National College of Ireland

Project Submission Sheet

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Programme: Master of Science in FinTech **Year:** 2025-2026

Module: Financial Market (MSCFTD1)

Lecturer: Prof. Ciaran Hayden

Submission Due Date: 24/November/2025

Word Count: 4853

I hereby certify that the information contained in this (my submission) is information pertaining to research I conducted for this project. All information other than my own contribution will be fully referenced and listed in the relevant bibliography section at the rear of the project.
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Signature: Mohd Nizam

Date: 24/11/2025

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AI Acknowledgement Supplement

Module: Financial Market (MSCFTD1)

Your Name/Student Number	Course	Date
Mohd Nizam Shaikh / 24198170	Master of Science in FinTech	24/11/2025

This section is a supplement to the main assignment, to be used if AI was used in any capacity in the creation of your assignment; if you have queries about how to do this, please contact your lecturer. For an example of how to fill these sections out, please click here.

AI Acknowledgment

This section acknowledges the AI tools that were utilized in the process of completing this assignment.

Tool Name	Brief Description	Link to tool
N/A	N/A	N/A

Description of AI Usage

This section provides a more detailed description of how the AI tools were used in the assignment. It includes information about the prompts given to the AI tool, the responses received, and how these responses were utilized or modified in the assignment. **One table should be used for each tool used**.

Evidence of AI Usage

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Additional Evidence:

[N/A]

Academic Honesty Declaration

I declare the following to be true for this submission:

- I have completed the task during the designated time window and declare it to be exclusively my own work.
- I have not received, or attempted to receive assistance in preparing this response from any other person during the assessment window.
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- I have read and understand the National College of Ireland guidelines of Plagiarism.

I. THE EVOLUTION & FUNCTIONING OF THE MODERN BOND MARKETS:

Currently Bond and Debtor market showcase an important role in financial system for economic growth to expand the economy globally. Although we will dive deeper into the modern market but before there's a short illustration from previous incidents about securities market as it began back in the period in ancient states of Italy where government to borrow money to fund War, finance military troops plus their essential equipment and various campaigns. In 12th century Genoa created secondary market to trade government bonds and Venice perpetual bonds, hence, it was evolving till now in period to finance services and projects for each country's citizens. On the other hand, 17th & 18th centuries witness the significant role of modern bonds. American organizations from the year of 1900 also got the right to issue bonds to raise capital for enlarge projects or contracts in manufacturing development, railroad & mining businesses. Therefore on 20th century led to Great Depression in 1930 was a big disaster for bond issuers many of the big name's failed to pay their investor which included 1933 Securities Act which came in limelight for showcase regulation's structure along with the agency of SEC. This change marks a history how government initial swiftly adapted by companies which makes to raise debt capital at the ancient time Britain Government has outstanding debt greater than their GDP. (Choudhry, 2010), (Fabozzi, 2016)

Institutions and government bodies describe the securities via bonds for each country by providing their investors with facilities for fixed-income on behalf of their investment. Purchasing bonds gives legal benefits to stakeholder who is lending their money to bond issuers in exchange of funding at a given certain interest rates which is known as coupon and got returned back capital advised as maturity after a certain bond period. Trading of bonds transformed a new shape of process from paper certifications to fully modernized digital trading, although it involves many facilities like online certificates, quick pricing information and globally investing which is in supervision of banks, brokers and agents. To sum up, it was a brilliant action by issuers which takes place to raise long-term smart money which also creates a strong path for holders to gain entrance into the bond market for investing their capital in safe secured stake to customize it in any ways by calculating risk and return value. The bond market has grown from Government borrowing to a developed structure of investment market in a modern system which is safer and enables individuals to work together on an organized manner by creating, trading and managing day-to-day the bonds to keep price and interest up to date to runs it smoothly. (Choudhry,2010)

SOVEREIGN BONDS:

Sovereign bonds are published by the Government to assist in financing public projects, budget deficiency and managing nation debtors these is usually a safe investment in strong nations but seems risky to invest in a low-potential nations. Famous national bond markets example known as US-Treasuries, UK-Gilts, German-Bunds, Japan-JGB and India's-G Sec. (Aguiar and Amador, 2014)

