Report on

Macroeconomics Variables and its effect on stock price of
IDLC Finance Limited.

By
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Student ID 18104199

An internship report submitted to the Department of BRAC Business School in partial
fulfillment of the requirements for the degree of
Bachelor of Business Administration

BRAC Business School
Brac University
October 2022

Declaration

The following declaration is made:

- While pursuing a degree at Brac University, I/we submitted an internship report that is our unique work.
- Any material accepted or submitted for a separate degree or diploma at a university or another institution is not included in the report.
- Unless it is properly credited with complete and exact referencing, the report does not include any previously published or written content by a third party.
- I/we have acknowledged all key sources of assistance.

Student's Full Name & Signature:

_____

Eshrak Al Rashid

Student ID: 18104199

Supervisor's Full Name & Signature:

_____

Dr. Mohammad Enamul Hoque

Associate Professor, BRAC Business School

BRAC University

Letter of transmittal

16th October, 2022

Dr. Mohammad Enamul Hoque

Associate Professor

BRAC Business School

BRAC University

Subject: Internship report on "Macroeconomics Variables and its effect on stock price of IDLC Finance Limited."

Dear Sir,

It is my honor to submit to you my internship report on the impact of macroeconomic variables on the stock price of IDLC Finance. This report is prepared based on my three months long internship period.

The internship report is the final part of the requirement for the completion of the Bachelors of Business Administration (BBA) degree under BRAC Business School of BRAC University. Experience of corporate environment and different types of responsibilities that come by being a part of an organization. Which I have been able to gain by being an intern of IDLC. It was an instructive and knowledgeable experience for me to work with the dynamic team of Special Asset Management of the SME department in IDLC Finance Limited.

I am grateful to you for dedicating your valuable time, expertise, guidance and support. I have tried my best to complete the report as per the internship guidelines and standards of BRAC University.

Thank you

Sincerely yours,

Eshrak Al Rashid

ID-18104199

BRAC Business School

BRAC University

Acknowledgement

I would like to express my gratitude to my honorable supervisor, Assistant Professor of BRAC Business School, BRAC University Dr. Mohammad Enamul Hoque, who provided me with guidelines and instructions on the research that I have conducted and written in my report. I was helped throughout the whole process and also helped me to understand the research topic very thoroughly.

It has also been a great experience to be a part of an organization like IDLC Finance Limited as an intern which is recognized as one of the top non-banking financial institutions in the country. I would like to express my gratitude towards IDLC Finance for giving me the opportunity to work as an intern.

My endless appreciation towards Mr. Mohammad Ashaqur Rahman, Assistant General Manager & Head of SAM-SME and also my on-site supervisor for creating this interesting internship program where I have been able to learn and grow my skills and know about the operational structure of IDLC Finance Limited.

Lastly, my sincere gratitude towards BRAC University for having an internship program for the students of BRAC University which truly prepares us for the corporate world and the future ahead.

Executive Summary

The development of reports regarding macroeconomic variables requires an ample amount of secondary research and data collection from trusted sources. A lot of market research is to be performed in order to pinpoint the major variables which are the main cause for the impact on the stock price change of IDLC. This internship report will help to understand the impact of several variables which are found to have an impact on the stock price of IDLC Finance. For the purpose of this research 5 years of data has been collected from different reports and research papers that were published in the past for authenticity of the data and a multiple regression method has been applied on the data that has been collected through secondary research. The whole internship report has been divided into 3 chapters i.e., Chapter 1 which consist of the general overview of the internship. It gives an idea about the student's internship program and also the outcome of the internship like the contribution to the company, benefits that student experienced, difficulties faced by during the internship period and recommendation to improve the internship program. In Chapter 2 it consists of detailed information regarding IDLC Finance Limited it gives an overview of the company along with its mission, vision and core values. Also share information on the overall performance of the company over the years and make a comparison on their year-on-year performance. And lastly the Chapter 3 is consisting of the analysis on the impact of macroeconomic variables on stock price of the company. Which includes, literature review, theoretical concept, objective of the analysis, methodology along with the results and discussions and finally the conclusion based on the outcome of the analysis of stock price of IDLC Finance.

Table of Contents

Chapter 1:

1.1 Student Information:

Name: Eshrak Al Rashid

ID: 18104199

Program: Bachelors of Business Administration (BBA)

1st Major: Finance

2nd Major: Computer Information Management

1.2 Internship Information:

1.2.1 Internship Company Supervisor's information

The onsite supervisor of the company for the internship program was Mohammad Ashaqur Rahman. He is the Assistant General Manager & Head of SAM-SME Special Asset Management in IDLC Finance Limited.

1.2.2 Period, Company name, Department/Division, Address

The internship period at IDLC Finance Limited was for 5 months. The internship program started from 24th of April 2022 till 29th September 2022. I was assigned as an intern in the SAM-SME Special Asset Management department of IDLC Finance Limited. The workplace was in the Corporate Headquarters of IDLC Finance Limited. The address of the Corporate Headquarters of IDLC Finance Limited is: DR Tower, 65/2/2 Bir Protik Gazi Golam Dastagir Road Purana Paltan, Dhaka-1000, Bangladesh.

1.2.3 Job Responsibilities

The duties and responsibilities that has been assigned as an intern of the organization are as follows:

- Preparing Monthly Overdue Letter for the clients of different branches
- Keeping records of the clients to whom monthly overdue letters have been sent.
- Preparing Termination Memo for the defaulting clients of different branches
- Initiating Litigation and collecting UDC cheque from the system.
- Providing customer data for initiating legal proceedings.
- Preparing Board Memo for future meetings.

1.3 Internship Outcome

1.3.1 Student's contribution to the company

During the 5 months of internship period, I was assigned as an intern for the Special Asset Management department of IDLC Finance Limited of Dilkusha Branch. During the internship period, there were many clients that were failing to provide monthly installments on time and thus to keep the normal operation of the organization smooth and efficient the contributions that were made from my end are-

- Clearing backlog of Monthly overdue reports to the clients and keeping up to date.
- Entering data of the clients who received monthly overdue reports in order to keep it as a proof for future needs.
- Preparing Memo for different clients on demand in order to keep the general operation of the organization smooth and efficient.
- Initiating Legal proceedings in order to terminate the contract with the former client.

1.3.2 Benefit to the student

The nature of the job responsibilities gave me an understanding regarding how the financial institution works. Even though my major is in Finance and Computer Information Management, yet this internship program gave me an opportunity to learn and grow. The benefits that I received from the organization as an intern are-

- It serves the purpose of gaining practical knowledge regarding the banking sector of the country.
- The internship program gave an insight into the environment of the financial institutions and local corporations in general.
- It teaches students different hard and soft skills.
- The internship program gave an idea to the loan department of an organization.
- It also provides a basic knowledge regarding the job responsibilities of a loan officer and how the internal system of the organization functions.
- Teaches how to communicate with clients and colleagues in the workplace.

