6] http://blogs.lse.ac.uk/brexit/2017/03/20/foreign-direct-investment-will-remain-robust-post-brexit/

Figure 15.6: Sinking Pound (USD per GBP)

Source: (2017) http://www.bbc.com/news/business-36956418

This had impacted the trade balance significantly (Refer Figure 15.7 below) as the UK runs a trade deficit and the GBP erosion in value had boosted exports as well as imports. Though the UK exports more services than its imports, this would not be adequate to counter the deficit due to higher import of goods than its exports.

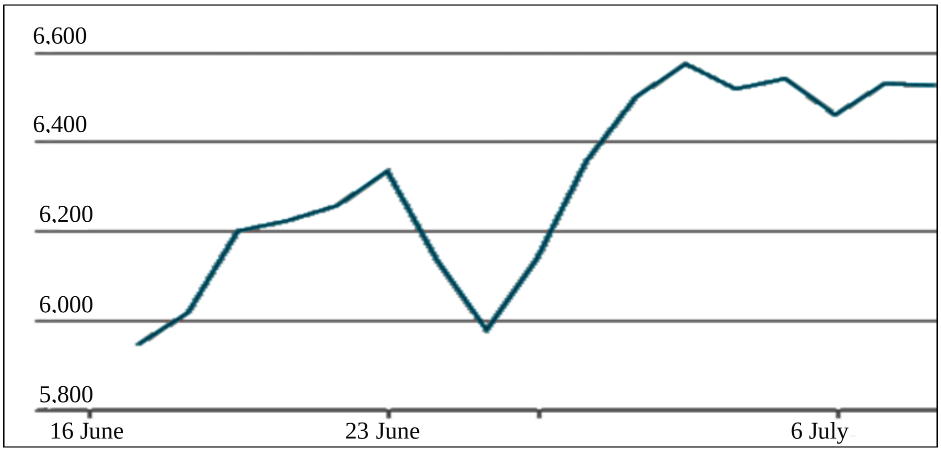
Figure 15.7: Balance of UK Trade (Goods & Services), Jan 2015-2017



Source: (2017) http://www.bbc.com/news/business-36956418

The stock markets in the UK had a roller-coaster ride as the Financial Times Stock Exchange (FTSE) 100 rallied ahead of the referendum amidst market expectations that Britons would vote to remain with the EU. However, when the results turned out to be otherwise, the FTSE 100 initially slumped but recovered as the Bank of England (BoE) governor dropped hints of a possible rate cut (refer Figure 15.8 below).

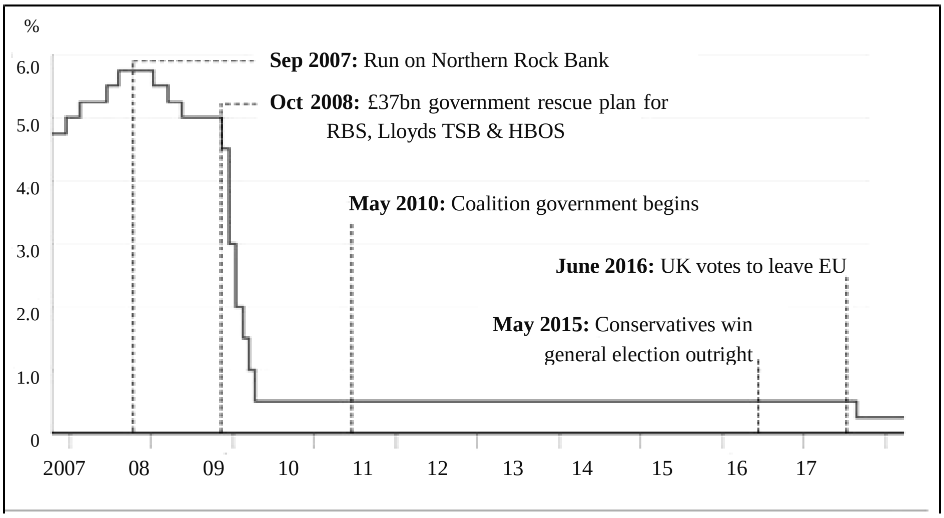
Figure 15.8: FTSE 100 (before and after the Referendum)



Source:https://www.theguardian.com/business/2016/jul/08/brexit-fallout-the-economic-impact-in-six-key-charts

In August 2016, the BoE had slashed interest rates from 0.5% to 0.25% to stimulate the economy which was vulnerable for a slowdown. This took the interest rates in the UK to a record low – this was the first reduction in the cost of borrowing initiated by the BoE after 8 years. These UK gilt yields dropped further to 0.778% (almost halved from where it was on June 23rd at 1.376%) by early January 2017 (refer Figure 15.9 below):

Figure 15.9: Balance of Base Rate, Sept 2006-Jan 2017



Source:https://www.theguardian.com/business/2016/jul/08/brexit-fallout-the-economic-impact-in-six-key-charts

Gilts or government bonds globally were in great demand because of the probable impact of the shock referendum on the already fragile global economy. Investors would like to jettison equities and corporate bonds and bet more on safer instruments like gilts including that of the UK.

This demand had pushed up prices of gilts and the resulting yields had dropped (bond prices and bond yields move in opposite direction). The UK government bond yields hit record lows in the run up to the referendum.

During the following period the Bank of England has raised interest rates from 0.5% to 0.75% - creating extra burden for some borrowers but rewards for some savers in August 2018. This rate is highest since March 2009.

Activity 15.2
Refer to Figure 15.7 above. Analyze the long term impact of the Brexit decision on UK's global trade by updating the data in the figure for the years 2018 to 2022.

[7]Impact of Brexit on UK: Some perspectives

Prior to Brexit, the United Kingdom (UK) was the most open to immigration and foreign direct investment (FDI) of the advanced economies like European Union (EU) countries, UK, Germany, France Italy Spain, and non EU countries like United States of America (USA), Canada, Australia and Japan, On the basis of trade volume to Gross Domestic Product (GDP). Post Brexit, United Kingdom is less prone to trade among European economies, and at the lower end for immigration and foreign direct investments. When compared to the Pacific liberal economies, United Kingdom post Brexit trade holds up better, but no longer stood at a dominant position in FDI and immigration growth. Reduced trade openness can restrict competition for domestic firms, thereby hampering innovation. A less diverse workforce and lesser FDI levels also hampers the production. Post Brexit, United Kingdom stood as a smaller player in the global economy and thus be careful to avoid any worst economic consequences.

Example: Brexit Effect – Slower Recovery of UK's Economy

By October 2021 trade in the eurozone exceeded pre-Covid December 2019 levels by 4%, whereas the UK was still stagnating at much lower levels. According to the research findings of the Institute for Economic Research (IFO), Munich, further negative effects started to manifest when the Brexit transition period ended on 1 January 2021, as the British economy started to adjust to an array of non-tariff barriers.

Contd….

[7] https://www.piie.com/ Peterson Institute for International Economics

Based on figures from the OECD, between Q2 2016 and Q3 2021, UK GDP grew by 14.3%, compared to Germany which grew by 32.2%, followed by Spain (25.6%), France (23%), and Italy (16.3%). According to the UK-based Office for Budget Responsibility (OBR) the long-term impact of Brexit would reduce the UK's potential GDP by 4% which would be worse than Covid-19.

Sources: i) https://www.theguardian.com/commentisfree/2022/feb/02/brexits-effects-on-uk-trade-are-dramatic-but-we-feel-them-in-the-eu-too, dated: 2 Feb 2022. (Accessed on June 27, 2022)

ii) https://www.investmentmonitor.ai/analysis/two-years-brexit-uk-eu, dated: 31 Jan 2022. (Accessed on June 27, 2022)

iii) https://www.theguardian.com/business/2022/jun/12/with-brexit-the-uk-has-achieved-the-gold-standard-of-self-harm, dated: 12 June 2022. (Accessed on June 15, 2022)

15.8 Lessons from the Crisis

The key takeaways from the Great Recession for risk managers are as follows:

Operating environment will never ever be stable. So we should constantly monitor the changing business climate and strengthen underwriting standards.

Market dynamics change making correlations high and positive during hostile market conditions. This reduces the benefits of diversification across markets and products.

Default rates and recovery rates have an inverse relation during bad times. This is applicable for credit products in general. This was also equally true in case of mortgages.

Compensation mechanism used in banks had encouraged credit officers to take high risk so as to earn more incentives. The upshot: banks were exposed to disproportionately high risk in comparison to their capital base.

The incremental yield that was offered by AAA-rated tranches was 100 bps over that of AAA-rated bonds. This was enough to signal that the certainty of repayment of securitized paper was questionable. However, investors ignored this red flag.

Investors should not rely upon the judgment of rating agencies so much. They should discover the assumptions underlying those ratings and figure out for themselves about their realistic nature.

The strength of any capital market is the transparency with which it operates. A structured product like securitized paper is not as transparent as plain vanilla bonds. During crisis, market for such financial innovation dries up as the market sentiment is weak and negative.

The idea of re-securitization concentrated pools of similar receivables goes against the grain of diversification strategy. ABS & CDOs took a severe beating during the credit crisis and the markets for such products have yet not recovered.

Example: Lessons Learned from 2008 Applied in COVID-19

In the first 2 years of the Subprime crisis, in the U.S., unemployment was rising to its highest numbers in decades, the stock market was struggling back from one of its worst collapses in history, and housing foreclosures were spiralling to their worst levels ever.

By contrast, more than half the population was vaccinated by the mid of 2021 and the U.S. economy was roaring. While the United States was doing better than most, the other major industrial countries were also on the road to recovery. Everyone learned the lesson of 2008: During systemic collapses, governments need to act big and fast, spending money and providing liquidity.

Source: https://www.washingtonpost.com/opinions/2021/07/15/the-pandemic-shows-us-the-need-for-reform/, dated: 15 June 2021. (Accessed on June 15, 2022)

Activity 15.3

What is the perception of a risk manager from global recession?

Answer:

Check Your Progress - 3

6. Which of the following is true in case of Senior Trench loans in Asset backed securities?
   a. They are More Risky
   b. They are not safe
   c. They are Moderate Risky
   d. They can be defaulted
   e. They are Low Risky
7. As banks and financial institutions cannot afford to wait till the loans get redeemed, they pool these loan receivables and package them into different types of instruments. To which of the class those instruments belong?
   a. Borrowing
   b. Asset
   c. Non-Performing Asset
   d. Waived
   e. Secured class

8. Which type of instruments are derived through Securitization?
   a. Convertible debentures
   b. Non-Convertible debentures
   c. Bank Deposits
   d. Bank Loans
   e. Tradable securities
9. Which of the following is a variant of ABS where the underlying assets are fixed income securities?
   a. Collateralized debt obligation
   b. Collateralized money obligation
   c. Collateralized loan obligation
   d. Collateralized asset obligation
   e. Collateralized security obligation
10. Bankruptcy of which of the following entities triggered 2008 financial crisis?
    a. Morgan Stanley
    b. Steward brothers
    c. Mark brothers
    d. Lehman brothers
    e. Robin brothers

15.9 Summary

- In the aftermath of the dotcom burst, the Federal Reserve followed a soft interest rate regime to ensure heightened level of economic activity.
- Too much money chased too few housing assets resulting in appreciation of property prices. Existing property owners unlocked the home equity (excess of market price of property over the mortgage loan) and used it for personal purposes.
- Banks made loans, sold those loans, securitized the loans and used that money to make more loans. By selling off, or securitizing the accounts receivable, they become a cash asset on the balance sheet without increasing liabilities.
- Credit rating remains intact as there is no increase in liabilities without having monthly debt payments.
- Securitization is a powerful tool in the hands of financial institutions as it converts an illiquid asset into a tradable security.
- Financial innovation through structured products facilitated greater lendable resources to the banking sector for housing purposes.
- On the strength of foreign capital inflows, banks were diluting their credit underwriting standards making all and sundry eligible for a mortgage.

- During the run up to the US housing crisis a variety of mortgage products were fabricated through the securitization process which were mostly beneficial for the issuers rather than investors. Such products are either Asset-Backed Securities (ABS) or Collateralized Debt Obligation (CDO).
- As the economy slowed down during 2006, unemployment rate started climbing up. To make matters worse, adjustable rate mortgages were getting reset after the initial teaser rate period making it difficult to service mortgages.
- Conditions worsened by 2008 and it reached a flashpoint when the Lehman Brothers collapsed in September that year.
- The US Federal Reserve initially offered emergency loans to stem the systemic risk. It infused large dosages of capital into the economy by buying out toxic assets of the banking system through TARP (Troubled Assets Relief Program).
- The logic for saving the banking system from further collapse is captured in the Obama's phrase "Too Big To Fail". Looking back, it appears that such a government intervention was justified as the US government had not only recovered all its dues in a span of six years but also generated a marginal surplus.
- The key takeaways from the Great Recession for risk managers are: Operating environment will never ever be stable. So we should constantly monitor the changing business climate and strengthen underwriting standards.
- Market dynamics change making correlations high and positive during hostile market conditions. This reduces the benefits of diversification across markets and products; and default rates and recovery rates have an inverse relation during bad times.
- Generally, this is applicable for credit products in general. This was also equally true in case of mortgages.
- Before Brexit, the UK was the most open to immigration and FDI of the advanced economies like Germany, France Spain, Italy, USA, Canada, Japan, Australia, with a comparable volume of trade as a share of GDP. After Brexit, the UK is the least open to trade among the EU economies, and at the lower end of the sample for FDI and immigration

15.10 Glossary

A Senior Tranche is the highest tranche of a security, i.e. the one deemed least risky. Any losses on the value of the security are only experienced in the senior tranche once all other tranches have lost all their value.

ABS (Asset-Backed Securitization) is an asset class that is created by pooling all non-mortgage receivables like personal loans, vehicle loans, educational loans, vacation loans, etc.

ARM (Adjustable-Rate-Mortgage) is a mortgage loan with the interest rate linked to a reference rate and gets adjusted periodically to reflect the actual cost to the lender.

CDO (Collateralized Debt Obligation) is a structured financial product that pools different cash-generating assets and repackages them into securities that can be offered in tranches to investors with varying risk-appetite.

FICO: Score is a credit score ranging from 300 – 850 to classify borrowers based on their past payment history, outstanding credit balance, magnitude of new credit, mix of credit, and length of credit history.

LTV (Loan-to-Value): Ratio indicates to what extent the asset can be financed by the lender. The higher the LTV ratio higher the default risk for the lender.

Mezzanine Financing is a hybrid of debt and equity financing that gives the lender the rights to convert to an ownership or equity interest in the company in case of default, after venture capital companies and other senior lenders are paid.

NPA (Non-Performing Assets): It refers to a classification for loans on the books of financial institutions that are in default or are in arrears on scheduled payments of principal or interest.

Special Purpose Vehicle (SPV) is a subsidiary company with an asset/liability structure and legal status that makes its obligations secure even if the parent company goes bankrupt.

Trouble Asset Relief Program (TARP): A group of programs created and run by the U.S. Treasury to stabilize the country's financial system, restore economic growth and prevent foreclosures in the wake of the 2008 financial crisis through purchasing troubled companies' assets and equity.

15.11 Self-Assessment Test

1. What do you understand by 'Securitization'?
2. What do you understand by Securitization Process for Mortgage Backed Securities (MBS)?
3. Distinguish between ABS and CDO.
4. What lessons are learnt from the great recession by the risk managers?

15.12 Suggested Readings/Reference Material

1. Anthony Saunders, Marcia Cornett, Anshul Jain (2021). Financial Markets and Institutions. McGraw-Hill. 7th edition
2. I.M. Pandey, Financial Management (2021). 12th edition, Vikas Publishing House.

3. Jeff Madura (2020). Financial Markets and Institutions – Asia Edition, 13th edition; Cengage Learning
4. P. G. Apte (2020). International Financial Management; Tata McGraw-Hill Education Private Limited; 8th edition
5. Prasanna Chandra (2019). Financial Management – Theory and Practice, 10th edition, New Delhi: Tata McGraw-Hill
6. Frank J. Fabozzi, Frank J. Jones (2019). Foundations of Global Financial Markets and Institutions. Mit Press. 5th edition
7. Brealey Myers (2018). Principles of Corporate Finance, 12th edition, USA: McGraw-Hill Companies Inc.

15.13 Answers to Check Your Progress Questions

1. (d) Financing Assets

Securitization is a method of financing assets

2. (c) Intermediate risk tranche

Mezzanine tranche of CDO is an intermediate risk tranche, It is tranche 2 of CDO.

3. (c) Home Equity

The practice of seeking further loan on existing property by a borrower of housing loan is called Home Equity

4. (b) Lending

FICO scores are relevant for depositing

5. (c) Senior Tranche

Senior tranche takes minimum risk in a structured instrument

6. (b) They are less risky

Senor Trench loans are AAA rated hence they are low yielding and less risky.

7. (e) Secured class

As banks and financial institutions cannot afford to wait till the loan gets redeemed, they pool these loans receivables, and package them into different times of secured class

8. (e) Tradable Securities

Securitization is a powerful tool in the hands of financial institutions as it converts an illiquid asset into a tradable security

9. (a) Collateralized debt obligation

A variant of ABS is a collateral debt obligation where the underlying assets are fixed income securities.

10. (d) Lehman brothers

Economy's turmoil was more the result of the Lehman brothers' bankruptcy than to the designing of traditional types of debt, such as a bank loan or a corporate bond.

Unit 16

Credit Rating & Sovereign Risk

Structure

“If you don't take good care of your credit, then your credit won't take good care of you.”

\- Tyler Gregory

16.1 Introduction

This leads us to study the health of the organizations in terms of credit and process of rating them.

The previous unit discussed about the US housing market, the genesis of housing bubble in first decade of 2000 and developments in Subprime Mortgage Loans (2007) & the UK’s exist from Euro Zone which is popularly known as Brexit that took place in 2016.

This unit deals with credit rating and sovereign risk.

An investor invests mainly with two aims viz. safety and assured return. It becomes very difficult for him/her to choose the right investment options without any guidance as the data available is quite difficult to comprehend. A simple and objective opinion is sought by the investor in this context.

Credit rating helps investors by providing an independent and expert opinion about the capability of the issuer of debt instruments to meet their financial obligations. Rating in itself is not a recommendation to buy / sell or hold a particular investment. Further, rating is one time and has validity only for a particular reporting period. Debt instruments, however, are denominated in domestic currency. They carry a cost called 'risks'. If the debtor happens to be a country, then the rating of the country is termed as 'country risk'. The repayment of the debt obligation that a country shoulders through its financial market gives rise to 'sovereign risk'. Acclaimed credit rating agencies rate a sovereign country for its risk level. This becomes a barometer for foreign investors to invest in the domestic country in question. The higher the credit rating the lower is the sovereign risk and vice versa. Thus, credit rating and sovereign risk go hand in hand in determining the level of progress an economy can make, mainly through the financial system. The sturdiness of the financial market is put to acid test by the degree of sovereign risk accredited by the credit rating agencies.

This unit attempts to explain the concept and meaning of credit rating and its features besides, deliberating on the business application of rating. It also attempts to explain the concept of sovereign risk, types of sovereign risks, its significance, the parameters that measure it and the cues that need to be borne in mind by credit rating agencies and countries when they test / are tested for sovereign risk of an economy.

16.2 Objectives

After studying this unit, you will be able to:

- Explain the concept of credit rating and the features and how credit rating helps the system to take a credit decision
- Discuss what type of financial instruments / institutions require credit rating,
- List out which sort of the regulatory frameworks in which the credit rating agencies operate upon in India
- Recall the role of credit rating agencies and the methodology and process adopted by credit rating agencies
- Examine what sovereign risk is and appreciate the parameters to measure sovereign risk

16.3 Concept and Meaning of Credit Rating

The concept and meaning of credit rating can be understood by looking at some definitions offered by well-known credit rating agencies. **Moody':** "Ratings are designed exclusively for the purpose of grading bonds according to their investment qualities."

Australian Ratings: "A corporate credit rating provides lender with a simple system of gradation by which the relative capacities of companies to make timely repayment of interest and principal on a particular type of debt can be noted."

CRISIL: "Credit rating is an unbiased and independent opinion as to issuer's capacity to meet its financial obligations. It does not constitute a recommendation to buy / sell or hold a particular security."

ICRA: "Ratings are opinions on the relative capability of timely servicing of corporate debt and obligations. These are not recommendations to buy or sell neither the accuracy nor the completeness of the information is guaranteed."

From the above definitions it is evident that:

i. Credit rating is an assessment by an independent agency of the capacity to pay interest and repay the principal as per the terms of issue of debt.

ii. The ratings are expressed in code number which can be easily comprehended even by the new investors.

iii. Credit rating is only a guideline to the investors and not recommendation to a particular debt instrument.

iv. The important elements for investing in debt securities are (a) yield to maturity (b) risk tolerance to investor and (c) credit risk of the security. The opinion of the credit rating agencies is considered on any of the above three aspects

v. Credit rating is an ongoing appraisal. A rating is one-time evaluation of credit risk. Changes in the dynamic world of business may imply changes in the risk characteristics of the security.

vi. A credit rating does not create a fiduciary relationship among agencies giving the ratings and the people using the ratings as there is no legal basis for such relationship.

Example: Cantabil Retail – Revision of Credit Rating

On June 15, 2022, ICRA upgraded its long-term rating on the bank facilities of the Cantabil Retail India Ltd. (CRIL) from "[ICRA] BBB+ (Stable)" to "[ICRA] A- (Stable)". The credit rating agency had also revised the short-term rating from "[ICRA] A2 to "[ICRA] A2+.

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The rating upgrade was factored in by the strong improvement in the operating and financial performance of Cantabil Retail India in FY2022. CRIL's operating income grew 52.2% YoY to ₹ 383 crore with a 550 bps (basis points) expansion in operating profitability to 29.1%.

Sources: i) https://www.icra.in/Rationale/ShowRationaleReport/?Id=112373, dated: 15 Jun 2022. (Accessed on June 16, 2022)

ii) https://www.business-standard.com/article/news-cm/icra-upgrades-cantabil-retail-s-lt-rating-to-a-maintains-stable-outlook-122061500502_1.html, dated: 15 Jun 2022. (Accessed on June 16, 2022)

Importance of Credit Rating

Credit ratings establish a link between risk and return. They thus provide a yardstick against which to measure the risk intrinsic in any instrument. An investor takes help from the ratings to assess the risk level and compares the offered rate of return with his expected rate of return (for the particular level of risk) to optimize his risk-return trade-off. The common investor does not possess the requisite skills of credit risk evaluation. Thus, the need for credit rating in today's world cannot be exaggerated. It is of abundant assistance to the investors in making investment decisions. It also helps the issuers of the debt instruments to price their issues correctly and to reach out to new investors.

Regulators like Reserve Bank of India (RBI) and Securities and Exchange Board of India (SEBI) use credit rating to decide eligibility criteria for some instruments. For example, the RBI has stipulated a minimum credit rating by an approved agency for issue of commercial paper. In general, credit rating is expected to improve quality consciousness in the market and establish over a period of time, a more meaningful relationship between the quality of debt and the yield from it.

Credit Rating is also a valuable input in establishing business relationships of various types. However, credit rating by a rating agency should not be taken as a recommendation to purchase or sell a security. Investors usually follow security ratings while making investments. Ratings are considered to be an objective evaluation of the probability that a borrower will default on a given security issue, by the investors. Thus, credit rating is an investor service and a rating agency is expected to maintain the highest possible level of analytical competence and integrity. In the long run, the trustworthiness of rating agency has to be built, brick by brick, on the quality of its services provided, incessant research undertaken and consistent efforts made.

The increasing levels of default resulting from easy availability of finance, has led to the growing importance of the credit rating. The other factors are: i) The growth of information technology. ii) Globalization of financial markets. iii) Increasing role of capital and money markets. iv) Lack of government safety measures. v) The trend towards privatization and vi) Securitization of debt.

16.4 Types of Credit Rating

An assessment of creditworthiness of borrower is made before disbursing money by the financial institution. This type of rating the creditworthiness of the borrower is done through an independent credit agency by the financial institution. The credit rating is sought institute / instrument wise. There are four major types which are discussed below:

i. **Bond Rating:** Bond rating deals with the grading of bonds or securities which are issued by a company, government or semi-government institution. It denotes the possibilities of payment on the maturity of the bond. In other words, it ascertains the level of risk associated with the debt securities. It is an opinion of an entity's ability and willingness to honour its financial obligation regarding a debt instrument. The ratings assigned to the debt issues can be short-term or long-term, depending on the tenor of the financial obligation. A short-term rating is allotted to debt instruments maturing within one year.

ii. **Equity Rating:** Rating of shares which are traded in capital market is called equity rating. This is based on the systematic approach that appraises stocks on various criteria which are classified into four broad categories: fundamentals, valuation, momentum and risk. This helps to gauge investor expectations.

iii. **Commercial Paper Rating:** A company is statutorily bound to avail rating level from a rating agency before issuing commercial paper. It is known as commercial paper rating. In India, the rating of commercial papers issued by corporate bodies is mandatory.

iv. **Issuer Credit Ratings (for governments, financial institutions, banks and corporates):** These summarize an entity's overall creditworthiness and its capability to meet its claims that have become due. Ratings assigned to an entity are comparable worldwide. Sectors and the type of ratings that may be assigned are for financial strength ratings, an opinion of individual financial health on a standalone basis, support ratings (an assessment of the likelihood that a bank would receive external support in case of financial difficulties), long and short term local as well as foreign currency ratings.

Example: Different credit ratings for long-term and short-term debt

The rating given to Pokarna's total bank facilities, worth ₹ 60 crore, was enhanced by CRISIL. The long-term issuer rating was raised from its previous rating of "BBB" to "BBB+," with a stable outlook. Cash credit, a term loan in foreign currency from Union Bank of India, and a proposed long-term bank loan facility made up the total long-term bank facilities.

Contd….

The short-term rating for the company was also changed from its previous rating of "A3+" to "A2." Letters of credit, export packaging credit, and foreign documentary bills purchase were part of short-term arrangements.

Source: https://www.indiainfoline.com/article/news-top-story/crisil-revises-pokarna%E2%80%99s-short-term-credit-rating-to-%E2%80%98a2%E2%80%99-stock-tumbles-over-2-122061600129_1.html, dated: 16 Jun 2022. (Accessed on June 17, 2022)

16.5 Credit Rating in India and Its Regulatory Framework

To take care of the small investors, credit rating has been made mandatory for unlisted corporate debt issued in the form of fixed deposits by companies. India was perhaps the first amongst developing countries to set up the Credit Rating and Information Services India Ltd. (CRISIL) (jointly promoted by ICICI and UTI); the first Indian credit rating agency, in 1988. This was followed by ICRA Ltd (previously known as Investment Information and Credit Rating Agency of India) in 1991, and CARE (Credit Analysis and Research Ltd.) in 1994. The function of credit rating was institutionalized when RBI made it mandatory for the issue of Commercial Paper (CP) and subsequently by SEBI when it made credit rating compulsory for certain categories of debentures and debt instruments. In June 1994, RBI made it mandatory for Non-Banking Financial Companies (NBFCs) to be rated. Credit rating is optional for Public Sector Undertakings (PSUs) bonds and privately placed non-convertible debentures up to ₹ 50 million[8]. Fixed deposits of manufacturing companies also come under the purview of optional credit rating.

As stated above, credit rating agencies in India are regulated by SEBI. The main elements of its Credit Rating Agencies (CRA) Regulations are:

a. Registration

b. General obligations

c. Restrictions on the rating of securities

d. Procedure for inspection and investigation

e. Action in case of default

SEBI Guidelines - 1999

SEBI covered the guidelines for all credit rating agencies. The following are the important guidelines:

- No CRA shall rate a security issued by its promoters.
- It has barred rating agencies from rating securities issued by any borrower, subsidiary or associate of the promoter if it has chairman, director, employee of any such firm.

[8] www.rbi.org

- Dual rating is compulsory for public and rights issue of debt instruments of ₹100 crore or more.
- SEBI has decided to incorporate a clause in the listing agreement of stock exchanges requiring companies to cooperate with agencies by providing correct information. Refusal to do so may lead to breach of contract between rating agencies and client.
- The issues would be required to incorporate an undertaking in their offer documents promising necessary cooperation with the rating agency in providing factual information.
- It is also suggested that a penal clause be introduced in the listing agreement of the information provided if proved to be incorrect at a later state, to protect investor's interest.
- The net worth of rating agencies has been fixed at ₹ 5 crore.
- Rating agencies[9] can choose their methodology of operation but self-regulatory mechanism will give a better maturity status for agencies.
- No chairman, director or employee of the promoters shall be a chairman, director or employee of the CRA or its rating committee. Period of validity of registration shall be three years.

However, in 2010, the above guidelines were updated with respect to regulations pertaining to the same with respect to objectivity, independence, international access / transparency, principles regarding disclosure and resources and credibility. The RBI recently put out two documents, (i) the Report of the Committee on Comprehensive Regulation Agencies prepared "in response to the direction given by the High Level Coordination Committee on Financial Markets to reflect on the inter regulatory issues emanating from the activities of Credit Rating Agencies", and (ii) the Assessment of Long Term Performance of Credit Rating prepared by the National Institute of Securities Market (NISM). The NISM study complements the committee report. The committee report reviews the role of Credit Rating Agencies (CRAs) in India, the regulations governing the industry and makes certain recommendations. Its key findings are summarized as follows:

- The committee feels that prima facie there is no immediate concern about the operations and activities of CRAs in India even in the context of the recent financial crisis. However, there is a need to strengthen the existing regulations by learning the appropriate lessons from the current crisis.

[9] The rating agencies provide rating for a particular instrument for that issue. The rating is not for the company per se.

- The committee has taken note of international action in this regard and inter alia recommends that there may be greater disclosures regarding materially significant revenues received from a particular issuer / non rating business like advisory services. A lead regulator model for CRAs may also be explored.
- The committee has also strongly recommended voluntary compliance with existing and emerging regulations like IOSCO[10] Code[11].

New SEBI Guidelines on Credit Rating Agencies (CRAs)

1) **SEBI - Guidelines to facilitate orderly migration of credit ratings of debt securities following cancellation of licence of CRA - 14/10/2022**

   The Securities and Exchange Board of India (SEBI) on 14/10/ 2022 came out with guidelines to facilitate orderly migration of credit ratings of debt securities following cancellation of licence of a credit rating agency (CRA). The following are the guidelines:

   - On and from the date of the order, or the date of submission of request for surrender of licence, the concerned CRA should prominently disclose in its website the order or the request.
   - The CRA will also have to communicate the same to its clients within 15 days of the order or the request.
   - The concerned CRA should not take any fresh mandates and allow its clients to withdraw any assignment given to it, without any additional cost to such clients.
   - The rating agency should facilitate an orderly migration of assignments as desired by clients to other credit rating agencies (CRA).

2) **SEBI issues new disclosure rules for rating agencies to boost transparency - 27/08/2022**

   The Securities and Exchange Board of India (SEBI) had announced fresh guidelines, in August 2022, for credit rating agencies (CRAs) to boost transparency and standardize the disclosure process for securities.

   - The new rules mandate credit rating agencies to compare two consecutive rating actions if the change between two consecutive actions is more than or equal to three notches downward. The same has to be included in their disclosure on sharp rating actions.
   - The CRAs are also asked to separately reveal sharp rating actions on non-cooperative issuers.

[10] The International Organization of Securities Commissions (IOSCO)

[11] The IOSCO CRA Code is intended to offer a set of robust, practical measures as a guide to and a framework for CRAs with respect to protecting the integrity of the rating process, ensuring that issuers and users of credit ratings, including investors, are treated fairly, and safeguarding confidential material information provided them by issuers.

- In the case of non-cooperation by the issuer, CRAs will need to disclose information concerning non-submission of quarterly financial results, performance or audited financial results and debt obligations and repayment, within prescribed timelines.
- While withdrawing any credit rating, CRAs must assign a credit rating to such security in its press release, except securities that do not have outstanding obligations, or security rated is wound up, merged or amalgamated with another company.
- CRAs must maintain an archive of disclosures, including ratings press releases, on their website for at least 10 years.

3) SEBI circular - Introduction of Expected Loss (EL) based rating scale and standardisation of rating scales used by credit rating agencies - 16/07/2021

- SEBI, vide circular numbered CIR/MIRSD/4/2011 dated 15/06/2011, had devised certain standardised rating symbols used by the Credit Rating Agencies (CRAs). In addition to the standardized rating scales Expected Loss (EL) based Rating Scale may be used by CRAs for ratings of projects/instruments associated with infrastructure sector to begin with.
- In order to standardise the usage of rating scales, CRAs are advised to align their rating scales with the rating scales prescribed under the guidelines of respective financial sector regulator or authority in terms of Regulation 9(f) of CRA Regulations.

4) SEBI enhances governance norms of rating agencies - 04/11/2019

- SEBI, the capital markets regulator, mandated that independent directors should constitute one-third of the board of the rating agency.
- SEBI suggested that the board of a CRA will have to constitute ratings sub-committee, nomination and remuneration committee and the chief ratings officer would directly report to the ratings sub-committee of the board.
- The CRAs had been mandated by SEBI to record the minutes of the meeting with issuer management during the rating process and incorporate it in the rating committee note.

5) SEBI tightens disclosure norms for credit rating agencies - 14/06/2019

Markets watchdog SEBI, in June 2019, came out with a strict disclosure framework for credit rating agencies wherein they would be required to provide the probability of default for various rated instruments.