CORPORATE BONDS:

Additionally, corporate bonds are created by companies, organizations or business entities to raise liquidity for growth or expanding businesses and investing in new startups. Same in corporate bonds there are also high-yield bonds from weaker market turnover that provides

higher yields know as high interest rate and investment graded bonds who owns by financially stable firms. The market for corporate bonds is strong in US as compared to EU. (Berger and Udell, 1998)

Emerging bond markets represents great return but at the cost of high risk because of many political parties' fluctuation this issue also describes instability between currency changes. As for example Chinese bonds drawn a lot of attention from for foreign market and investors invest huge amount even though China country has strict capital rules and regulations.

The contrast between government and corporate bonds which is invention of perpetual annuity by Bank of England & Dutch East India is not just who issues those bonds, in fact if a company cannot repay capital at the time of maturity there are governmental bankruptcy laws and legislation but for any government there are still no mechanism to repay.

BOND ISSUANCE:

Bond issuance is a process where bonds initially crafted and offered for sale to investors where entities looking to raise debt and mandates via an auction procedure where underwriters help assisting with preparation, structure, documentation, credit ratings and marketing then after all the procedure bids decide its yield and priced-on market performance additionally issuer receives earnings by giving underwriter fees.

ROLES OF ISSUERS, INTERMEDIARIES AND LENDERS:

Issuers raise capital by issuing bonds for investors such as Governments and Corporations (U.S Treasury has debt over $27trillion). Intermediaries makes easier to publish bonds and supply liquidity are known as Investment Banks, Broker – Dealer. Lenders invest money in bonds to expand their portfolio and surplus income known as Central banks, Commercial banks, Pension + Hedge + Mutual Funds, Insurance companies and individual investors.

SECONDARY MARKET:

The Secondary market is where lenders purchase and sell existing bonds via brokers or dealers which is differentiate from Stock Exchanges as they mainly deal in central platform. Online trading bond systems like Tradeweb and Bloomberg made market ease for investors to get the details from multiple dealers especially for high trading bonds like US Treasuries. The maturity period helps them adjusting their portfolios which features significant liquidity in market while some of the corporate bonds like Apple or JPM lack liquidity or expensive for trade and Government bonds transferred freely (Berger and Udell, 1998). Since 2008 financial crisis many dealers hold few bonds which effects liquidity problem through market stress for buyers.

RISK:

Bond investors faces numbers of risk firstly inflation risk where fixed coupon payment value loses, secondly credit risk describes as the issuer as defaulter, thirdly interest rate risk illustrates whereas yield increases results in decreasing bond prices and lastly liquidity risk where investors got not able to sell bond so issuer repays bond price early at low interest rates. (Choudhry,2010), (Fabozzi, 2016)

$$P_0 = \frac{F}{(1+R_1)(1+R_2)\cdots(1+R_T)}$$

MATURITY:

Maturities of bonds are various types like short-term where traders pick reliable low risk-level and short amount of periodical safety bonds while medium-term refers stability and balancing profit. Long-term offers high level yields but risk in fluctuation of prices. The correct maturity depends on level of investment, needs, capacity of risk and analysis on future yields.

YIELD TO MATURITY AND MEASURES OF RETURN:

YTM (Yield to Maturity) represent returns inclusive such as coupons which earned from buying bonds for profit and hold till maturity, Current Yield is only for prompt profit measure while yield to call is callable bonds that can be redeemed earlier from maturity. Realized Yield illustrates rate at when coupons are reinvested, Equivalent Tax Yield is a significant yield for municipal or state government bonds to do comparison with taxable bonds. Total return measures demonstrate what is the earning over the period which can be different from market prices if fluctuations in any of YTM.

$$\frac{\text{Annual Coupon}}{\text{Price}} \times 100$$

STRUCTURE OF FORECASTED YIELD:

Yield curve always play a keen role as investor expectation look for growth, inflation and future interest rates because there are various curves but the most significant ones are monitored by Central banks to setup policies and spot future signs of economic troubles. For instance, 1960 US recession for 12-18 months showcases inverted yield curve where short-term rates proceed higher which leads central bank to inflation and decreased in economy, as an example COVID Pandemic 2019 inversion fell economy to recession. Expectation Hypothesis theory advise if short-term rates rise than long-term rate increased too and vice versa. (Choudhry,2010), (Aguiar and Amador, 2014), (Duffie, 1998)

$$\mathsf{E}_0[R_k] = f_k$$

BOND MARKETS AS INDICATOR OR MACRO-ECONOMIC EXPECTATION:

Bond markets act as an economic indicator because in the previous period we've seen recession of 2008 and 2019 decreasing turn. However, bonds risk and economic prediction via yield curves expects through credit spread indicates confidence, tight spread indicates hope whereas wide spread indicates caution and TED spread measures inflation rates, expectations and banking stress. Treasury yields reflect growth and inflations which is below 1% during 2019 pandemic. COVID impact in 2020 illustrates increased investment in corporate bonds which reveals flaws in market. Although at the end central bank played their role very well by stabilizing the situations but due to insecurity it still raises risk taking concerns for future.

Formula – Spread = Corporate Yield – Treasury Yield

COUPON BONDS:

Coupon bonds name came from paper certificates where investors redeem coupons to get paid interest for example 5% coupons for a $500 bond pays $25 yearly which is divided $12.5 average on every 6 months in US. Senior citizen prefers fixed payment which is provided by coupon bonds although it contains interest rate risks as the market rate rise bond rates fall for instance a 7% bond but new investors only pay 4% and vice versa.

$$P_0 = \frac{C}{(1+R_1)} + \frac{C}{(1+R_1)(1+R_2)} + \cdots + \frac{C+F}{(1+R_1)\cdots(1+R_T)}$$

Since future spot rates are unobservable, summarize them with y

$$P_0 = \frac{C}{(1+y)} + \frac{C}{(1+y)^2} + \cdots + \frac{C+F}{(1+y)^T}$$

STRIPS:

STRIPS (Separate Trading of Registered Interest and Principal Securities), also known as Treasury bonds which are divided into separate zero-coupon prices, each representing a single payment. A 10-year note with 20 coupons becomes 21 cash flows because investors match this with future requirements, such as purchasing a pension fund with 15-year STRIPS to cover a $10 million liability, due to which returns are locked and reinvestment is fixed. The got taxed each year on "phantom income" even though no income received until maturity this is why it's only better investment for retirees cause its sensitive to interest rate fluctuation.

$$P_0 = \frac{F}{(1+r)^T}$$

CALCULATING PRESENT VALUE OF BONDS:

Present value for bond advises us the current worth of bond on expectation value which we received at the period of maturity. The calculation for all of the future cash flows of coupon payment dividing it with yield till the maturity and results represent the repayment with the face value inclusive with YTM. This method enables a strong prediction to investors for a fair price of bond today in return of future price and if coupon price is higher than market price it will define to trade in premium value and at a discounted value if its lower.

$$\mathrm{PV} = \frac{C}{(1+r)} + \frac{C}{(1+r)^2} + \frac{C}{(1+r)^3} + \cdots$$

(C – Coupon Payment, r – Interest Rate)

The bond market for today and future demonstrates a high quality of advanced technology, globalization and old ancient history of trading which remarks shifting plus moving of trillion amount of money which shape economies and helps investors, policy makers.

II. THE EVOLUTION AND FUNCTION OF THE MODERN STOCK MARKETS:

Modern stock market has been significantly developed from beginning till the date, as the initial office took place in Amsterdam within the year 1600s where the 1st ever organization Dutch East India Company issued stocks to finance worldwide trade becoming the systematic shares official exchange. After that many major nations introduced their own stock exchange market such as New York Stock Exchange (NSE) at 1792 largest stock exchange in world, London Stock Exchange (FTSE) in 1801, Bombay Stock Exchange (BSE) in 1875 and many more. These organization introduces unbiased trading and listing rules which is equal for any individual, resulting in the form of foundation in modern globalized financial systems. Neal, 1990), (Goetzmann, 2001)

The stock market went through major transformation in the 20th century where the purchase and sale of securities was completely change from paper certificates to electronic ones which is accessible from anywhere as it was replaced from physical trading floors to online trading platforms. Exchanges were privatized with the removal of agents and brokers that were before ruled by them thus it's become public listed companies. Advanced technological developments made platform efficient, faster and most important transparent which includes Exchange Trade Funds (ETFs) that monitors activity of index, order-driven and quote driven algorithms and dark pools for private encrypted traders. Those innovations made stock exchanges more reliable, accessible and center of international funds trading circulation. The key function of market is they assist firms to generate money by offering investment via certain amount of ownership in company and they disclose price discovery and liquidity benefits by which traders allow to purchase and selling shares.