1.3.3 Problems/Difficulties (faced during the internship period)

Apart from the valuable experience that I received from the internship program, there has been some difficulties that has been encountered within the internship period they are-

- The office place is located far from the place of residence; thus, it is difficult to commute and the expense is also high.
- Staying at the office beyond work hours with no task in hand.
- No specific time for break or fringe benefits for interns to make students feel inclusive.

1.3.4 Recommendation

Internship program at IDLC helped me gain experience and learn skills but also it had some drawbacks where it needs improvement which will help to make the internship program experience much better. Firstly, the objective and responsibilities need to be specified before recruiting interns, in that way the interns will be aware of the responsibilities and they can make plans accordingly. Secondly, the organization should work on making the internship program more

engaging and add a different field of work which helps in gaining real life work experience. And lastly, the company should strictly follow its office hour policies so that the interns don't feel like being exploited in anyway and also, they can stay motivated in the workplace.

Chapter 2

2.1 Introduction:

In 1985 IDLC Finance Limited started its journey as the first leasing company of Bangladesh. IDLC Finance Limited came into existence by the help of the collaboration and sponsorship of different other financial institutions both local and multinational namely, Finance Corporation (IFC) of the World Bank, German Investment and Development Company (DEG), the Aga Khan Fund for Economic Development, the City Bank Limited, IPDC of Bangladesh Limited, Kookmin Bank, Korean Development Leasing Corporation of South Korea and Sadharan Bima

Corporation. Korean Development Leasing Corporation (KDLC). Among them KDLC, the largest leasing company of South Korea, provided technical support for the establishment of the company in its initial stages. Due to the involvement of many financial institutions the development of the company was ensured by its organizational structure. The company was licensed by the Bangladesh Bank in 1995 as a Financial Institution. Over the years the company's foreign shareholders were bought out as initially foreign shareholders had 49% of the company share. Finally in 2009 the local investors bought out the last remaining foreign shareholders and for which in recent decades the company has been achieving significant growth as the economy of the country is booming.

2.2 Overview of the company

Financial Institutions play a vital role in the development and the economic growth of a country. In Bangladesh both public and private sectors are growing at a faster pace with the increase in industrialization and infrastructure. For which non-banking financial institutions like IDLC Finance Ltd. is also seeing tremendous growth by means of its products and services. IDLC is a blue-chip company in the Dhaka Stock Exchange Market with its operations all over the country by providing services like Home Loan, SME Loan, Corporate Loans as well as Term Deposit facilities. Moreover, IDLC is also providing services in the capital market by means of mutual funds and direct investment opportunities. It can be seen that they have a very strong track record with providing their services to their potential customers.

IDLC Finance Limited came into existence by the initiation of IFC of World Bank and also by the collaboration of different other financial institutions like International Finance Corporation, German Investment and Development Company, Korea Development Financing Corporation, Aga Khan Fund for Economic Development, Kookmin Bank, IPDC Finance Limited of Bangladesh and Sadharan Bima Corporation.

IDLC is also a listed company in the Dhaka Stock Exchange Market. Also, it is listed within the DS30 shares. Thus, it can be considered as a blue-chip company listed in the Dhaka Stock Exchange market. The company that once consisted of 5 staff members after 35 years it has spread over 24 cities with 39 branches and over 1500 employees and around 50,000 clients that the company is dealing with and helping customers reach their dream goals.

Vision

To become the best financial brand in the country. (Limited, IDLC Finance, 2022)

Mission

Is to focus on quality growth, superior customer experience and sustainable business practices. (Limited, IDLC Finance, 2022)

Core Values

I• Integrity

• Customer Focus

• Trust and Respect

• Equal opportunity

• Eco-friendly

• Passion

• Simplicity (Limited, IDLC Finance, 2022)

Strategic Objectives

• Growing and developing the talents among the employees

• Leveraging new core banking platform

• Efficiently utilize distribution points

• Grow and diversify funding sources

• Improve quality of service and sales in the Consumer Division.

• Grow SME portfolio

• Prioritizing top tier clients.

• Consolidate capital market operations and enhance capabilities

• Embrace internationally accepted corporate governance and sustainable business practices. (Limited, IDLC Finance, 2021)

2.3 Business Overview

The organization's main business is based on financing for different types of finance related services. Providing various financial services like Deposit Mobilization, corporate loan, Home Loan, SME Loan, project financing and leases. Besides, they also provide services based on Investment like Mutual Fund, Direct Investment, providing bonds and also IPO facility to new companies enlisting for capital market. Currently IDLC has 39 branches in major locations of the

country which are providing the best customer service for their desired financial needs. The company diversified the business through the four parts - Corporate, SME, Consumer, Deposits.

2.4 Fund Source and its Use

A financial institution survives based on the liquid capital that it contains from the depositors and the investors. And utilizing the capital to finance clients who are in need with the expectations of getting higher return. In IDLC we can see that the source of funds are the term deposits and the current assets that it holds. From the below graph we can see that-
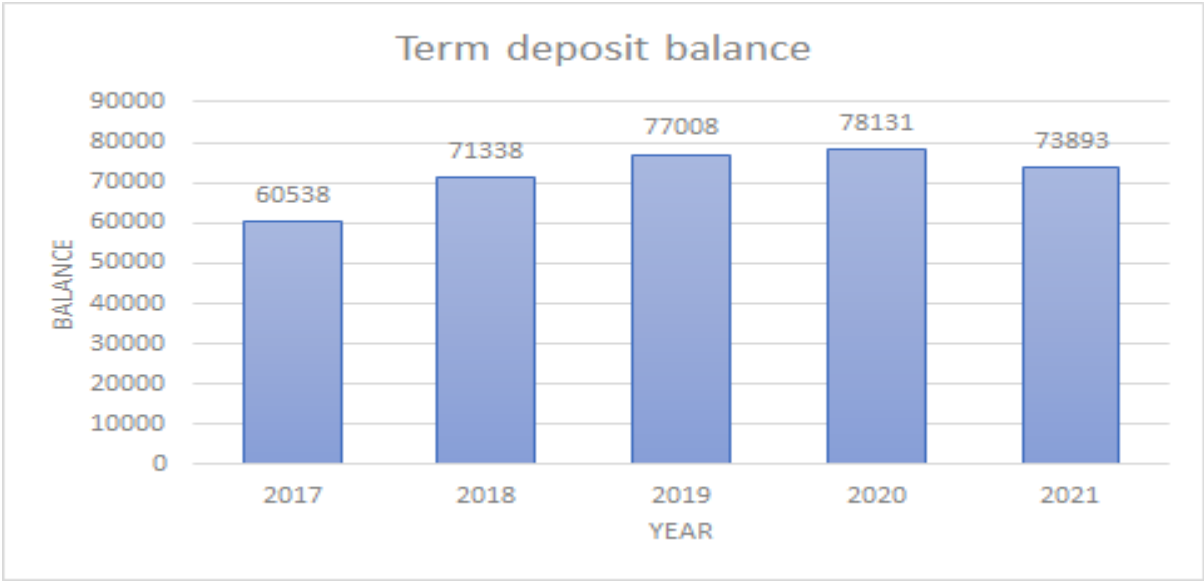