- Issuing guidelines for enhanced disclosures by CRAs, the watchdog had called for having a uniform Standard Operating Procedure (SOP) in respect of tracking and timely recognition of default. The same had to be disclosed on the website of each CRA.

- The regulator expected the rating agencies to make meaningful disclosures about liquidity conditions by using simple terms like superior or strong, adequate, stretched or poor, with proper explanations to help the end users understand them better.

6) **Guidelines for enhanced disclosures by credit rating agencies - SEBI circular - 13/11/2018**

   CRAs shall make the following specific disclosures in the section on Analytical Approach in the Press Release:

   - When a rating factors in support from a Parent/ Group/ Government, with an expectation of infusion of funds towards timely debt servicing, the name of such entities, along with rationale for such expectation, may be provided in the press release by the CRA
   - When subsidiaries or group companies are consolidated to arrive at a rating, list of all such companies, along with the extent and rationale of consolidation, may be provided by the CRA in the press release
   - The Press Release should include a specific section on liquidity, which shall highlight parameters like liquid investments or cash balances, acce ss to unutilised credit lines, liquidity coverage ratio, adequacy of cash flows for servicing maturing debt obligation, etc.
   - As given in the Para 2 in Annexure A of SEBI Circular dated November 01, 2016, CRAs may review their rating criteria with regard to assessment of holding companies and subsidiaries in terms of their inter linkages, holding company's liquidity, financial flexibility and support to the subsidiaries.

The requirements that RBI stipulated for credit rating agencies are – In Aug 2022

- The Reserve Bank of India (RBI) has given credit rating companies six months to either downgrade or withdraw bank loans ratings that were propped up through arrangements that the regulator thinks are diluted or non-prudent support structures.

All Deposit taking NBFCs (including deposit taking HFCs) - Review of Minimum Investment Grade Credit Ratings for Deposits of NBFCs - In May 2022

Referring to para 9 of Master Direction – Non-Banking Financial Companies Acceptance of Public Deposits (Reserve Bank) Directions, 2016 it has been decided that the minimum investment grade credit rating for deposits of NBFCs shall be 'BBB–' from any of the SEBI-registered Credit Rating Agencies.

Example: Concerns of Indian Credit Rating Agencies

In May 2022, credit rating agencies sought the intervention of the SEBI to resolve the confusion following the RBI's new, stringent directive which don't let ratings on loans to be notched up based on 'guarantees' and 'letters of comfort' given by group companies to help raise money and bargain a lower interest rate. However, SEBI's existing directive allowed all these supports to lift the rating for non-convertible debentures. So, situations of the same issuer having a higher rating for non-convertible debentures and a lower one on a loan could not be ruled out. SEBI and RBI had to find a way to resolve this contradiction.

Sources: i) https://economictimes.indiatimes.com/industry/banking/finance/banking/rating-agencies-in-a-limbo-over-rbis-new-guidance-on-loans/articleshow/91651887.cms?from=mdr, dated: 19 May 2022. (Accessed on June 18, 2022)

ii) https://economictimes.indiatimes.com/opinion/et-editorial/clear-up-the-ratings-confusion-sebi-rbi/articleshow/91842467.cms, dated: 27 May 2022. (Accessed on June 18, 2022)

16.6 Credit Rating Agencies in India

The Indian credit rating industry has evolved over a period of time and mainly comprises - 1.–CRISIL Limited (CRISIL), 2. India Ratings and Research Pvt., Ltd. (formerly Fitch Ratings India Pvt., Ltd.), 3. ICRA Limited (ICRA), 4. Credit Analysis & Research Ltd. (CARE), 5. Brickwork Ratings India Pvt., Ltd. (BWR), 6. SMERA Ratings Limited and 7. Infomerics Valuation and Rating Pvt., Ltd.

1. **CRISIL**

   CRISIL is a global analytical company providing ratings, research, and risk and policy advisory services. It is also the foremost provider of high end research to leading corporations and the largest banks worldwide. It is one of India's chief rating agencies. Its major shareholder is Standard and Poor's (S&P). Standard & Poor's, a part of McGraw Hill Financial (formerly The McGraw-Hill Companies), is the world's foremost provider of credit ratings.

2. **India Ratings and Research Pvt. Ltd., (formerly Fitch Ratings India Pvt., Ltd.)**

   India Ratings and Research (Ind-Ra) has grown rapidly during the past decade gaining significant market presence in India's fixed income market.

3. **ICRA**

   ICRA was set up in 1991, ICRA Limited (formerly Investment Information and Credit Rating Agency of India Limited) was the initiative taken by leading commercial banks and financial services companies. Today, ICRA and its subsidiaries together form the ICRA Group of Companies (Group ICRA). ICRA is a Public Limited Company, with its shares listed on the Bombay Stock Exchange and the National Stock Exchange.

4. **Credit Analysis and Research Limited (CARE)**

   CARE commenced operations in April 1993, has emerged as the leading agency for covering many rating segments including manufacturing, infrastructure, financial sector including banks, non-financial services, among others.

5. **Brickwork Ratings India Pvt. Ltd., (BWR)**

   BWR is a *SEBI* registered Credit Rating Agency, has also been accredited by *RBI* offers rating services on Bank Loans, NCD, Commercial Paper, Fixed deposits, Securitized paper, Security receipts etc.

6. **SMERA**

   Small and Medium Enterprises Rating Agency Ltd (SMERA) is a full service credit rating agency exclusively set up for Micro Small and Medium Enterprises (MSME) in India. SMERA is a joint initiative by Small Industries Development Bank (SIDBI), Dun & Bradstreet Information Services India Private Limited (D&B) and banks in the country. Ratings given by SMERA enable MSME units to raise bank loans at competitive rates of interest.

7. **INFOMERICS Valuation and Rating Private Limited**

   It is a SEBI registered and RBI accredited Credit Rating Agency offers evaluation of credit worthiness & Ratings of Banks, NBFCs, Large Corporates and Small and Medium Scale Units (SMUs).

Example: CRISIL's Credit Rating of Vedanta

On February 26, 2022, the rating for long-term bank facilities and debt instruments of Vedanta Ltd was upgraded from "AA-" to "AA" by 'CRISIL Ratings' based on stronger than expected operating profitability. This was driven by elevated commodity prices during FY22 resulting in higher EBIDTA (Earnings before interest, taxes, depreciation and amortization) improving the free cash flows. The upgrade was also factored by the growth in volumes across businesses, and sustained cost efficiency, especially in the aluminium business. CRISIL reaffirmed the short-term rating of 'A1+' rating on bank facilities and commercial paper.

Source: https://economictimes.indiatimes.com/markets/companies/crisil-upgrades-vedantas-credit-rating-outlook-revised-to-stable/articleshow/89826576.cms, dated: 25 Feb 2022. (Accessed on June 18, 2022)

16.7 Dimensions of Credit Rating Process and Methodology

Credit rating of the instrument / issuer is an important parameter for any investment decision in the global markets. Each credit rating agency follows its own methodology and set of parameters to evaluate the credit rating. Let us discuss the credit rating process.

Credit Rating Process

The key systems and procedures of ratings are as follows:

1. The rating process begins with the receipt of mandate letter from the issuer company. CRA shall enter into a written agreement with each client whose securities it proposes to rate, and every such agreement shall include the following provisions, namely:
   a. The rights and liabilities of each party in respect of the rating of securities will be defined. Fee charged by the rating agency shall be specified.
   b. The client shall agree to a periodic review of the rating during the tenure of the rated instrument.
   c. The client shall agree to cooperate with the CRA in order to enable the latter to arrive at and maintain a true and accurate rating of the client's securities and provide true and timely information for the purpose.
   d. Irrespective of whether the rating is accepted or not by the client, the credit rating agency will reveal the rating allotted to the client through usual methods of dissemination.
   e. The client shall agree to disclose in the offer documents:
      - The rating assigned to the client's listed securities by any CRA during the last three years; and
      - Any rating given by another credit rating agency, which has not been accepted by the client
   f. For debt securities issue of ₹ 100 crore or more, the client shall agree to obtain ratings from at least two different rating agencies

   CRA shall, continuously monitor the rating of such securities during its tenure.
2. Analytical teams are formed so as to draw on analytical and sector skills within the organization.
3. Analysts obtain credit-related data, both statistical and qualitative, from sources like annual reports, prospectus, industry, sectoral or economic data, government reports, news reports, regulatory, and other knowledgeable sources.
4. **Meetings with management:** Meetings are held with key operating personnel of the company covering broadly the background, history, organizational structure, operating performance, financial management, and topics of special relevance to the company's future. The central focus of all discussions is the same with analysts looking for information that will help them to understand the issuer's ability to generate cash and honor debt obligations in future. Finally, meeting with top management is held, and key issues relevant to the rating are discussed.

5. **Report preparation:** After a thorough analysis of all the information collected during rating process, a detailed report setting out all the parameters in the rating and list of key issues is prepared.
6. **Rating meetings:** The report is presented initially at a preview meeting and then to the rating committee. The composition of the rating committee is such as to ensure objectivity and impartiality.
7. **Confidentiality:** The specific nature of the information provided by company is kept strictly confidential.
8. **Completion time:** For new ratings, it normally takes two to four weeks after the information flow comes in to arrive at a final rating opinion. The time taken is determined by the complexity and diversity of the issuer's operations.
9. **Review:** Once the rating is assigned, it is communicated to the issuer. The issuer is given an opportunity to make one request for a review only in case fresh facts or clarifications have to be presented.
10. **Acceptance:** In India, the issuer has the option of not accepting the assigned rating in which case the rating is not disclosed by the rating agency. Once the rating is accepted, it comes under the surveillance process of the rating agency.
11. **Market reporting:** Once the rating is accepted, it is communicated to the relevant credit markets through press release and publications of the rating agency. Published ratings are periodically reviewed throughout the life span of the securities.
12. **Surveillance:** Apart from an ongoing review of the rated entity's performance, a detailed annual surveillance exercise is done. This reviews the major developments in the company during the period and their impact on the rating of the debt obligation.

Credit Rating Methodology

The rating agency strategizes approaches and methods, to meet the global standards. Experts use professional ways of assessing creditworthiness of companies as well as their debt instruments. The methodology of rating adopted by CRAs in India is more or less identical. The common methodology is discussed below:

The rating methodology involves a detailed investigation of factors influencing the creditworthiness of the company e.g. business, financial and industry characteristics, operational efficiency, management quality, etc. Past financial statements are scrutinized to measure the present performance and forecast the future earnings. Ability of the company to fulfill its debt obligations over the term of the financial instrument being rated is also estimated. Actually, it is the comparative level of ease to service obligations that determine the rating.

While assessing the instrument, the following are the main factors that are analyzed in detail by the credit rating agencies.

1. Business Risk Analysis
2. Financial Analysis
3. Management Evaluation
4. Geographical Analysis
5. Regulatory and Competitive Environment
6. Fundamental Analysis

These factors are explained below:

1. **Business Risk Analysis**

   Business risk analysis evaluates the following:

   a. **Industry risk:** The industry risk is measured by considering factors like strength of the industry prospect, demand and supply arrangement, nature of competition, structure of industry etc. Competition among industries is based on price, distribution capability, quality of product, etc. Industries with steady increase in demand enjoy improved credit rating.

   b. **Market position of the company:** Rating agencies evaluate the market standing of a company taking into account: i. Percentage of market share, ii. Marketing infrastructure, iii. Competitive advantages, iv. Selling and distribution channel, v. Diversity of products, vi. Customers base, vii. Research and development projects undertaken to identify obsolete products, viii. Quality improvement programs etc.

   c. **Operating efficiency:** Favorable locational advantages, easy accessibility of raw material and labour, pollution control measures taken, management-labour relationships, level of capital and technological advances etc. have an effect on the operating efficiency and the credit rating.

   d. **Legal position:** A debt instrument's legal position is judged by letter of offer. The letter of offer gives detailed information on terms of issue, responsibilities of the trustees, provision for protection against fraud, payment of interest and principal etc.

   e. **Size of business:** Smaller companies are affected more by business cycle changes compared to the bigger companies. The operations of small companies are restricted in terms of geographical area, variety of products and number of customers. Big companies can have the benefits of diversification and wide variety of products. The customers of big companies are spread over a larger area. All these important factors are taken into consideration while rating a company.

2. **Financial Analysis**

   Financial analysis aims at determining the financial strength through various ratios, cash flow analysis and study of the existing capital structure. This includes an analysis of four important factors namely: a. accounting quality b. earnings potential/profitability c. cash flows analysis d. financial flexibility. Both past and current performance is evaluated to comment the future performance of a company. The areas considered are explained as follows:

   a. **Accounting quality:** As credit rating agencies rely on the audited financial statements, the analysis of statements starts with the revision of accounting quality. Qualification of auditors, techniques of recognizing income, methods of stock valuation and depreciation scheme on fixed assets are studied in detail.

   b. **Earnings potential/profitability:** Profits indicate company's ability to meet its fixed interest obligation in time. Operating profit and net profit ratios to sales are calculated and compared with last 5 years' statistics or judged against similar other companies carrying on same business. As a rating is a forward looking exercise, more emphasis is laid on the future rather than the past earning capacity of the issuer.

   c. **Cash flow analysis:** Cash flow analysis determines the fixed and working capital requirements of the company. It points out the cash requirements and the cash available for meeting fixed interest obligations. Cash flows analysis indicates the issuer's debt servicing capability compared to reported earnings.

   d. **Financial flexibility:** Existing capital structure of a company is studied to find the debt/equity ratio, sources of financing, ability to raise funds, etc. Debt claims of future as well as the issuer's ability to raise capital are determined in order to find issuer's financial flexibility.

3. **Management Evaluation**

   Any company's performance is significantly affected by the management goals, strategies, ability to succeed in adverse conditions, staff's own experience and skills, etc. Rating requires a thorough evaluation of the management's strengths and weaknesses.

4. **Geographical Analysis**

   Geographical analysis determines the locational advantages enjoyed by the issuer company. An issuer company with its business spread out over a larger geographical area enjoys the benefit of diversification and hence gets better credit rating. Companies in a backward area on the other hand may get subsidies from government thus enjoying the benefits of lower operation costs.

5. **Regulatory and Competitive Environment**

   Credit rating agencies evaluate structure and regulatory framework of the financial system in which it works. While deciding the rating symbols, the impact of regulation/deregulation on the issuer company is well thought-out.

6. **Fundamental Analysis**

   Fundamental analysis includes an analysis of liquidity management, asset quality, profitability & financial position and interest & tax rates sensitivity which determine the overall financial strength.

   a. Liquidity management involves study of capital structure, availability of liquid assets, maturing deposits, matching of assets and liabilities.

   b. Asset quality covers quality of credit risk management, exposure to individual borrowers and management of problem credits.

   c. Profitability and financial position covers aspects like past profits, funds deployment, revenues on non-fund based activities, addition to reserves.

   d. Interest and tax sensitivity reflects sensitivity of company as a result of interest rate changes or modification of tax laws.

Example: Standardization of Credit Rating Methodology

SEBI through its circular dated July 16, 2021, introduced the expected loss-based rating system. A scale of seven levels, ranging from lowest to maximum projected loss, made up the ranking. Credit rating companies will initially use this new scale to rate projects or financial instruments related to the infrastructure industry. The seven levels on the new scale would be lowest expected loss, very low expected loss, low expected loss, moderate expected loss, high expected loss, very high expected loss and highest expected loss. The lowest predicted loss over the course of the instrument's life would be judged to be "EL (Expected Loss) 1," and the maximum expected loss would be indicated by "EL 7".

Sources: i) https://www.businessworld.in/article/Sebi-Introduces-Expected-Loss-Based-Rating-Scale-For-Credit-Rating-Agencies/17-07-2021-396935/, dated: 17 Jul 2021. (Accessed on June 19, 2022)

ii) https://economictimes.indiatimes.com/markets/stocks/news/sebi-introduces-expected-loss-based-rating-scale-for-credit-rating-agencies/articleshow/84484943.cms, dated: 17 Jul 2021. (Accessed on June 19, 2022)

Activity 16.1

Mr. Raju Singh is an investment manager for ARVY Company. One of the local companies BST Limited is coming out with an IPO[12]. BST Limited is an existing profit making company with a very good balance sheet. What are the parameters that will help to evaluate the credit rating of the company?

[12] For information: IPO grading was made mandatory by SEBI during 2007 but it was dispensed with in 2014. (https://www.thehindubusinessline.com/markets/stock-markets/sebi-makes-public-issue-grading-optional/article23157374.ece)

Answer:

16.8 Advantages and Disadvantages of Credit Rating

Credit rating is based on certain defined financial and economic parameters. Financial parameters are dependent on financial statements which represent financial status of the business entity on a particular date and the macroeconomic parameters. Hence the rating creates its own advantages and disadvantages. Let us discuss both the advantages and disadvantages that emerge from credit rating.

Advantages of Credit Rating

i. **Safeguards against bankruptcy:** Credit rating of an instrument done by credit rating agency gives a suggestion about the safety and security of the investment and enables the investor to decide about the investment. High quality ratings of an instrument give a reassurance to the investors of safety of instrument and minimum risk of bankruptcy.

ii. **Recognition of risk:** Credit rating provides investors with rating symbols which carry information to perceive risk involved in investment. It becomes easier for the investor to just look at the symbol and comprehend the value of the issuer company. Rating symbol gives them the idea about the risk involved or the expected advantages from the investment.

iii. **Capital saving for a company:** Company with high quality assets (for example 'AAA' and 'AA' categories) will save on capital as a result of low credit risk. **Credibility of issuer:** Rating gives a hint about the reliability of the company. All rating agencies are independent of the issuer company and have no “business connections” with it. Absence of business links between the two confirms credibility and catches the attention of investors.

iv. **Easy understandability of investment proposal:** Rating symbol can be comprehended by an ordinary investor with no analytical knowledge on his/her part.

v. **Saving of resources:** Investors are relieved from finding the details of the fundamentals of a company, its financial strength, management details, etc. The quality of credit rating done by professional experts of the credit rating agency reposes confidence in investor to rely upon the rating for taking investment decisions.

vi. **Investment decision making:** For rated instruments, investors need not depend upon the advice of the financial intermediaries. Rating symbol allotted to different instruments suggests the creditworthiness of the instrument and indicates the degree of risk involved in it.

vii. **Choice of investments:** At any particular time several alternative credit rating instruments are available in the capital market and the investors can make a choice depending upon their own risk profile and diversification plan.

Disadvantages of Credit Rating

a. **Biased rating and misrepresentation:** In the absence of standard rating, credit rating may do more harm than good. The companies having lower grade rating do not publicize the rating to the public. In such cases, the investor cannot get information about the riskiness of instrument and hence is at loss.

b. **Static study:** Rating is based on data (past or present) of the company and this is only a static study. Rating is momentary phenomena and anything can happen to the company after rating. Changes take place on a continuous basis in economic environment, political situation, government policy framework which directly affects the working of a company. A good rating therefore does not guarantee better future results for the company.

c. **Concealment of material information:** Company might conceal material information to get good rating. If the investigating team of the rating company fails to identify such concealed information, quality of rating suffers and renders the rating unreliable.

d. **Rating is no guarantee for soundness of company:** Rating is done for a particular instrument to determine the credit risk but it is not a certificate for the matching quality of the company. User should form an independent view irrespective of the rating symbol.

e. **Human bias:** Findings of the team conducting investigation may face human bias for unavoidable personal weakness of the staff and might affect the rating.

f. **Reflection of temporary adverse conditions:** Time factor affects rating. Sometimes, misleading conclusions are derived. For example, a firm in a particular industry might be temporarily in adverse state and may be given a poor rating or vice versa.

g. **Down grade:** Credit rating agencies may review and lower the grade if a company is rated but is unable to maintain its performance. This results in damaging the image of the company.

h. **Difference in rating of two agencies:** In many cases, rating done by different credit rating agencies for the same instrument of the same issuer company may not be identical. Differences may occur because of value judgment on qualitative aspects.

Example: When Credit Ratings Botched

After a few weeks of giving an AAA rating to Infrastructure Leasing and Financial Services' (IL&FS), it was downgraded to junk status. This financial disaster served as a wake-up call for credit rating agencies that had neglected to highlight early warning signs prior to IL&FS's debt defaults. The ratings failed to recognise the growing tension within the team and made an unrealized assumption about the shareholders' degree of support. Numerous debt mutual fund schemes were impacted by the IL&FS Group's bank loan default. The CRAs also failed to flag the defaults of several companies including IL&FS, DHFL, Zee group, Amtek Auto, Reliance Communications etc., on time.

Sources: i) https://www.livemint.com/companies/news/fixing-india-s-credit-raters-11633976875114.html, dated: 12 Oct 2021. (Accessed on June 19, 2022)

ii) https://economictimes.indiatimes.com/markets/stocks/news/zee-ilfs-dhfl-rcom-how-rating-agencies-have-let-us-down-repeatedly/articleshow/69230841.cms?from=mdr, dated: 8 May 2019. (Accessed on June 19, 2022)

16.9 Utility of Credit Rating

Credit rating thus has become an important tool for borrowers to gain access to various loans or debts they want to seek. It allows borrowers to borrow money from various financial institutions. However, banks are very particular to assess the credit rating when they lend money. Higher the credit rating the better it is for the bank to provide loans. If the credit rating is low, then the bank may reject the loan application made by the borrower. However, the utility of credit rating is discussed below.

Provides superior information

There could be three basic reasons for giving reliable information (i) An independent rating agency, unlike underwriters and brokers have no vested interest in an issue, and is likely to provide an unbiased opinion; (ii) their ability to assess risk is better owing to highly qualified and trained employees; (iii) the rating agency is aware of information which is normally not available to the public.

Low cost information

Rating firm gathers, analyses, interprets and sums up detailed information in an easy but formal manner. It is highly welcome by most investors who find it very costly and impractical to do such credit evaluation on their own.

Basis for a proper risk and return trade-off

An instrument rated by a reputed rating agency enjoys higher confidence from investors. Investors get an idea of the probable risk associated with an instrument in which he / she is likely to invest.

Healthy discipline on corporate borrowers

Higher credit rating to any credit investment tends to enhance the corporate image and visibility and hence it induces a healthy discipline on corporates.

Greater credence to financial and other representation

Credit rating agency's reputation is at stake while rating a security, so it only depends on complete information from reliable sources. Also its financial and other representations acquire greater credibility as a result of working on the same lines on a continuous basis.

Formation of public policy guidelines on institutional investment

Public policy guidelines on what kinds of securities are eligible for inclusions in different kinds of institutional portfolios can be built up with superior self-belief, if such debt securities are rated professionally.

16.10 Sovereign Risk

Capital is the lubricant for economic growth. The financial system that is pivoted by the capital market relies on capital. Capital has a cost, in other words, cost of capital becomes the direct determinant of economic growth.

The cost of capital in a capital market is a function of debt instruments. Thus, 'cost of debt' concept gets introduced. Debt instruments, in turn, are denominated in domestic currency.

Currencies are subjected to various types of risks namely the 'currency risk', 'jurisdiction risk' and/or 'default risk'. The three put together is termed as 'total risk' or 'total risk premium'. Let us try to simplify this complicated arithmetic as given in Figure 16.1.

Figure 16.1: Capital Market Risk Variants

Currency risk/ Currency (risk) premium	**Default risk/ Default (risk) premium**	**Jurisdiction premium/ Onshore-Offshore premium**	**Total Risk Premium**
• Depreciation or • Devaluation of the domestic currency	• Insolvency of the debtor • Unwillingness to service the debt	• Arises due to the difference between domestic and international regulations	• Currency risk premium + default risk premium + jurisdiction premium

Source: ICFAI Research Center

Debt risks can arise from individuals, corporate borrowers and government borrowers. If the borrower in question is the government and if the default is done by the government, then this default risk is referred to as 'sovereign risk' leading to higher 'sovereign risk premium', root cause being 'sovereign debt'. The 5 key elements that lead to sovereign risks are:

(i) Debt-service ratio

(ii) Investment ratio

(iii) Variance of export revenue

(iv) Import ratio and

(v) Domestic money supply growth.

16.10.1 Definition

Sovereign risk can be defined as: "A nation is a sovereign entity. Any risk arising on chances of a government failing to make debt repayments or not honoring a loan agreement is a sovereign risk". Another popular definition is "The risk that a foreign central bank will alter its foreign-exchange regulations thereby significantly reducing or completely nulling the value of foreign-exchange contracts". This definition involves 'interest rate risk' that influences the investment portfolio, 'liquidity risk' that speaks about the price movements, called the 'bid-ask spread' of a security in question and 'price risk' that relates to the decline in the value of a security.

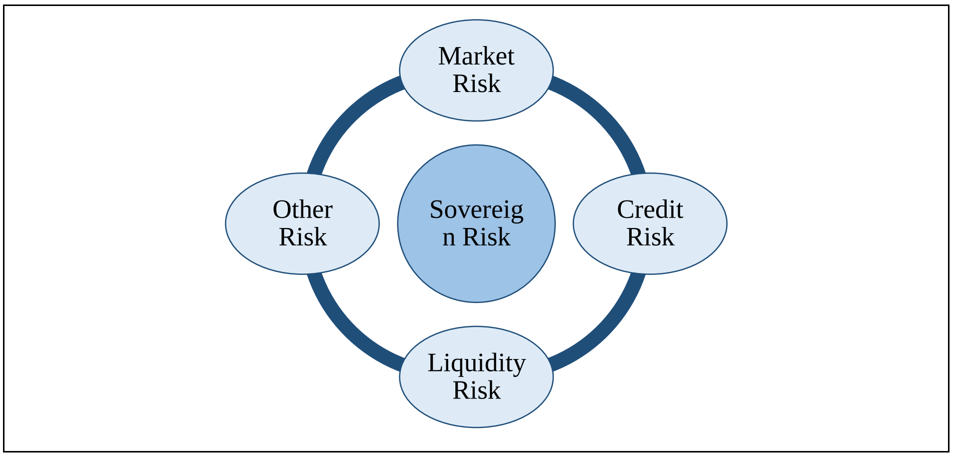
All these occur under forex contracts. Some examples of sovereign risks that happened during recent times are: India (1990), Cyprus (2013), and Greece (2015).

As per Asian Development Bank (ADB)[13] Sovereign risk is a complex combination of risks that feed through a number of channels into the sovereign balance sheet in a non-monotonic fashion. For instance, credit risk from systemic financial institutions will channel through the contingent liabilities component of the sovereign balance sheet, whereas market risk will affect the fiscal revenue and international reserves components.

Using a balance sheet approach, sovereign risk can be defined as the probability of a significant deterioration of the sovereign's balance sheet, either via increased vulnerabilities in the domestic market (financial sector, sovereign credit market, real sector, the external sector), and/or vulnerabilities in foreign markets that spill over to the country. In short, a sovereign risk is a constellation of various risks as shown in the Figure 16.2 below:

[13] Asian Development Bank Institute (ADBI Working) Paper Series 383 October 2012: Sovereign Risk: A Macro-Financial Perspective.

Figure 16.2: Components of Sovereign Risk



Source: ICFAi Research Center

16.10.2 Significance of Sovereign Risk

Literally, calculation of sovereign risk is a barometer to various other factors. It is a reflection on:

- *Corporate default Premia:* Big corporates are high borrowers and this will affect the capital market in a big way. Sovereign risk and corporate defaults are found to be correlated in many instances.
- *Output:* In simple words, the debt of the corporates cannot be higher than the debt of the sovereign in question.
- The risk that a local currency cannot be converted into the currency that a debt is denominated in is known as [14]transfer risk or conversion risk that may arise due to a currency not being widely traded, or from capital controls that prevent an investor or business from freely moving currency in or out of a country.

  This is also called the direct sovereign intervention risk because it is connected to foreign currency debt obligations. The higher the credit ratings of a country the higher the ceiling and vice versa.
- The credit spread[15] and the elasticity of credit spread in the country.
- The socio-economic environment like business and legal environments, corruption levels, income disparity etc. exists in a country. For example, in a country like Bangladesh or Switzerland, the rating will be different based on parameters mentioned.

[14] The term transfer risk (or direct sovereign intervention risk) is usually used in a foreign currency context. It refers to the probability that a government with (foreign) debt servicing difficulties imposes foreign exchange payment restrictions (e.g. debt payment moratoria) otherwise solvent companies and/or individuals in its jurisdiction, forcing them to default on their own foreign currency obligations.

[15] A credit spread is the difference in yield between two bonds of similar maturity but different credit quality. For example, if the 10-year Treasury note is trading at a yield of 6% and a 10-year corporate bond is trading at a yield of 8%, the corporate bond is said to offer a 200-basis-point spread over the Treasury.

- Macro-economic policies of the country in controlling the risk. For example, the strong fundamentals of India have insulated the country during subprime crisis in 2007-2008 from financial collapse. The macro-economic policies include: fiscal policy, monetary policy, approach on dealing inflation, credit policy of banking system etc.

Example: Sovereign Risk of Sri Lanka

In April 2022, S&P (Standard and Poor's) downgraded the long-term foreign currency sovereign rating of Sri Lanka from "CCC" to "CC" and the long-term local currency sovereign credit rating from "CCC" to "CCC-". The rating was the result of the country's announcement of the suspension of normal external debt servicing. S&P also warned that it could lower the foreign currency rating to 'SD' (Selective Default) if the government missed a coupon or principal payment on commercial foreign currency debt. This was in the backdrop of the government announcing that most categories of external public debts would be suspended, pending formal restructuring under a potential program supported by the IMF.

Source: https://www.business-standard.com/article/international/s-p-lowers-sri-lanka-sovereign-rating-to-cc-indicating-looming-default-122041301242_1.html, dated: 14 Apr 2022. (Accessed on June 19, 2022)

16.11 Types of Sovereign Risks

Managing inherent risk in corporate credit and managing risk within the sovereign sector form the two sides of the coin called sovereign risk. Based on the type of default, sovereign risks can be categorized into three. They are:

a. **Economic risk:** This refers to the government's "ability to repay" its debt obligations on time. It is a function of qualitative and quantitative factors which will be discussed in the "parameters" section of this unit.

b. **Political risk:** Also known as "country risk", this refers to the country's "willingness to repay" its debt obligations.

c. **Financial risk:** The sovereign risk mainly refers to the financial health of a sovereign nation. It is affected by the above two risks, namely, economic and political risks. To be precise: (i) the ability and willingness to repay debt obligations shape this risk, (ii) the type of crisis the financial system of a country is in, the severity of the crisis, and (iii) the scale of response level that is bound by the macroeconomic policies rolled out in time to tide over the crisis and pave the way for new borrowings. The monetary and fiscal policies of an economy play a definitive role in financial risk.

Before we proceed to further delve into the measures or parameters that go to define the above risks, it is imminent to know the relationship between a "country risk" and a "sovereign risk". Though a country risk is generally termed as a sovereign risk, yet there are some subtle differences between the two.

16.12 Sovereign Risk and Country Risk – A Glance

Both concepts share a tenuous relationship. A sovereign's currency and financial strength will create stability in the business or corporate working environment, easing capital flow and control. Similarly, any intervention or fragility to control capital flows and any change in the foreign exchange rate policy adopted by the state will radically imbalance the corporate environment. The stability or instability of the corporate business environment causes country risk. However, when we say that a sovereign's risk (probability of loss) is low/high for investors to invest or FDIs to flow, it does not necessarily mean the country risk is also low/high equivalently. For example, even after the financial crisis in Greece in 2015, the sovereign risk of the country is rated to be high but the country risk is still low. To quote another example, as per Standard & Poor's (S&P), the Gini-coefficient in Hong Kong, US and UK (that measures the income inequality/wealth disparity) is high (meaning disparity is very high) but showing a low country risk. A high Gini co-efficient is generally associated with high country risk. National finances, degree of unethical/unscrupulous business practices (red-tapism, bribery, corruption), legal environment that includes patenting intellectual property rights, political stability, level of favorable business environment like quality of national infrastructure that eases business transactions, size and potential of domestic market, literacy rate, technological advancement and sophisticated production process, income disparity between individuals and regions etc. are some of the general but important factors that compose the "country risk". The growth rate of GDP, per capita income, national income to debt ratio called the debt-servicing ratio, the export revenues and the corresponding outflows through imports, asset generation, and health of the financial market etc., in short, the balance sheet of the country compose the "sovereign risk". Nevertheless, in many countries, they go hand-in-hand as in Kenya where, both country and sovereign risks are very high. Under such situations, the country risk is the index of sovereign risk.

All said and done, the credit rating accorded to a country considering the two types of risks separately, has the final say in measuring the level of sovereign risk of that country. Generally, the overall performance of factors fine-tunes the financial market to country risk. The lower the country risk, the higher the investment rate; this means the sovereign risk is low and vice versa. Hence, the close alliance between the two is always considered by analysts. Thus credit rating plays a powerful and weighty role in the evaluation of sovereign risk.

Example: India's Sovereign Risk

Moody's in October 2021, changed India's sovereign rating outlook from 'negative' to 'stable'. This effectively eliminated the chances of a downgrading the outlook to junk.

Contd….

The upgrade was justified by subsiding financial sector risks, hastened economic recovery, and improved vaccination rates that lowered the risks of subsequent waves of the pandemic. Moody's expected that the economic environment would allow for a gradual reduction of the general government fiscal deficit over the next few years, preventing further deterioration of the sovereign credit profile.