HISTORY AND ROLE OF STOCK EXCHANGES

Decades ago, brokers member owned exchanges were interconnected organizations however, many of them decentralized and functioning as a separate industry though issuing shares through Initial Public Offering (IPO's). Numerous listed companies are supported by modern exchanges like the NYSE, FTSE and Nasdaq which serves into public globally as they publish stocks data, oversight trading, only authorized members through verifications as well as regulated company listings only. Stock exchanges are authorized platforms for regulated trading of shares and securities ensuring fair prices, liquidity market and transparent regarding details is their main priority. Many big investors received additional assistance from exchanges such as support in settling their trade queries and secure custody of their shares. Second tier markets like UK's AIM offers flexible entry to companies who didn't meet with the criteria of First-tier exchange.

NATURE OF EQUITIES:

Equities nature is described as owner of the company being partly or fully depends as a stock holder purchase stocks within their desired firms. Stocks can be hold in the form of physical certificates, nominee systems, electronic accounts with the advancement technological platforms such as CREST. The primary types of equity are common shares where shareholder receive unpredictable dividends and has voting rights whereas preferred stockholders get fixed amount of dividends + priority at the moment of bankruptcy but not able to vote also remaining participant shareholders received payment after all the other creditors. Capital profit &

dividend are paths which provide returns on behalf of stock but with the cost of risks and possibilities of losses. (Rajan and Zingales, 2003)

$$\frac{\text{Dividend per Share } X \text{ } 100}{\text{Share Price}}$$

IPO PROCESS:

Initial Public Offering (IPO) is when a private company needs to go public to raise capital with all of the requirements so investment banks or underwriter provide service to manage the whole process inclusive setting the price of stock and selling that stock to genuine buyers. If demand for the shares is high in public so they will rationalize small number of shares to each of them or sometimes they sold the all number of shares to big institutional firms without notifying public to the sale which is simple and cheaper as it avoids any additional fees to agents. In a nutshell, IPOs basically provide third party service to entities to grow and early buyer can sell their shares or create a market on the basis of stock. (Berger and Udell, 1998)

PRIMARY MARKETS:

Primary Markets is an initial location for exchange of new or additional stock issuance by company whether through right issues or IPOs all of the proceeds from sale will credit directly to business for expansion or debt repayment. As they only publish new share when they required funding, deals will be relatively small however investment banks are dominating in primary market by locating buyers and predicting great offers.

SECONDARY MARKETS:

On the other hand, Secondary market is for existing buyers and sellers which prefer to exchange already existed popular or good return predicted shares within each other as this market is huge in nature because billions of shares trade each an everyday. It provides liquidity which enables stockholders to purchase and sell share via instance and price discovery what both buyer and seller have thoughts of each stock worth prices would fluctuate as soon as any major news appears.

ROLE OF BROKERS:

Brokers role basically is to act between stock market and investors because stock exchanges allow registered individual for trade so that's why we required them. They offer services like executions only emerged on 1970s accounts where individual only get trade investment without advice and that service requires guidance although by 1990s digital brokers place deals through apps and websites by charging zero amount but cost interest from trade balances. Volunteered accounts who invest on behalf of clients but cost fees which deliver the quality level of service by describing advises on financial planning plus help build enhanced portfolio. Market makers may interact directly with institutional clients who posts tip for bid and occupy some amount of trade risk and in return cost service charge.