Fig1: Term deposit balance from 2017-2021

From the figure 1 the term deposit balance over the last 5 years have increased substantially till 2021 when the deposit balance fell by a quite margin. Till 2020 the term deposit balance was up to 78,131mn BDT but in 2021 it fell to 73,893mn BDT.
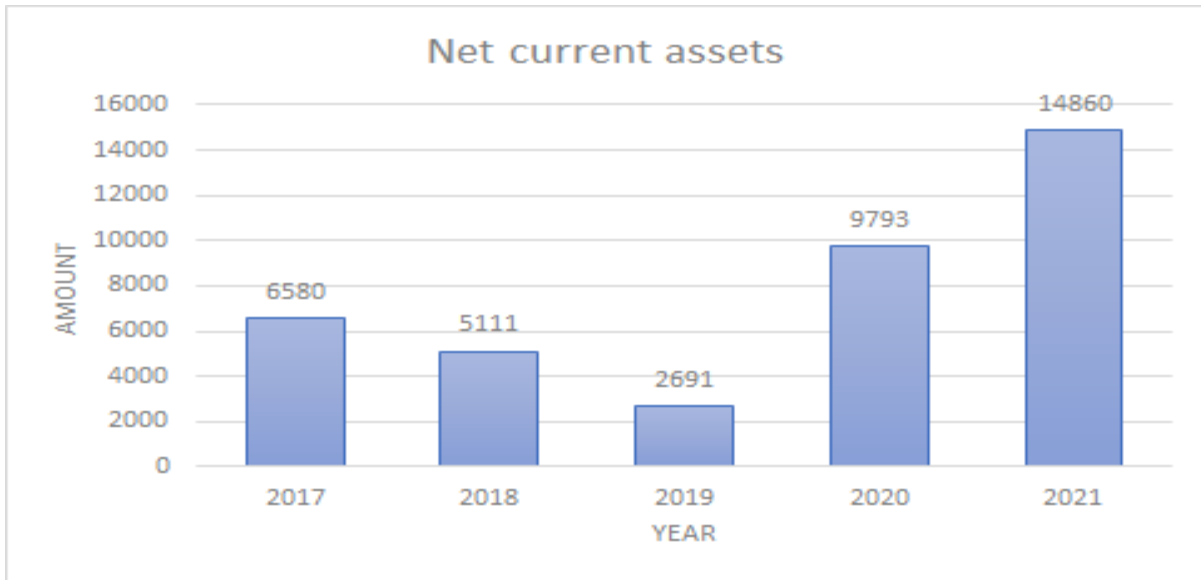
Fig2: Net Current Assets from 2017-2021

But in terms of net current assets the scenario is different, as from 2017 to 2019 the working capital kept on declining at an alarming rate but right after the pandemic started the working capital started to increase and it increased by 4 times in 2020 and 7 times by 2021 to 14,860 Mn BDT. From the capital that is generated from this very source, are used to finance loans and lease financing.
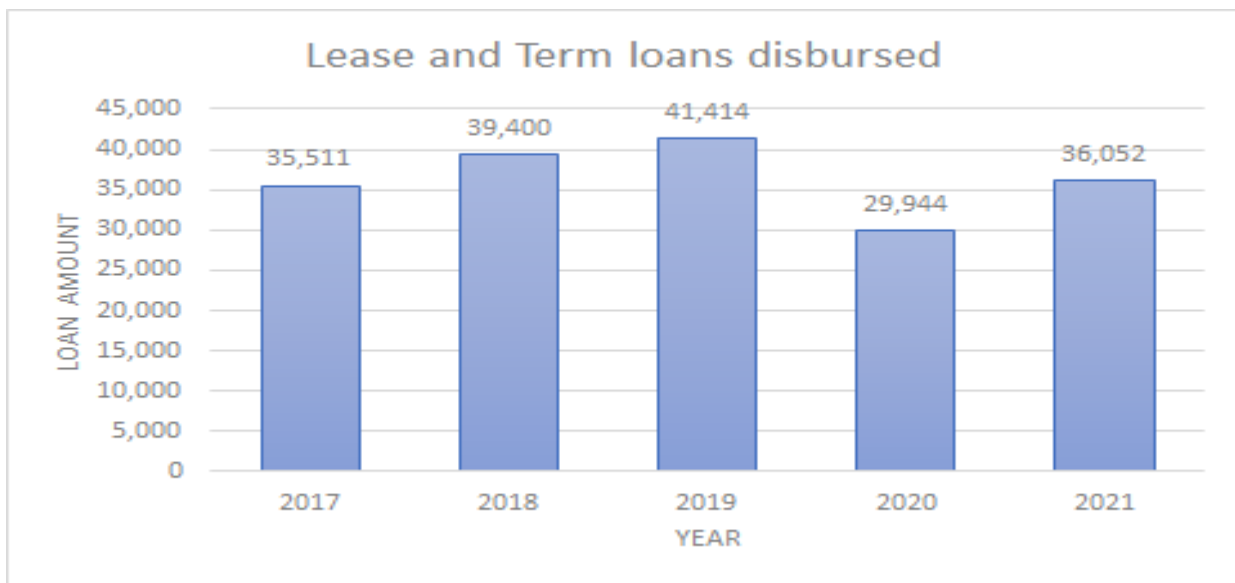

Fig 3: Lease and Term Loan from 2017-2021

The capital generated is used in leasing and term loans. As of 2017-2021 we can see that the disbursed amount has increased incrementally over the years till the year 2020 when it took a slight dip as the country was in lockdown due to pandemic and in 2021 the financing again went back to normal stage. We can also see the same pattern in Housing finance as well.
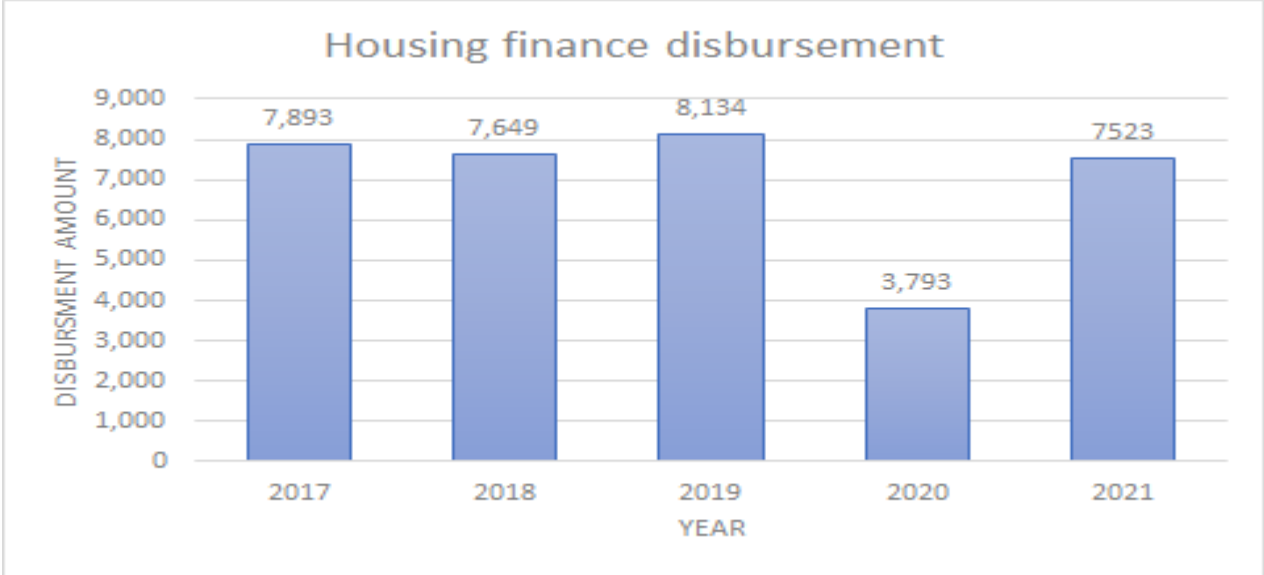