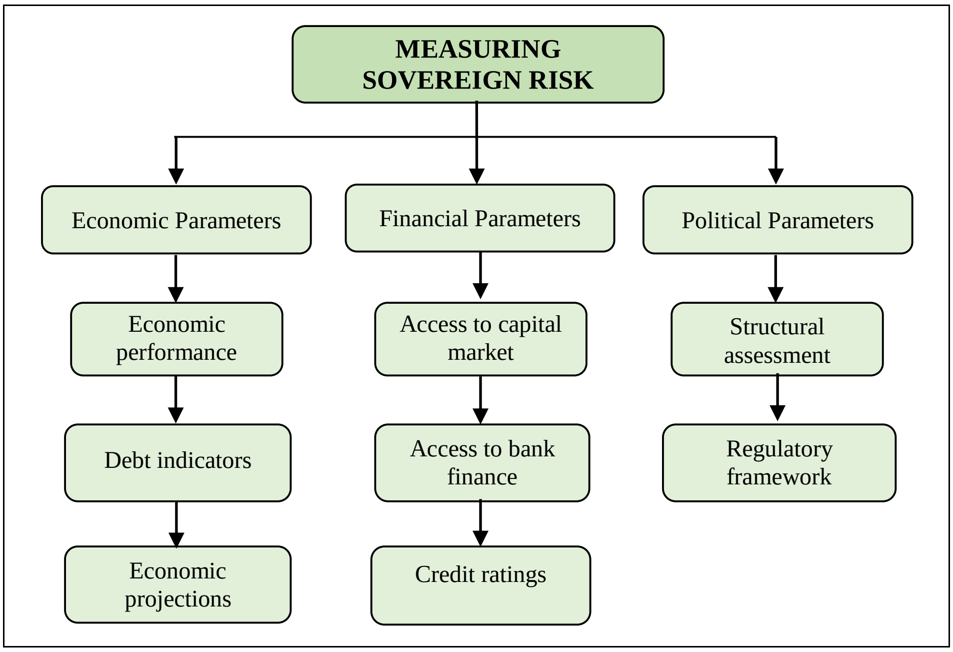
Sources: i) https://economictimes.indiatimes.com/news/economy/finance/moodys-upgrades-indias-ratings-outlook-to-stable-from-negative-on-receding-downside-risks/articleshow/86784379.cms, dated: 6 Oct 2021. (Accessed on June 20, 2022)

ii) https://indianexpress.com/article/explained/india-moodys-ratings-outlook-stable-explained-7555130/, dated: 6 Oct 2021. (Accessed on June 20, 2022)

16.13 Parameters to Measure Sovereign Risk

Estimates of probabilities of sovereign default are treated as a measure of sovereign risk. Let us now attempt to know the parameters that measure sovereign risk. As stated earlier, the parameters lie within the brackets of the three types of risks discussed above. Let us see the different indicators described by each type of risk in assessing sovereign risk. The classification of measuring sovereign risk is illustrated in Figure 16.3.

Figure 16.3: Measurement of Sovereign Risk



Source: ICFAI Research Center

Some of the many determining factors that describe access to bank finance and capital markets and their definitions are given below:

ii) Bank capital to assets ratio: It gives the ratio of bank capital and reserves to total assets. This capital includes paid-up shares and common stock plus the total regulatory capital.

iii) **Depth of Credit Information Index (CII)** measures the rules having an impact on the scope, ease of access, and quality of credit information available through public or private credit registries. The index lies between from 0 to 8, elevated values representing the availability of more credit information.

iv) **Domestic credit provided by financial sector (% of GDP):** It is the gross credit to all sectors, excluding the central government.

v) **Foreign direct investment and net inflows (BoP in current USD)** refers to direct investment equity flows in the reporting economy. It is the summation of reinvestment of earnings, equity capital and other capital. Direct investment is a category of cross-border investment by a resident in one economy having a significant degree of influence on the organization and administration of an enterprise in another economy. Ownership of 10 per cent or more of the ordinary shares of voting stock is essential for direct investment relationship.

C**redit ratings:** Based on the economic, financial and political side performances, countries are rated for their risk level if investments are made and credit given by investor countries.

[16]Region wise Credit Rating of Major Economies

Table 16.1 provides rating of important economies, the ratings are given by the top 4 credit rating agencies.

For all four international credit rating agencies, ratings are segmented into two main groups based on the level of credit risk. They are the investment grade for lower levels of credit risk and speculative grade for higher levels of credit risk.

S&P includes long-term ratings from the highest AAA to the lowest D rating. Moody’s includes long-term ratings from the highest Aaa to the lowest C. Fitch includes long-term ratings from the highest AAA to the lowest D rating. Scope includes long-term foreign-currency ratings from the highest AAA to the lowest D rating. For S&P, Fitch investment grade issues/issuers are those rated from BBB- and above, while those from BB+ and below are categorized as speculative grade. Moody’s denotes those rated from Baa3 and above as investment grade issues/issuers, while ratings from Ba1 and below fall into the speculative grade category. Rating Outlooks reflects the direction that the rating is likely to move over a two years period. While computing an outlook, consideration is given to any changes in fundamental business conditions. Credit Watch focuses on certain events that required the ratings to be placed under special surveillance.

[16] https://tradingeconomics.com/country-list/rating compiled on 18th July 2022
https://www.theglobaleconomy.com/rankings/credit_rating/

Table 16.1: Credit Rating of Selected Countries compiled in July 2022

Region	Select Countries	S&P	Moody's	Fitch	DBRS
North America	Canada	AAA	Aaa	AA+	AAA
	Costa Rica	B	B2	B	
	Panama	BBB	Baa2	BBB-	
	USA	AA+	Aaa	AAA	AAA
Western Europe	the Netherlands	AAA	Aaa	AAA	AAA
	Austria	AA+	Aa1	AA+	AAA
	Belgium		AA	Aa3	AA-
	Greece	BB+	Ba3	BB	BB (high)
	Ireland	A	A2	A	
	Italy	BBB	Baa3	BBB	BBB (high)
	Spain	A	Baa1	A-	A
	United Kingdom	AA	Aa3	AA-	AA (high)
Asia Pacific	Malaysia	A-	A3	BBB+	
	Philippines	BBB+	Baa2	BBB	
	Singapore	AAA	Aaa	AAA	AAA
	Australia	AAA	Aaa	AAA	AAA
	Pakistan	B-	B3	B-	
	India	BBB-	Baa3	BBB-	BBB (low)
	China	A+	A1	A+	A (high)
	Japan	A+	A1	A	A (high)
	New Zealand	AA+	Aaa	AA	
Latin America, South America & the Caribbean	Bahamas	B+	Ba3		
	Brazil	BB-	Ba2	BB-	BB (low)
	Chile	A	A1	A-	N/A
	Jamaica	B+	B2	B+	
	Venezuela	N/A	C	RD	

Contd….

Eastern, Central Europe & Central Asia	Kazakhstan	BBB-	Baa2	BBB	
	Russia	NR	NR	NR	
	Ukraine	CCC+	Caa3	CCC	
Middle East & North Africa	Bahrain	B+	Ba3		
	Cyprus	BBB-	Ba1	BBB-	BBB
	Egypt	B	B2	B+	
	Saudi Arabia	A-	A1	A	
	UAE	AA	Aa2	AA-	
Sub-Saharan Africa	Kenya	B	B2	B+	
	South Africa	BB-	Ba2	BB-	

Sources: https://tradingeconomics.com/country-list/rating compiled on 18th July 2022
https://www.theglobaleconomy.com/rankings/credit_rating/

Political parameters: With reference to structural assessment and political framework that goes to describe the sovereign risk, Dun and Bradstreet (D&B) report came out with some details. Some of the important points to be noted here are as follows:

- 7 countries namely Thailand, Ukraine, Venezuela, Angola, Iran, Egypt, and Nigeria did not show much sign of political change to reduce their sovereign risks. On the contrary, Chile, Poland, Turkey, Hungary, South Africa, and the Philippines showed positive signs of improvement and a will to face the change in the global investor sentiment. Nigeria, Venezuela, Iran, Indonesia, and Angola were countries that portrayed lack of supply side improvement.
- Chile, Malaysia, Saudi Arabia, Hungary, and Poland showed better ability to implement policy changes for a congenial environment.
- India, Russia, Romania and Brazil were some of the countries which were sandwiched between the high and the low scale depicting the ability to implement necessary policy changes in a faster track.

To conclude, with respect to sovereign risk,

- Advanced economies were better positioned both during and after the crisis.
- Emerging markets are eager to implement policy changes and be prepared for any such crisis they may have to encounter.
- Monetary policy leads many countries; a tight monetary policy is observed in many countries forecasting some uncertainty and instability in the near future.

Example: Economic Survey critical on Parameters used to Measure Sovereign Risk

The Economic Survey 2020-21 came down hard on the methodology and noisy, opaque and biased credit ratings which fail to reflect the strong fundamentals of the Indian economy, leading to the undermining of its sovereign credit ratings. India had a zero sovereign default history which vouchsafes for its willingness. India’s ability to pay can be gauged by the extremely low foreign currency-denominated debt. India’s foreign exchange reserves were sizeable enough to pay for the short-term debt of the private sector as well as the entire stock of India's external debt.

Sources: i) https://www.business-standard.com/article/economy-policy/economic-survey-fy21-slams-biased-sovereign-credit-ratings-121012900991_1.html, dated: 29 Jan 2021. (Accessed on June 20, 2022)
ii) https://economictimes.indiatimes.com/news/economy/indicators/economic-survey-slams-credit-rating-agencies-says-they-do-not-reflect-indias-economic-fundamentals/articleshow/80577077.cms?from=mdr, dated: 29 Jan 2021. (Accessed on June 20, 2022)

Check Your Progress - 1

1. What is an independent opinion called when it is about the capability of the issuer of a financial instrument to meet the financial obligation?
   a. Political risk rating
   b. Credit rating
   c. Sovereign risk rating
   d. Capital market risk rating
   e. Country Risk rating
2. Credit rating does not provide the following regarding investment in a debt instrument.
   a. Symbol
   b. Code
   c. Grade
   d. Recommendation
   e. Certificate
3. Which of the following is the first credit rating agency in India which is jointly promoted by erstwhile ICICI and UTI?
   a. CRISIL
   b. CRA
   c. CARE
   d. ICRA
   e. ONADA

4. Which one is not the main elements of regulatory framework of credit rating agencies?
   a. Registration
   b. General obligations
   c. Restrictions on the rating of securities
   d. Procedure for inspection and investigation
   e. Profit and Loss account of the rating agency
5. Which of the following term is used for credit rating of the shares traded in the market?
   a. Bond rating
   b. Commercial paper rating
   c. Equity rating
   d. Sovereign rating
   e. Derivatives rating

16.14 Calculating Sovereign Risk Index

It is a set of measures discussed above plus few more indicators used by the various global rating agencies. Thus, it is not a single measure but a matrix of indicators. It consists of a pool of quantitative and qualitative aspects. Some quantitative aspects are GDP, external BoP, debt-service ratio as percentage of GDP, bank capital to assets ratio, percentage change in FDI ratios, currency exchange, exchange rate issues, etc., among many. Qualitative factors play a significant role while framing the index. The most important are: the human capital characterized by the literacy rate, size of the household, household income distribution, level of skilled labour in the country, application of technology. Other qualitative factors are policy changes by the regulatory bodies, adaptability of the government to policy changes, political stability, enforcement of law that provides a good business atmosphere etc. The scores generated by every indicator should also suit the task for which it is picked. Some such generic measures of some credit rating agencies can be cited as examples in Table 16.2.

Table 16.2: Select Indicators for Credit Rating

Index for calculating country risk	Name of the measure	Purpose
World Bank	Doing business rankings	Monitor the environment for doing business across over 180 countries

Contd....

World Economic Forum (WEF)	Global Competitiveness Index (GCI)	Comprehensive assessment of the competitiveness of an economy
United Nations (UN)	Human Development Index (HDI)	A composite index that measures a country's achievements in terms of health, knowledge, and income
World Bank	Political Risk Indicator	Measure to assess political risk
Gini Coefficient	US Central Intelligence Agency (CIA)	Measures the degree of inequality in the distribution of family income in a country
Transparency International	Corruption Perceptions Index (CPI)	Used for business opinion surveys across 170 countries
Dun & Brad Street (Credit Rating Agency)	Global Impact Risk Index	A matrix of qualitative and quantitative indices
Standard & Poor, Fitch, Moody's (Credit Rating Agencies)	Sovereign or Country Risk Index	Heavy bias on the financial market instruments
Black Rock Investment Institute	Black Rock Sovereign Risk Index	30 quantitative factors to assess a country's risk

Source: ICFAI Research Center

16.15 Sovereign Risk in Emerging Markets

Emerging markets have both the flip-flop sides of sovereign risks. Let us discuss some of them. The discussion is based on Europe, Middle East and Africa (EMEA) [17]Emerging Markets Sovereign Rating outlook & Trends 2022 presented by S&P Global.

S&P Global had rated 54 emerging market (EM) sovereigns in Europe, Middle East and Africa (EMEA).

Of 54 S&P rated 31 in the single 'B' category or below and 16 in investment grade at 'BBB-' or above, with only seven falling in between these two extremities.

S&P had categorized four broad regions within EMEA.

[17] https://www.spglobal.com/ratings/en/research/articles/220127-emea-emerging-markets-sovereign-rating-trends-2022-stable-overall-but-fiscal-external-and-geopolitical-ris-12247841

The largest group SSA (Sub-Saharan Africa) includes 21 sovereigns with an average rating of 'B', reflecting low domestic savings, limited monetary and economic resilience, high economic concentration and developing institutions. Since the inception of Covid pandemic in March 2020, Out of the 18 emerging markets (EM) in EMEA sovereigns downgraded, 11 of them are in SSA. Another six downgraded were the Middle East and North Africa (MENA) region sovereigns, 12 governments in total, including three of the world's top-five hydrocarbon exporters. Morocco lost its investment grade rating in April 2021, indicating persistent pressures on its public finances and, sizable twin fiscal and external deficits that pre-date the pandemic.

After the pandemic broke out, there have been no upgrades in EM in EMEA. There were no changes to sovereign ratings in the Commonwealth of Independent States or Central and Eastern Europe with the exception of Montenegro, which was downgraded on March 5th, 2021, due to its exposure to a sharp drop in tourism earnings, given high public and external leverage.

In 2022, sovereign rating trends in EM in EMEA look to be stabilizing. The vast majority, 44 out of 54 EM in EMEA sovereigns S&P rate carry a stable outlook, though these include most of the sovereigns that experienced downgrades since the Covid pandemic onset.

For the region as a whole, S&P projected that the year 2022 will be the second consecutive year of solid 4% real GDP (Gross Domestic Product) growth, though this average GDP figure covers unequal outcomes: -0.7% (Belarus) and 8% (Kuwait). The sharp rally in the year 2021 in oil and other commodity prices has continued into 2022, enabling an improvement in external performance given that just under 60% of the sovereigns in the 54 country sample of EM in EMEA are commodity exporters, with over 25% of them exporting primarily hydrocarbons, though the negative implications are for large hydrocarbon importers.

Since the S&P Global’s last rating trends report, they have made the following positive outlook revisions:

Table 16.3: S&P Global’s Rating Trends

	Positive Revision	Reason
1	July 30, 2021, 'CCC+' long-term ratings on the Democratic Republic of the Congo	• After the IMF (International Monetary Fund) approved the first disbursement of a $1.5 billion three-year extended cr edit facility • The August 2021 allocation of special drawing rights (SDRs) doubled the country's stock of foreign exchange (FX) reserve s.

Contd….

2	Oct. 1, 2021, S&P had given 'B+' long-term ratings on Oman.	• This came after the government published a credible fiscal strategy to contend with its high stock of public debt, including the April 2021 introduction of a 5% VAT (Value Added Tax).
3	Oct. 12, 2021, S&P gave ‘B+' long-term ratings on Armenia.	• This reflected the improving fiscal and economic prospects since the ceasefire was agreed in late 2020.
4	Dec. 10, 2021, 'BB+' long-term sovereign rating on Serbia.	• Serbia is benefiting from a strong economic recovery, deepening domestic capital markets, resilient external performance, and progress in reducing its debt to GDP.

Source: https://www.spglobal.com/ratings

Please notice the reasons which prompted the rating agency S&P Global to revise the ratings.

Since the S&P Global’s last rating trends report, they have made the following negative outlook revisions:

Table 16.4: S&P Global’s Rating Trends

Negative Revision	Reason
Belarus	The negative outlook reflects the risk that international sanctions and the protracted political crisis could weigh more on the country's economy, balance-of-payments, and fiscal performance than we expected over the next 12 months.
Georgia	Country has suffered a sharp decline in tourism earnings and a widening fiscal imbalances.
Kuwait	Following parliament blocking the state's ability to issue debt or drawdown on public assets to fund an expected 12% of GDP central government deficit.
Ethiopia	On political uncertainty, limited reserve buffers and civil conflict.
Rwanda	With its elevated twin deficits and constrained reserve levels.
Turkey	Country downgraded based on negative outlook to reflect the second-round effects of a worsening currency crisis on financial stability, growth, inflation, and the general government's fiscal position.

Source: https://www.spglobal.com/ratings

While all the six EMs in EMEA sovereigns are on a negative outlook, suffered shocks connected to the pandemic (to terms of trade, tourism earnings and fiscal balances), S&P considered the rationale for the negative outlooks largely on the domestic policy responses to these shocks, rather than the shocks themselves.

The pandemic has led to a serious erosion of sovereign balance sheets over the last two years. Out of the 54 sovereigns in this survey, 28 are projected to put debt to GDP on a downward path by 2024, leaving close to half (26) EM in EMEA governments for whom we project further increases in public debt levels over the next three years. Sub-Saharan Africa (SSA) remains a key concern both for the size of projected government deficits 2022 and also the cost of financing them. Seven out of eight of EMEA's largest projected general government budgetary deficits for 2022 are in SSA.

What are the risks exposed to these Emerging Economies?

The other risk to emerging EMEA economies is the monetary and external fallout from the rising global interest rates and widespread inflationary pressures.

Amid a tight U.S. labor market, accelerated U.S. inflation readings over the past few months and increasingly hawkish forward guidance from the Fed, S&P expected three rate hikes in 2022. Higher U.S. rates, alongside intensifying domestic inflationary pressures, are likely to force emerging EMEA central banks to hike further, despite their reluctance to do so from a growth perspective.

The related trend to watch is domestic inflation. While S&P projected inflation to remain in the double digits in only six EM in EMEA sovereigns-- Uzbekistan (10.5%), Nigeria (12%), Ghana (13%), Zambia (15%), Turkey (21%) and Lebanon (30%)--and average inflation for the region to start softening as energy-price effects dissipate, there are nevertheless quite a few economies for which S&P is projecting a further acceleration in price pressures.

These include Egypt, Ethiopia, Ghana, Israel, Poland and Turkey. In those economies where public subsidies on fuel and other prices are significant, the political imperative to lower energy prices will impose a fiscal cost in excess of 2% of GDP in Kuwait, Saudi Arabia, Kazakhstan, Uzbekistan, Iraq, Azerbaijan, Egypt and Angola. To the extent that EMEA central banks will have to tighten further, rate hikes will weigh on growth and push up the cost of public debt.

The other development to watch in EMEA is an increasingly tense geopolitical situation. Top of the list is the risk to economic performance, including of sanctions on secondary Russian government bond holdings, leading to forced debt sales of an impending conflict between Russia and Ukraine. The transportation problems of Gas may trigger another oil price/growth shock to much of EMEA, developed and emerging, with negative consequences for large hydrocarbon importers like South Africa, Turkey and all of Eastern Europe. On top of this, on-again off-again drone attacks on Gulf Cooperation Council countries could further contribute to oil price upside.

Finally, as the Chinese economy decelerates from real GDP growth of over 8% to closer to 5% this year, EM in EMEA's non-hydrocarbon commodity exporters could experience export-price volatility particularly for some industrial metals. While this process is likely going to be manageable, it could end South Africa's strong recent external performance, as well as drag on demand for CEE consumer durable exports.

[18]IMF Perspective of World Economic Outlook presented in April 2022

The war in Ukraine started by Russia in February 2022 has triggered a costly humanitarian crisis and sent waves of uncertainty in the economic front also. The economic damage from the conflict will contribute to a significant slowdown in global growth in 2022 and add to inflation. Subsequent to beginning of Ukraine War in Feb 2022, the fuel and food prices have increased rapidly, hitting vulnerable populations in low-income countries hardest.

Global growth is projected to slow from an estimated 6.1 percent in 2021 to 3.6 percent in 2022 and 2023. This is 0.8 and 0.2 percentage points lower for 2022 and 2023 than projected in January.

Beyond 2023, global growth is forecast to decline to about 3.3 percent over the medium term. War-induced commodity price increases and broadening price pressures have led to 2022 inflation projections of 5.7 percent in advanced economies and 8.7 percent in emerging market and developing economies—1.8 and 2.8 percentage points higher than projected in January 2022.

A severe double-digit drop in GDP for Ukraine and a large contraction in Russia are more than likely, along with worldwide spillovers through commodity markets, trade and financial channels.

The fuel and food prices have increased rapidly with vulnerable populations—particularly in low-income countries. Elevated inflation will complicate the trade-offs central banks face between containing price pressures and safeguarding growth.

Interest rates are expected to rise as central banks tighten policy, exerting pressure on emerging market and developing economies. The Ukraine conflict added to the economic strains wrought by the Covid 19 pandemic during 2020 and 2021.

Global growth is projected to slow from an estimated 6.1 percent in 2021 to 3.6 percent in 2022 and 2023. This is 0.8 and 0.2 percentage points lower for 2022 and 2023 than in the January 2022 World Economic Outlook Update.

[18] https://www.imf.org/en/Publications/WEO/Issues/2022/04/19/world-economic-outlook-april-2022
www.fitchratings.com/research/sovereigns/global-economic-outlook-march-2022-21-03-2022

Beyond 2023, global growth is forecast to decline to about 3.3 percent over the medium term. Crucially, this forecast assumes that the conflict remains confined to Ukraine, further sanctions on Russia exempt the energy sector (although the impact of European countries' decisions to wean themselves off Russian energy and embargoes announced through March 31, 2022, are factored into the baseline) and the pandemic's health and economic impacts abate over the course of 2022.

With a few exceptions, employment and output will typically remain below pre-pandemic trends through 2026. Scarring effects are expected to be much larger in emerging market and developing economies than in advanced economies—reflecting more limited policy support and generally slower vaccination—with output expected to remain below the pre-pandemic trend throughout the forecast horizon. Unusually high uncertainty surrounds this Although a gradual resolution of supply-demand imbalances and a modest pickup in labor supply are expected in the baseline, easing price inflation eventually, uncertainty again surrounds the forecast. Conditions could significantly deteriorate. Worsening supply-demand imbalances— including those stemming from the war—and further increases in commodity prices could lead to persistently high inflation, rising inflation expectations and stronger wage growth. If signs emerge that inflation will be high over the medium term, central banks will be forced to react faster than currently anticipated—raising interest rates and exposing debt vulnerabilities, particularly in emerging markets.

The post-Covid-19 pandemic recovery is being hit by a potentially huge global supply shock that will reduce growth and push up inflation. The war in Ukraine and economic sanctions on Russia has put global energy supplies at risk. Sanctions seem unlikely to be rescinded any time soon. Russia supplies around 10% of the world's energy, including 17% of its natural gas and 12% of its oil. The jump in oil and gas prices will add to industry costs and reduce consumers' real incomes. Outright shortages and energy rationing are possible in Europe if there is an abrupt halt to Russian supply.

Higher energy prices are a given. Fitch Ratings has cut its world GDP growth forecast for 2022 by 0.7pp to 3.5%, with the Euro zone cut by 1.5pp to 3.0% and the US by 0.2pp to 3.5%. This reflects the drag from higher energy prices and a faster pace of US interest rate hikes than anticipated.

IMF has lowered their forecast for world growth in 2023 by 0.2pp to 2.8%.

[19]Global Economic Outlook D&B July 2022

Global growth forecasts for 2022 are lower as the war in Ukraine fuels inflation to multi-year highs, disrupts global shipping and increases business uncertainty.

[19] Source: https://www.spglobal.com/ratings/en/research/articles/220127-emea-emerging-markets-sovereign-rating-trends-2022-stable-overall-but-fiscal-external-and-geopolitical-ris-12247841

Erosion of consumers' spending power and higher uncertainty related to food and energy security elevate political and insecurity risks, particularly for import dependent economies

The war in Ukraine started in Feb 2022 by Russia drove up European petroleum prices resulting in sharp price increases for gasoline, diesel and heating gas oil between late-February and March of 2022. This accelerated a pre-war upward trend in inflation. The price of Brent rose 7% in March 2022 and was up 39% in the first quarter of the year settling at USD107.9 per barrel on 31 March. Headline inflation in the euro zone hit a new record high of 7.5% in March 2022 from 5.9% in February 2022, according to a flash estimate from Eurostat, with the energy component of the inflation index registering the highest annual rate of increase in March 2022 with a 44.7% jump from 32.0% in February 2022.

The price escalation in crude price will impact firms in the chemicals, transportation and energy-dependent manufacturing industries in the near term. In annual terms the euro-zone members recorded the highest annual inflation rates in March 2022, measured by the Harmonised Index of Consumer Prices (HICP), were Estonia, Luxembourg, Netherlands, Latvia and Spain. Added to this, Europe's efforts to wean itself from Russian energy in the short term will be extremely challenging, given that Europe imports around 41% of its natural gas and 26% of its crude oil from Russia.

The EU's importation of Russian gas stood at 155bn cubic metres in 2021 with the bloc seeking to reduce imports by two-thirds by end-2022. This requires massive investments in infrastructure - the cost of which has substantially risen because of recent sharp increases in industrial metals' prices including steel, aluminium and copper since the start of the war. These are critical to the bloc's plans aimed at switching to different suppliers in Europe and transitioning to alternative energy sources such as wind, solar and nuclear.

North America

Growth and inflation forecasts deteriorate because of the war in Ukraine. The tight labour market should see some easing in the coming months, as rising inflation, reduced savings and higher wages push or lure workers back to the workplace. Pandemic mobility restrictions are much less restrictive as government policies shift to 'living with Covid-19'.

Western & Central Europe

The war in Ukraine and imposition of sanctions on Russia by the EU and other allies bring renewed pressure on supply chains and expose the fragility of EU's energy security. Faced with a possible stagflation scenario, the European Central Bank signals a somewhat more hawkish policy pattern but keeps interest rates unchanged.

The Nordics

The outlook remains on ‘deteriorating’ due to high energy and commodity prices which are driving resilient inflationary pressure. Growth prospects are tapering as the Russia-Ukraine war continues and threatens to eclipse the economic momentum registered earlier in 2022.

Asia Pacific

The outlook remains on ‘deteriorating’; although the region’s direct exposure to the Russia-Ukraine war is low, higher inflation from commodity prices and capital outflows damage the growth outlook, barring a few commodity exporters such as Australia and Malaysia. Following the US Fed, interest rate hikes across the region are now likely to be swift.

Latin America & Caribbean

The start of tightening by the US Fed in March 2022 will exert downward pressure on regional currencies and increase dollar debt financing. Higher export earnings, to some degree, offset tailwinds from higher commodity prices for regional net exporters of oil, metals, and grains. Aggressive regional monetary tightening continues.

Eastern Europe & Central Asia

The outlook for the EECA region remains on 'deteriorating rapidly' as the ongoing Russia-Ukraine war exacerbates economic uncertainty and threatens to prolong business disruptions. Despite high commodity prices that are favorable to some regional economies, debt-burdens are high, with elevated currency volatility and stubborn inflation.

Middle East & North Africa

The outlook remains on ‘improving’, as oil prices remain around USD100/barrel. However, there are downside risks as imported inflation impacts consumption negatively and increases input costs for firms. Smaller countries in the Levant and North Africa will continue to struggle with excessive energy and food prices.

Sub-Saharan Africa

The outlook is now ‘deteriorating’, as inflationary pressures increase, especially for fuel and food items. The region has been able to avoid stringent lockdowns due to the outbreak of the omicron variant, but is still likely to trail the rest of the world in recovering from the pandemic. Higher prices are a positive for commodity exporters.

[20]Economic Outlook for India 2022

Fitch Ratings revised India’s outlook to stable from negative, on June 10th 2022, citing reducing downside risks to medium-term growth, as the country continues

[20] https://tradingeconomics.com/india/rating

to see a solid recovery from the pandemic shock. The agency added that conditions in the financial sector, that were a key growth impediment before the pandemic, have improved in recent years.

However, Fitch reaffirmed its credit rating at BBB- as it expects the South-east nation's GDP growth to slow to 7.8% in FY 2022-23, from 8.5% projected earlier as high commodity prices are set to dampen some of the growth momentum. Further, fiscal deficit is expected to rise to 6.8% of GDP, compared with budgetary estimate of 6.4% and inflation to remain elevated at 6.9%, up 0.2% than RBI's projection, due to the sharp rise in global commodity prices and underlying demand pressures. In general, a credit rating is used by sovereign wealth funds, pension funds and other investors to gauge the credit worthiness of India thus having a big impact on the country's borrowing costs.

The table shows the latest credit ratings and outlook from four major global credit rating agencies: Standard & Poor's, Moody's, Fitch and Scope Ratings.

Table 16.5: Rating of India by Various Rating Agencies

Agency	Rating	Outlook	Date
Fitch	BBB-	stable	Jun 10 2022
Moody's	Baa3	stable	Oct 05 2021
DBRS	BBB (low)	stable	May 19 2021
Fitch	BBB-	negative	Jun 18 2020
Moody's	Baa3	negative	Jun 01 2020
DBRS	BBB	negative	May 21 2020
Moody's	Baa2	negative	Nov 07 2019
Moody's	Baa2	stable	Nov 16 2017

Source: https://tradingeconomics.com/india/rating

Example: Pricing the Risk of Emerging Markets

By May 2022, stocks in emerging markets fell below their average valuations of the past 17 years. The combined equity values of the 24 nations that are classified as emerging markets (by MSCI Inc.) after peaking in early 2021 fell by $ 4 trillion. Bonds in local currencies had skyrocketing yields, while dollar bonds had spreads that were nearly at levels only seen during distressing times. Emerging markets had reached an advanced level of risk pricing after 15 months of capital outflows (between 2020 and 2021).

Source: https://www.business-standard.com/article/international/after-5-trn-rout-emerging-markets-seek-turnaround-signal-from-investors-122052300175_1.html, dated: 23 May 2022. (Accessed on June 20, 2022)

Activity 16.2

Raju Naik is director of Moon Pharmaceutical Company. The Board of Directors passed a resolution to set up a new venture in Nigeria. The Board has requested the CFO of the company to give details of sovereign risk. Submit a report on sovereign risk of Nigeria.

<u>Check Your Progress - 2</u>

6. Which of the following is the main objective of CRISIL w.r.t Indian companies?
   a. Debt obligations
   b. Equity obligations
   c. Commercial papers
   d. Bond market
   e. Long positions
7. Which of the following is main focus of risk analysis of ICRA?
   a. Debt rating
   b. Sovereign rating
   c. Equity rating
   d. Commercial paper rating
   e. Country risk rating
8. Which of the following includes an analysis of liquidity management, profitability and financial position, interest and tax rates sensitivity of the company?
   a. Fundamental analysis
   b. Business analysis
   c. Geographic analysis
   d. Financial analysis
   e. Trade analysis

9. For which of the following instruments rating is not done in India?
   a. Debt instrument
   b. Equity instrument
   c. Start-up company as a whole
   d. Government securities
   e. Currency exchange
10. Which of the following activities aims at analyzing the industry risk, market position of the company, operating efficiency and legal position of the company?
   a. Financial analysis
   b. Business risk analysis
   c. Management evaluation
   d. Regulatory and competitive environment
   e. Comprehensive risk analysis

16.16 The Prudential Path

The crises during the early part of the 21st century, namely (i) financial crisis that originated in the US in 2007 (ii) the European Union crisis and the sovereign debt and risk of Greece since 2014 (iii) China's instability and eventual devaluation of its currency Renminbi in August 2014 (iv) political vagaries that existed in some ASEAN and BRICS countries (v) the not-so-good performance of the UK financial market in 2015 (vi) the dangling Russian Federation towards sovereign debts etc. throws light on the prudential path to be taken by countries and regulatory bodies that assess sovereign debt, rate credit and sovereign risk. Let us browse through some of the important issues that need deliberate action:

- The regulatory treatment of sovereign debt has led to "carry trade" strategies, especially in the Economic Union region, under the impression that they would yield "incentives". A "carry trade" strategy means trading strategy wherein an investor borrows at a low rate of interest and re-invests the fund in assets that are likely to provide a higher rate of return. For eg. Japanese yen and Swiss franc in the forex market carried a low rate of interest until 2007. Investors took long positions in these currencies and re-invested in Australia and New Zealand. The risk in such type of strategy is on the relative stability of asset prices. Any adverse exchange rate movement could easily shatter the returns from the underlying assets. Hence, an appropriate strategy that could cushion such adversities should be adopted.