ROLE OF CREDIT RATING AGENCIES:

Credit rating agencies measure financial health of companies like Fitch, Moody's, Standard & Poor's agencies they give rating range from AAA [very positive] to D [negative]. It will impact company goodwill as ones with high ratings borrow low cost and boom profits holders whereas

firms with lower ratings might affect decreasing share prices. In 2008 Financial Crisis, agencies suffered to find out potential risk in mortgage stocks, despite suffering institutions and investors commonly view rating as quick indicator for reliability. (Choudhry,2010)

STOCK SPLIT:

A stock split increases the shares and reduces share price of each but does not effect on overall value, as an example 100 shares a 2 for 1 split will result in 50 shares for two each it's an approach by companies to access more shares and boost trade to attract retail investors. In financial distress most often sign is to typically reverse splits, which are combined shares to stop from listing like Berkshire Hathaway don't split their shares due to high prices and demand to attract long-term investors.

RIGHTS ISSUES & SCRIP ISSUES:

Right issues allow current stockholders to obtain more shares at a lower cost due to quickly gain finances. The rights are declined if investors don't participate but they have ability to use, sold or mature in case if money spent sensibly prices may increase after initial losses. Since this right aren't established in US but shareholders in EU have prior rights to access new shares. By contrast, Scrip issues means giving away shares in bonus as 1 for 10 shares as if 100 shares holders get 10 extra shares, instead of cash dividend it benefits to avoid tax or commission charges.

KEY RATIOS WHEN JUDGING STOCK VALUE VS COMPANY PERFORMANCE:

The key values for comparing stock value to company performance is P/E ratio whereas P stands for price and E stands for earnings as an instance a stock with price of 50 and earning of 5 equals P/E 10. One more thing to add is comparison of share price and net assets is called price to book and a value of less than 1 highlights the stock is cheap. Whilst high dividend yield might be risky sign as is measured on outcomes. ROE (Return on Equity) shows how well equity earns profit, EPS (Earning Per Share) measures profit which is frequently improved by repurchases. Financial risk shown by Debt-to-Equity ratio is huge debt makes recession harder to overcome quickly.

$$\text{P/E Ratio} = \frac{\text{Share Price}}{\text{Earnings per Share}}$$

$$\text{Dividend Yield} = \frac{\text{Dividend per Share}}{\text{Share Price}} \times 100$$

STOCK INDEXES:

Stock Indexes used to track stocks in structured groups and demonstrates market trends which were serving as benchmarks for measuring performance of portfolio and investment through ETFs as its mimic index behaviour which trades like regular stocks. In contrast, S&P 500 consists of 500 companies in between one frame with a value of 80% in US market and the Dow Jones based on pricing which refers 30 significant US firms till date. Russell 2000 is a small capital index focuses on small American firms and NASDAQ mainly broad focused on technology which has around 3000 stocks. Global comparisons with international indexes such

as FTSE 100 (UK), Nikkei 225 (Japan) and DAX (Germany) and sector indexes that their main focus on Industry on performance.

RISKS ASSOCIATED WITH INVESTING IN EQUITIES:

Market risk in equities refers number of risks which occurs when stock market overall falls inclusive of good companies that results in crisis or recession. It depends on specific risk they face like some are bad management or frauds but this can overcome by owning shares in numerous companies. Liquidity risk rises in case of stocks that are hard to easily liquidate without depreciation because of poor trading, Volatility risk known as major price fluctuations which frequently happened throughout the world and in markets that are still under developing phase. Interest rate risk affects stocks because increasing interest rates raise the cost of debt taken on by companies and make bonds are more preferred than shares. Lastly foreign investment effects currency risk in such scenarios where exchange rates fluctuate and returns fall upon conversion due to investors national currency although these are the major risk that can highlight importance and difficulties of investing in equity. (Kindleberger, 2005)

APPROACHES TO VALUING EQUITIES AND EXPECTED RETURN:

There are various methods to value stocks but we will be looking on the major ones that are DCF (Discounted cash flow) a fundamental analysis which overview companies accounts and trends to give an estimation of future cash flow. Relative valuation uses EBITDA, cashflow and sales for comparable company analysis for ratios indicating undervaluation, Dividend Discount Model (DDM) that discounts future dividends calculates the value of shares with constant growth model predicting higher prices when dividends grows quickly or interest rates are low.