Fig 4: Housing Finance from 2017-2021

One of the major sectors of IDLC Financing is Housing finances. Here, the finance disbursement over the years has been consistent with an exception being in the year 2020. As the housing finance disbursement fell by 50% due to the lockdown for the pandemic period. But everything went normal year after.

2.5 Key Operations and efficiency

Some of the key factors that determine the operational performance of an organization are based on the income that is generated from its operations and also the expenses incurred for it. The operational income helps an organization to determine the overall success of the institution for that particular period. Besides, Net profit also helps to find out the overall performance of the organization.
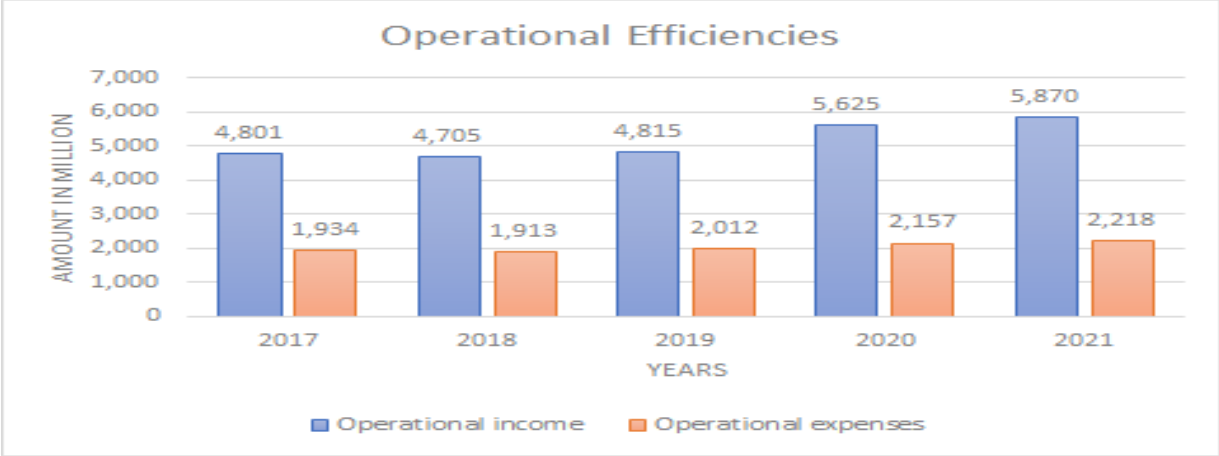
Fig 5: Operational Efficiency from 2017-2021

Operational efficiency is determined based on the difference in between cost of operating and the return accrued from that very operation. In figure 5 we can see that the operational efficiency of IDLC is relatively high. Besides, the net profit before taxes of the organization also gives an indication on how well IDLC is performing over the years.

Fig 6: Net Profit before taxes from 2017-2021
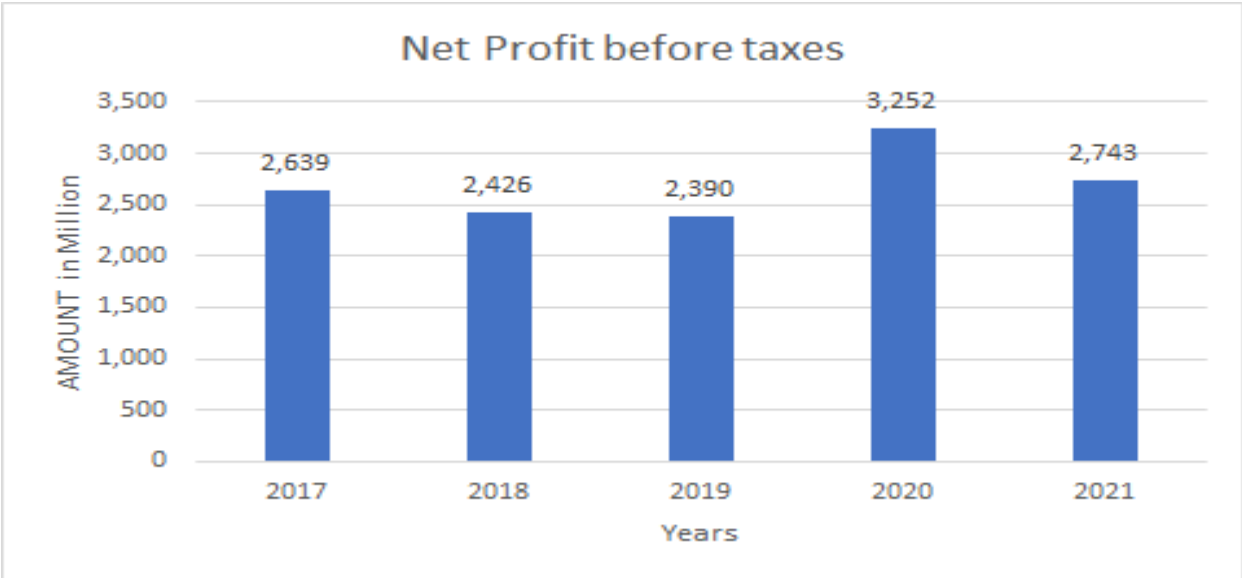
From the figure 6 we can see that the net profit has been declining year on year from 2017 to 2019 with an exception being in 2020 as during that time operational expenses were minimal due to the pandemic and for that most of the financial institution's operations were low. After that from 2021 when the organization went on full operation the net profit again started to decline.

2.6 Financial Performance & Sustainability

The economic health of an organization and its operations whether it is profitable and is on track to grow in the near future can be determined based on the financial performance of the organization. It helps to understand how well the organization is utilizing its resources or assets in the business which is eventually helping to generate revenue for the institution.