- The role of fiscal stabilization, more specifically during times of crisis plays an important role in strengthening sovereign risk rather than the financial instability itself. Again, the EU can be quoted as a standing example – the fiscal balance, the level and structure of outstanding debt, short-term and medium term economic growth perspective etc. became a threat to the sovereign risk of some countries in this region than the actual financial instability or crisis. On the flip side, a "tax smoothing" fiscal policy can also be detrimental. The tax policy of Greece that led the credit rating agencies to term it as a "high risk country" in 2015 can be cited as an example.
- Micro prudential steps like "Internal Credit Ratings" of the banking system should be made stronger to withstand its own ratings before being exposed to "external credit rating" agencies; this will help the individual banks in the respective economy to build a risk-mitigating model as a standby, during times of crisis.
- By definition, "the Liquidity Coverage Ratio (LCR) is a quantitative requirement which seeks to ensure that banking institutions hold sufficient high-quality liquid assets (HQLA) to withstand an acute liquidity stress scenario over a 30-day horizon at both the entity and consolidated level". In other words, it is a standard to assess the "Liquidity Adequacy Requirements" and the "liquidity gap" that exists in the financial market of every country. Adherence to LCR can help avert sovereign risk.
- There is over-reliance of financial market on the credit rating agencies. The parameters and the methodology adopted by credit rating agencies become the spindle that rotates the credit rating standard. They consider only the "overall cycle". Sometimes a country might be undergoing a sovereign risk only during a short period of time, but the slip during such time period can affect the overall performance rating of the country. Rating agencies themselves become drivers for negative effect, spread and contagion of sovereign risk. Also rating agencies do not adopt standard measures. They differ from agency to agency. Based on the methodology, projections are made which can be flawed. For example, a "triple A" rating was accorded to Iceland from October 2002 to May 2008 by Moody's stating that the strong government is the backbone of this country; but Iceland miserably collapsed during the 2007 crisis and so was the conception of Moody's.
- The rating agencies' failures to concentrate on important areas like sub-prime mortgage securitization itself states the need for regulating the credit rating agencies.
- Lastly, a balance between the two-pronged fork in addressing – (i) the problem at the Centre rather than its periphery, fixing the volatility and vulnerability of the financial market; (ii) the manifestation of sovereign debt and sovereign risk, must be maintained.

Example: SEBI's Standardized Framework as Prudential Path

SEBI in April 2022, to bring in uniformity, came out with a standardized framework for the classification of the industry, by credit rating agencies, for the purpose of rating exercise and research activities, which would come into effect from October 1, 2022. The Market Data Advisory Committee (MDAC), developed this harmonized four-level industry classification framework after studying the existing industry classification structures across the sectors. This was to be adopted by all stakeholders and for all relevant processes or purposes in the Indian securities market.

Source: https://www.businessworld.in/article/Sebi-Standardises-Industry-Classification-For-Credit-Rating-Agencies-/02-04-2022-424333/, dated: 8 Aug 2022. (Accessed on June 20, 2022)

16.17 Summary

- Credit rating is essentially a symbolic indicator of the relative grading of the investment/credit qualities of financial instruments and reflects the relative ability of the issuers of such instruments to meet the servicing obligations as and when they arise.
- India was perhaps the first amongst developing countries to set up the Credit Rating and Information Services India Ltd. (CRISIL), the first Indian credit rating agency, in 1988.
- The function of credit rating was institutionalized when RBI made it mandatory for the issue of Commercial Paper (CP) and subsequently by SEBI when it made credit rating compulsory for certain categories of debentures and debt instruments. In June 1994, RBI made it mandatory for Non-Banking Financial Companies (NBFCs) to be rated.
- Credit rating agencies in India are regulated by SEBI. The main elements of its Credit Rating Agencies (CRA) Regulations are their registration, their general obligations, restrictions on the rating of securities, procedure for inspection and investigation, action in case of default.
- Indian credit rating industry mainly comprises CRISIL, ICRA, CARE, ONICRA, SMERA and Ind-Ra & DCR. CRISIL is the largest credit rating agency in India with a market share of greater than 60%.
- Each of the rating agencies has different symbols/codes for expressing rating for different instruments.
- Based on the credit rating done on a country, 'sovereign risk' is determined.
- The main parameters that define a 'sovereign risk' are economic, financial and political.
- The rating accorded to a country has multiple effects.

- Credit rating agencies themselves are not properly institutionalized to rate a country.
- In its World Economic Outlook presented in April 2022, IMF had identified that the war in Ukraine started by Russia in February 2022 was spoiler for the world economy for the year 2022 and 2023. Lower Global growth is projected for 2022 and 2023. D&B had forecasted lower growth rate in 2022 and 2023 due to various macro-economic factors that are resultants of Covid 19 and beginning of Ukraine war in 2022
- Basing on the performance of the economy and future projections rating agencies may upgrade or down grade the sovereign rating.
- Details were provided how one of the leading rating agency S&P Global had revised its rating in some of the emerging economies for the year 2022
- Fitch Ratings revised India's outlook to stable from negative, on June 10th 2022, citing reducing downside risks to medium-term growth, as the country continues to see a strong recovery from the Covid pandemic shock. The agency further added that conditions in the financial sector were a key growth impediment before the pandemic, have improved in recent years.

16.18 Glossary

Bond fund rating: An opinion on the credit qualities of bond funds underlying portfolio holdings.

Claims paying ability: The ability of the concerned insurer to honour policy-holder's claim on time.

Corporate governance rating: Opinion regarding the extent to which an organization accepts and complies with codes and guidelines of corporate governance practices that serve the interest of the stake-holders.

Credit Assessment: Indicates a broad opinion as to the relative degree of capability of a company to meet obligation on the lines of credit.

Credit rating: Credit rating is an unbiased and independent opinion as to issuer's capacity to meet its financial obligations.

Credit Rating Agency (CRA): A corporate body engaged in the business of rating of securities.

General Assessment: Provides report on different aspects of the operation of management of a company for the use of bank.

Promoters: A person who holds at least 10% of shares of the CRA.

Rating: Here, an opinion regarding securities, expressed in standard symbols/any other standardized form assigned by a credit rating agency and used by the issuer of such securities.

Sovereign Risk: The extent of default on a debt obligation by a country.

16.19 Self-Assessment Test

1. Critically evaluate credit rating in India.
2. "Credit ratings have glaring effects on the decision of sovereign risk of a country". Explain.
3. What do you understand by Sovereign in Emerging Market?
4. Briefly explain about Prudential Path.

16.20 Suggested Readings/Reference Material

1. Anthony Saunders, Marcia Cornett, Anshul Jain (2021). Financial Markets and Institutions. McGraw-Hill. 7th edition
2. I.M. Pandey, Financial Management (2021). 12th edition, Vikas Publishing House.
3. Jeff Madura (2020). Financial Markets and Institutions – Asia Edition, 13th edition; Cengage Learning
4. P. G. Apte (2020). International Financial Management; Tata McGraw-Hill Education Private Limited; 8th edition
5. Prasanna Chandra (2019). Financial Management – Theory and Practice, 10th edition, New Delhi: Tata McGraw-Hill
6. Frank J. Fabozzi, Frank J. Jones (2019). Foundations of Global Financial Markets and Institutions. Mit Press. 5th edition
7. Brealey Myers (2018). Principles of Corporate Finance, 12th edition, USA: McGraw-Hill Companies Inc.

16.21 Answers to Check Your Progress Questions

1. (b) Credit rating

An independent opinion about the capability of the issuer to meet their financial obligation is Credit Rating.

2. (d) Recommendation

Credit rating is only a guidance and not recommendation to invest in a debt instrument.

3. (a) CRISIL

CRISIL is the first credit rating agency in India which was jointly promoted by ICICI and UTI.

4. (e) Profit and Loss account of the rating agency

The main elements of regulatory framework of credit rating agencies are: their general obligations, restriction on the rating of securities, procedure for inspection and investigation, action in case of default. All the four except (e) are the main elements.

5. (c) Equity rating

The ratings of shares which are traded in capital market are equity rating.

6. (a) Debt obligations

The main objective of CRISIL is to rate debt obligation of Indian companies.

7. (c) Equity rating

ICRA has ventured into earning prospects risk analysis which focuses on equity rating.

8. (a) Fundamental analysis

Fundamental analysis includes an analysis of liquidity management, profitability and financial position, interest and tax rates sensitivity of the company.

9. (c) Start-up company as a whole

Ratings are not normally done in India for a startup company as a whole.

10. (b) Business risk analysis

Business risk analysis aims at analyzing the industry risk, market position of the company, operating efficiency and legal position of the company.

Unit 17

Dealing Room Operations

Structure

"Markets are constantly in a state of uncertainty and flux and money is made by discounting the obvious and betting on the unexpected."

\- George Soros

17.1 Introduction

Let's study how dealing rooms operate to deal with risks in the market.

In the previous unit we dealt with credit rating and sovereign risk. Credit rating helps investors by providing an independent and expert opinion about the capability of the issuer of debt instruments to meet their financial obligations.

Rating is not a recommendation to buy the instrument and it has time bound validity. The concept of sovereign risk and trends in sovereign risk in the recent past were discussed.

This unit deals with dealing operations.

Dealing Room operations basically focus on transactions related to treasury transactions denominated in domestic currency and foreign exchange transactions. The domestic treasury transactions cover equity/debt and other securities. Any currency other than the domestic currency in an economy is foreign currency and a monetary transaction denominated in foreign currency is a foreign exchange transaction. Foreign exchange (Forex) market is an Over-The-Counter (OTC) market in which currencies are bought and sold against each other. The market is basically characterized by the following features – no physical presence, huge size, dominated by financial flows, deep, highly liquid and efficient, preponderance of inter-bank flows, highly volatile, 24 hours a day market and yet a profit center with simultaneous potential for losses. This unit deals with various operational issues of dealing room.

17.2 Objectives

After reading this unit you will be able to-

- Explain the structure of a dealing room in a corporate/ financial institution and know the type of transactions and terminology of 'Dealing Room'
- Discuss the functioning of Clearing Houses
- State the Integrated Treasury Functions
- Identify the importance of Internal and External audit
- Discuss the concept of Revaluation and its implication in forex positional trade

17.3 Basics of Dealing Room

A dealing room is a centralized establishment, usually of a commercial bank, which is willing to offer a two way dealing price for different currencies on all occasions during the prescribed business hours.

17.3.1 Functions handled in a Dealing Room

As stated above, Dealing Room operations focus on transactions related to treasury denominated in domestic currency and foreign exchange transactions. Generally, treasury operations (domestic currency denominated) are handled by a team of people and forex transactions by another set of people.

Domestic Treasury Operations

The treasury operations in a bank cover money market operations and capital market operations – equity/debt and G-Secs. The various operational issues were discussed in other topics of this unit.

Foreign Exchange Operations

Market operations are handled by a forex dealer. Basically the foreign exchange dealer is a service provider – to meet the requirements of his customers - to buy or sell foreign currency.

He is also a part and parcel of the Profit Centre – dealing room. A dealer has to maintain two positions – funds position and currency position.

The funds position exhibits the inflows and outflows of funds, i.e., receivables and payables. Any mismatch in the receivables and payables will throw open interest rate risks for the dealer – a possible overdraft interest on debit balances and interest income on credit balances. It is very important for a dealer to maintain the funds position as well.

Under the currency position, the dealer will be concerned only with the overall net position – either overbought or oversold. This open position exposes the dealer to exchange risks. He has to operate within the permitted boundaries on the exchange position.

In view of the foregoing, the dealer should attach importance to both the positions – namely funds position and currency position.

A dealer engages in trading positions to maximize his profits. A good dealer requires an appropriate knowledge of the changing nature of things and cannot afford to be obstinate. Certain psychological qualities are prerequisites such as the ability to work under stress, willingness to accept responsibilities, the ability to make prompt decisions, a good calculation of aggressiveness and above all a willingness to recognize that one can be wrong. There should be an atmosphere of utmost trust within a dealing room.

Among banks, where foreign exchange is primarily a profit center, dealing rooms have two primary functions. The first is to be able to manage currency positions by taking a view of the market and thereby to be profitable. The second is to be able to have market or prices on demand in a manner which reflects favorably on their institutions and which does not adversely affect them.

While to the untrained eye, the activity seems to be disorganized, a dealing room operates under strict discipline with a chain of command. All the activities within the room are well defined and responsibilities clearly established.

In a nutshell, the foreign exchange dealing room acts as a clearing house for a bank's foreign exchange requirements, services many other areas of the bank, acts as a representative of the bank and provides service to the customers and others.

17.3.2 Dealing Room Structure

The main players in the foreign exchange market are large commercial banks, foreign exchange brokers, large corporations and the central banks. Central banks normally enter the market to reduce the fluctuations in the exchange rate (as under dirty float) or to maintain fixed exchange rates.

Large commercial banks deal in the market either to execute their clients' (both corporate and individuals) orders or on their own account. They act as market makers in the FOREX markets, i.e., they stand ready to buy or sell various currencies at specific prices on all occasions.

The foreign exchange brokers do not actually buy or sell any currency. Their main task is to bring buyers and sellers together. They deal in all major currencies, in spot market and forward market (swap market) connecting different vendors in the market. Other players in the market, the commercial banks in particular, consult the brokers to know the quotes of other commercial banks.

While small corporations generally visit the commercial banks to meet their requirements, the bigger corporations sometimes operate in the market on their own. They generally approach the market to fulfill their requirements that may arise out of their normal business operations. In fact, some big multinational corporations also operate in the market to bet on the exchange rate fluctuations, with an objective to make profits out of their expertise in the FOREX market dealings.

A few services in these markets report the quotes given by various players on an online basis. Reuters, Bloomberg, and the Telerate are a few players rendering such services. Some of these services now even offer screen-based trading, i.e., the quotes are automatically matched by the system and the order executed.

All trade transactions are settled by transfer of deposits denominated in relevant currencies between the parties involved. In the interbank market, it is normally done electronically. A currency's settlement always takes place in the country of its origin. In the US, the Clearing House Interbank Payments System (CHIPS) is used to settle foreign exchange transactions.

Dealing room activities are conducted mainly through three divisions-

Front Office/Back Office/Mid Office

Front Office is the face and brain of the dealing room. Various functions like sales, trading, research and structuring take place.

Sales - Sales job is to call on institutional and HNI investors to suggest trading ideas and take orders. Sales desk then communicates clients' orders to trading desks. They price and execute trades. They also facilitate in structuring new products that fit a specific need.

Trading - Most profitable area. Responsible for majority of revenues. In the process of market making, traders buy and sell financial products. The golden rule followed by a trader is 'Buy Low Sell High'. The goal of a trader is to make an incremental amount of money on each trade.

Research - Reviews companies and writes reports. Generates no revenues. But its resources are used to assist traders and sales force in suggesting ideas to customers. In recent years this relationship has become highly regulated.

Structuring - Relatively recent division as derivatives have come into play, with highly technical and many people working on creating complex structured products offering typically much higher margins and returns than underlying cash securities.

Front Office requires highest caliber employees in terms of intellectual capital and interpersonal skills.

Mid Office - Risk management division analyzes that the risk traders are taking on to the balance sheet in conducting their daily trades and fixing limits on the amount of capital that they are able to trade in order to prevent bad trades having a detrimental effect to the overall desk.

Back Office - Operations involve data checking trades that have been conducted, ensuring that they are not erroneous and affecting the required transfers. It provides great job security but involves most monotonous work at relatively low pay.

17.3.3 Deal Process

Dealing process involves domestic treasury operations and foreign exchange operations. Let us understand both the activities. Let us understand the various operational issues in forex transactions.

Though the exchange rate between any two currencies is determined by the overall equilibrium between their demand and supply, it is also true that there is no single equilibrium market price for a currency. Each trader should attempt to keep his quote at that level where his own position will be in equilibrium. A trader normally keeps a margin between the price at which he purchases a currency and that at which he sells it.

If the trader is able to match the currency bought with a corresponding sale, then he would be able to make a profit. So far as practicality is concerned, it is very difficult to find matching orders of substantial volumes for the trader to realize a substantial profit. There is a possibility that at any point of time, the trader may find that he is selling more of a currency than he has bought, or vice versa. This means that the trader having a position in a currency exposes himself to currency risk (risk of future prices moving against him). To overcome such net positions, the trader should frequently change his quote to attract desired orders and to make his exposure minimum. In forex trading, minimizing the net positions alone is not enough. Since a trader's margins are very thin, volumes of trade become very important. A trader may find that though he is able to balance the buy and sell positions, the volume of such trade is very low. This may happen due to competitive prices quoted by other traders. A very low volume would result in miniscule profits. Thus, the trader should always make sure that his quote remains competitive.

Although identifying the appropriate instruments is a critical task, the treasury has to do so to implement that decision (to buy or sell) through its dealing process. This needs to be clearly documented both as a protection for treasury (in case any dispute arises subsequently) and as a means to evaluate the decision itself.

Let us look at some of the procedural aspects of dealing process.

Deal procedures – The deal itself should be standardized to a possible extent and must comply with the established deal procedures. The deal procedures should also provide a decisive process for selecting the appropriate investment instruments.

Authorize transactions – Once the appropriate instrument has been selected, an outline transaction itself should be authorized. Individual treasury team members will have their own deal limits, varying according to instrument type. Here, the authorization procedures should be followed carefully. An automated sweep should also be subject to an authorization procedure if it breaches a preset limit. Automated transactions are also subjected to regular and spot audit checks.

Quote – The dealing procedures should indicate how many quotes should be selected to identify the best, or a market benchmark, quote. This depends upon the availability of a published market rate. It will also state the circumstances under which treasury can rely on data available from a dealing platform or from its Reuters or Bloomberg screen. If the transaction is large corresponding to a particular market, then the treasury should avoid asking too many banks to quote because of the possible impact on that market. Under these circumstances, treasury may decide to employ the services of an asset manager.

Agree transaction – Once the preferred quote gets selected then someone with appropriate authorization should ‘agree the transaction’. The terms of the agreement must conform to the terms of the mandate or other contract. It must not breach counterparty limits. The authorized dealer is required to submit a deal ticket, providing the full detail of the agreed transaction. This includes the details of any quotes as well as the relevant authorizations. These tickets are mostly electronically generated.

Confirm transaction – Once the deal ticket has been submitted, it should be sent to the back office for confirmation. There should be a clear division of duties. This means no one party to the deal with agreement (dealer or anyone who authorized the deal) should be involved in confirmation of the transaction. In small companies with a small treasury, it is recommendable to assign a member of the accounting department to perform confirmations. Towards confirmation, the back office will ensure that the details of the agreement on the company deal ticket match with those sent by the counterparty. For standard transactions, these are increasingly automated.

Settlement instructions – After confirmation, the deal should be prepared for settlement. Detailed settlement instructions should be part of any mandate or other contract. The back office should check that any changes to these instructions have been prepared by an authorized member of staff.

Reconciliation – Once the transaction gets settled, the back office team should reconcile all the relevant documentation for accounting and audit purposes. In today's treasury, most of these activities can be automated. Most treasury management systems include dealing modules, permit payments to be initiated and then create accounting and management reports.

Backup systems – The dealing procedures include references to any back up processes to overcome in the event of failure in the preferred systems. These must be reflected in the agreement with counterparties.

Example: E-platforms in dealing rooms

Due to the COVID-19 pandemic outbreak in February and March of 2020, the dealing rooms and trading floors of various banks in the US were either closed or operated just with minimal staff. That was when the online tools and the e-trading platforms stepped in to help the global FX market not just to remain functional but also to thrive. According to Bloomsburg, during Q1 2020, the volumes picked up rapidly and in March, the trading of derivatives, mostly in outright forward contracts, went up 40 percent. On-exchange currency derivatives reflected a similar story. For example, by the end of March 2020, in the FX futures contracts, a 58% YoY increase was recorded by Singapore's SGX exchange.

Source: https://www.worldfinance.com/markets/trading-trillions-from-home-during-the-pandemic, dated: 30 Jan 2021. (Accessed June 21, 2022)

Activity 17.1

Assume you are facing an interview in a well reputed organization. You applied for the post of Dealing Room Manager (Operations). The interview panel quizzed you with many relevant questions. You are satisfied with your answers. Finally, they asked you to provide the relevant names with regard to 'deal process'. What will your answer be?

Answer:

17.4 Integrated Treasury in Corporates & Banks

Traditionally, the treasury department in a bank deals with the reserve management and fund management for its domestic operations, with the foreign exchange dealings being handled by the forex department. However, in recent times, due to overlapping of activities, the domestic operations are integrated with the foreign exchange dealings and are looked after by one department named as "Integrated Treasury". Such an integrated treasury deals with several types of forex transactions in the interbank market along with domestic treasury operations.

Foreign Exchange: Interbank Market

Interbank deals refer to purchase and sale of foreign exchange between the banks. In other words, it refers to the foreign exchange dealings of a bank in the interbank market.

Trading in foreign exchange (FX) markets averaged USD 5.1 trillion per day in April 2016, according to the 2016 Triennial Central Bank Survey of FX and Over-The-Counter (OTC) derivatives markets. This is down from USD 5.4 trillion in April 2013. FX spot trading declined for the first time since 2001, even as activity in FX derivatives continued to increase.

Triennial Central Bank Survey of Foreign Exchange and Over-the-counter (OTC) Derivatives Markets in 2019 (Data revised on 8 December 2019) was provided in the following Table 17.1.

[21]OTC foreign exchange turnover *Net-net basis daily averages in April, in billions of US dollars.

Table 17.1: OTC Foreign Exchange Turnover Net Basis Daily Averages (Dec, 2019 and April, 2022)

(in billions of USD)

Instrument	2019[1]	2022
Foreign exchange instruments	6,581	7,508
Spot transactions	1,979	2,107
Outright forwards	998	1,163
Foreign exchange swaps	3,198	3,810
Currency swaps	108	124
Options and other products[2]	298	304
Turnover at April 2019 exchange rates[3]	6,446	7,508
Exchange-traded derivatives[4]	127	152

*Adjusted for local and cross-border inter-dealer double-counting (ie "net-net" basis).

[1]Revised data. [2]The category "other FX products" covers highly leveraged transactions and / or trades whose notional amount is variable and where a decomposition into individual plain vanilla components was impractical or impossible. [3]Non-US dollar legs of foreign currency transactions were converted into original currency amounts at average exchange rates for April of each survey year and then reconverted into US dollar amounts at average April 2022 exchange rates. [4]Euromoney Tradedata; Futures Industry Association; The Options Clearing Corporation; BIS derivatives statistics. Foreign exchange futures and options traded worldwide.

Source: https://www.bis.org/statistics/rpfx22_fx.pdf Dated 27th Oct, 2022; Accessed on 28th October, 2022

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[21] https://www.bis.org/statistics/rpfx19.htm
Triennial Central Bank Survey of Foreign Exchange and Over-the-counter (OTC) Derivatives Markets in 2019 Data revised on 8 December 2019

[22]A Glimpse of FX trading in 2021

As per the semi-annual surveys conducted by seven of the world's foreign exchange committees, the foreign exchange (FX) turnover witnesses a new high in April 2021, driven by new highs in the United Kingdom (UK), Tokyo, Canada and Singapore. Across all the surveys, ADV (average daily volume) was $5.926 trillion, representing 11.1% rise from that of its preceding survey in October 2020, and 20.2% higher as per April 2020's data. A deep rise was predicted year-on-year as April 2020 was a very quiet month by historical standards. Because the market participants withdrawn stock soon after the beginning of the Covid pandemic worldwide.

Trends of Forex Turnover in major Markets

FX activity in UK

UK has built a dominant position as the world's largest Foreign Exchange (FX) Centre. Because it is handling $2.985 trillion per day as per survey conducted in 2021. This is a 15.6% rise on the previous survey and up 23.8% from the survey of 2020. FX swaps activity reached a new high at $1.575 trillion in April 2021. It is high by 18.2% when compared to that of October 2021 and 23.7% from that of April 2021. Further, it is 5.5% above pre-pandemic levels in October 2019, this being the previous high average daily volume (ADV). NDF (Non deliverable forwards) activity was high at $124.3 billion per day on the preceding two survey reports, approximately each being 14% high. But it has to reach back its pre-pandemic levels, which is less by 5.6% as per October 2019 survey. Finally in the United Kingdom, foreign exchange options ADV was $127.9 billion nominal rise from that of the preceding two surveys, and 13.6% less than its pre-pandemic levels.

FX activity in USA

Average daily volumes (ADV) in the United States remained below 2018 levels as per 2021 survey at $967 billion per day. There was change in the trend. It was 3.6% high when compared to that of its preceding survey, also high by an impressive 26.5% in April 2020, and 8.7% above pre-pandemic levels. As per 2021 Survey Spot ADV was $384.4 billion, high by 3.1% of its previous 2020 survey and 18.3% up year-on-year. As per 2021 survey, FX swaps ADV was $357.1 billion, high 8% from that of its October 2020 and impressively high 41.8% from April 2020. FX options ADV was $41.7 billion, less by 9.4% from October 2020, but high by 22% year-on-year. NDF turnover at $48.8 billion is high by 6.6% as per the survey 2021 on the previous survey and high by 28.7% year-on-year. Overall, compared to pre-pandemic levels in October 2019,

[22] Source:https://thefullfx.com/fx-turnover-hits-new-highs-over-7-trillion-per-day/ updated August 10th 2021

USA (United States of America) activity is higher in spot by 7.3% and swaps by +28.8%) but lower in options by -31.3%, outright forwards by -4.9% and NDFs by -1.9%.

FX activity in Asian Centers

Singapore, Tokyo and Hong Kong are major centers in Asia.

Turnover in Singapore average $640 billion per day in 2021 survey. ADV is high 13.4% on October 2020, high by 16.5% year-on-year and an impressive 9.3% higher than to its previous peak in April 2019. Spot turnover was $133.1 billion per day, a new high for the city state and high by 9% from October 2020. The Tokyo Foreign Exchange Committee reports turnover of $448.2 billion in its 2021 Survey. A new high for the Centre and high by 5.3% from the previous survey 2020. Hong Kong handled $589.6 billion per day in foreign exchange (FX) products in April 2021, high by 4.4% from October 2020 and high by 12.6% year-on-year basis, and a 3.8% higher than its pre-pandemic levels.

Other Markets

FX Swap Activity in Canada reached a new high in April 2021 with ADV (average daily volume) of $157.2 billion, around 25% higher than that of its previous two surveys and high by 12.4% on the pre-pandemic levels. In Australia, it remained flat, registering $139.4 billion per day.

Purchase and sale of foreign currency in the market undertaken to acquire or dispose of foreign exchange required or acquired because of its dealings with its customers is known as the cover deal. The purpose of cover deal is to insure the bank against any fluctuations in the exchange market.

In quoting the rate to the customer the bank is guided by the interbank rate to which it adds or deducts its margin, and arrives at the rate it quotes to the customer. If it is buying from the customer spot, it takes interbank buying rate, deducts its exchange margin, and quotes the rates. This is done on the presumption that immediately on purchase from the customer, the bank would sell the foreign exchange to interbank market at market buying rate.

Banks would take up buy and sell transactions of their clients. Banks do the corresponding transactions in the interbank market. For example, client surrenders dollars (or any foreign currency) and sells in the interbank market keeping their profit margin. Similarly client requires dollars (or any foreign currency). Banks will buy from interbank market and sell the FC to the client keeping their profit margin. Banks generally keep their foreign currency overnight balances to near zero position. In other words, the bank would like to keep its stock of foreign exchange almost zero. The main reason for this is that the bank wants to reduce the exchange risk it faces to the minimal. Otherwise any negative change in the rates would affect its profits.

Some of the interbank transactions involve the following:

- Swaps/Cash/Term/Spot Transactions
- Placing/Accepting/Borrowing/Lending in Foreign Currency
- Overseas/Branches
- Cross currency transactions

Volatility in exchange rate movements and domestic interest rate levels indicate that Indian Rupee and domestic foreign exchange markets are under greater influence of the global markets. Such volatilities may lead to substantial losses and at times irretrievable situations for several banks if not properly dealt with. Therefore, these situations warrant proactive or prompt reactive moves from the banks. It is in this context, the urgent need for integration for domestic rupee market and domestic foreign currency market arises.

Integrated Treasury Operations

The term integration means consolidation or merger or centralization. In the modern scenario, it is the consolidation or the centralization of the segmented financial markets like money, debt, capital and foreign exchange markets at the macro level and integration of the respective treasuries at the operational level (i.e., at banks/financial institutions).

In an integrated environment, foreign exchange and domestic treasuries will work in unison to get into maximum advantageous positions and can even get over adverse market developments easily. This is because the foreign exchange treasury may know the position of the domestic treasury and vice versa.

Major functions of integrated treasury are:

- Reserve Management and Investment
- Asset Liability Management
- Risk Management
- Scientific transfer pricing
- Arbitraging
- Suitable derivative products development

An integrated treasury presents the total picture of liquidity (i.e., current/cash and long term) of the bank. This enables it to take either decision or control on the utilization/deployment of the funds to the best advantage of the bank.

As the reserve management is an important function of the treasury, it is beneficial / prudent to have a single centralized treasury so that there exists a close monitoring at regular intervals. This not only protects from default but also helps in maintaining minimum surplus for the stationary requirements.

Integrated treasury takes advantage of funds in transit within the banks network like inter branch funds movement, movement of funds between RBI and non-RBI centers, etc. This helps to overcome the possibility that these funds are getting ignored and left idle in the banking system.

A centralized treasury presents better managerial skills in enhancing profitability of the organization, overall responsibility in cash management and risk controlling abilities. If the treasury is decentralized into smaller units, then one unit may not be aware of the exposure taken by the other unit. Further, when the market is highly volatile, a proactive treasury is expected to change its position within a short time to avoid risk. This is possible only if the treasury is centralized.

Example: Commercial Bank of Kuwait - Integrated Treasury Solution

Commercial Bank of Kuwait (CBK) wanted to enhance risk management, ensure regulatory compliance and also offer its clientele the new generation asset classes. For the transformation of its treasury operations, a much more modern and integrated approach was necessary. The bank selected the TCS BaNCS product for the task. TCS BaNCS would help the bank to integrate its trading and messaging platforms. This would also offer a better range of cash and derivative treasury products and would help to manage cash and positions in real-time. TCS BaNCS would also offer extensive accounting and reporting capabilities. This should enable the bank to go ahead with digitization and also expand its customer base.

Source: https://www.business-standard.com/article/companies/commercial-bank-of-kuwait-selects-tcs-bancs-to-transform-treasury-ops-121062800496_1.html, dated: 28 June 21. (Accessed June 22, 2022)

17.5 Foreign Exchange Dealing Room Terminology

Exchange rate is defined as the rate at which one currency is exchanged for another currency. That is the number of units of one currency which exchange for given number of units of another currency is the rate of exchange.

Fixed exchange rate means the official rate fixed by the monetary authorities for one or more currencies.

Under floating exchange rate, the value of the currency is decided by supply and demand factors in the market place.

In some cases, even fixed exchange rates fluctuate between the definite upper and lower intervention points.

The price of one currency in terms of another which is the rate of exchange between the two currencies can be expressed either in terms of so many units of the first currency for one unit of the second or so many units of the second currency for one unit of the first. The exchange rate can be quoted in two ways, namely direct method and indirect method.

- **Direct method** – A given number of local currencies per unit of foreign currency. Home currency quotations are also known as pence rates in the United Kingdom. This is generally called paisa rates in India. They are designated as direct / certain rates because the rupee cost of single foreign currency unit is obtained directly. Direct quotation is also called Home Currency Quotation or Price Quotation System.
- **Indirect method** – A given number of units of foreign currency per unit of local currency. Indirect quotation is also called Foreign Currency Quotation or Volume Quotation System.

Whether the rate is quoted direct or indirect, it is easy to find the other way of quotation as one is reciprocal of the other.

Exchange rates are expressed as two way quotes – purchase and sale transactions. Hence we will have a buying rate and selling rate.

Exchange rates are also quoted for spot transactions and forward transactions. The time value of money (mainly on account of interest rates) comes into play and these results in different spot rate and forward rate for the same currency.

If the delivery of funds is on the second working day from the date of transaction, it is a spot transaction. The rate applied for such transaction is called spot rate.

When the delivery has to take place at a date farther than the spot date, then it is a forward transaction and the rate applied for such a transaction is called forward rate.

Forward margin – Premium and discount: In a free market, the exchange rates would be based on the demand and supply system. A currency in excess supply tends to become cheaper and a scarce one costlier, till a balance between demand and supply is stuck.

A currency is said to be at a premium, if the forward value of that currency is higher than the spot value. Similarly a currency is said to be at a discount, if the forward value is lower than the spot value.

Basically a dealer in a treasury of large corporate or a bank – generally will be managing domestic and forex funds. Dealer's activity includes managing domestic funds and also nostro account[23]. The funds position reflects the inflows and outflows of funds that are receivables and payables. Any mismatch in the receivables and payables will throw open interest rate risks for the dealer – a possible overdraft interest on debit balances and interest income on credit balances. It is of utmost importance for a dealer to maintain the funds position as well.

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[23] Nostro, Vostro and loro accounts: Terminology used between authorized dealers to refer to' our account with you', 'your account with us' and 'their account with them' respectively

Under the currency position, the dealer will be concerned only with the overall net position – either over bought or oversold. This open position exposes the dealer to exchange risks. He has to operate within the permitted boundaries on the exchange position.

Credit balances in foreign currencies are foreign currency assets and they are named as long positions. Short positions are debit balances. In principle, the dealer position reflects the bank's entire net exposure in the various currencies. A 'long' position in a certain foreign currency always has its counterpart in a corresponding 'short' position in another currency. If we have long and short positions in several foreign currencies, we need a common denominator to measure the dealer's overall exposure and this common denominator is the domestic currency.

Daylight / overnight limits – Day light limits denote the maximum open position in each currency that may remain uncovered during the course of the day. Overnight limits refer to the net open position at the close of business on each work-day.