Dividend Discount Model

$$P_t = V_t(D_{t+1}, D_{t+2}, \ldots) = \frac{\mathrm{E}_t[D_{t+1}]}{(1+r_{t+1})} + \frac{\mathrm{E}_t[D_{t+2}]}{(1+r_{t+2})^2}$$

$$P_t = \sum_{k=1}^{\infty} \frac{\mathrm{E}_t[D_{t+k}]}{(1+r_{t+k})^k}$$

$$P_0 = \frac{D_1}{r-g}$$

P_t: Price of stock at t (ex-dividend)
D_t: Cash dividend at t
$\mathrm{E}_t[\ ]$: Expectation operator (forecast) at t
r_t: Risk-adjusted discount rate for cashflow at t

III. 1. THE KEY FUNCTION OF A MODERN CENTRAL BANK:

In modern world central bank has a vital role by ensuring stability and effeciency throughtout to nations financial system. Its primary responsibility is to regulate monetary policies which aims to keep the prices stable by controlling inflation via market operation and interest rate alterations by simply tracking system risks and intervening during crisis and supplying credit when necessary to keep the market away from collapse situations. Additionally they supervise

and regulate commercial banks to safeguard from bankruptcy by implementing criteria of sufficent capital standard and also guarantees safety for deposit all of this set helps to maintain public confidence in banking system. (Allen and Gale, 2000)

In order to prevent bankruptcy outbreaks lender of last recourse is an essential part for providing emergency bank funding to banks that lacks in liquidity. Central banks also regulate in the currency exchange market to monetary issuance, modify exchange rate policies and prevent inflation in domestic currency by holding reserves. Furthermore, because of independency they regulate under government policies and purchase government bonds or applying liquidity measures which creates a balance between short and long term stake. It enables them to overcome external pressures and promotes sustainable growth that makes the central bank foundation of modern economic systems.

EVOLUTION OF MODERN, INDEPENDENT CENTRAL BANKS:

The Bank of England founded 1st ever central bank in 1694 and act as debt controller and governments banker many years later they changed to handle inflation and financial stability in the period of fiat money after the traditional gold systems which ended in 20th century. The Great Depression of 1930s outlined the most requirement of powerful monetary authority and the system of Bretton Woods came in limelight which fixed all other currencies with US dollar after World War II. By the year 1970s Bretton Woods collapsed and all nations shifted to floating exchange rates and central banks to focus more on domestic inflation. The Reserve Bank of India and Federal Reserve in the United States which have gained independence that became the pillar of assurance and protected monterary policy from short term political demands. (Aguiar and Amador, 2014), (Goodhart, 1988)

ROLE OF CENTRAL BANK:

The central banks are primary responsible for managing monetary policy, regulate interest rates to control inflation and growth as for instance, the US Federal Reserve controls the federal funds rate to decide borrowing amount of loans including and Bank of Japan also tried with negative rates to boost demand. In 2008 the case where Federal Reserve, ECB and Bank of England provided monetary rescue to the biggest banks as they are also lenders of last recourse and other matter is money as a means of maintaining legal tender. Central bank are incharge for payment systems as the amount of foreign exchange held in countries like China and Brazil also set expectations by way of transparent communication.

CENTRAL BANKS STABILITY AND THEIR ROLE IN REGULATION:

Central banks have major responsibilities that is to overview money stability and price stability as they conduct stress test, monitor risk and involved in restricted markets. As an demonstration, consider COVID-19 pandemic in which Reserve Bank of India reduced interest rates and bank supported industries while Federal Reserve purchase assets to stabilize credit market. In addition regulation is paramount because Bank of England Prudential Regulation Authority make sure that banks have enough amount of capital to handle crisis or bankruptcy. Stability ensured surveillance to macroprudential tools like capital buffers and quick action during the time of crisis. (Reinhart and Rogoff, 2009)

CHALLENGES CENTRAL BANKS FACE:

Despite of greater authorities central bank faces new challenges too in regards of inflation surge due to supply chain issues, energy crisis and geopolitical instability. The polices are difficult to design due to volatility of saving patterns and financial risks caused by climate change which poses policy design drawbacks. Digital currency issued by central banks as we have an example of China's digital Yuan as well as Cryptocurrencies contribute to insecurities regarding handling procedure of digital monies. Political pressures complicate even further because governments might consider short term growth over long term growth which were affecting the independence and authority of central banks. (Bordo and Siklos, 2017)