Different factors help to determine the financial performance of an organization. Debt ratio, current ratio, return on asset are among the few of the factors that help to understand the financial performance of IDLC.
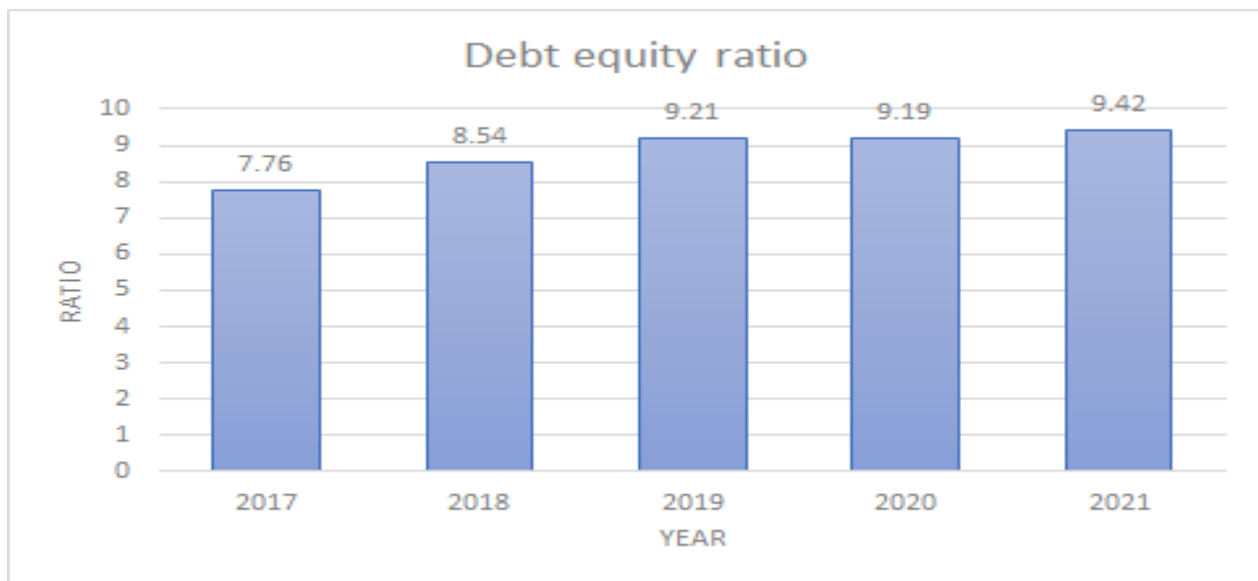

Fig7: Debt Equity ratio from 2017-2021

Debt Equity ratio gives us an insight on how an organization is financing its operations with debt rather than using its own resources. It does not give a clear picture of how much the firm is using debt. But it sure does help in gaining earnings by utilizing debt. A good debt equity ratio depends on the type of the industry it is in, and any debt ratio below 2 is considered a good debt to equity ratio. But from sector to sector this ratio can vary. Especially in financial institutions it is found that the debt-to-equity ratio is much higher than other industries. The reason being that banks or any financial institutions carry a high amount of debt due to owning fixed assets. It can be seen in the Figure 7, where the debt ratio is increasing substantially, it can be risky as a very high D/E ratio denotes that the firm has a risk of loan default or bankruptcy. But not all high debt equity ratio does not mean the business is performing poorly, it can also show that the company is

able to generate additional revenue from its debts thus investors can invest in the company which is likely to be the case in terms of IDLC Finance.

Financial expenses coverage
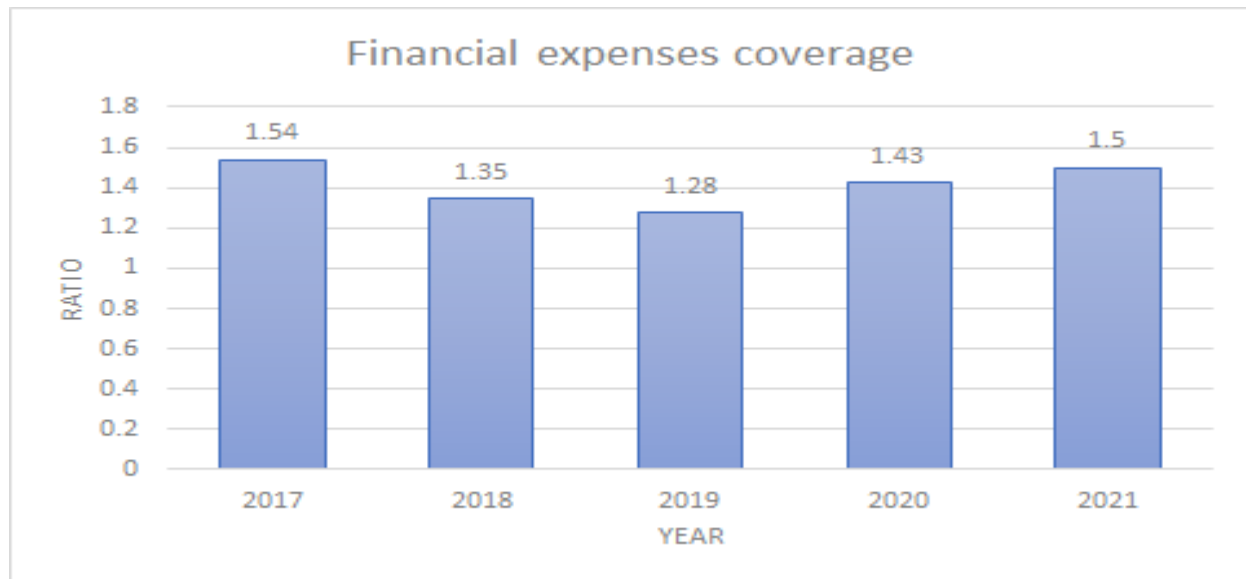
Fig 8: Financial Expense Coverage from 2017-2021