Example: SWIFT

SWIFT which was founded in 1973, stands for Society for Worldwide Interbank Financial Telecommunication. This originated in Belgium and, central banks of 10 countries collectively monitor it. It served as a global messaging system for sending orders between banks. SWIFT, links around 11,000 financial institutions globally. It wasn't a payment system per se, but rather a safe channel for banks to share instructions for international payments. Currently, 200 nations and territories use SWIFT.

Sources: i) https://www.cnbctv18.com/world/russiaukraine-warcan-cips-chinas-potential-swift-competitor-help-russia-12673332.htm, dated: 2 Mar 2022. (Accessed June 21, 2022)

ii) https://www.swift.com/, dated: Not Available, as it is a website. (Accessed June 21, 2022)

Activity 17.2

In a company's organizational structure, there exists a dealing room for foreign exchange transactions. The dealer is asked to maintain two positions underneath. In case the dealer is puzzled with the term 'two positions', as a senior employee how will you explain the same to him?

Answer:

17.6 Operational Issues in Positional Trading in Treasury

Integrated treasury operations deal with deployment of funds across the domestic as well as global money and forex markets. This approach enables the bank to optimize its asset-liability management and also capitalize on arbitrage opportunities and better balance sheet management. Trading activity of dealing room covers forex operations and various domestic treasury activities performed in money markets, equities and debt markets and derivatives markets. Let us try to understand the operational issues in dealing room domestic treasury positional trading.

If the buy and sell transactions of identified securities is done on the same day, it is called day-trading. If the trader buys a security say ACC shares worth ₹ 50 lacs and holds the asset with an intention to sell at some point in the future, it is called positional trading. Depending on the duration of the holding period of the asset, the security will be defined as either short term or long term security.

Domestic Treasury Operations

Under this category there are two types of operations.

Money Market Operations: These are short term instruments ranging from overnight settlement to two days to 14 days and above. Depending on the liquidity of the individual banks, banks invest in money markets for managing CRR and trading purposes.

Money market operations in India as on 17th July 2022 are provided below. RBI's transactions including Liquidity Adjustment Facility are not included in Table 17.2.

Table 17.2: Money Market Operations in India as on 17th July 2022

(₹ In crores)

	Auction Date	Tenor (Days)	Maturity Date	Amount ₹ In crs	Cut off rate
Marginal Standing facility	Sun, 17/07/2022	1	Mon, 18/07/2022	2	5.1500
Standing Deposit facility	Sun, 17/07/2022	1	Mon, 18/07/2022	4475	4.6500
Net liquidity injected from today's operations [injection (+)/absorption (-)]*				-4473	
Outstanding Operations					
(I) Main Operation					
(a) Reverse Repo	Fri, 15/07/2022	14	Fri, 29/07/2022	183276	4.8900
(II) Fine Tuning Operations					
(a) Repo					
(b) Reverse Repo	Tue, 12/07/2022	29	Wed, 10/08/2022	30884	4.8900
Marginal Standing facility	Sat, 16/07/2022	2	Mon, 18/07/2022	37	5.1500
	Fri, 15/07/2022	3	Mon, 18/07/2022	1089	5.1500
Standing Deposit facility	Sat, 16/07/2022	2	Mon, 18/07/2022	27914	4.6500
	Fri, 15/07/2022	3	Mon, 18/07/2022	100227	4.6500

Source: https://rbi.org.in/Scripts/BS_ViewMMO.aspx

Reserve Bank of India introduced new window Standing deposit facility in May 2022.

[24]The standing deposit facility (SDF) rate and marginal standing facility (MSF) rate stand adjusted from 3.75 per cent to 4.15 per cent and from 4.25 per cent to 4.65 per cent respectively, with immediate effect by RBI according to a press note released by RBI on May 4th 2022.

The SDF is a liquidity window through which the RBI will give banks an option to park excess liquidity with it. It is different from the reverse repo facility in that it does not require banks to provide collateral while parking funds.

Through much of the pandemic, banks had been parking funds with the RBI under the reverse repo window at 3.35%. The monetary policy committee (MPC) has kept the repo rate at an all-time low of 4% since May 2020. Due to various liquidity management operations carried out by the central bank to counter the effects of the pandemic on the economy, the amount of cash in the system surged significantly. As a result, the operative rate in the market fell well below the repo as banks parked their huge surplus funds with the RBI at 3.35%.

While one of the members of the MPC had been seeking a hike in the reverse repo rate as the first step towards normalization of policy, the RBI chose a different route. It first started variable rate reverse repo (VRRR) auctions where the rates clocked in closer to the repo rate. It has now launched the SDF in May 2022, while letting fixed rate reverse repo auctions take a backseat, which means banks will now not be able to park funds with the RBI for anything less than 3.75%. This translates to a 40-bps hike in the reverse repo rate and will therefore lead to a rise in the cost of money.

The policy corridor is effectively the difference between the rate at which the RBI accepts money from banks and the rate at which it infuses money into the system. Since the central bank will no longer accept money for anything lower than 3.75%, the SDF rate becomes the floor for the policy corridor. The ceiling for the corridor will be the marginal standing facility (MSF) at 4.25%, 25 bps above the repo rate, which is meant for the RBI to lend to banks in an emergency situation. Hence, the liquidity corridor, or the policy corridor, will now be placed symmetrically around the repo rate.

The overnight segment consists of call money market where banks can raise funds without collateral. The call money rate is the interest rate paid for such overnight loans. The call money rate is also referred to as inter-bank rate as only banks participate in this segment of the market. The CBLO (Collateralized Borrowing

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[24] https://www.rbi.org.in/scripts/FS_Notification.aspx?
https://www.financialexpress.com/economy/explainer-sdf-or-standing-deposit-facility-liquidity-window/2489911/

and Lending Obligation) rate is also used by mutual funds and insurance firms, besides banks. The repo rate is the rate at which the banks borrow from RBI. The repo in corporate bonds refers to the borrowings by mutual funds, insurance firms and NBFCs by offering corporate bonds as collateral.

The term segment has in addition to CBLO, market repo and repo in corporate bond, notice and term money in it. Notice money is part of call money market wherein funds are lent for a period of 2 to 14 days. If the funds are borrowed for more than 14 days it is called term money market.

Investments: Another type of treasury operations is investments by banks. The entire investment portfolio of the banks (including SLR securities and non-SLR securities), should be classified under three categories:

i. **Held to Maturity –** Securities acquired by banks with the intention of holding them till maturity.

ii. **Available for Sale –** All the other securities besides held to maturity and held for trading securities are grouped under available for sale securities. They are either debt or equity instruments.

iii. **Held for Trading –** These are securities held by banks with the intention to trade and gain benefit out of short-term interest rate and price movements.

However, in the balance sheet, the investments will continue to be disclosed as per the existing six classifications:

a) Government securities

b) Other approved securities

c) Shares

d) Debentures & Bonds

e) Subsidiaries/joint ventures

f) Others (CP, Mutual Fund Units, etc.)

Banks should decide the category of the investment at the time of acquisition and the decision should be recorded on the investment proposals-

a. A bank’s direct investment in shares/convertible bonds and debentures, units of equity oriented mutual funds, and all exposures to Venture Capital Funds (VCFs) should not be more than 20% of its net worth.

b. A bank’s investment in unlisted non-SLR securities should not exceed 10 per cent of its total investment in non-SLR securities as on March 31, of the previous year.

c. The total investment by bank in liquid/short-term debt schemes of mutual funds is subject to a limit of 10% of its net worth.

Example: RRB's to participate in Money Market Operations

The RBI stated on December 4, 2020, that regional rural banks would be included in the money market to enable more effective liquidity management by RRBs at competitive rates. Additionally, RRBs were permitted to extend the Marginal Standing Facility (MSF) and Liquidity Adjustment Facility (LAF) (MSF). They were also allowed to participate as both borrowers and lenders in the Call/Notice money market.

Source: https://economictimes.indiatimes.com/markets/stocks/news/rbi-broadens-the-financial-market-space-allows-rrbs-in-money-market/articleshow/79566390.cms?from=mdr, dated: 4 Dec 2020. (Accessed June 24, 2022)

17.7 Risk Management in Dealing Room Operations

Organizations have to manage risks in their day-to-day business operations. Risk is the situation when there are a number of specific, probable outcomes, but it is not certain as to which one of them will actually happen. However, risk is a function of not only the probability of an outcome being different from that expected, but also its potential intensity, if it occurs.

As risk is a mix of both danger and opportunity, there is the possibility that the actual outcome varies from the expected outcome. It comprises of both downside risk and the upside potential. Downside risk is the risk wherein the actual outcome is highly adverse when compared to its expected outcome. Contrary to it, upside potential means that the actual results are better when compared to its expected results. In this topic, we shall look at risk from the perspective of dealing room operations.

As discussed in the foregoing, treasury operations cover transactions in debt instruments, equity and money market operations. It also includes foreign exchange operations.

Debt, equity and money market instruments are exposed to market risk, price risk, credit risk and interest rate risk.

Sources of Risk

What are the various sources of risk? What are the factors which make any financial asset risky? Let us take a look at some of the general sources of risk.

Interest Rate Risk: Interest rate risk is the variability in a security's return resulting from changes in the level of interest rates. Other things being equal, security prices move inversely to interest rates.

Market Risk: Market risk refers to the variability of returns due to fluctuations in the securities market. All securities are exposed to market risk but equity shares get affected, the most. This risk includes a wide range of factors exogenous to securities themselves like depressions, wars, politics, etc.

Inflation Risk: With rise in inflation there is a reduction of purchasing power. Hence this is also referred to as purchasing power risk and affects all securities. This risk is also directly related to interest rate risk, as interest rates go up with inflation.

Business Risk: This refers to the risk of doing business in a particular industry or environment and it gets transferred to the investors who invest in the business or company.

Financial Risk: Financial risk arises when companies resort to financial leverage or the use of debt financing. The more the company resorts to debt financing, the greater is the financial risk.

Liquidity Risk: This risk is associated with the secondary market in which the particular security is traded. A security which can be bought or sold quickly without significant price concession is considered liquid. The greater the uncertainty about the time element and the price concession, the greater the liquidity risk. Securities which have ready markets like treasury bills have lesser liquidity risk.

Let us take couple of examples of transactions that take place in dealing room treasury operations.

- A company had mobilized 5 year debentures at the rate of 11% PA on a particular date. Subsequently after one year funds are available at 9.5%. The company had locked its liability at a higher rate of interest. The company is exposed to interest rate risk.
- A company has invested its surplus funds on some of equity stocks. The price of each of the stocks invested by the company had come down by 10% in 3 months' time after the investment. The company is exposed to market risk.

Similar to securities transactions as referred above the dealing room will have foreign exchange transactions also.

All foreign currency denominated transactions are exposed to foreign exchange risk. Such risks can be mitigated using derivatives. Derivatives are the financial instruments derived from an underlying asset or index. The underlying asset can be a commodity, equity stock, stock index or any other index. Standard or commonly traded contracts in derivatives markets are forwards, futures, swaps and derivatives. They are also known as plain vanilla derivatives.

What is foreign exchange risk?

The risk that a business' financial performance or position may get affected due to fluctuations in the exchange rates between currencies is termed as foreign exchange risk. For example, an Indian exporter has to receive USD 1 million from his client for the goods and services delivered. Assume that the exporter sent the goods to his client when the USD/INR exchange rate was ₹ 67.00. Subsequently the importer received the goods from the exporter and made the payment. The exporter has not taken any protection from price fluctuations of exchange rate of USD/INR. At the time of realization of the proceeds received by the exporter the exchange rate of USD/INR was at ₹ 65.00. The exporter lost ₹ 2 on each USD he had received, total loss amounting to INR 2 million. This type of foreign exchange risk can be mitigated through risk management.

Example: Currency Risk faced by Dealing rooms due to Fed Reserve Hikes

The US Federal Reserve increased its benchmark interest rate by 0.75% on June 16, 2022, the largest increase since 1994. Another 75 basis point hike was expected in July. As a result, the US dollar extended its gains. The US Dollar Currency Index, which tracks the greenback against six major currencies, was up 0.35% at 105.66. On June 21, the Japanese yen plunged to the lowest since October 1998 extending losses after the Bank of Japan. The rupee was also falling against the USD, and few were expecting it to touch even ₹ 79.

Sources: i) https://economictimes.indiatimes.com/markets/forex/yen-dives-hits-new-24-year-low-vs-dollar/articleshow/92363607.cms, dated: 21 June 2022. (Accessed June 22, 2022)

ii) https://www.livemint.com/market/stock-market-news/us-fed-set-to-announce-interest-rate-decision-live-updates-11655313981726.html, dated: 16 June 2022. (Accessed June 22, 2022)

iii) https://economictimes.indiatimes.com/markets/expert-view/we-expect-rupee-to-weaken-towards-79-79-50-vs-dollar-post-us-fed-outcome-gaurang-somaiya/articleshow/92272750.cms, dated: 17 June 2022. (Accessed June 22, 2022)

What is Foreign Exchange Risk?

The risk that a business' financial performance or position may get affected due to fluctuations in the exchange rates between currencies is termed as foreign exchange risk. The risk is more apparent for businesses which deal in more than one foreign currency besides the domestic currency (for example, they import from another country and the supplier is to be paid in his own currency). Business that does not deal in export and import transactions may also get affected by foreign exchange risk. For example, their business relies on imported products and services offered by others. Foreign exchange risk should be managed as the fluctuations in exchange rates impact the profitability of the business.

Sources of foreign exchange risk

Foreign exchange risk can arise from several sources. Some such sources are:

- The exports and imports of the business;
- Capital expenditure incurred when importing capital goods from a foreign country;
- The revenue generated from exports which is received in foreign currency;
- Any other income received in foreign currency, such as royalties, interest, dividends etc.;

- Where the loans that are denominated (and therefore payable) in foreign currency are taken;
- Where the business has overseas assets such as business operations or subsidiaries that are valued in a foreign currency, or foreign currency deposits.

Exchange rate movements impact businesses significantly. It can have both positive and negative impact.

17.8 Risk Management through Plain Vanilla Derivatives

Various types of risks faced by the organization while dealing with its business operations were discussed in the above paragraphs.

Such risks can be mitigated using derivatives.

Derivatives are the financial instruments derived from an underlying asset or index. The underlying asset can be a commodity, equity stock, stock index or any other index. Standard or commonly traded contracts in derivatives markets are forwards, futures, swaps and derivatives. They are also known as plain vanilla derivatives.

17.8.1 Forwards

A forward contract is an agreement to buy or sell an asset at a certain time in the future for a certain price. There is no day to day settlement. On expiry of the contract, one party buys the asset for the agreed price from the other party.

The contract is an Over-The-Counter (OTC) agreement between two parties. At the time of the contract no money changes hands, funds are settled only when the contract is settled at maturity. The initial value of the contract is zero.

The forward price for a contract is the delivery price that would be applicable to the contract if it were negotiated today (i.e., it is the price that makes the contract zero valued). The forward price may be different for contracts of different maturities.

Forward contracts can be as flexible as the two parties want them to be. However, the difficulty in finding a counterparty to make the contract leads to its illiquidity. It is also subject to default risk.

17.8.2 Futures

When forward contracts are written in a standardized manner with an initial collateralization, mark-to-market margining, a publicly-regulated third party as counterparty in every matched trade, allowing the netting of offsetting exposures, the result is called a futures contract.

This third party is comprised of a futures exchange for rulemaking and trading, and a clearinghouse for settlement and administrative duties. The initial collateral is known as an initial margin deposit.

The standardization of futures contract terms helps to increase the liquidity (volume of trading) in individual futures contracts because parties with similar, though different, positions choose the same futures contract.

The strict margining process eliminates credit risk, which allows for greater participation in the futures market than in the traditional forward market.

In addition to the large banks and multi-national corporations that use forward contracts, small companies and individuals that usually cannot use forward contracts can easily participate in the futures market.

17.8.3 Swaps

The word swap means, in common parlance, an exchange of goods / commodities or underlying financial transaction. In currency swap two currencies are exchanged and in an interest rate swap, two interest rate structures are exchanged. More specifically, in the international financial markets, a swap means an exchange of specific streams of payments (currencies or interest flows) over an agreed period between two parties, referred to as counterparties.

In other words, it is a transaction in which two parties consented to exchange pre-determined series of payments over a definite period. The most commonly used types of transactions in the swap market are interest rate and currency swaps.

i. Interest rate swap

In an interest rate swap, interest payment streams of differing character based on underlying notional amount denominated in the same currency are exchanged according to predetermined rules without exchanging principal.

The borrower of the funds makes interest payment to lender of the funds. The interest payment is a compensation made by the person who utilized the funds. The compensation is computed as a percentage of the borrower funds at predefined frequency. The two main types of interest rate swaps are fixed rate of interest and floating rate of interest. For example, 5% rate of interest per annum, annual payments is at fixed percentage. Floating rate of interest will be linked to some ongoing market interest rate structure.

For example, say a floating rate is linked to USD LIBOR rate and the lender says it is at LIBOR +2%.

If the LIBOR is 3.25% the lending rate would be 3.25%+2%=5.25%.

If the LIBOR is 3.50% the lending rate would be 3.5%+2%= 5.5%.

The lending rate is dependent on market rate; in this case the bench mark market rate is LIBOR. There are two categories of swaps, namely coupon swap and index or basis swap.

- **Coupon swap (fixed/floating)**

  In this, one of the parties agrees to make payments calculated based on a floating interest rate, such as LIBOR against the receipts on the basis of fixed rate. An example of a fixed to floating rate swap will make the mechanism clear. Assume that party A agrees to pay the swap bank half yearly floating interest rate based on LIBOR on USD 100 million in exchange for the swap bank agreeing to pay semi-annual fixed rate of 8 per cent on USD100 million. In an interest rate swap, there is no exchange of principal. In practice, the net interest payments are only settled between the two parties.

- **Index or basis swap (floating/floating)**

  In this, a stream of floating interest is exchanged for another stream of floating interest rate. In this party A pays to the swap bank interest rate based on (say) 6-month dollar LIBOR in return for (say) 6-month interest rate based on the US Prime. The basis for interest rate swaps can also be a 3 month / 6-month commercial paper rate against 3 / 6 month LIBOR etc. In a basis swap, both interest rates are floating i.e. the interest amount based on one basis (say US Prime) is to be exchanged for the amount calculated on another floating rate (say LIBOR).

  Interest rate swap can be used to obtain fixed interest rate debt when it is not possible to access the fixed rate market directly. It can also be used to obtain funds at rates below those normally available to the borrower. Alternative sources of floating rate debt can be obtained through basis or index swapping. Interest rate swaps enable one to restructure debt without refinancing and change the composition of an income flow from an asset.

ii. Currency swaps

In a straight currency swap, the contracting parties exchange predetermined streams of payments denominated in one currency in return for receipt of payments denominated in another currency during an agreed period. In this the counterparties exchange principal amounts of different currencies at the prevailing spot rate, and pay each other interest costs. This kind of swap typically takes place between two parties who can exploit their relative strength or comparative advantage in different markets and thereby reduce each other’s funding costs. The principal amounts are re-exchanged at maturity at the original rate.

Another form of currency swaps is Cross currency interest rate swap. Cross currency interest rate swap is a combination of an interest rate swap and a currency swap. One party exchanges a fixed interest cash flow in one currency with another party's floating interest rate in a different currency. The swaps in financial markets need to be distinguished from the swaps in foreign exchange markets which involve simultaneous sale and purchase of one currency for another, for different periods.

Example: Bilateral Currency Swap between India and Japan

In the backdrop of the rupee's slide down against the USD, the $75 billion bilateral currency swap facility signed between the governments of Japan and India, in Dec. 2021, was believed to improve the sentiment towards the rupee. The swap agreement permitted both countries to borrow up to a certain amount in either US dollars or the other country's currency. This would provide a cushion that the central bank may use in the event of unusually volatile currency markets. The foreign exchange risk was reduced because the fixed exchange rate was specified in the agreement.

Source: https://www.thehindubusinessline.com/opinion/editorial/both-india-and-japan-stand-to-gain-from-their-bilateral-currency-swap/article25382529.ece, dated: 6 Dec 2021. (Accessed June 24, 2022)

17.9 Clearing Houses

A clearing house clears the futures contracts. The clearing house can be constituted separately or as a part of the futures exchange. Nevertheless, each futures exchange is closely associated with the working of a particular clearing house. The functions of the futures clearing house are very much like those of the "Options Clearing Corporation", the body which we would come across when we discuss options. As the clearing house is well capitalized and it holds a net zero position (it exists to facilitate trading in futures for the participants and it does not trade on its own account) and finally it being an integral part of the futures market, the traders place immense faith in the institution.

Example: CHIPS - The Most Popular Clearing House Mechanism

CHIPS or the Clearing House Interbank Payments System cleared and settled in a day $1.8 trillion in US domestic as well as international payments per day. With more than 40 participants. It was used as a large value payment system and was the private-sector counterpart to Fedwire. The early settlement system CHIPS, which was governed by US law, was viewed as lowering the operational risk for participants, end users, and the financial system at large. It effectively served as the liquidity savings mechanism for the entire U.S. large-value payments system.

Sources: i) https://www.theclearinghouse.org/payment-systems/chips, dated: Not Available, as it is a website. (Accessed June 21, 2022)

ii) https://thebusinessprofessor.com/en_US/banking-lending-credit-industry/clearing-house-interbank-payments-system-chips-definition, dated: 18 April 2022. (Accessed June 21, 2022)

17.10 Margins

The first important point to note in this regard is that each clearing house prescribes its own limits on initial, maintenance and variation margins. Therefore, the margins we mention here cannot be applied universally. One of the main differences between options and futures is that in futures both the contracting parties are required to pay variation margins depending on the price of the underlying asset in the market. But in case of options, the buyer of the contract after paying the premium does not bother about any other payments irrespective of the underlying asset's price in the market.

In futures trading, both the parties to the contract are required to deposit an initial margin with the broker, which in turn will be deposited with the exchange. This margin depends on the price volatility of the underlying asset.

Understanding Margins[25]

NSE follows the following model to compute the margins in F&O (futures and options) segment in our country.

Initial margin for F&O segment is calculated on a portfolio (a collection of futures and option positions) based approach. The margin calculation is carried out using software called - SPAN® (Standard Portfolio Analysis of Risk). It is a product developed by Chicago Mercantile Exchange (CME) and is extensively used by leading stock exchanges of the world. SPAN® uses scenario based approach to arrive at margins.

Value of futures and options positions depend on, among others, price of the security in the cash. Both price and volatility keep changing. To put it simply, SPAN® generates about 16 different scenarios by assuming different values to the price and volatility. For each of these scenarios, possible loss that the portfolio would suffer is calculated. The initial margin required to be paid by the investor would be equal to the highest loss the portfolio would suffer in any of the scenarios considered. The margin is monitored and collected at the time of placing the buy / sell order. The SPAN® margins are revised 6 times in a day - once at the beginning of the day, 4 times during market hours and finally at the end of the day.

In addition to initial / SPAN® margin, exposure margin is also collected. Exposure margins in respect of index futures and index option sell positions are 3% of the notional value. For futures on individual securities and sell positions in options on individual securities, the exposure margin is higher of 5% or 1.5 standard deviation of the LN returns of the security (in the underlying cash market) over the last 6 months' period and is applied on the notional value of position.

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[25] https://www.nseindia.com/invest/resources/download/asst_Margins_faq.pdf

In addition to initial margin, a premium margin is charged to buyers of option contracts. The premium margin is paid by the buyers of the options contracts and is equal to the value of the options premium multiplied by the quantity of options purchased.

For example, if 1000 call options on ABC Ltd are purchased at ₹ 20/-, and the investor has no other position, then the premium margin is ₹ 20,000. The margin is to be paid at the time of trade. Assignment margin is collected on assignment from the sellers of the contracts.

Example: Various Margins at NSE

A Clearing Member (CM) would be assessed Assignment Margin in addition to Premium Margin and SPAN margin (SPAN = Standard Portfolio Analysis of Risk). Up until the pay-in toward exercise settlement was finished, it would be assessed on assigned positions of the CMs for interim and final exercise settlement obligations of options contracts on index and individual securities. The Assignment Margin would be subtracted from the Clearing Member's effective deposits that were available for margins and represented as the net exercise settlement value that a CM owed for both intermediate and final exercise settlement.

Source: https://www1.nseindia.com/products/content/derivatives/equities/margins.htm, dated: Not Available, as this is a website. (Accessed June 25, 2022)

17.11 Non-Traditional Derivatives

Whenever risks arise in the economy and needs arise to hedge such risks, finance professionals step in to design and deliver derivatives to allow entities with such exposures to manage their risks. Financial institutions take up their traditional role as intermediaries and arrange for the risks to be passed on to either entities that have opposite exposures or speculators who are willing to assume such risks. Some of the typical non-traditional derivatives are weather derivatives and energy derivatives.

17.11.1 Weather Derivatives

Many companies are in the state where their performance is liable to be adversely affected by the weather. It makes sense for them to cover their exposure or hedge their weather risk in much the same way as they hedge their foreign exchange or interest rate or commodity price risk.

17.11.2 Energy Derivatives

Some of the typical energy derivatives are oil derivatives, natural gas derivatives and electricity derivatives.

Crude oil is one of the most important commodities in the world. In the over the counter market, virtually any derivative that is available on common stocks or stock indices is now available with oil as the underlying asset. Swaps, forward contracts, and options are popular. Contracts sometimes require either settlement in cash or by physical delivery. Exchange traded contracts on oil are also popular. NYMEX and IPE trade several oil futures and futures options contracts. Some of the futures contracts are settled in cash; physical delivery settles others.

Natural gas industry throughout the world has been going through a period of deregulation and the elimination of governmental control and monopolies. The supplier of gas is now not necessarily the same company as the producer of the gas. Suppliers faced difficulties in meeting their daily demands. A typical OTC contract is for the delivery of specified amount of natural gas, a roughly uniform rate over a one month period. Forward contracts, options and swaps are available in the OTC market. NYMEX and IPE also offer exchange traded derivative contracts to hedge natural gas risk.

Electricity is an unusual commodity because it cannot easily be stored. Like natural gas, electricity has been going through a period of deregulation and decontrol. This has resulted in the development of an electricity derivative market.

Example: Crude Oil Derivative on NSE

Brent Crude is a well-known trading designation for sweet light crude oil that acts as a standard for pricing of oil purchases all over the world. The primary global price benchmark for crude oils from the Atlantic basin was Brent. Two-thirds of the world's crude oil supplies that are traded globally were priced using it. The most traded product in the commodities market was crude oil derivatives (Brent and WTI). On March 1, 2019, NSE successfully introduced Brent Crude Oil Futures with a regular supply of 100 barrels.

Source: https://www.nseindia.com/products-services/commodity-derivatives-brent-crude-oil, dated: Not Available, as this is a website. (Accessed June 25, 2022)

17.12 Exotic Options and Structured Products

An option is that which differs from common options in terms of the underlying asset or the calculation of how or when the investor receives a certain payoff. The options are more complex than options that trade on an exchange, and generally trade over the counter.

In other words, an exotic option is an option which has features making it more complex than commonly traded vanilla options. They may have several triggers relating to determination of payoff. An exotic option may also include non-standard underlying instrument, developed for a client or for a market. Exotic options are more complex than options that trade on an exchange, and are generally traded over the counter.

Exotic options are sometimes more appropriate for hedging than plain vanilla options.

Some of the exotic options are:

- **Asian options:** Whereas regular options provide a payoff based on the final price of the underlying asset at the time of exercise, Asian options provide a payoff based on the average of the price of the underlying asset over some specified period.
- **Barrier options:** These are options that come into existence or disappear when the price of the underlying asset reaches a certain barrier.
- **Basket options:** These are options on a portfolio of assets rather than options on a single asset.
- **Binary options:** These are options that provide a fixed payoff, or a certain amount of the underlying asset, if some conditions are satisfied.
- **Compound options:** These are options on options. These are four types: a call on a call; a call on a put, a put on a call and a put on a put.
- **Look back options:** These are options that provide a payoff based on the maximum of minimum price of the underlying asset over some period.

Structured products are customized to meet specific needs that cannot be met from the standard products available in the markets and many of them are derivative products. They are highly multifaceted and interlinked and hence carry higher levels of risks.

Structured products enable efficient refinancing and hedging of profitable economic activity beyond the scope of conventional form of on-balance sheet securities with a view to reduce cost of capital and to mitigate market impediments on liquidity. They are risk transfer instruments.

Structured products can be defined through three distinct characteristics: (1) pooling of assets (either cash-based or synthetically created); (2) delinking of the credit risk of the collateral asset pool from the credit risk of the originator, usually through the transfer of the underlying assets to a finite-lived (life span of the asset is fixed), standalone Special Purpose Vehicle (SPV); and (3) trenching of liabilities that are backed by the asset pool. While the first two characteristics are also present with classical pass-through securitizations, the trenching of liabilities sets structured products apart.

Most structured products (i) combine traditional asset classes with contingent claims, such as risk transfer derivatives and/or derivative claims on commodities, currencies, or receivables from other reference assets, or (ii) replicate traditional asset classes through synthetization.

Structured product is invoked by financial and non-financial institutions in both banking and capital markets if established forms of external finance are either (i) unavailable (or depleted) for a financing need, or (ii) traditional sources of funds are too expensive for issuers to accumulate sufficient funds for what would otherwise be an unattractive investment based on the issuer's desired cost of capital.

Structured product offers the issuers enormous flexibility in terms of maturity structure, security design and asset types, allowing issuers to provide enhanced return at a customized degree of diversification commensurate to an individual investor's appetite for risk.

Structured product contributes to a more complete capital market by providing any mean-variance trade-off along the efficient frontier of optimal diversification at lower transaction cost.

Structured product facilitates breaking traditional financial instruments into their component risk and return parts, then reassembling them to create more attractive instruments for issuers and investors. When done properly these transactions provide numerous benefits.

For the issuer, they lower issuers' funding costs by removing inefficiencies in the capital markets, and they enhance issuers' liquidity by diversifying their funding sources and enabling them to monetize assets that would be difficult to sell outright.

For investors, the principal benefit is flexibility. Investments can be tailored to fit the desired risk profile of an investor. The structured products are usually investment grade and the underlying assets are exposed to various types of risks. They can be sold in the secondary market. Thus, investors also benefit from the increased liquidity. It also gives them the benefits of diversification by enabling them to take on exposure to aggregations of assets in ways that minimize risk.

Example: Exotic Options Re-enter India

The RBI began introducing exotic FX derivatives in India in 2022 in an effort to expand the nation's financial markets. Barrier forex options were sold to clients including Reliance Industries Ltd. and Supreme Petrochem Ltd. by banks like ICICI Bank Ltd. and Axis Bank Ltd. Following the financial crisis of 2008, when some companies were left with substantial losses from bets gone wrong, these derivative instruments were outlawed. With India's expanding global trade integration, the return of exotic forex derivatives and the introduction of swaptions were expected to give corporates more risk-management options.

Sources: i) https://theprint.in/economy/exotic-forex-derivatives-make-comeback-in-india-as-rbi-pushes-to-deepen-markets/808041/, dated: 20 Jan 2022. (Accessed June 25, 2022)

ii) https://www.financialexpress.com/market/rbi-eases-currency-rules-how-it-will-change-the-way-investors-trade-in-foreign-exchange/1926602/, dated: 13 April 2020. (Accessed June 25, 2022)

iii) https://www.bloomberg.com/news/articles/2022-01-19/exotic-forex-derivatives-return-in-rbi-s-push-to-deepen-markets, dated: 20 Jan 2022. (Accessed June 25, 2022)

Check Your Progress - 1

1. Which of the following terms is the feature of the Foreign Exchange Market?
   a. OTC
   b. Capital
   c. Stock
   d. E-trading
   e. Oligopoly
2. Identify the position of a dealer wherein he is concerned only with the overall net position - either overbought or oversold.
   a. Funds
   b. Currency
   c. Capital
   d. Commodities
   e. Net investment
3. Once the deal ticket has been submitted, which of the following actions will be taken up by the back office?
   a. Quote
   b. Agree transaction
   c. Confirming transaction
   d. Settlement instructions
   e. Backup systems
4. Which of the following provides great job security but involves most monotonous work at a relatively low pay?
   a. Front office
   b. Middle office
   c. Back office
   d. Adjunct position
   e. Consultancy
5. In how many ways can exchange rates be expressed?
   a. Two
   b. Three
   c. Four
   d. Five
   e. Six

17.13 Regulatory Framework

Since unbridled and uncontrolled dealing room operations can have adverse repercussions, we need to ensure orderly conduct of dealing room operations. We need to have a Standard Operating Procedure, Sanctioned Limits, Dos and Don’ts and along with them internal and external audit requirements at periodical requirements.

Even though the central banks themselves will not dictate terms to the market, their very presence in the market at times by way of intervention and other market operations like interest rate changes, etc. will instill and enforce the much needed discipline.

Regulatory frameworks have two aspects – direct control and indirect control.

The controls will be administered through guidelines on maintenance of open positions. They may also require prior approval of counterparties and also prescription of limits for such counterparties. The guidelines may also require pre-approved limits for carrying positions for forward periods. In addition, guidelines on handling export, import transactions, clean instruments and guarantees may also be issued which will have an indirect impact on the dealing room operations.

Regulators also prescribe guidelines, hours of business, setting up of night desks, entering into contracts, interbank transactions and exchange rate quotations.

In addition, regulators also prescribe dealing ethics and code of conduct for dealing room operations.