ECB DEALING WITH COMPLEXITY OF MULTIPLE JURISDICTIONS:

The ECB (European Central Banks) illustrates the challenge in managing the monetary policy in majority of countries. In 1988 an act founded and is currently in charge of maintaining top 20 nations euro zone. ECB has to balance the various demands of countries from Greece and Germany where the German national bank is not export driven and has only a single inflation target as it functions through Eurosystem which is created for all EU members. The ECB's multi-country setting in eurozone debt crisis in 2010 to 2012 proved the importance of coordination and communication as the authority utilized tools like Outright Monetary Transactions to stabilize markets. (Capie, Goodhart and Schnadt, 1994)

2. THE DANGERS OF EXCESSIVE CONSUMER PRICE INFLATION, DEFLATION AND MAJOR ASSET PRICE INFLATION:

High prices for consumer inflation define as a tax that no one can escape because it takes away savings becauses prices increased over the time and hit retirees and low incomed labours. An instance of Argentina's recent inflation hit of over 100% and Turkey's inflation was below 80% and one scenario of Germany from 1923 when hyperinflation was usual and wages were spent as much as possible also cash was wasted like before it could lose all of its value. Deflation is extremely dangerous due to falling prices demands public saving increases debt which leads to bankruptcy as evidenced in 1990s by Japan's long term recession and at the time of Great Depression US prices reduced by 25% and unemployment exceeded till 25%. Major asset price inflation creates boom that showcases the economy destruction when they collapse like in the 1980s property and stock boom in Japan, 2008 housing crisis in US and EU plus a recent incident of cyrptocurrency collapse for FTX crash in 2022. These incidents indicates how inflation, deflation and economy distortions, problems with lost confidence and inequality, it shows how governments and central banks are unable to regulate their actions without causing recession by raising interest rates which leads to asset collapsed by keeping them too low and generating ethical risk that results in instability in the case of Greece's debt crisis. (Blinder, 2010)

CATEGORIES OF INFLATION:

There are primary 3 categories in inflation such as demand-pull inflation occurs when consumer spending exceeds consumption like during a case in EU rapid post war recoveries where consumer spent a lot of money. The cost-push inflation occurs when cost of inputs increases, such as when the global supply chains and shipping raw materials cost went high

during the period of COVID-19 pandemic. The wage price spiral or stable inflation can be observed in economy in where powerful unions genuinely negotiate high wages and raised corporations prices.

INFLATION TARGETS AND RATIONALE FOR SETTING THEM:

Inflation targets most central banks such as European Central Bank and the Bank of England, so they aims at approx 2% for every year. This level breaks the deflation trap which encourages investment and consumption by allowing interest rates to be at low level during a crisis in economy, additionally it helps for adjustment in wages without necessarily cutting wages.Moderate levels of inflation is a sign of healthy growth with that cases businesses are growing and more workers are employed considering South Korea's strict and quick industrial growth in late 20th Century which was supported by manageable inflation. Therefore extremely high inflation will discourage investment due to uncertainity, yet deflation is a sign of stagnation or poor demand.

RISKS OF EXCESSIVE INFLATION OR DEFLATION ASSET PRICE INFLATION:

High inflation ruins saved money and and causes countries to become unstable in contrast deflation will makes individuals to spend less while raises debt levels. The two extreme causes will lead to financial instability or initial unemployment which reduces confidence.

CENTRAL BANKS TO INFLATIONARY RISK:

Central banks increases interest rates to lower the pressured of inflation which has been significantly done by the Reserve Bank fo India in the past couple years ago they lowered their interest rates and uses bond buying schemes to tackle against deflation as the same European Central Bank did after 2010. To stabilize demand government also modify spending and taxation. However, theres some risks related to such acrtions if we are cautious we run the risk of recession, if we are generous we run the risk of inflation like the several emerging markets during the previous credit booms. (Carstens, 2021)

"As advised price stability is a key objective in economic management"

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