The Financial expense coverage indicates whether the company can cover its expenses like interest expenses with its current earnings. Interest coverage ratio above 1.5 is considered ideal. But below that can mean that the company is incapable of covering its expenses with its current earnings. From Figure 8 we can analyze that the financial expense coverage for the year 2017 was better than the following years as it fell to 1.28 in 2019. Financial expense coverage again started to improve from 2020 and by 2021 the financial expense coverage ratio was 1.5.
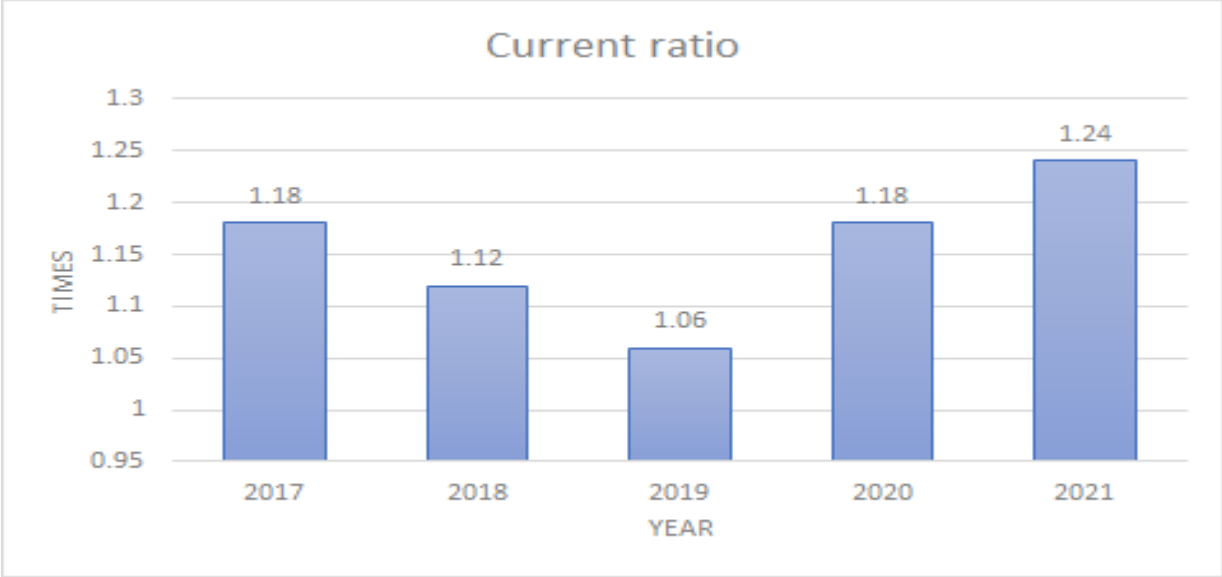
Fig 9: Current ratio from 2017-2021

Another term for current ratio is the liquidity ratio. It determines the capacity of an organization to repay its short-term liabilities in due time. From the table we can interpret that the current ratio of IDLC decreased from 2017-2019 but it never went below 1 thus the company's short-term solvency was normal throughout the period and started to increase in the following years having a current ratio of 1.18 in 2020 and 1.24 in 2021 respectively.
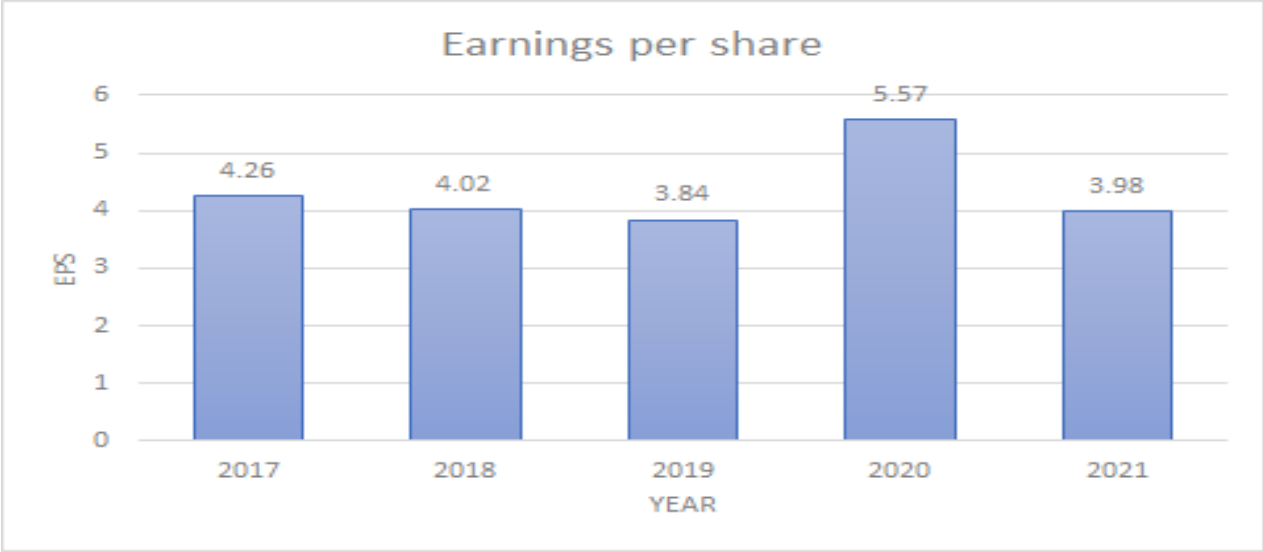
Fig 10: Earnings per share from 2017-2021

EPS or earnings per share is a well-known metric to understand the value of a company. The higher the EPS value the higher are the profitability of the company which makes the investors

interested to pay more in order to get that company's share. For IDLC Finance we can see that the company had a consistent EPS for the time period of 2017-2021 except with an exception in 2020 in which the EPS was announced to be 5.57 per share.

Chapter 3: Effect of Macroeconomic factors affecting IDLC stock price

3.1 Theoretical Concept:

Efficient Market Theory:

The hypothesis in financial economics that reflects the stock price of the company based on the information available to the general public. It is considered a controversial theory because it is impossible to determine undervalued stock. Moreover, if all the information were available to the investors, then it would be theoretically impossible to make profit by over or under pricing the stock prices or implementing any other strategy. As a result, fundamental analysis and technical analysis cannot be implemented to predict stock price thus the only way to make profit is through purchasing at a higher risk. Besides it is assumed that Efficient market theory is incorrect as different investors will get to know information differently which will cause them to have different stock valuation. Also, it takes time for the new information to impact the stock price of an organization based on how early investors react upon the new information. Lastly, stock prices can also be affected by human means. If the theory is to be true then investors can make profit out of investing on index funds and will earn the same return.

Stock Price Valuation:

The process of determining the intrinsic value of a stock is called stock price valuation. By doing so an investor can analyze whether the stock is undervalued or overpriced and make decisions according to it. There are two types of stock valuation absolute or intrinsic stock valuation- in which the value of the stock is determined based on the information that is available in the company's financial statements. Another type of valuation is Relative valuation - in which

other companies in the same industry are analyzed in order to determine whether the stock price of the company is properly valued or not. There are different types of methods that are used for the valuation of stock they are- 1. Dividend Discount Model 2. Discounted Cashflow Model and 3. Comparable Company Analysis.

3.2 Literature Review:

Finance is a field of study where theories are never fixed nor are they proven but it helps to understand how the stock market works. The flow of capital within the economy by means of stock exchange can be explained through finance. The stock market has its own reasons for fluctuations, it can be due to external factors or internal factors yet this fluctuation in the organization raises confusion among investors whether they should invest or not. This gives rise to complaints whether the information that is available to the masses reflects the share prices or not.

Most investors believe that financial news and research is enough to understand the efficiency of the stock market. There are different macroeconomic factors that also play an important role. And the levels of efficiency can vary based on it.