Proprietary Trading

Proprietary trading means engaging as ‘principal’ for a trading account in purchase or sale of covered financial positions.

Proprietary trading (also "prop trading") takes place when a trader trades stocks, bonds, currencies, commodities, their derivatives, or other financial instruments with the firm's own money, as opposed to depositors' money, so as to make a profit for himself.

Proprietary (or prop) trading is known for its high-risk form of trading where instead of acting on clients orders and receiving commission payments, the trader takes his own position with the capital of the firm. This means that the traders will experience the result of the complete profit or loss of the position. Proprietary trading firms do electronic trading and use the leverage of the firm to magnify returns/losses.

Proprietary trading becomes responsible for some large losses and there exists a risk of moral hazard (because the trader is using the firm's capital). But it is usually the most profitable part of an investment bank. The reason is, proprietary traders are generally accessible to extremely sophisticated software and information which enables them to gain a competitive edge.

According to some regulators, proprietary trading transactions would result in

- Material conflicts of interest
- Exposure to high risk assets or activities
- The safety or soundness of the banking / trading entity
- Post a threat to the very market place where such transactions take place

Under the Dodd-Frank legislation and Volcker Rule in USA, proprietary trading is being made more and more difficult to do and is now only allowed by 'important' firms for hedging purposes.

Example: Proprietary Trading firms in India

Unlike in the US, we did not find too many popular Proprietary Trading firms in India. Some of the firms were given below.

1. TransMarket Group L.L.C
2. Futures First Info Services Pvt. Ltd.
3. Jaypee Capital Services Ltd.
4. IDBI Capital Market Services Ltd.
5. Edelweiss Capital
6. Kredent Trading
7. Adroit Financial Services
8. SMC Global
9. Kumar Share Brokers Limited
10. Mansukh Securities & Finance Limited

Source: https://www.financewalk.com/prop-trading-firms-in-india/, dated: 11 Mar 2021. (Accessed June 25, 2022)

17.14 Internal and External Audit

Dealing room operation is a very highly sophisticated function and has to be performed by well trained professionals. Typically an organizational structure of Treasury/Dealing Department consists of the front office – the people who do the dealing – proprietary and on behalf of the clients and the back office staff who are responsible for funds settlement, the follow up of deals and reconciliation of the transactions put through by the dealers.

Basically management of dealing room operations will focus on risks associated with dealing room operations, which arise due to complex nature of markets and the volatile nature of price fluctuations. Some of the major risks associated with dealing room operations are Credit risk, Liquidity risk, Market risk, Gap risk, Interest rate risk.

A comprehensive and accurate management control of dealing room operations would cover assessment of the above risk exposures and their management. It is to be noted that dealing room operations are considered to be profit centers in most of the major banks and a complete risk aversion would only help the management to avoid loss. To generate profit it is essential to have a proper risk appetite to optimize profit, through proper risk reward trade off.

Thus the need for adequate internal controls can hardly be overemphasized. Some of the major internal controls are:

- Counterparty confirmations should be promptly obtained.
- Recording the deals is a key item. The deals should be recorded immediately.
- Segregation of duties is of great relevance and importance. In particular, the dealer should not handle any part of processing or recording.
- There should be an effective system to ensure strict compliance with directives of top management, statutory auditors and central banks.
- There should be a proper procedure for hedging against possible risks.
- There should be periodic reconciliation and revaluation of foreign currency assets.

Normally internal audit functions would be carried out by the bank's carefully selected inspectors who have no actual role to play or function in the very functioning of dealing room. They will inspect and confirm whether the banks prescribed rules, regulations, internal limits are respected. Any deviation would be reported and placed before the bank's Board of Directors.

External audit functions would be carried out by the bank's external auditors and statutory auditors who certify books of accounts at the end of any financial year or at such prescribed intervals.

In addition, the central bank of the local jurisdiction may also audit and inspect the functions of the dealing room to ensure that they follow prescribed rules, procedures and the dealing rooms in no way cause concerns in the orderly conduct of the market place.

Example: Need for better Audit Controls as Bank Forex Rules Relaxed

Banks might need better internal controls as the Reserve Bank of India on July 6, 2022, announced relaxations to the banking sector, to reduce Forex volatility. Some of the relaxations included -

Foreign currency non-resident deposits [FCNR(B) and NRE deposits] would not be subject to the statutory liquidity ratio and cash reserve ratio maintenance requirements (SLR). New FCNR (B) and NRE deposits might be raised by banks without being subject to the present interest rate caps.

Contd….

The ceiling for automatic external commercial borrowing was increased from $750 million or its equivalent each financial year to $1.5 billion. Subject to the negative list outlined for external commercial borrowings, banks would be able to use overseas foreign currency borrowings for lending in foreign currency to entities for a wider range of end-use purposes.

Source: https://www.livemint.com/news/india/rbi-announces-measure-to-increase-forex-inflows-11657105942521.html, Dated: 6 Jul 2022 (Accessed 25 August 2022)

17.15 Revaluation

Prudent accounting principles require that dealing room positions are periodically marked to market. This can be explained with a simple example. Let us assume a bank has purchased USD one million when Dollar/Rupee was ₹ 70. That means the bank would have paid ₹ 70 million to buy this USD one million. Let us assume the bank still holds this position in its books. At the end of the month, let us assume the Dollar/Rupee has moved to ₹ 71. Since the bank is long in Dollars, it would have made a book profit of ₹ 1 million. This is treated as revaluation profit in the books of the bank. Reverse also should be true. If the Dollar/Rupee were to go lower, say to ₹ 69 per USD, the position would be a book loss of ₹ 1 million. When the USD position is actually sold in the market, the actual profit or loss would be booked in the books of the bank. Till then it has to be revalued or marked to market, in the books of the bank.

In Indian scenario FEDAI (Foreign Exchange Dealers Association of India) will provide revaluation rates to authorized dealers for arriving at revaluation profits by forex dealing rooms on the last working day of the calendar month. The data will be for a 12 month period for all trading currencies. The accounting entries will be passed by respective banks as per their internal guidelines.

The following Table 17.3 provides data related to revaluation rates given by FEDAI at that point of time.

Table 17.3: Revaluation Rates provided by FEDAI for the expiry 30th June 2022

CODE	SPOT	JUL.2022	AUG.2022	SEP.2022	OCT.2022	NOV. 2022	DEC. 2022
USD	78.9725	79.1125	79.3125	79.5075	79.6975	79.8725	80.0475
GBP	95.8375	96.0575	96.3625	96.6575	96.9825	97.2900	97.5975
EUR	82.3600	82.6750	83.0825	83.4700	83.8975	84.3075	84.7225
*JPY	57.9600	58.1700	58.4525	58.7400	59.0825	59.4150	59.7500
CHF	82.4000	82.7050	83.1150	83.5150	83.9675	84.4100	84.8525
All Currencies are for 1 unit of Foreign Currency = So many Indian Rupees except							
those marked * which are 100 units of Foreign Currency = So many Indian Rupees							
Data is rounded off to nearest multiple of 0.0025 value.							

Source: https://fedai.org.in/RevaluationRates.aspx?Cid=1&SCid=0&SSCid=0

17.16 Dealing Room Analytics

We will deal with some of the important analytics that are dealt with in dealing room.

'Buy Low Sell High' is a maxim that is followed in dealing rooms when the foreign exchange rates are quoted in direct method. The reverse 'Buy High Sell Low' would be adopted when the rates are quoted in indirect method.

Premium would be added to the spot rate to arrive at the forward rate when the rate is quoted on a direct quote basis. In the case of indirect quotes premium would be deducted from the spot rate to arrive at forward rate.

The point to be constantly kept in mind and revisited while talking of a foreign exchange transaction is:

- The transaction is always viewed from the market's point of view.
- The item referred to is the foreign currency.

Example: Buy the Rumor, Sell the News'

In his book "Thinking, Fast and Slow", the Nobel Prize-winning economist Daniel Kahneman's highlighted this concept. A forex trader may have purchased the matching currency when informed of a central bank's intention to hike interest rates. The forex trader would then observe how the information drove the currency's value higher as soon as the news about the central bank changing the interest rate was released. When the value of the currency reached a point where the trader could sell it for a profit, they would sell. This is called "sell the news". Slow-moving traders frequently create liquidity for those who were aware of the news.

Sources: i) https://www.thebalance.com/what-does-buy-the-rumor-sell-the-news-mean-1344971, dated: 30 Mar 2022. (Accessed June 26, 2022)

ii) https://www.cityindex.com/en-uk/news-and-analysis/buy-the-rumour-sell-the-news-meaning/, dated: 7 Mar 2022. (Accessed June 26, 2022)

iii) https://economictimes.indiatimes.com/markets/stocks/news/why-buy-on-rumours-sell-on-news-almost-always-works-in-stocks/articleshow/86941249.cms, dated: 11 Oct 2021. (Accessed June 26, 2022)

Check Your Progress - 2

6. Find the most suitable option with regard to foreign exchange dealer?
   a. Service provider
   b. Banker
   c. Retailer
   d. Stock exchange
   e. Stock broker

7. Identify the market makers in the foreign exchange markets.
    a. Central banks
    b. Large corporations
    c. Foreign exchange brokers
    d. Large commercial banks
    e. Public sector banks
8. Which of the following entities will perform the activity of calling institutional and HNI investors to suggest trading ideas and take orders?
    a. Front office
    b. Sales
    c. Trading
    d. Middle office
    e. Back office
9. Which of the following terms provides 'Home Currency Quotation'
    a. Direct quotation
    b. Bid rate
    c. Indirect method
    d. Foreign currency quotation
    e. Indirect quotation
10. How many controls do regulatory frameworks possess?
    a. Two
    b. Three
    c. Four
    d. Five
    e. Six

17.17 Summary

- The foreign exchange dealer is synonym for a service provider. He is the person who does trading in foreign currencies. He is expected to hold two positions with regard to such trading – funds position and currency position. Both have a different meaning attached to it. With regard to deal/trading process, he is expected to understand the different types of transactions like authorize transactions, agree transactions, confirm transactions besides terms like quote, settlement instructions, reconciliation and backup systems.

- The foreign exchange dealing room is basically structured into three divisions – front office, sales and trading. In the modern scenario, some companies also opted two more divisions titling research, and structuring. Each division has its own relevance.
- Dealing room operations, being highly sophisticated, demands adequate internal controls at every stage. Towards authenticity of its operations, it necessitates internal and external audit to be carried out by different persons. Its regulatory framework is of two types - direct and indirect control. The terms to be dealt underneath should be of standardized ones. All this is to gain transparency in its operations.
- The foreign exchange market players are large corporations, large commercial banks, foreign exchange brokers and central banks. Among them, large commercial banks are positioned as market makers based on their exposure in the foreign exchange markets.
- In an integrated environment, foreign exchange and domestic treasuries will work in union to get into maximum advantageous positions and can even get over adverse market developments easily. This is because the foreign exchange treasury may know the position of the domestic treasury and vice versa. This is where integrated treasury operations gain importance.
- FX turnover surged to a new high in April 2021 according the semi-annual surveys conducted by the seven of the world's FX committees, driven by new peaks in the UK, Singapore, Tokyo and Canada. Across the seven surveys, average daily volume (ADV) was $5.926 trillion.
- Reserve Bank of India introduced new window Standing deposit facility in May 2022, the SDF rate becomes the floor for the policy corridor.

17.18 Glossary

Arbitraging: A trading to earn profits by exploiting price differences of identical or similar financial instruments, on different markets or in different forms. Arbitrage means the simultaneous purchase and sale of an asset in order to profit from a difference in the price.

Business Risk: Refers to the risk of doing business in a particular industry or environment and it gets reflected in the returns to the investors who invest in the business or company.

Cover Deal: If a customer buys FC from the client, the corresponding sale of FC is a cover operation. Similarly if bank sells FC to the customer the corresponding purchase of FC is to cover operation.

Cross Currency Interest Rate Swap: Is a combination of an interest rate swap and a currency swap.

Currency Position: Reflects the overall currency balances in the Bank account.

Currency Swap: Swap wherein two currencies are exchanged.

Day Light Limits: Denote the maximum open position in each currency that may remain uncovered during the course of the day.

Dealing Room: A centralized establishment where the organization offers a two way quote – (buy and sell) for the security or commodity they are dealing in during the prescribed business hours. Any financial institute/banks will have dealing rooms. Large corporates may also have dealing room.

Direct Method / Direct Quotation / Home Currency Quotation / Price Quotation System: A given number of local currencies per unit of foreign currency. Example: US$=INR 80.00/80.0150.

Exchange Rate: The rate at which one currency is exchanged for another currency.

Exotic Option: An option which has features making it more complex than commonly traded vanilla options.

External Audit: Is the audit carried out by the external auditors.

Financial Risk: Is the Risk that arises when companies are exposed to any type of financial transaction.

Fixed Exchange Rate: The official rate fixed by the monetary authorities for one or more currencies.

Floating Exchange Rate: The value of the currency is decided by supply and demand factors in the market place.

Foreign Exchange (Forex) Market: An Over-The-Counter (OTC) market in which currencies are bought and sold across the counter not on an exchange.

Foreign Exchange Risk: The risk that a business' financial performance or position may get affected due to fluctuations in the exchange rates between currencies.

Forward Contract: An agreement to buy or sell an asset at a certain time in the future for a certain price.

Forward Rate: If the delivery has to take place at a date farther than the spot date, then it is a forward transaction and the rate applied for such a transaction is called forward rate.

Funds Position: Reflects the inflows and outflows of funds that are receivable and payable by the organization / Financial Institution/ Bank.

Futures Contract: A standardized contract of a commodity/security/index for a fixed price at fixed date. For example HDFC Bank May 2017 futures contract at ₹ 1529 at National Stock Exchange (NSE) means, 500 equity shares (called 1 lot) of HDFC Bank will be bought or sold at ₹ 1529 for delivery last Thursday of calendar month May 2017.

Hedging: A trading via positioning in one market to offset and balance against the risk adopted by assuming a position in a contrary or opposing market or investment. Hedge means protecting oneself against loss on an investment by making balancing or compensating transactions.

Indirect Method / Indirect Quotation / Foreign Currency Quotation / Volume Quotation System: A given number of units of foreign currency per unit of local currency. Example INR100=US$1.5600/10, last two decimals are called pips.

Interest rate risk: Is the variability in a security's return resulting from changes in the level of interest rates.

Interest Rate Swap: Exchange of cash flows of two different types of interest rates. For example exchange of interest received on a fixed rate bond with floating rate interest flow of another security.

Internal Audit: Carried out by the organization's carefully selected inspectors who have no actual role to play or function in the very functioning of operations of the organization.

Liquidity Risk: If an organization holding the asset or security is not in a position to convert into cash and not in a position meet its short term financial obligations, we say the firm is facing the liquidity risk.

Long Positions: Buying the asset/security / commodity and holding the same is having the long position.

Market Makers: A trader who provides a two way quote for any security / commodity he is dealing with is called market trader.

Market Risk: Refers to the variability of returns due to fluctuations in the securities market.

Open Interest Rate: Total number of futures or options contracts that are held by market participants at the end of the day. Also known as open contracts or open minded.

Overnight Limits: Refer to the net open position at the close of business on each work-day.

Plain Vanilla Derivatives: Standard or commonly traded contracts in derivatives markets. They are forwards, futures, swaps and options.

Proprietary Trading: Means engaging as 'principal' for a trading account in purchase or sale of covered financial positions.

Repo Rate: Is the rate at which the banks borrow from RBI.

Short Positions - Selling the asset / security / commodity without holding the same is taking short position on the particular asset/security/commodity.

Spot Rate: If the delivery of funds is on the second working day from the date of transaction, it is a spot transaction. The rate applied for such transaction is called spot rate.

Swap: An exchange of goods / commodities / cash flows in an underlying financial transaction.

17.19 Self-Assessment Test

1. Why does there exist a need for adequate internal controls with regard to dealing room operations?
2. Describe the concept 'Proprietary Trading' in your own words.
3. In terms of foreign exchange transactions, what could be the major functions of integrated treasury?
4. Write a short note on interbank dealings.
5. "The exchange rate can be quoted in two ways, namely, direct method and indirect method." Explain.
6. How internal audit differs from external audit?

17.20 Suggested Readings/Reference Material

1. Anthony Saunders, Marcia Cornett, Anshul Jain (2021). Financial Markets and Institutions. McGraw-Hill. 7th edition
2. I.M. Pandey, Financial Management (2021). 12th edition, Vikas Publishing House.
3. Jeff Madura (2020). Financial Markets and Institutions – Asia Edition, 13th edition; Cengage Learning
4. P. G. Apte (2020). International Financial Management; Tata McGraw-Hill Education Private Limited; 8th edition
5. Prasanna Chandra (2019). Financial Management – Theory and Practice, 10th edition, New Delhi: Tata McGraw-Hill
6. Frank J. Fabozzi, Frank J. Jones (2019). Foundations of Global Financial Markets and Institutions. Mit Press. 5th edition
7. Brealey Myers (2018). Principles of Corporate Finance, 12th edition, USA: McGraw-Hill Companies Inc.

17.21 Answers to Check Your Progress Questions

1. (a) OTC

Foreign exchange (Forex) market is an Over-The-Counter (OTC) market in which currencies are bought and sold against each other.

2. (b) Currency

Under the currency position, the dealer will be concerned only with the overall net position – either over bought or oversold. This open position exposes the dealer to exchange risks.

3. (c) Confirming transaction

Once the deal ticket has been submitted, it should be sent to the back office for confirmation.

4. (c) Back office

It provides great job security but involves most monotonous work at a relatively low pay.

5. (a) Two

Exchange rates are expressed as two way quotes – purchase and sale transactions. Hence we will have a buying rate and selling rate.

Exchange rates are also quoted for spot transactions and forward transactions. The time value of money (mainly on account of interest rates) comes into play and this results in different spot rates and forward rates for the same currency.

6. (a) Service provider

Basically a foreign exchange dealer is a service provider – to meet the requirements of his customers - to buy or sell foreign currency.

7. (d) Large Commercial banks

Large commercial banks deal in the market both to execute their clients' (both corporate and individuals) orders and on their own account. They act as market makers in the foreign exchange markets, i.e., they stand ready to buy or sell various currencies at specific prices at all points of time.

8. (b) Sales

Sales job is to call on institutional and HNI investors to suggest trading ideas and take orders. Sales desk then communicates clients' orders to trading desks. They price and execute trades. They also facilitate structuring new products that fit a specific need.

9. (a) Direct Quotation

Home Currency Quotation is also called Direct Quotation or Price Quotation System.

10. (a) Two

Regulatory frameworks have two aspects – direct control and indirect control.

Unit 18

Regulatory Aspects and Corporate Governance in Global Financial Markets

Structure

"Good corporate governance is about 'intellectual honesty' and not just sticking to rules and regulations, capital flowed towards companies that practiced this type of good governance."

\- Mervyn King (Chairman: King Report)

18.1 Introduction

Let's study how corporate governance and financial markets are susceptible to various forces and how regulatory institutions play a crucial role in guarding them and correcting their practices.

The previous unit dealt with dealing room operations. Dealing room has three tire structure 0 front office, mid office and back office. Dealing room operations, being highly sophisticated, demands adequate internal controls at every stage. Generally treasury operations are integrated. The Terminology of dealing room operations were briefly discussed in the previous unit.

Financial markets should be strong and well-regulated to ensure financial stability of any economy in the domestic scenario and internationally. The regulators of the individual economies and also collectively are making several attempts to strengthen the financial systems on a continuous basis. Several official bodies, including Basel Committee on Banking Supervision, the Bank for International Settlements, the International Monetary Fund and the World Bank have been examining ways to strengthen financial stability throughout the world. This unit deals with the stability of financial system and what sort of regulatory frameworks are in place and what happens when ethical issues are not addressed in the organization by the stake holders.

18.2 Objectives

After going through this unit, students will be able to:

- Discuss the implications of financial stability and the important aspects of financial stability in the global markets
- List out the regulatory authorities in global market segments like – securities, insurance etc.
- Discuss the basic concept of ethics and corporate governance
- Discuss the ethical issues involved for sustainability of financial markets pertaining to dealing room operations in institutions and corporates

18.3 Stability of Global Financial System

[26]Global financial stability is a very important aspect that is being addressed by central banks and regulatory authorities across nations within their own areas of operation. There is a collective effort also through international institutions like BIS, IMF and other agencies. Financial institutions in emerging economies as well as advanced economies are facing a number of cyclical and structural challenges and there is a need to adapt to low growth and low interest rates, as well as to an evolving market and regulatory environment. Let us move on to discuss some of the issues related to global financial stability.

Stability of the global financial system and regulation and policy responses consist of five main goals which are explained briefly below:

Goal 1: To build a framework that captures all key channels of financial contagion.

[26] https://www.imf.org/en/Publications/GFSR/Issues/2016/12/31/Fostering-Stability-in-a-Low-Growth-Low-Rate-Era

Goal 1 may have two approaches on financial contagion and financial stability. The first may formulate a systematic way to measure the amount of financial fragility of an economy, in an effort to increase the rigor with which issues of financial stability are covered in the policy or academic literature. The second approach may focus on the interactions between liquidity and systemic risk. This means association of liquid assets and risk of collapsing the financial system or financial market.

Goal 2: To address the debate on the appropriate use of monetary policy during crisis (the ex-post policy response).

Appropriate use of monetary policy has to encompass two main issues. First issue concerns the provision of liquidity assistance by central banks. The second field is the optimal form and level of communication by central banks in their decision of monetary policy.

Goal 3: To contribute to the debate on the appropriate framework for financial regulation (the ex-ante regulatory framework) for the next generation of regulatory rules.

The rregulatory response to a financial ccrisis will need to deal with at least seven fields of regulatory concern. (i) Deposit Insurance (ii) Bank Insolvency Regimes, a.k.a. ‘prompt corrective action’ (iii) Money market operations by Central Banks (iv) Liquidity Risk Management (v) Pro-cyclicality in CARs, i.e., Basel II, and general lack of counter-cyclical instruments (vi) Boundaries of regulation, Conduits, SIVs and reputational risk (vii) Crisis management.

Goal 4: To provide a systematic framework that spells out the terms of the trade-off between a mark-to-market measurement system and historical cost system in terms of their implications on financial stability.

The financial market and credit crisis of 2007 has renewed interest in the impact of rule changes on the accounting treatment of securities. This has seen big steps towards the use of ‘fair value’ or ‘mark-to-market’ accounting for financial assets – that is to say, accounting rules that value assets at prevailing market prices. The choice between mark-to-market accounting and historical cost accounting turns out to be a tricky one. On the one hand, under ‘mark-to-market’, the anticipation of future prices affects managers’ decisions which, in turn, inject artificial volatility into prices. On the other hand, the excessive conservatism in the historical cost regime leads to some inefficiency as accounting values are insensitive to price signals.

Goal 5: To develop an overall theoretical framework of financial stability encompassing the role of multilateral organizations.

Developing a framework for the analysis of financial stability requires a complex model incorporating default risk, heterogeneous financial institutions and investors, plus the scope to analyze the regulatory policies and central bank interventions. Extending such models to an open economy framework with international financial institutions is an important challenge.

A liquid, highly innovative financial system is essential for the growth of current economies. It is not only the lubricant that smoothens the friction of exchange from the neighborhood store to global financial marketplace, it should be mixed with entrepreneurship, skills and innovation to fuel the engine of economic growth. Finance is however highly volatile material, liable to explode and destroy the very engine, its oils and fuels. It must be handled with care. Hence, the need for global regulations in global financial markets is well conceived and considered for compliance.

Example: Vulnerability of Global Financial Stability - Report of IMF

According to the April 2002 report of the IMF, the risk of financial stability had risen with the war in Ukraine testing the ability of the financial system to endure multiple hits and chain reactions. With its ongoing troubles in the property sector that had already inflicted hard blows to the local banking systems, China would remain financially vulnerable for the coming few quarters at least. The new COVID-19 outbreaks and its zero COVID tolerance policy had only impeded its recovery. The factory of the world was not able to get on to its feet back to running. As the public debt had mounted during the COVID lockdowns the sovereign credit outlook of many smaller countries automatically deteriorated. This initiated the risk of a negative feedback loop at the macro level threatening financial stabilities at the sovereign levels.

Source: https://www.imf.org/en/Publications/GFSR/Issues/2022/04/19/global-financial-stability-report-april-2022, dated: 19 April 2022. (Accessed on June 27, 2022)

18.4 Core Principles for Effective Banking Supervision

Established on 17 May, 1930, the Bank for International Settlements (BIS) is one the apex international financial organization, having its headquarters in Basel, Switzerland. The main objective of BIS is to serve central banks in their pursuit of monetary and financial stability and to foster international cooperation among the central banks. Basel committee on banking supervision has been working in this field for several years, directly as well as through its many contacts with banking supervisors in every part of the world.

Example: Annual Meeting of BIS 2022 – Effective Banking Supervision

The Bank for International Settlements (BIS) which acts as the guiding post to central banks of the world held its annual meeting in June 2022. The representatives from various central banks met with an agenda to discuss the tough times almost all the economies of the world were going through.

Contd….

First the COVID-19 health emergency, then economic slowdowns due to lockdowns, and then the spending packages leading to historically high inflations for various economies from the advanced to the aspiring. The BIS recommended a quick and decisive interest rate hike as a suitable remedy for surging inflation. With a series of key interest rate hikes by various central backs like the Fed Reserve and RBI, some economists are foreseeing an economic slowdown if not a recession. But BIS still was quite hopeful of an economic soft landing – where key rate rise wouldn't trigger a recession.

Source: https://www.cnbc.com/2022/06/26/banking-body-bis-urges-decisive-wave-of-global-rate-hikes-to-stem-inflation-.html, dated: 26 June 2022. (Accessed on June 27, 2022)

The committee has prepared two documents, a comprehensive set of 'Core Principles' for effective banking supervision (The Basel Core Principles) and, a compendium (to be updated periodically) of the existing Basel committee recommendations, and guidelines. G-10 central banks' governors have endorsed both the documents.

'The Basel Committee Core Principles' cover 25 fundamental principles necessary for the supervisory structure to be effective. The principles relate to:

- Pre-conditions for effective banking supervision
- Licensing and structure
- Prudential regulations and requirements
- Methods of ongoing banking supervision
- Information requirements
- Formal powers of supervisors
- Cross border banking

An effective system of banking regulation and supervision will have clear objectives and well defined responsibilities for each agency engaged in the supervision. Each such agency is required to possess adequate resources and operational independence. An appropriate legal framework for supervision is also necessary, including terms authorizing the banking organizations, powers to address compliance with laws as well as other safety and soundness concerns; and legal safety for supervisors. Arrangements for sharing information between supervisors, and protecting the privacy of such information should be in place.

National agencies are expected to apply the standards in the regulation of every bank falling within their jurisdictions. The principles are minimum requirements and in several cases need to be supplemented by additional measures designed to address particular conditions and risks in the financial systems of individual countries. The Basel committee core principles are intended to serve as a primary reference for supervisory and other public authorities in all countries. Globally, it will be for national supervisory authorities, many of which are actively seeking to build up their current supervisory regime. That is to make use of the attached document to review their existing supervisory arrangements and to embark on a programme designed to address any deficiencies as quickly as is practical within their legal authority.

The principles have been designed to be provable by supervisors, regional supervisory groups, and the market at large. The Basel committee, along with other concerned organizations, will play a role in monitoring the progress made by individual countries in implementing the pprinciples. It was proposed that the IMF, the World Bank and other interested organizations use the principles in helping individual countries to strengthen their supervisory arrangements and support overall financial stability.

The Basel committee believes that achieving consistency with the core principles by every country will be a vital step in the process of improving financial stability domestically and globally. The pace with which this objective will be achieved will vary. In many countries, major changes in the legislative framework and changes in the powers of supervisors will be necessary because many supervisory authorities at present do not have the statutory authority to implement all of the principles. In such cases, the Basel committee considers it essential that national legislators give urgent thought to the changes necessary to ensure that the pprinciples can be functional in all material respects. The following Exhibit 18.1 provides the highlights of the Basel III monitoring exercise as of 31st December 2020.

Exhibit 18.1: Highlights of the Basel III Monitoring Exercise as of 31st December 2020

During the Covid-19 crisis, banks made further progress towards meeting fully phased-in final Basel III capital requirements and on average improved their capital and liquidity ratios compared with end-2019.

Data were included for 178 banks, including 111 large internationally active ("Group 1") banks, among them all 30 G-SIBs and 67 other ("Group 2") banks.3 Members' coverage of their banking sector is very high for Group 1 banks, reaching 100% coverage for some countries, while coverage is lower for Group 2 banks and varies by country.

- Compared with the end-December 2019 reporting period, the average Common Equity Tier 1 (CET1) capital ratio under the initial Basel III framework has increased from 13.0% to 13.2% for Group 1 banks and from 15.2% to 16.3% for Group 2 banks.
- The average impact of the final Basel III framework on the Tier 1 Minimum Required Capital (MRC) of Group 1 banks is higher (+2.9%) when compared to the 1.8% increase at end-December 2019.

Contd….

- The total capital shortfalls under the fully phased-in final Basel III framework as of the end-December 2020 reporting date for Group 1 banks decreased to €6.1 billion in comparison to end-December 2019 at €10.7 billion.
- Applying the 2022 minimum TLAC requirements and the initial Basel III framework, two of the 25 G-SIBs reporting total loss-absorbing capacity (TLAC) data reported an aggregate incremental Shortfall of €18.4 billion.
- Group 1 banks' average Liquidity Coverage Ratio (LCR) increased from 137.6% to 142.8%, while The average Net Stable Funding Ratio (NSFR) increased only slightly from 117.2% to 123.0%. For Group 2 banks, there was also an increase for the NSFR and a significant increase by more than 20 percentage points for the LCR.
- After Group 1 banks showed a slight drop in capital ratios in H1 2020, initial Basel III capital ratios have started to increase again. The overall CET1 capital ratios for Group 1 banks in the consistent sample have increased to 13.3% in December 2020 from 12.9% in December 2019 and 12.6% in June 2020. The overall increase in Tier 1 and total capital ratios was slightly higher.
- Currently, the Tier 1 capital ratios are higher in Europe than in the Americas and the rest of the world region. However, when compared with data starting from 2011, this relationship used to be reversed before 2014.
- Most of the capital ratios in Europe and the Americas saw increases, with the largest improvement coming from Europe. Capital ratios in the rest of the world were almost flat over 2020.

Source: Basel III Monitoring Report September 2021

Activity 18.1

Why did BIS introduce Basel I in 1990's?

Answer:

18.5 Basel I, II, III and Impact on Banking Sector

Basel Committee on Banking Supervision (BCBS) had taken various measures over the period to regulate the financial system across the globe. The set of guidelines worked out by the BCBS, mainly focuses on risks to banks and the financial system. These are called Basel accords. The purpose of these guidelines are to ensure that financial institutions have enough capital on account to meet obligations and absorb unexpected losses. India has accepted Basel accords for the banking system.

Basel I

In 1988, BCBS introduced capital measurement system called Basel capital accord, also called Basel I. It focused almost entirely on credit risk. It defined capital and structure of risk weights for banks. The minimum capital requirement was fixed at 8% of Risk Weighted Assets (RWA). India adopted Basel I guidelines in 1999.

The new economic reforms of 1991 had as an integral part, the banking reforms which are revolutionary and comprehensive. These banking reforms encouraged private sector banks, computerization, and imposed accountability for nationalized banks and created conditions for competition in the banking system. Global standards with regard to prudential norms namely income recognition, asset classification, provisioning etc., have been implemented. All the central banks including Reserve Bank of India have implemented Basel I.

During the period 1988-1997, the accord essentially set the following guidelines:

- A minimum capital ratio of capital to risk weighted assets of 8% to be implemented by the year 1992.
- Provision of precise definition for general provisions, general loan loss reserves for computing the capital adequacy of 8%.
- Recognition of effects of multi-lateral netting.
- A refined frame-work for market risk amendment to the capital accord in addition to the originally considered credit risk (market risk essentially arises from the bank's exposure to debt securities, forex assets, commodities, equities and options).
- Banks were advised to employ Value at Risk models (VaR models) as a basis for measuring market risk capital requirements.

In a sense, Basel I norms addressed the issue of capital erosion of internationally active banks following the breakdown of the Bretton Woods system and disruptions in the international financial markets. The aim of Basel I norms is to strengthen the stability and safety of the global banking system, besides reducing the competitive inequality among banks through the prescription of uniform prudential norms.

It was in the year 1992 that the implementation process for Basel I norms had begun. With efflux of time, the banking system in the world over, has undergone radical transformation, in terms of size, diversity and complexity. Basel I norms with their demerits and limitations have been found to be unequal to the task of creating a sound, stable and sustainable global banking system.

The Basel Committee on Banking Supervision (BCBS) therefore came out with a set of revised guidelines called Basel II norms in 2004. It is a three-pillar approach. The following Exhibit 18.2 explains the approach clearly:

Exhibit 18.2: Basel II Norms

Pillar 1	Pillar 2	Pillar 3
It deals with provision of regulatory capital for three principal risks namely credit risk, market risk and operational risk.	It deals with an effective supervisory review through superior internal systems, continuous assessment of risk profile and a robust architecture for risk mitigation processes and systems.	It aims at market discipline, through higher disclosure and transparency standards, superior corporate governance and enhanced comparability amongst banks.

Source: Bank for International Settlements; www.bis.org.in, 2004

Basel II norms have the following three major objectives:

- To scale up in international banking with regard to solvency, stability and quality;
- To create conditions of competition through a level-playing field for the global banking system; and
- To focus on a comprehensive and efficient risk management architecture, through more stringent processes and practices.

Basel III

The inadequacies in the risk management frameworks have led the financial systems across the globe to face the financial crisis of 2008. The systematic risk (market risk) was not adequately addressed with any regulatory framework when banks were exposed to higher debt on their books. To ensure that banks don't take on excessive debt, and that they don't rely too much on short-term funds, Basel III norms were proposed in 2010[27].

- The guidelines aim to promote a more resilient banking system by focusing on four vital banking parameters viz., capital, leverage, funding and liquidity.
- Requirements for common equity and Tier 1 capital would be 4.5% and 6%, respectively.

[27] www.worldbank.org

- The Liquidity Coverage Ratio (LCR) would require banks to hold a buffer of high quality liquid assets sufficient to deal with the cash outflows encountered in an acute short-term stress scenario as specified by supervisors.
- The minimum LCR requirement would be to reach 100% on 1st January 2019. This is to prevent situations like "Bank Run".
- Leverage Ratio > 3%: The leverage ratio was calculated by dividing Tier 1 capital by the bank's average total consolidated assets.

Example: Basel-III standardized approach

On December 15, 2021, The Reserve Bank of India proposed to revamp the methods used for measuring the metric of 'minimum operational risk capital requirements' of banks. RBI proposed to pitch in the new Basel-III standardized approach in this regard. Three approaches were used till then. They were

1. Basic Indicator Approach (BIA),
2. The Standardised Approach (TSA) also famously known as the Alternative Standardised Approach (ASA) and
3. Advanced Measurement Approach (AMA).

This RBI proposal, if and when implemented, would make the existing methods obsolete leaving the new Basel-III Standardised Approach the only applicable method.

Source: https://economictimes.indiatimes.com/news/economy/policy/rbi-proposes-new-norms-for-capital-requirement-for-banks/articleshow/88305109.cms, dated: 15 Dec 2021. (Accessed on June 27, 2022)

18.6 Why Global Supervision and Supervisors?

Central banks are custodians of the financial system. In today's turbulent financial markets, central banks are supposed to be the anchor of stability and act as a lifeline in case of financial distress. Besides central banks, states also have created dedicated supervisors to oversee stock markets, insurance companies and security traders.

Regulators and supervisors' – It is essential to understand the difference between regulating and supervising markets. Regulators create a set of laws aimed at financial institutions. Their chief objective is to maintain financial stability and protect those who use financial services. Overseeing if the regulations and laws are followed is the job of supervisors. A supervisor on finding, that a financial institution does not fulfill the legal requirements may enter into a dialogue or caution a non-compliant institution.

Dynamic Supervision – The necessity to distinguish regulators and supervisors is less obvious in the case of financial markets. Distinct responsibilities for regulation and supervision may be in accordance with textbooks on the separation of powers but denies the vibrant interaction between creation and enforcement of rules. If it is accepted that the objective of regulation and supervision is managing systemic risk, then the supervisor must have required aptitude, skill and discretion. Risk assessments in a quickly changing world are subject to changing perceptions, and supervisory capability must be regularly re-adjusted. In other words: if financial market engineers a novel high risk product, a supervisor must act in response immediately without waiting for the regulator's action.

Are Domestic Banking Supervisors Capable? In light of the current crisis, a more fundamental question concerns the capabilities of domestic supervisors. Banking supervisors are expected to evaluate banking policies, and procedures related to making of investments and granting of loans. This means that the supervisor needs to ensure that the credit and investment function of a bank is grounded on sound principles and that policies derived from such principles are transparently written down.

Will International Supervision Work? The establishment of an international supervisor has lot of advantages over the national supervisors but it may have its own drawbacks. Advantages are clear: A global supervisor has a jurisdiction that covers the global markets. Unhampered by jurisdictional borders, it can supervise cross-border movement of capital in all forms. With a steady flow of data, the global supervisor can understand innovative financial products, track the origins of financial products and apprehend how products disperse through the financial markets. An international supervisor may also bring better expertise. Moreover, being part of an international institution, officials are likely to be more independent and less hesitant to put in place an early warning system on performance of domestic bank.

Example: Interim Report of BIS 2021 – Supervision of Global Banking Reforms

The July 2021 report of BIS, titled '*Early lessons from the Covid-19 pandemic on the Basel reforms'*, was the result of a study to determine the effectiveness of reforms implemented after economies have gone through the COVID 19 Pandemic. The report indicated that the adoption of the Basel III reforms helped economies on several fronts. Availability of capital and the quality of liquidity in countries where banks implemented the norms had improved significantly. Due to the adoption of the Basel III reforms banks endured the blows of the Covid-19 much better, implying that there was a betterment in the resilience levels of the banking system. It helped, banks to persist with their key services like lending even during the COVID19 Pandemic.

Source: https://www.bis.org/press/p210706.htm, dated: 6 July 2021. (Accessed on June 27, 2022)

Check Your Progress – 1

1. Which of the following will be the outcome of weakness in the financial markets in a country, whether developing or developed.
   a. Financial stability
   b. Economic stability
   c. Interest rate stability
   d. Growth stability
   e. Business stability
2. According to Eatwell & Taylor, what is a liquid, highly innovative financial system that is a requisite for the of modern economies?
   a. Stability
   b. Growth
   c. Maturity
   d. Decline
   e. Downfall
3. Which of the following is the main function of Central Bank in a financial system?
   a. Guide
   b. Designer
   c. Instructor
   d. Custodian
   e. Well wisher
4. Which of the following entities will protect the interests of investors in securities and promote the development, and regulate the securities market?
   a. Central Bank
   b. Regional Bank
   c. Thrift Institutions
   d. Government
   e. Stock Exchange
5. Which of the following is a component of Core principles that need to be in place for an effective supervisory system?
   a. 35
   b. 25
   c. 15
   d. 5
   e. 55

Activity 18.2
Identify the differences between Regulators and Supervisors.

18.7 Global Financial Markets – Global Regulators / Global Supervisors

A regulated environment always helps the economic system to grow in a designed way and provide necessary framework to withstand market volatilities. Financial regulators should be responsible for monetary policies, securities markets, market liquidity and overall credit conditions.

Some of the global financial regulators/supervisors are:

Bank for International Settlements (BIS): The Bank for International Settlements (BIS) was established in 1930 in Basel, Switzerland. BIS is an international organization, created pursuant to an international treaty (The Hague Agreements of 1930). Its shareholding members are central banks and monetary authorities. The main objective of BIS is to serve central banks in their pursuit of monetary and financial stability, to foster international cooperation among the various central banks in the world.

Financial Stability Board (FSB): The Asian crisis of 1997 and the Russian crisis of 1998, prompted further rethinking of the global financial architecture. In February 1999, the G7 finance ministers and central bank governors created the Financial Stability Forum (FSF). Later, it became the Financial Stability Board (FSB) in 2009. The FSB is established as a not–for-profit association under Swiss law. It is hosted by the BIS under a five-year renewable service agreement. The organizational structure of the FSB consists of the plenary, steering committee, standing committees, working groups, regional consultative groups, chair and the secretariat.

Financial Stability Board (FSB) has close relationship with G20[28]. The FSB promotes global financial stability by coordinating the development of regulatory, supervisory and other financial sector policies. It achieves cooperation and consistency through a three-stage process, including monitoring implementation of agreed policies.

The FSB has a unique composition among international bodies. It brings together senior policy makers from ministries of finance, central banks, and supervisory

[28] The members of the G-20 are: Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, The United Kingdom, the United States and the European Union.

and regulatory authorities, for the G-20 countries. Besides these bodies, there are four other key financial centres – Hong Kong, Singapore, Spain and Switzerland. FSB also covers: international bodies, including standard setters and regional bodies like the European Central Bank and the European Commission.

This means it has all the main players who set financial stability policies across different sectors of the financial system. So, when policies are agreed, they also have the authority to carry it out.

Policies agreed by the FSB are not legally binding, nor are they intended to replace the normal national and regional regulatory process. Instead, the FSB acts as a coordinating body to drive forward the policy agenda and strengthen financial stability. It operates by moral suasion and peer pressure, to set internationally agreed policies and minimum standards that its members commit to implement at national level.

The outbreak of the global financial and banking crisis in 2007-08, accelerated the transformation of the governance structure of the international financial system.

The crisis of 2007-08 has had a major influence on BIS research and on the work of the Basel-based committees and secretariats. The crisis has led to renewed and heightened emphasis on financial stability issues, particularly the need for a macro prudential approach to financial stability. The work of the Basel-based committees - the BCBS (Basel Committee on Banking Supervision), CGFS (Committee on Global Financial System), CPMI (Committee on Payments and Markets and Infrastructures), and 'Markets Committee' - has been shaped by the need to address the challenges faced by various economies in the financial crisis.

Example: Financial Stability Board (FSB) on Cryptos

What to do with Crypto assets like bitcoins was a question with perhaps the most diverse views across the world were facing in 2022. The Financial Stability Board (FSB) was expected to examine and suggest a policy for the G20 nations as it is the body that coordinates with representatives from central banks and the ministries of Finance of these nations. Though FSB doesn't have a global jurisdiction to implement any policy, nevertheless it can give a guiding principle that can become a baseline for the individual policies that might be adopted by various nations at a later period. In Feb 2022, FSB initiated one such attempt to develop a basic framework for the cryptos.

Sources: i) https://economictimes.indiatimes.com/tech/technology/global-regulators-going-full-steam-to-tame-cryptocurrencies/articleshow/89469487.cms, dated: 10 Feb 2022. (Accessed on June 27, 2022)

ii) https://www.fsb.org/2022/02/fsb-warns-of-emerging-risks-from-crypto-assets-to-global-financial-stability/, dated: 16 Feb 2022. (Accessed on June 27, 2022)

European Banking Union & Colleges of Supervisors

The European Banking Authority (EBA) was established on 1st January 2011, as part of the European System of Financial Supervision (ESFS). EBA took over all existing responsibilities and tasks of the 'Committee of European Banking Supervisors'.

The EBA is an independent EU Authority which works to ensure effective and consistent prudential regulation and supervision across the European banking sector. Its overall objectives are to maintain financial stability in the EU and to safeguard the integrity, efficiency and orderly functioning of the banking sector.

The main task of the EBA is to contribute to the creation of the European single rule-book in banking whose objective is to provide a single set of harmonized prudential rules for financial institutions throughout the EU. The authority also plays an important role in promoting convergence of supervisory practices. It is mandated to assess risks and vulnerabilities in the EU banking sector.

'Colleges of Supervisors' is expected to help EBA for coordination of supervisory activities.

To assist in developing a consistent and effective college framework, the EBA's predecessor, CEBS (Committee of European Banking Supervisors), published guidelines:

(i) On the operational functioning of colleges

(ii) On the joint assessment of banks' risks, and joint decisions on the adequacy of cross-border banks' capital within a college setting. 'Colleges of Supervisors' operate within this framework.

'Colleges of Supervisors' are the vehicles for the coordination of supervisory activities. Under EU law, 'Colleges of Supervisors' have to be established for EEA (European Economic Area) banks with subsidiaries or significant branches in other EEA countries. They may include supervisors in non-EEA countries. The colleges allow supervisory authorities to join forces, share knowledge and use skills and resources more effectively and efficiently, regardless of their individual jurisdiction. This requires determination and significant efforts to prompt coordinated approaches among competent authorities.

National Central Banks and Other Domestic Supervisors

Each country will have a central bank, and as an autonomous body, the central bank monitors monetary policy, inflation and forex management apart from other statutory activities like currency printing etc. Some of the major activities are given below:

- Promote stability through money supply, interest rates, short-term credit; provide micro prudential oversight by regulating and supervising national financial markets; nevertheless, mandates may vary depending on political priorities.

- Coordinating international bodies like 'BIS Committee on Banking Supervision', the 'International Organization of Securities Commissions', and the 'International Association of Insurance Supervisors'.
- Develop common standards for supervision to be implemented by domestic supervisors.
- National regulators of various compositions.

European Systemic Risk Board

The European Systemic Risk Board (ESRB) was established in 2010 to oversee the financial system of the European Union (EU) and prevent and mitigate systemic risk.

The ESRB is responsible for the macro prudential oversight of the EU financial system and the prevention and mitigation of systemic risk. The ESRB has a broad remit, covering banks, insurers, asset managers, shadow banks, financial market infrastructures and other financial institutions and markets.

18.8 List of Regulatory Authorities in Major Markets

In the earlier paragraphs we discussed the regulatory framework in which the global financial markets operate. Let us appreciate the mechanism of some of the government agencies in monitoring the individual markets in major financial markets namely the US, the EU, the UK and India.

18.8.1 US Market Regulators

The 'U.S. Securities and Exchange Commission' is the regulatory authority of the US to protect investors, maintain fair, orderly and efficient markets, and facilitate capital formation. Subsequent to the Great Depression of 1929-30, the US Congress enacted the Securities Act of 1933. This law, together with the Securities Exchange Act of 1934, which created the Stock Exchange Commission (SEC), was designed to restore investor confidence in the US markets.

The responsibility of the commission is to:

- Interpret and enforce federal securities laws
- Issue new rules and amend existing rules
- Oversee the inspection of securities firms, brokers, investment advisers, and ratings agencies
- Oversee private regulatory organizations in the securities, accounting, and auditing fields and
- Coordinate U.S. securities regulation with federal, state, and foreign authorities

Commodity of Futures Trading Commission

This is an US organization. The Commission was established as an independent agency in 1974, assuming responsibilities that had previously belonged to the

'Department of Agriculture' since the 1920s. The objective of the Commodity Futures Trading Commission (CFTC) is to foster open, transparent, competitive, and financially sound markets. By working to avoid systemic risk, the commission aims to protect market users and their funds, consumers, and the public from fraud, manipulation, and abusive practices related to derivatives and other products that are subject to the Commodity Exchange Act (CEA).

Federal Reserve System

The Federal Reserve System is the central bank of the United States.

It performs five general functions to promote the effective operation of the U.S. economy and, more generally, the public interest. The Federal Reserve:

- **Conducts the nation's monetary policy** to promote maximum employment, stable prices, and moderate long-term interest rates in the U.S. economy.
- **Promotes the stability of the financial system** and seeks to minimize and contain systemic risks through active monitoring and engagement in the U.S. and abroad.
- **Promotes the safety and soundness of individual financial institutions** and monitors their impact on the financial system as a whole.
- **Fosters payment and settlement system safety and efficiency** through services to the banking industry and the U.S. government that facilitate U.S. dollar transactions and payments and
- **Promotes consumer protection and community development** through consumer-focused supervision and examination, research and analysis of emerging consumer issues and trends, community economic development activities, and the administration of consumer laws and regulations.

Example: The Rate Hike by the Federal Reserve

On June 15, 2022, the Federal Reserve continuing its efforts to contain high inflation raised its key interest rate by three-quarters of a point which happens to be its largest hike since 1994. This affects the consumer and business loans, to a range of 1.5% to 1.75% in the US. The Fed's decision to impose a large rate hike like this was seen as an acknowledgment that it was struggling to curb the pace and persistence of inflation. This also signalled more and large rate increases to come rising the fears of another recession.

Sources: i) https://www.latimes.com/business/ey2yf1l-dg-123, dated: 15 Jun 2022. (Accessed on June 28, 2022)

ii) https://www.ndtv.com/world-news/us-federal-reserve-announces-biggest-interest-rate-hike-since-1994-to-tame-surging-inflation-3071046#:~:text=The%20super%2Dsized%20move%20was,point%20increase%20since%20November%201994.&text=Washington%3A,it%20battles%20against%20surging%20inflation, dated: 16 Jun 2022. (Accessed on June 28, 2022)

Federal Deposit Insurance Corporation

The Federal Deposit Insurance Corporation (FDIC) was created in 1933 as a way to mitigate the damage caused by thousands of bank failures stemming from the stock market crash of 1929 and other risky investments. The Federal Deposit Insurance Corporation (FDIC) is an independent agency of the federal government responsible for insuring deposits made by individuals and companies in banks and other thrift institutions. The FDIC insures deposits up to $250,000. The agency also identifies and monitors risks to its deposit insurance funds and tries to limit the effects on the U.S. economy if a bank of thrift institution fails. The FDIC is funded through premiums paid by banks and thrift institutions to pay for deposit coverage and from interest the agency earns on U.S. treasury securities.

Financial Crimes Enforcement Network (FinCEN)

This is also a US agency. The objective of the 'Financial Crimes Enforcement Network' is to safeguard the financial system from illicit use and combat money laundering and promote national security through the collection, analysis, and dissemination of financial intelligence and strategic use of financial authorities.

'The Financial Crimes Enforcement Network Strategic Plan' for fiscal years 2014-2018 outlines two strategic goals that FinCEN seeks to achieve in fulfilling its mission to enhance the integrity of financial systems by facilitating the detection and deterrence of financial crime.

Strategic Goal 1: Safeguard the financial system from evolving money laundering and national security threats.

Strategic Goal 2: Maximize sharing of financial intelligence between FinCEN and its domestic and foreign partners in government and private industry

Office of the Comptroller of the Currency

The Comptroller of the Currency, a governmental agency in the US, is the administrator of the federal banking system and chief officer of the Office of the Comptroller of the Currency (OCC). The OCC supervises more than 1,400 national banks and federal savings associations and about 50 federal branches and agencies of foreign banks in the United States. These institutions comprise nearly two-thirds of the assets of the commercial banking system.

The objective of OCC is to ensure that national banks and federal savings associations operate in a safe and sound manner, provide fair access to financial services, treat customers fairly, and comply with applicable laws and regulations.

Consumer Financial Protection Bureau (CFPB)

The Consumer Financial Protection Bureau (CFPB), a US governmental agency, was created to provide a single point of accountability for enforcing federal consumer financial laws and protecting consumers in the financial market-place. Earlier, the responsibility was divided among several agencies. The primary work includes:

- Rooting out unfair, deceptive, or abusive acts or practices by writing rules, supervising companies, and enforcing the law
- Enforcing laws that outlaw discrimination in consumer finance
- Taking consumer complaints
- Enhancing financial education
- Researching the consumer experience of using financial products
- Monitoring financial markets for new risks to consumers

18.8.2 UK Market Regulators

The United Kingdom is an island country located in Western Europe comprising England, Scotland, Wales, and Northern Ireland. United Kingdom has an advanced open market economy.

The central bank of the UK is Bank of England.

Bank of England (BOE)

Bank of England (BOE), founded in 1694, is the central bank of the United Kingdom. The Bank's mission is to promote the good of the people of the United Kingdom by maintaining monetary and financial stability.

Prudential Regulation Authority

The Prudential Regulation Authority (PRA) was created as a part of the Bank of England by the Financial Services Act (2012). It is responsible for the prudential regulation and supervision of around 1,700 banks, building societies, credit unions, insurers and major investment firms. The PRA's objectives are set out in the Financial Services and Markets Act 2000 (FSMA). The PRA has three statutory objectives:

- A general objective to promote the safety and soundness of the firms it regulates;
- An objective specific to insurance firms, to contribute to the securing of an appropriate degree of protection for those who are or may become insurance policy-holders; and
- A secondary objective to facilitate effective competition.

Financial Conduct Authority

The Financial Conduct Authority is the conduct regulator for 56,000 financial services firms and financial markets in the UK and the prudential regulator for over 18,000 of those firms. The strategic objective of FCA is to ensure that the relevant markets function well and the operational objectives are to:

- Protect consumers
- Protect financial markets
- Promote competition

Financial Policy Committee

The Financial Services Act 2012 brought major reforms to create a UK regulatory frame-work which is focused on the issues that matter and better equipped to deliver financial stability. Consequently, on 1st April 2013, the new legislation established an independent Financial Policy Committee (FPC) at the Bank. The Committee is charged with a primary objective of identifying, monitoring and taking action to remove or reduce systemic risks with a view to protecting and enhancing the resilience of the UK financial system. The FPC has a secondary objective to support the economic policy of the Government.

18.8.3 European Union Market Regulators

The European Union is a unique economic and political union between 28 European countries that together cover much of the continent.

The EU was created in the aftermath of the World War II. The first steps were to foster economic cooperation: the idea being that countries that trade with one another become economically inter-dependent and so more likely to avoid conflict. The result was the European Economic Community (EEC), created in 1958, and initially increasing economic cooperation between six countries: Belgium, Germany, France, Italy, Luxembourg and the Netherlands. Since then, a huge single market has been created and continues to develop towards its full potential**.**

Let us discuss the important regulatory bodies in the EU:

European Central Bank, European Banking Authority & European Securities and Markets Authority

The European Central Bank (ECB) is the central bank of the 19 European Union countries which have adopted the Euro. The main task of ECB is to maintain price stability in the Euro area and so preserve the purchasing power of the single currency.

ECB defines and implements monetary policy for the Euro area and carries out a number of other tasks, including banking supervision.

European Banking Authority

Established on 1st January 2011 EBA, as part of the European System of Financial Supervision (ESFS) took over all existing responsibilities and tasks of the 'Committee of European Banking Supervisors'.

European Securities and Markets Authority

European Securities and Markets Authority (ESMA) is an independent EU Authority that contributes to safeguarding the stability of the European Union's financial system by enhancing the protection of investors and promoting stable and orderly financial markets.

European Insurance and Occupational Pensions Authority

This entity comprises of three European Supervisory Authorities. The European Insurance and Occupational Pensions Authority (EIOPA) was established in consequence of the reforms to the structure of supervision of the financial sector in the European Union. It is part of a European system of financial supervisors that comprises three European supervisory authorities. They are: one each for the banking sector, securities sector and the insurance and occupational pensions sector, as well as the 'European Systemic Risk Board'.

EIOPA's main goals are:

- Better protection of consumers and rebuilding trust in the financial system.
- Ensuring a high, effective and consistent level of regulation and supervision taking account of the varying interests of all member states and the different nature of financial institutions.
- Greater harmonization and coherent application of rules for financial institutions & markets across the European Union.
- Strengthening oversight of cross-border groups.
- Promote coordinated European Union supervisory response.
- EIOPA's core responsibilities are to support the stability of the financial system, transparency of markets and financial products as well as the protection of policy-holders, pension scheme members and beneficiaries. EIOPA is commissioned to monitor and identify trends, potential risks and vulnerabilities stemming from the micro-prudential level, across borders and across sectors.

European Systemic Risk Board

The European Systemic Risk Board (ESRB) oversees the financial system of the European Union (EU), prevents and mitigates systemic risk. The other details were discussed in 18.6.

18.8.4 Market Regulators of Japan

Japan is an island nation in East Asia. Located in the Pacific Ocean having a parliamentary system of government with a constitutional monarchy; the chief of the state is the Emperor, and the head of the government is the Prime Minister. Japan has a market economy in which the prices of goods and services are determined under a free price system.

Central Bank: The Bank of Japan is the central bank of Japan. It is a juridical person established as per the Bank of Japan Act and is not a government agency or a private corporation.

The Act sets the bank's objectives "to issue bank-notes and to carry out currency and monetary control "and” to ensure smooth settlement of funds among banks and other financial institutions, thereby contributing to the maintenance of stability of the financial system."

The Act also stipulates that the bank's principle of currency and monetary control shall be aimed at achieving price stability, thereby contributing to the sound development of the national economy.

Financial Services Agency

The Financial Services Agency is a Japanese government agency and an integrated financial regulator responsible for overseeing banking, securities and exchange, and insurance sectors in order to ensure the stability of the financial system of Japan. The agency operates with a commissioner and reports to the Minister for Financial Services. It oversees the ‘Securities and Exchange Surveillance Commission’ and the ‘Certified Public Accountants’ and ‘Auditing Oversight Board’.

Securities and Exchange Surveillance Commission protects investors and upholds the integrity of the securities market by inspections of companies, surveillance of markets and investigations of securities scandals.

18.8.5 Market Regulators of India

India located in Southern Asia, has a government that is federal in structure; the chief of the state is the President, and the head of the government is the Prime Minister. India has a market economy in which the prices of goods and services are determined under a free price system. The major markets are financial markets and securities markets. The regulatory framework is as follows.

Reserve Bank of India

As central bank of the country the RBI performs functions like: issue of bank notes, banker to Government, manage the Cash Reserve Ratio (CRR) and statutory liquid ratio of commercial banks, manage exchange rates and foreign exchange reserves of the country, central clearance and accounts settlement, manage monetary policy and inflation and money supply and act as controller of credit.

Securities and Exchange Board of India

The Securities and Exchange Board of India (SEBI) is the regulator for the securities market. SEBI was established in the year 1988 and was vested with statutory powers on 30th January 1992. The ‘Forwards Market Commission’, the commodities market regulator, was merged with the SEBI in December 2015.

The Forward Contracts Regulation Act (FCRA) which used to regulate commodities forward trading stands repealed, and the regulation of the commodity derivatives market shifts to SEBI under the Securities Contracts Regulation Act (SCRA), 1956.

Pension Fund Regulatory and Development Authority

Pension Fund Regulatory and Development Authority was established through an Act called Pension Fund Regulatory and Development Authority Act, 2013. This Act has facilitated the establishment of an Authority to promote old age income security by establishing, developing and regulating pension funds, to protect the interests of subscribers to schemes of pension funds and for matters connected therewith or incidental thereto.

Insurance Regulatory and Development Authority

Insurance Regulatory and Development Authority was enacted through IRDAI Act 1999, to regulate insurance in India. The main objectives of IRDAI are:

- To protect the interests and ensure fair treatment to all policy-holders
- To promote speedy and orderly growth of the insurance industry (including annuity and superannuation payments), for the benefit of the common man, and to provide long-term funds for growth of the economy
- To promote, monitor and enforce high standards of integrity, fair dealing, financial soundness, and competence of those it regulates
- To ensure speedy settlement of genuine claims, to prevent insurance malpractices and frauds and put in place efficient grievance redressal machinery
- To promote fairness, transparency and organized conduct in markets of insurance products and build a reliable management information system to enforce high standards of conduct amongst market players
- To take action where such standards are inadequate or ineffectively enforced
- To promote self-regulation in day-to-day working of the industry consistent with the requirements of prudential regulation

The regulatory consistency assessment program of Basel III is illustrated in Exhibit 18.3 below.

Exhibit 18.3: Regulatory Consistency Assessment Programme Basel III – India

The Basel Committee on Banking Supervision (BCBS) established the Regulatory Consistency Assessment Programme (RCAP) in 2012 to ensure proper implementation of the standards set. RCAP has two distinct parts that are complementary in nature.

Contd….

The first part is self-assessment by the central bank of the country concerned and the second consists of jurisdictional peer reviews and thematic assessments of regulatory outcomes.

The exercise was expected to result in a proper assessment of the state of adoption of the standards set by BCBS. Assessment of the risk-based capital regulations in India under Basel III was started (under RCAP) in Oct 2014. It was completed with data as of March 2015. RBI completed the self-assessment as of October 2014. Based on this, the RCAP team identified few deficiencies. Taking the cue, the RBI undertook a review and upgraded its prudential capital framework that was consistent with the Indian requirements. The RCAP team then assessed the implementation of BCBS norms for Basel III based on 14 components. RCAP assessment was that the Indian banks "complied" with the standards set. The Indian capital framework improved through the adoption of about 44 improvements suggested by the RCAP team. These became effective on April 1, 2015. The regulatory body in India, the RBI, imposed higher minimum capital requirements and risk weightings for certain types of exposures than those set by the BCBS. This earned the bank and the Indian government authorities' compliments from the assessment team.

Source: Regulatory Consistency Assessment Programme (RCAP) Assessment of Basel III risk-based capital regulations – India, BIS, June 2015

Check Your Progress - 2

6. How will the establishment of an international supervisor facilitate the national supervisors?
   a. Credit functions
   b. Reserve requirements
   c. Limitations of national supervisors
   d. Reservations
   e. Control functions
7. Which of the following entities will create the rules aimed at financial institutions to foster financial stability and to protect those who use financial services?
   a. Supervisors
   b. Government
   c. Stock exchange
   d. Thrift Institutions
   e. Regulators

8. Which of the following is not a regulatory agency in India?
   a. RBI
   b. IRDA
   c. SEBI
   d. PFRDA
   e. Federal Reserve
9. Which of the following entities serves Europe's citizens by maintaining a price stability, maintaining Euro's purchasing power and safeguarding the value of the Euro?
   a. European Systemic Risk Board
   b. European Union
   c. European Insurance and Occupational Pensions Authority
   d. European Central Bank
   e. European Banking Authority
10. Which of the following entities contributes to the establishment of high-quality common regulatory and supervisory standards and practices in the European Union?
    a. European Insurance and Occupational Pensions Authority
    b. European Central Bank
    c. European Union
    d. European Banking Authority
    e. European Systemic Risk Board

18.9 Basic Concept on Ethics and Corporate Governance

Corporate Governance is the relationship between corporate managers, directors and the providers of equity, people and institutions who save and invest their capital to earn a return. It ensures that the 'board of directors' is accountable for the pursuit of corporate objectives and that the corporation itself conforms to the law and regulations. – International Chamber of Commerce.

Corporate governance refers to activities, personnel, regulations and policies which are related to the control of the company's actions. Corporate governance happens through individuals exercising a controlling influence such as stock-holders or creditors. It aims at minimizing principal agent problems and undermines stake-holders' views in company operations.

Corporate governance is in the limelight in today's business world greatly because of increasing number of stake-holders whose wealth is at stake in the business. What has further highlighted corporate governance has been the growing awareness of these stake-holders. Without sound corporate governance, a business cannot survive. Good corporate governance caters to various other issues present in the society.

Example: The Debate on Ethics in the context of the Ukraine war

The exit of McDonald's from Russia was neither unique nor special. It was just one among the 1,000 other companies from the west that withdrew from Russia. This exodus of these companies was not due to the implementation of any sanctions from their home countries but a voluntary response, an expression of protest against the Russian aggression on Ukraine. Mcdonald's would lose around $ 1.4 billion due to this decision, a cost it was willing to pay like many other companies. Though many of these companies did not provide any goods or services used directly in the war, they withdrew as a stand of solidarity with Ukraine. Even though this was perceived as taking sides by a few analysts, especially from Asia, the trend was too big to be ignored.

Sources: i) https://theconversation.com/companies-leaving-russia-are-caving-to-public-pressure-not-actually-making-a-difference-182746, dated: 18 May 2022. (Accessed on June 28, 2022)

ii) https://www.bbc.com/news/business-61463876, dated: 17 May 2022. (Accessed on June 28, 2022)

18.10 Corporate Governance – Principal Players

As seen above, corporate governance is the mechanism of creation and enhancement of the long-term sustainable value for stakeholders through an ethically driven business process. Who are the stakeholders / players in the corporate governance? Let us discuss a few related issues on the principal players in corporate governance.

1. Board of Directors – The entity that controls and directs the corporate entity.
2. The Chief Executive Officer, Company Secretary and Chief Financial Officer – The chief executives of the corporate entity.
3. Management Staff – Top and Middle Management – of the corporate entity.
4. Other employees working in the corporate entity.
5. Stock or share-holders holding ownership interest in the entity.
6. Regulators, who either directly or indirectly, direct, control, instruct, regulate the entity.
7. Other stake-holder institutions – like banks and financial institutions which have stakes in the entity.
8. Suppliers, vendors to the entity.
9. Customers of the corporate entity.
10. Government and other local bodies which govern the jurisdiction in which the entity is located.

Example: Chanda Kochhar and the ICICI Bank Scandal – CBI, ED, IT

In March 2018, news about the irregularities of the then CEO and MD of ICICI Bank, Chanda Kochhar was out. In 2012, the Videocon group was sanctioned a ₹ 3,250 crore loan from ICICI Bank. Six months after this it was alleged that Venugopal Dhoot the promoter of Videocon advanced tens of millions to NuPower Renewables Pvt., Ltd., (NRPL). Incidentally, NRPL was set up by Venugopal and Deepak Kochhar the husband of Chanda Kochhar. In Jan 2019 the CBI named Chanda Kochar, her husband Deepak Kochar, and Venugopal Dhoot in its FIR for cheating and defrauding ICICI Bank to the tune of ₹ 1,730 crore. After the committee headed by retired Justice B.N. Srikrishna charged Kochhar. The Income Tax department started probing the sources of funds for acquiring Kochhar's South Mumbai residence. The Enforcement Directorate also lodged a money laundering case against Kochhars, Dhoot and others, and arrested Deepak Kochar in September 2020.

Sources: i) https://www.pgurus.com/how-was-the-former-icici-bank-head-chanda-kochhar-caught-for-her-sins-who-all-tried-to-save-her/, dated: 12 Jan 2020. (Accessed on June 29, 2022)

ii) https://www.businesstoday.in/latest/corporate/story/chanda-kochhar-misused-post-to-sanction-loan-to-videocon-group-pmla-court-286666-2021-02-04, dated: 4 Feb 2021. (Accessed on June 29, 2022)

Activity 18.3

What are the core issues in bank's corporate governance?

Answer:

18.11 Corporate Governance Best Practices

Every company / business entity /organization has to manage its affairs in a fair and transparent manner. The entity is answerable to all its stakeholders. Every entity /organization has to arrive at its own corporate governance guidelines and best practices. The issues related to ethics and corporate governance is more important in financial markets where every transaction is coupled with huge monetary stakes.