There are many reasons why a company's share prices have a positive growth and a negative growth. The positive growth can take place due to the announcement of a dividend to be shared with the investors, which can increase the price of the share. Again, poor performance of the company can make investors lose trust in the company which might lead to a drop in stock price. Despite all this, macroeconomic conditions also play a role in the company's stock prices. Some of the macroeconomic factors are- Interest rate, Money Supply, Industrial Production Index, Unemployment rate, Inflation. Exchange rate and so on.

Interest rate:

The percentage of principal amount that is to be paid additionally every period of time due to lending, or borrowing or for deposition of funds is known as interest rate. This variable of macroeconomics gets affected due to increase in demand or supply of the money, increase or decrease in inflation, policies imposed by the central bank or due to borrowing. The increase or decrease in stock price tends to impact the stock market earnings in a positive or negative way. Because as the rate of interest increases thus the discount rate of the future valuation gets lower since discount for future cash flow is already high. Besides, this increase in interest rate also makes investors more willing to invest in bonds in order to reduce risk. Different researchers have discussed interest rates and its impact on stock prices. Niewińska,(2020) in the study to find the factors affecting stock return in the banking sector of the eurozone, found that both internal and external factors are involved in the stock return volatility. For the external factors, interest rates have a significant effect on the stock return volatility. Fahlevi, (2019) also found similar results by using regression analysis they have found that interest rate has a significant influence on the stock price. Many other researchers like Zahra, (2019), performed a macroeconomic analysis to find out which factors are affecting the stock price of PT. Bank Mandiri and found that BI rates have significant effects on the stock price. BI rate is a determinant used to decide interest rate in Indonesia. Rjoub et al, (2017) on their research to find macroeconomic determinants for stock price of the banking sector found that interest rate is statistically significant in changing stock price. Abdullahi,(2020) examined stock price behavior due to unstable macroeconomic indicators in the Banking sector of Nigeria and found that interest rate has a negative significant impact on stock price.

Money Supply:

Defined as the flow of assets that is circulating within the economy and used in order to make payment and also make investments for the short term.

Money supply can play an important role in terms of impacting the stock prices. Policies are made analyzing the money supply of the economy. Increase in money supply causes reduction in interest rates and increases purchasing power of the consumers thus the economy starts to grow. The growth rate of the economy can decline if the money supply of the economy starts to fall, which can lead to inflation.

Jagotra et al,(2019) on their research to find co-integration of macroeconomic variables with Stock price in India and concluded that variables like money supply have a negative relationship with banking stock prices. Arsalan et al, (2020) in their research to find the role of macroeconomic factors in the stock return of the Pakistan banking sector found that Money supply has a positive impact on stock return. Rjoub et al, (2017) also stated that macro variables like money supply are significant in explaining stock prices.

Inflation:

The increase in the general price of the goods and services in a sustainable manner is calculated as an increase in the percentage of price of goods. As inflation increases, the capacity to buy goods with that limited amount of money starts to decrease. For instance, if the inflation is 6% that means the goods that used to cost Tk100 will be Tk106 after 1 year. There are many reasons why inflation increases. The reason being that the excess amount of money in the economy and having a limited demand can increase inflation and also if the cost of producing goods increases which eventually leads to an increase in the inflation rate.

Farras et al, (2021) on their research on impact of inflation, interest rate and exchange value on banking companies' performance found that inflation rate has no effect on the performance of the banking sector. Gikombo et al, (2018) examined that macroeconomic variables have an effect on performance of commercial banks in Kenya for that it was found that inflation has a significant impact on the performance improvement of commercial banks in Kenya.

Exchange Rate:

The rate of exchange from which one currency is converted into another. These rates are usually floating and fluctuate based on different factors like inflation, government policies, interest rates and also demand and supply. Exchange rates are fixed by the government which is known as pegged. Meaning if that particular currency has to trade in for another currency, then the exchange rate will be the rate that has been fixed. Exchange rate can impact a company stock price in both positive and negative ways. Because a slight change in exchange rate can make a huge difference in the return earned from exporting of goods or even when it comes to importing

as well thus it also impacts the overall performance of a company which leads to change in stock price. Zahra,(2019) also stated in its research that exchange rate does have a significant impact on the stock price in Indonesian banks. In India, Gupta et al, (2019) found that the exchange rate has a negative correlation with the bank. Similar results can be found in Vietnam, Huy et al, (2020) found that it has a negative correlation with the commercial banks.

Gross Domestic Product:

It measures the overall performance in various sectors of the economy. Stock Price has a strong impact on the GDP performance of the country. Rise or fall in GDP can be related to increase or decrease the earnings from stock return.

Phuong et al, (2020) on their research found that increase in GDP growth has a significant impact on the stock price of NVB. Saleh et al, (2015) of Jordan also found similar results when it comes to the stock price of banks and the insurance sector. Arsalan, T. et al, (2020) of Pakistan and Huy et al,(2020) of Vietnam found a negative relation with stock return.

Industrial Production Index:

The magnitude of which represents the condition of production in an industrial sector for a given period of time. It does not share the exact amount of production data, rather it is varied based on the inputs and outputs, inflation, sales figure and so on. And is determined based on the percentage of production output that is recorded. It is a good variable which can help investors and managers to make changes and take decisions within the organization and also analyze whether it is performing well or not. Since industrial production is more inclined with manufacturing thus it is less applicable in terms of the banking sector.

Saldanli et al,(2017) in their research found that by using Panel data analysis did not find any significant relationship between industrial production index and stock price. Narayan et al,(2014) found that in the Indian banking sector Industrial production index has a strong significant positive effect on stock price.

3.3 Objectives:

Based on the theoretical background and literature review, we have found that macroeconomic factors like inflation, money supply, Gross Domestic Product, interest rate, unemployment rate, exchange rate do affect the stock price of financial institutions. Thus, we want to identify the macroeconomic factors that are going to affect IDLC Finance stock price.

Some of the specific objectives are-

- To examine the effect of macroeconomic variables on stock price
- To analyze which factors, affect the stock price significantly
- To find out the factors that do not affect the stock price.

3.4 Significance and Importance:

One of the major significances of this report is to provide valuable information for the investors and stakeholders within the company. As an investor they can have an insight on how and what external factors are affecting the stock price of the company and up to what measures. It helps to forecast economic conditions of the firm and helps investors, stakeholders and policymakers to make better decisions based on it.

Businesses are also benefited by the macroeconomic analysis of that organization. Analyzing macroeconomic variables, a company can change policies, make important decisions and also make strategic moves in order to retain its stock value and be profitable in the long term. In the times of economic crisis analysis of macroeconomic variables help to find out the root cause of stock price devaluation and make decisions accordingly. It also plays a significant role in determining the overall performance of the company.