In the last decade of 1990 -2000 many financial turmoils took place across financial markets in the world. A number of corporate scandals and related restatements of financial results seemed to have resulted from failures in accounting policies and practices. Differences of opinion regarding future directions of accounting standards and practices were evident, especially relating to the issue of the extent to which "fair value" accounting should be used. The fair value debate was and is particularly sharp as it relates to certain group of financial instruments. Prompted by these issues, at its plenary meeting held at the Federal Reserve Bank of New York in December 2002, the Group of Thirty[29], commissioned the formation of a working group to look into issues relating to accounting policies and practices.

The G30 report[30], developed in collaboration with EY and Tapestry Networks, outlines how each of these participants must reassess their approach to corporate governance and take meaningful steps to make it stronger.

This working group recommended certain best practices regarding governance, price verification and audit practices. These are suggestive guidelines only.

A. Governance

1. A clear and delineated governance structure should exist including provision for appropriate segregation of duties as well as documented procedures for the escalation of issues and exceptions to the board of directors or the audit committee.
2. A senior management group should take responsibility for the control and evaluation of policies and processes. This group should report the results of its work directly to the board of directors or the audit committee.
3. Initial responsibility for the determination of fair value should reside with the risk taking business. Ultimate responsibility for determining the fair value incorporated into financial statements must be outside the risk taking functions.
4. Senior management should ensure that there are adequate resources, with the appropriate experience; training and reward to ensure that control, price verification and risk management function are carried out at high standards.

B. Control

5. Risk limits should be established, accepted and monitored within a framework and overall risk appetite approved by the board of directors or the audit committee.

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[29] The Group of Thirty, established in 1978, is a private, nonprofit, international body composed of very senior representatives of the private and public sectors and academia. It aims to deepen understanding of international economic and financial issues, and to explore the international repercussions of decisions taken in the public and private sectors. The Group is characterized by its knowledge of the past and broad-minded, forward thinking.

[30] http://www.ey.com/gl/en/industries/financial-services/banking---capital-markets/toward-effective-governance-of-financial-institutions---a-call-to-action-on-bank-governance

6. For financial assets and liabilities measured at fair value, organizations should disclose information in their financial statements that is consistent with the way they measure and manage risk. Any significant differences between the day-to-day measurement and management of risk and Generally Accepted Accounting Principles (GAAP) should be well acknowledged, recorded and accepted by senior management and concerned board level committees. The same practice should be sought for other financial assets and liabilities to ensure that risk oversight and management reporting are not based on GAAP principles. This recommendation is not intended to limit the use of risk management information based on non-GAAP principles (e.g., value-at-risk, etc.)
7. There should be a procedure for the approval of new transaction types and markets (New Product Approval) and related controls and risk management approaches. This is a critical element of the control framework.
8. An appropriately qualified and experienced Independent Price Verification (IPV) unit should be responsible for the fair values used in the financial statements.
9. There should be a group dedicated to model verification, independent of risk taking activities, employing highly experienced and qualified quantitative professionals.
10. Valuation models or changes to a valuation model must be reviewed and approved by the 'Model Verification Group'. Details of model approvals and changes thereto should be recorded in an inventory.
11. There should be procedures for the timely review of highly structured complex trades, independent of the persons responsible for their design and execution.
12. For institutions using hedge accounting, the documentation, valuation and control requirements should be managed by financial control.

C. Price Verification Procedures

13. Institutions should undertake a rigorous process, at least monthly, to verify fair values. The results should be reported to senior management. Where fair value is a critical component of reported results, senior management should report the price verification results to the board of directors or the audit committee.
14. An independent group should be responsible for approving adjustments for consistency. The group's findings and any changes to the method of adjustments should be informed to senior management. A report of price verification differences and valuation adjustments should be distributed

throughout senior management and where fair value is a critical component of reported results, to the board of directors or the audit committee.

15. In addition to a rigorous monthly In Person Verification (IPV) process, there should be a process for the review and explanation of daily profit and loss (and for non-traded financial assets/liabilities the relevant periodic profit and loss), which should be reported to senior management on a daily basis.

D. Audit

16. Internal audit departments should review at least annually the Independent Price Verification procedures and control processes.
17. External audit should devote considerable resources to reviewing the control environment, including the price verification especially in those institutions where fair value is a critical component of reported results.

The above recommendations are considered as one of the popular frame-works for corporate governance.

Individual business entities across the globe have developed their own guidelines within the scope of the law of the land and regulatory frameworks in which they operate.

Example: Tweets that Costed Elon Musk his Chair on the Board

On August 7, 2018, Elon Musk, the CEO of Tesla tweeted that he was considering taking Tesla Private at a share price of $ 420 and also mentioned that funding was secured. Tesla's stock rallied following Musk's tweets, jumping as high as $371. On September 27, the SEC charged Musk with misleading investors. The SEC alleged that the tweets had no factual basis and that the chaos that they fomented actually hurt investors. As a part of the settlement, in June 2019, Tesla Inc., (TSLA) and Elon Musk, each agreed to pay $20 million to the U.S. Securities and Exchange Commission (SEC). Musk also agreed to step down as the chairman of Tesla, although he would remain in his position as chief executive officer. In March 2022, Elon Musk's attempt to terminate a 2018 settlement with the U.S. Securities and Exchange Commission that required oversight of some of his Tesla-related tweets had failed as a federal judge denied the motion.

Sources: i) https://www.thehindu.com/sci-tech/technology/judge-rules-musks-tweets-over-taking-tesla-private-were-false-investors-say/article65331188.ece, dated: 18 April 2022. (Accessed on June 29, 2022)

ii) https://www.ndtv.com/world-news/us-judge-rejects-elon-musks-bid-to-end-supervision-of-2018-tesla-tweets-2927144, dated: 28 April 2022. (Accessed on June 29, 2022)

18.12 Sarbanes Oxley Act - United States

Throughout the world, there is an increasing focus on risk management as a result of the collapse of high profile businesses such as Barings Bank, brought down by a rogue trader, and Enron, which entered into complex financial arrangement to inflate profits.

'Risk' comes down to the potential to lose money and in particular to destroy investors' capital. To prevent unreasonable risks being taken by directors and managers within organizations, tighter internal controls have been introduced, especially for publicly traded companies in the United States and all publicly traded non-US companies that require a listing in the United States.

SOX, or the Sarbanes Oxley Act 2002 was introduced by the US Congress following the high profile collapse of US corporate giants Enron and WorldCom. Both organizations had massively overstated their profits because of corruption within the Board room**.**

The Sarbanes-Oxley Act of 2002 requires these companies to submit an annual appraisal regarding the efficiency of their internal financial controls to the Securities and Exchange Commission. In addition, company's external auditors are required to audit and give an account on the management's internal control reports.

Sarbanes-Oxley has introduced much tighter regime for the management of financial data and financial reporting. All companies that have to comply with the act must now have a financial accounting framework that can generate financial reports that are easily verifiable with source data, which must remain intact without undocumented revisions. Even for those businesses around the world that do not have to comply with the act, its financial accounting rules provide a framework for governance of organisations.

The emergence of SOX compliance and other regulations have moved governance, risk and compliance to the forefront for businesses both in the US and worldwide.

Example: Latest Amendments to the Sarbanes Oxley Act

Sec. 404, of the **Sarbanes Oxley Act** (SOX) Act, required corporate leadership and external auditors to attest to the effectiveness of internal controls over financial reporting if the company's public equity float is $75 million or more. This expensive requirement acted as an incentive for corporate leaders to use debt instead of equity to grow and keep their public float below the $ 75 million threshold.

Contd….

Hence, in June 2018, the amendments to raise the cap for status as a "smaller reporting company" which used to be "less than $75 million" in public float to "less than $250 million" was approved. Now companies with public float of less than $700 million shall be designated as (Smaller Reporting Company) SRCs if their annual revenues were less than $100 million, because of this amendment.

Sources: i) https://corpgov.law.harvard.edu/2020/04/04/secs-carve-out-from-sox-404b-for-low-revenue-companies/, dated: 4 April 2020. (Accessed on June 29, 2022)

ii) https://www.cfodive.com/news/pandemic-companies-sarbanes-oxley/575977/, dated: 14 April 2020. (Accessed on June 29, 2022)

18.13 Financial Markets and Corporate Governance

As per a report brought out by the United Nations Conference on Trade and Development (UNCTAD), the global financial market crisis that impacted the US in 2007 can to a great extent be attributed to failures in corporate governance arrangements. It did not serve the purpose of safeguarding against excessive risk in numerous financial services companies. Accounting standards have also proved insufficient. Remuneration systems have in a number of cases not been closely related to the company strategy, risk appetite and its long-term interests.

Various market players of the financial markets have to follow the corporate governance rules put forth by the respective trade bodies.

The high tech bubble bust in the late 1990s pointed to severe conflicts of interest by brokers and analysts. The Enron failure that took place in 2001 pointed to issues with respect to auditor and audit committee independence. The verdict was not that these were problems not just associated with energy or telecommunications, but were systemic.

In the above cases, corporate governance deficiencies were not causal. Instead, they facilitated or did not prevent practices that resulted in poor performance.

The turmoil in financial institutions in 2007 is often described as the most serious financial crisis since the 'Great Depression'. Significant failures of risk management systems in some major financial institutions were made inferior by incentive systems that rewarded high levels of risk taking. Since reviewing risk policy is a function of the board, these deficiencies point to ineffective board oversight. In addition, disclosure, credit rating procedures and accounting standards have led to ineffective corporate governance outcomes in the financial services sector as well as the non-financial sector.

Example: COVID-19 and Corporate Governance

According to the paper published by OECD, due to the COVID-19 crisis, governments around the world had taken steps to adjust the corporate governance framework requirements.

Contd….

Although some of these adjustments were temporary, several long-term developments that influenced the adaptation of corporate governance policies and regulations in the post-COVID-19 era called for attention. The COVID-19 pandemic experiences accentuated the need for improvements in the frameworks for risk and crisis management as well as related issues such as audit quality, stock price manipulation and insider trading.

Source:https://www.oecd-ilibrary.org/sites/efb2013c-en/index.html?itemId=/content/publication/efb2013c-en, Dated: Year 2020 (Accessed on June 29, 2022)

18.14 Dealing Ethical Issues for Sustainability of Financial Markets

Ethics in finance has never been as relevant as it is today. Ethical behaviour in financial markets is very important, not just from a moral point of view, but equally from the point of view of economic efficiency.

In an industry where contracts are based on trust - trust from the provider of capital that he is fairly rewarded for the risk taken; trust from the borrower that he is charged a fair interest for the capital - any failure in this confidence can quickly lead to incorrect pricing and in turn, improper allocation of resources.

Loss of confidence in the financial structure in general means rising counter-party risks, and the capital lenders may demand a higher risk premium in their investment returns, raising the overall cost of capital in the economy.

The developments of recent years illustrate the challenges that are faced by the industry. The Libor Scandal in 2012, wherein many banks were found guilty of colluding to misprice benchmark rates, exemplifies the possible consequences of immoral behaviour in one segment of the market. Libor is an inter-bank rate, but as a benchmark in the pricing of corporate sector loans and derivatives, it affects transactions over a wider range than just the money market.

While several global banks were fined for their involvement in the manipulation and exploitation of the Libor and Euribor reference rates, others ended up paying hefty fines for infringements like, material non-disclosure, improper sales practices in the sub-prime mortgage market, illegal participation with counterparties, or illegal credit card practices. Since 2010, two big US banks alone paid a total fine of US$52 billion and US$36 billion, respectively, while a European bank group paid as much as US$9 billion.

The fines imposed on global banks since 2010 have been the harshest ever by the US system.

The last couple of years have seen the uncovering of cases of foreign exchange manipulation, leading to the dismissal of employees and in criminal prosecutions – even larger penalty for the guilty parties. The high media hype adjoining these cases had a negative impact on the financial industry's reputation with the general public. 2014 Edelman Global Trust Survey places banks as the least believed or trusted of the major business sectors.

Nonetheless it is very encouraging that major steps have been taken by policy-makers and regulators to tighten behavioural standards in the industry. The future evolution of the financial industry will bring new challenges for regulators and professional bodies alike. Extending codes of good behaviour and governance to a broader swathe of financial market players will be an ongoing chore for professional bodies and regulators.

[31]Levy of penalties by regulators for non-compliance

According to a news item published in Fortune in 2020, the fines collected by financial regulators for not complying the rules is on rise. Regulators hit banks with a near record $10 billion worth of fines in a 15 month period through 2019, and the figure is expected to increase in 2020.

According to Fenergo's research, 60.5% of the fines came from banks violating anti-money laundering rules, while the rest—38.7% of fines arose from the transactions with countries under sanctions. In the latter case, it was United States regulators that levied almost all such fines, amounting to a total of $3.67 billion.

Overall, the $10 billion of fines in the immediate past 15 months period contrasts with the period of 2008 to 2018 when the total fines for the entire decade amounted to $26 billion (in the year 2015, fine collection saw a higher total than the most recent figure).

Fenergo predicted that fines on financial institutions will be more in the coming years, as the United States and other countries upgraded their sanctions and anti-money laundering regulations.

Example: Ethics of People in Power

Fed regional presidents in the US were believed to be well informed of the impending policy changes and hence whatever they say would greatly influence the financial markets. These officials because of their access to exclusive information, can get an easy read about the sectors that would benefit and sectors that would be negatively affected once these changes are implemented. It was alleged that two regional Fed presidents, one Mr. Robert Kaplan, the president of the Dallas Federal Reserve Bank, and the other Mr. Eric Rosengren, the president of the Boston Fed, had engaged in extensive trading in 2020. These disclosures forced the Federal Reserve (US) to investigate the financial holdings and activities of its senior officials and also review its own policies in such matters. Eventually, these two officials had to resign in September 2021.

Sources: i) https://apnews.com/article/business-police-boston-64fd554f15a93bea28809acfc8980e31, dated: 17 Sept 2021. (Accessed on June 29, 2022)

ii) https://www.usnews.com/news/business/articles/2021-09-27/dallas-feds-kaplan-to-leave-in-wake-of-trading-disclosures, dated: 27 Sept 2021. (Accessed on June 29, 2022)

[31] https://fortune.com/2020/03/11/money-laundering-record-year-bank-fines/

18.15 Some Bitter Experiences

Many corporate scandals broke out in the U.S. economy beginning in 2001. Some of them are Enron, WorldCom, Tyco, Adelphia, and HealthSouth etc. These scandals created distrust on the U.S. business system and raised great doubts on the effectiveness of corporate governance in the United States. They happened because of a few dishonest or unethical corporate managers caught up in the collapse of the stock market bubble that began in 2000 that reflected massive failure of corporate governance to prevent these corporate collapses. Some of the bitter experiences which shook the financial markets in the world are discussed below:

18.15.1 WorldCom

Bernard John "Bernie" Ebbers, a Canadian businessman, co-founded the WorldCom, a telecommunications company. He was a former chief executive officer of the company.

The company began as long distance discount services. It grew rapidly in the 1990s. Number of companies were bought or merged with WorldCom.

In October 1999, Sprint Corporation and MCI WorldCom announced a $129 billion merger agreement between the two companies. Had the deal been completed, the merged company would have surpassed AT&T as the largest communications company in the United States.

However, the deal floundered due to opposition from the US Department of Justice and the European Union. The concern raised was that it would produce a monopoly. On July 13, 2000, the merger was terminated. Later, MCI WorldCom renamed itself simply as WorldCom.

By that time, the prices of WorldCom’s stock were declining, and banks made increasing demands on Ebbers to cover margin calls on his WorldCom stock which were used to sponsor his other businesses. In 2001, Ebbers persuaded WorldCom’s Board of Directors to sanction corporate loans of over $400 million to cover his margin calls. The Board anticipated that the loans would prevent Ebbers from selling substantial amounts of his WorldCom stock, as this would have resulted in a further decline in the stock's price. Nevertheless, the strategy was unsuccessful.

In 2002, a small team of internal auditors at WorldCom worked jointly and secretly to investigate and reveal $3.8 billion worth of fraud. Subsequently, the company’s Board of Directors was notified of the fraud.

The fraud happened primarily in two ways: Booking "line costs" (interconnection expenses with other telecommunication companies) as capital expenditures instead of expenses and inflating revenues with bogus accounting entries from "corporate unallocated revenue accounts".

WorldCom inflated assets by as much as US$ 11 billion, leading to 30,000 lost jobs and $ 180 billion in losses for investors. The main player was the CEO, Bernie Ebbers. The CEO was fired, and the company filed for bankruptcy. Ebbers was sentenced to 25 years for fraud, conspiracy and filing false documents with regulators.

Following this scandal, the US Congress passed the Sarbanes-Oxley Act, introducing the most sweeping set of new business regulations.

18.15.2 Enron

Enron was a Houston-based commodities, energy and services corporation.

Enron was a company that reached dramatic heights, only to face a dizzying collapse. The story ends with bankruptcy of one of the biggest corporations of the USA. Enron’s downfall influenced the lives of many employees and shook Wall Street. Many still wonder how a company so big vanished overnight.

By the fall of 2000, Enron was starting to crumble under its own weight. The CEO, Jeffrey Skilling, had a technique of hiding the losses especially in the trading business. It was called “mark to market’’ accounting. Mark to market concept is used in securities trading. It works fine for securities, but can be disastrous for other businesses.

In Enron's case, the company would build an asset and immediately claim the projected profit on its books. If the revenue from the asset was less than the projected amount, instead of recording the loss, the company transferred these assets to an off-the-books corporation and the loss went unreported. This method of accounting fashioned an attitude that the company did not need profits, and, by using the mark-to-market technique, Enron could easily write off any loss without hurting the company's bottom-line.

The mark-to-market practice was a convenient way to hide the losses and make the company appear to be more profitable. Andrew Fastow, a rising star who was promoted to CFO in 1998, came up with a plan to make the company show great profits, despite facing mounting losses. The scheme was achieved through the use of Special Purpose Entities (SPE). Under SPE, failed assets could be kept off the company's books. In return, the company could issue to the investors of the SPE, shares of Enron's common stock, to compensate them for the losses. However, this game couldn't go on forever. By April 2001, many analysts started to question the transparency of Enron's earnings. This fraud scheme was turned in by internal whistle-blower, Sherron Watkins.

Net result - shareholders lost $74 billion, investors lost their hard earned money, and many employees lost their jobs.

Main players were CEO Jeff Skilling and former CEO Ken Lay. Lay died before serving time. Skilling got 24 years in prison. Arthur Andersen was proved guilty of fudging Enron’s accounts. The company filed for bankruptcy.

Fortune magazine named Enron, "America's most innovative company'', for almost six years in a row prior to the scandal.

18.15.3 Satyam Scandal

On 24th June 1987, Satyam Computer Services was incorporated as a private limited company. It was promoted by B Rama Raju and B Ramalinga Raju. 'Satyam' became one of the leading software companies in India. It also became famous.

By 2008, Satyam's revenues crossed $2 billion. In December, the company decided to buy out Maytas Infra owned by Raju's sons for $1.6 billion. The deal fell through after investors and board members objected to the deal, and in a span of four days, four directors of the company quit.

The multi-crore Satyam Computers corporate scam was a jolt to the market, especially to Satyam stock-holders.

The incidence of the Satyam fraud, one of the biggest corporate frauds, raised eyebrows and highlighted the need for better government regulations among corporates.

The scandal broke out in 2009 when founder-chairman of Satyam Computers, Mr Ramalinga Raju confessed that the company's accounts were tampered with. He disclosed a ₹ 7,000-crore accounting fraud in the balance sheets.

10 people were found guilty in the case.

The following details provide some more information on the total case.

During January 2009, Satyam was barred from doing business with the World Bank for eight years. The World Bank alleged that Satyam was involved in data thefts and staff bribery. Shares fell to record low in four years. Satyam employees received a letter from Raju admitting to the fraud, following which he resigned as chairman. Rest of the story was history.

Satyam episode revealed the then prevailing weak corporate governance levels in the Indian corporate sector, and also highlighted the urgency for laws to protect the integrity of its capital markets and to prevent slump in foreign investor participation. This episode was accentuated by the lack of reforms in investor voting processes, related-party transactions and corporate disclosure and auditing.

Deficiencies in India's corporate governance scenario concerned international authorities when the head of Satyam Computer Services confessed to deceiving the company for a number of years. A month before this, he had infuriated generally submissive institutional investors when he expressed his desire to buy infrastructure companies owned by his family.

The proposal to blow Satyam's cash reserves on a family transaction in times of global financial crisis without giving minority share-holders an opportunity to vote was not received well. He put the whole FDI (Foreign Direct Investment) in India at great risk by adopting such inappropriate corporate governance practices.

This episode led to some key recommendations that included a call to overhaul the "weak" system concerning related party transactions. It also gave independent share-holders the power to disapprove/approve large transactions.

The audit system also came under criticism. There is a cap on the number partners in an audit firm and also there was cap on the number of apprentices an audit firm can enroll. Because of these two restrictions, the audit firms many times relied on bank account information of the clients instead of independently verifying the information.

The timeline of the scam[32]: The following are the important dates in the scam history of Satyam Computers:

- *January 7, 2009:* Ramalinga Raju dropped a 'letter-bomb' on unsuspecting investors, employees and the government confessing to a ₹ 7,136-crore fraud committed by him and his close circle of relatives and employees at the company. Ramalinga Raju resigns.
- *January 8, 2009:* Citibank freezes Satyam's 30 accounts.
- *January 9, 2009:* Ramalinga Raju and his younger brother B. Rama Raju are arrested. Government of India. disbands Satyam's board, to appoint its own 10 directors.
- *Jan 9, 2009:* Satyam removed from Sensex, Nifty.
- *Jan 10, 2009:* Satyam's former CFO Srinivas Vadlamani arrested.
- *Jan 11, 2009:* Government appoints Deepak Parekh, Kiran Karnik and C. Achuthan to Satyam board.
- *February 2009:* Central Bureau of Investigation (CBI) takes over investigation, goes on to file three charge sheets.
- *Mar 6, 2009:* Gets SEBI nod for bidding process to select investor.
- *April 22, 2009:* Tech Mahindra makes open offer to Satyam shareholders at ₹58/share, offer to close June 9.
- *June 22, 2009:* Mahindra unveils new brand identity for Satyam, Mahindra Satyam.
- *November 2, 2011:* Supreme Court grants bail to Raju since CBI failed to file charge sheet on time.

[32] http://www.thehindu.com/specials/timelines/satyam-scandal-who-what-and-when/article7084878.ece dated Apl 9th 2015

- *October 28, 2013:* Enforcement Directorate files a criminal complaint against 47 persons and 166 corporate entities headed by Ramalinga Raju.
- *December 8, 2014:* Ramalinga Raju and three others given six months jail term by SFIO.
- *December 23, 2014:* Judge postpones verdict citing voluminous documents.
- *March 9, 2015:* Special court defers verdict till April 9.
- *April 9, 2015:* All 10 accused found guilty.
- The rest is history and part of great failures in the Indian corporate world.

18.15.4 Collapse of Barings Bank

Barings Bank was one of the oldest merchant banks in Britain. The 233-year-old bank collapsed in 1995 when Nicholas William Leeson, derivatives trader landed the bank with a debt of S$1.4 billion – largely through futures trading contracts. The bank collapsed on 26th February 1995. At that point of time, it had accumulated losses amounting to S$2.2 billion.

The trader's mandate was to arbitrage between Nikkei 225 futures quotes in Singapore and Osaka. Instead of using futures and options, he made huge bets on the future direction of Nikkei 225. The amount of loss was close to $1 billion.

Leeson initially was very successful in speculation, making enormous profits for Barings. Till 1995, he had been hiding losses from bad trades in a secret account. Leeson was able to do this as Barings gave him the responsibility of double-checking his own trades, instead of having him report to a superior. Instead of reigning in his speculative gambles, Leeson continued to play bigger odds in an effort to make up for the lost money.

Ironically, the trade that undid Leeson was one of his most conservative speculations. Leeson placed a short straddle on the Nikkei, guessing the exchange to remain steady overnight, not going up or down by a significant margin. Normally, Leeson would have been safe but the earthquake in Kobe caused a sharp drop in the Nikkei and other Asian markets.

With huge losses, Leeson attempted to counter-balance the losses with increasingly desperate, short-term gambles based on the Nikkei's rate of recovery. Sadly, a severe earthquake ruined all hopes. Leeson fled the country, but was finally arrested in Germany. Barings, having lost over $1 billion went bankrupt.

In this episode, the management did not exercise prudent monitoring and control.

18.15.5 A Rogue Trader of Société Générale

Société Générale S.A., is a French multinational banking and financial services company headquartered in Paris.

On Feb 21st 2008, Société Générale declared a €3.35 billion, net loss for the fourth quarter of 2007, whereas it recorded a profit of €1.18 billion in 2006. This happened due to the trades done by a rogue trader in subprime mortgage investments.

The details are given under:

Jerome Kerviel, an equity trader in the Paris office of Societe Générale, lost over $7 billion speculating on movements in equity indices in January 2008. He is alleged to have concealed his exposure by creating fictitious trades. Like Leeson at Barings, his mandate was to do arbitrage trades.

In 2000, Jerome Kerviel joined Societe Generale, in the compliance area. He was promoted in 2005 and he became a junior trader. He traded equity indices like the French CAC 40 and the Euro Stoxx 50. His job was to look for arbitrage chances. These occasions arise if a futures contract on an equity index was trading at different prices on two different exchanges. Arbitrage may also be possible if equity index futures prices were not consistent with the prices of the shares constituting the index.

Kerviel used his knowledge of the bank's procedures to speculate while making it look like arbitrage. He took big positions in equity indices and created fictitious trades to make it appear like hedging. Actually, he had placed large bets on the direction in which the indices would move. Over a period of time, the volume of his un-hedged position grew to tens of billions of Euros.

In January 2008, his unauthorized trading was exposed by SocGen. In three days, the bank unwound his position for a loss of 4.9 billion Euros. At that time, it was the biggest loss in global financial history as a result of fraudulent activity.

In this episode, the management was held guilty of shirking its responsibility of monitoring and control. Extreme greediness with lax supervision was considered as the cause for this record loss. And no one monitored such positions and also verified the books leave alone questioning the rogue trader.

18.16 Summary

- Weakness in the financial markets in a country, whether developing or developed, can threaten financial stability both within the country and internationally. The need to improve the strength of financial systems has attracted growing international concerns. Stability of the global financial system and regulation and policy responses work with five main goals.
- A liquid, highly innovative financial system is necessary for the growth of modern economies. Hence, the need for global regulations in global financial markets – well conceived and considered for compliance. There is a greater consensus on the need to make financial stability as an objective in addition to price stability with appropriate attention to output and employment.

- The Basel committee on banking supervision has been working in this field for many years, both directly and through its many contacts with banking supervisors in every part of the world. The committee has prepared two documents, a comprehensive set of core principles, for effective banking supervision and, a compendium of the existing Basel committee recommendations, guidelines and standards. The Basel core principles comprise 25 basic principles that need to be in place for a supervisory system to be effective.
- An effective system of banking regulation and supervision will have clear responsibilities and objectives for each agency involved in the supervision of banking organizations. Central banks function as custodians of the financial system. In today's turbulent financial markets, central banks are expected to be the anchor of stability and throw a lifeline in case of financial distress. Central banks are not the only institutions that oversee financial institutions. States have created dedicated supervisors to oversee stock markets, insurance companies and security traders.
- Global financial market-place has been covered by listing out the international regulators and supervisors. Along with it, a list of local regulatory authorities in major global markets has also been furnished.
- There is a considerable debate and discussion on the need for regulation or redesigning financial laws in many jurisdictions. There are several unresolved issues on what appears to be an acceptable framework of such re-regulation at the national level.
- Corporate governance refers to the role that company boards or executive teams play in leadership and oversight.
- While the specific elements of corporate governance are many, they generally involve emphasis on creating and maintaining company direction and promoting goodwill with share-holders and other stake-holders.
- Corporate governance refers to all the activities, policies, personnel, regulations and reporting which is related to the control of the company's actions.
- Some of the key elements of corporate governance are – direction, oversight, share-holder relation, and corporate citizenship.

18.17 Glossary

BCBS: Basel Committee on Banking Supervision established in 1974. It provides a forum for regular cooperation on banking supervisory matters.

CFPB: Consumer Financial Protection Bureau is a regulatory agency charged with overseeing financial products and services that are offered to consumers.

CFTC: Commodity Futures Trading Commission regulates the commodity futures and options markets.

Corporate governance: According to the International Chamber of Commerce, corporate governance is the relationship between corporate managers, directors and the providers of equity, people and institutions who save and invest their capital to earn a return.

EBA: European Banking Authority is an independent EU Authority which works to ensure effective and consistent prudential regulation and supervision across the European banking sector.

ECB: European Central Bank is the central bank of the 19 European Union countries which have adopted the Euro. Its main task is to maintain price stability in the Euro area and to preserve the purchasing power of the single currency.

EIOPA: European Insurance and Occupational Pensions Authority was established as a consequence of the reforms to the structure of supervision of the financial sector in the European Union.

ESMA: European Securities and Markets Authority is an independent EU authority that contributes to safeguarding the stability of the European Union's financial system by enhancing the protection of investors and promoting stable and orderly financial markets.

ESRC: European Systemic Risk Council established in 2010 to oversee the financial system of the European Union (EU) and, prevent and mitigate the systemic risk.

FCA: Financial Conduct Authority is a regulatory body for financial services and financial markets in the UK.

FCEN: Financial Crimes Enforcement Network is a network administered by the United States' department of the treasury whose goal it is to prevent and punish criminals and criminal networks that participate in money laundering.

FDIC: Federal Deposit Insurance Corporation is a U.S. corporation insuring deposits in United States against the bank failure.

FINRA: Financial Industry Regulatory Authority it is a regulatory body tasked with governing all business dealings conducted between dealers, brokers and all public investors.

FMC: Forward Markets Commission is the chief regulator of commodity futures markets in India. As of July 2014, it regulated ₹ 17 trillion worth of commodity trades in India.

FPC: Financial Policy Committee is an official committee of the Bank of England, modelled on the already well-established Monetary Policy Committee.

FSA: Financial Services Agency's role is to ensure the stability of Japan's financial system; the protection of depositors, insurance policyholders and securities investors; and the inspection, supervision and surveillance and transparency of the financial system.

FSB: Financial Stability Board is an international body which monitors and recommends about global financial system.

IRDA: Insurance Regulatory and Development Authority regulates and controls insurance companies and protects the insurance investors.

NAIC: National Association of Insurance Commissioners is a nationwide organization whose motive is to protect insurance consumers.

OCC: Office of the Comptroller of the Currency is a U.S. federal agency that serves to charter, regulate and supervise the national banks and the federal branches and agencies of foreign banks.

PRA: Prudential Regulation Authority is a part of BoE responsible for prudential regulation of around 1700 banks, societies, credit unions, etc.

PRFDA: Pension Fund Regulatory and Development Authority is responsible for appointment of various intermediaries in the system such as Central Record Keeping Agency (CRA), Pension Fund Managers, Custodian, NPS Trustee Bank, etc.

Sarbanes Oxley Act 2002: US regulation as per which companies in the US are expected to submit an annual assessment of effectiveness of their internal financial controls to SEC.

SEC: Securities & Exchange Commission is an independent, federal government agency responsible for protecting investors, maintaining fair and orderly functioning of securities markets, and facilitating capital formation.

18.18 Self-Assessment Test

1. What are the core principles of effective banking supervision?
2. What is the difference between regulators and supervisors?
3. Explain about Euro Regulatory Authority.
4. What is the major role played by regulatory authorities in India?
5. What are the core variables of corporate governance?
6. Write a short note on Sarbanes Oxley Act US.

18.19 Suggested Readings/Reference Material

1. Anthony Saunders, Marcia Cornett, Anshul Jain (2021). Financial Markets and Institutions. McGraw-Hill. 7th edition
2. I.M. Pandey, Financial Management (2021). 12th edition, Vikas Publishing House.

3. Jeff Madura (2020). Financial Markets and Institutions – Asia Edition, 13th edition; Cengage Learning

4. P. G. Apte (2020). International Financial Management; Tata McGraw-Hill Education Private Limited; 8th edition

5. Prasanna Chandra (2019). Financial Management – Theory and Practice, 10th edition, New Delhi: Tata McGraw-Hill

6. Frank J. Fabozzi, Frank J. Jones (2019). Foundations of Global Financial Markets and Institutions. Mit Press. 5th edition

7. Brealey Myers (2018). Principles of Corporate Finance, 12th edition, USA: McGraw-Hill Companies Inc.

18.20 Answers to Check Your Progress Questions

1. (a) Financial stability

Weakness in financial market will threaten financial market of the country and also internationally.

2. (b) Growth

Innovative financial system is necessary for the growth of modern economies.

3. (d) Custodians

Central Bank is always a custodian of financial systems.

4. (e) Stock Exchange

Investor protection and regulation of stock market is done by Stock Exchange.

5. (b) 25

25 core basic principles are needed for the effective supervisory system.

6. (c) Limitations

An international supervisor takes away some of the limitations of national supervisors.

7. (e) Regulators

Regulators create rules for meeting the objectives, stability and investors protection.

8. (e) Federal Reserve

Federal Reserve is regulatory agency in USA.

9. (d) European Central Bank

European Central Bank serves Europe's citizens by maintaining price stability, Euro's purchasing power and safeguarding the value of the Euro.

10. (a) European Insurance and Occupational Pensions Authority

European Insurance and Occupational Pensions Authority contribute to the establishment of high-quality common regulatory and supervisory standards and practices in the European Union.

Global Financial Markets

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