3.5 Methodology:

The research is being performed as no such analysis has been done in the past regarding the effect of macroeconomic variables on IDLC stock price. Quantitative research is to be performed as it is a scientific method and the data that are used for the research is systematic,

measurable and objective. Multiple regression is a regression method that is used to predict which variables have a significant effect on a single dependent variable. It is also used to determine the correlation between independent variables with a dependent variable. The formula for the multiple regression-

$$R = C + \beta 1 CP + \beta 2 INT + \beta 3 EA + \beta 4 EX + \varepsilon$$

Here,

R = Stock portfolio return of IDLC

C= Constant

INT= change in Interest Rate

CP= change in Consumer Price

EX= change in Exchange rate

EA= change in Economic Activities

ε= Residual error of the regression

Here, due to lack of proper data we have used economic activities as a proxy for the Industrial Production Index. There are some studies that show the Industrial Production Index to be used as a proxy for economic activities. Hamilton, J. D. (2021) in his research paper of measuring global economic activity stated that using other variables like shipping cost can leave out various indicators which do not help in overall output, and predict prices. For which global industrial production can offer a better indicator for global economic activity.

Data:

For the application of multiple regression, the data that has been collected is the historical data for each month from 2017 to 2021. For the macroeconomic variables the data that is collected is the change in Interest Rate, Consumer Price, Economic Activities, Exchange Rate. The data that is used is secondary data from trusted and reliable sources.

H0: All independent variables like Interest Rate, Consumer Price, Economic Activities, Exchange Rate have Significant influence on the stock price of IDLC Finance.

H1: At Least one independent variable does not have a significant influence on the stock price of IDLC Finance.

Information on the target sample size can be collected by means of Sampling design and methodology of sample selection. The sample size that is used is more than 60 samples for better accuracy.

3.5 Results and Discussion:

	Return	Economic Activity	Interest Rate	Exchange Rate	Consumer Price
Mean	0.37	12.017	7.19	0.14	5.65
Standard Deviation	8.45	13.34	1.06	0.29	0.29
Median	0.00%	12.33	7.01	0.06	5.57
Skewness	0.51	0.95	0.28	0.67	0.60
Kurtosis	0.13	8.70	-0.52	2.99	0.07
Minimum	-14.96	-29.28	5.25	-0.82	5.02
Maximum	23.63	74.88	9.26	0.99	6.44

Fig 11: Descriptive statistics of the variables

For the descriptive statistics we have used the sample data which has been used for the multiple regression analysis i.e., n=64. For the statistics we went with mean, standard deviation, median, skewness, kurtosis, minimum value and Maximum value. As we can see that the Mean value which is the average value of the variables, we found that for stock return it is 0.37, economic activity is 12.017, interest rate shows 7.19 and exchange rate and Consumer price has a mean value of 0.14 and 5.65. It shows the majority data is within this range. Standard deviation determines how spread out the data set is from the mean. In the table we can see Economic Activity has a greater standard deviation compared to other variables i.e., 13.34 which means it has a greater spread and after that stock return also has a greater spread of 8.45. When it comes to kurtosis, we can see that except stock return, interest rate and consumer price the rest of the variables too

In this research multiple regression methods have been used to determine the significance of one or more independent variables like Consumer Price, Interest Rate, Economic Activity, Exchange Rate with a single dependent variable like stock price return. Now by analyzing and comparing different values of significant levels of each independent variable with the value of Beta(β) and also the value of standard significance level $\alpha = 0.05$.

The main purpose of using multiple regression analysis is to find the relationship strength between macroeconomic variables and stock return and to figure out which variable is affecting the stock price of IDLC more than the other. Since different measurement scales have been used

to identify the factors, this model will help to eliminate the differences in the measurement scale and find the significant level of different independent variables with that of the stock price of IDLC. For instance, in stock return data is provided in nominal form whereas the data of independent variables are provided in percentage. This method will also provide more accurate and precise information about the relationship between each independent variable with the dependent variable. The result of the multiple regression model for the research purpose is provided below-

Table- Multiple Regression Analysis of Macroeconomic Variables with stock price

	df	SS	MS	F	Significance F
Regression	4	0.041	0.010	1.447	0.230
Residual	59	0.416	0.007		
Total	63	0.457			

	Coefficients	Standard Error	t Stat	P-value
Intercept	0.352	0.218	1.614	0.112
Economic Activity	-0.001	0.001	-1.081	0.284
Interest Rate	-0.023	0.011	-2.150	0.035**
Exchange Rate	0.000	0.037	0.001***	0.999
Consumer Price	-0.031	0.037	-0.837	0.406
R Square	0.089			
Adjusted R Square	0.028			

Note- Interest rate (percentage), Exchange Rate(growth), Economic Activity (percentage), Consumer Price(percentage)
* Stands for significance level at 10% level
** Stands for significance level at 5% level
*** Stands for significance level at 1% level

From above table we can see that the value of adjusted R square is 0.089. It means that 8.9% of the share price of IDLC Finance can be explained by the four independent variables of macroeconomics they are- Interest rate, Consumer Price, Exchange rate and Economic Activities. Which has significance at 0.229 whereas the p value should be below 0.05 thus we are able to reject the null hypothesis. Thus, we can conclude that the regression model is effective and that at

least one independent variable does not have a significant influence on the stock price of IDLC Finance.

Based on the results found from the regression analysis on the significant factors that are affecting share price of IDLC Finance we can see that-

R= 0.3520 - 0.0309CP - 0.0226 INT - 0.0009EA + 0.00004EX+ ε

The relationship that is generated from the equation is that the stock return of IDLC is a function of the intercept coefficient and the sum of coefficients of different independent variables with multiple of the relevant variable. From the formula we can see that there is a positive change with the exchange rate whereas change in consumer price, interest rate, economic activity has a negative growth.

We know that the coefficient of a regression analysis determines the relationship between a dependent variable with independent variables. And the P values in the analysis indicates if the relationships are statistically significant or not. The P value examines whether the hypothesis of the dependent variable has a correlation with the independent variable. If there is no correlation that means there is no association between the change in the independent variable with that of the dependent variable. For testing the hypothesis, at 0.05 level of significance the P value of only Interest Rate is below level of significance thus a non-zero correlation exists, but for other variables the P value is greater than the significance level of 0.05 that means there is insufficient evidence of relationship exists between stock return and independent variables. From the regression analysis we get that only the value of Interest Rate is below significance level of 0.05 which is 0.0356 thus we can say that Interest rate has a significance with the stock price of IDLC. On the contrary, Economic Activity, Exchange Rate and Consumer Price is statistically insignificant with the stock price of IDLC Finance.

Conclusion:

Interest rate has a significant impact on the stock return of IDLC Finance Limited. It can be seen that the significance level of Interest rate is 0.0356 which is lower than the standard significance level of 0.05. Thus, a change in interest rate will impact the stock return as it can be counted as a major determinant for investment. This means the interest rate can influence the market price of IDLC Finance.

Economic Activity, Exchange Rate and Consumer Price has no significant effect on the stock return of IDLC Finance. Because the significance level of the independent variables is above the standard significance level of 0.05. Thus, the change of these variables will have no effect on the stock return of IDLC. There is a great scope for more detailed research as there are many different independent variables which can be used to figure out the impact of those variables with the stock price of IDLC. Lastly, more data samples can be obtained for more precise and accurate results.

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