

The Impact Of Covid-19 On The Ethiopian Banking Portfolio

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ABSTRACT

In Ethiopia, the banking industry remains the fundamental sources of funds for short-term and long-term investment. The shock to this fund mobilization institution has a significant negative impact on the country's economic growth. The study's general objective was to investigate the effect of Coronavirus on the banking portfolio in the context of profitability risk, credit risk, and liquidity risk. The study examined the impact of Coronavirus on the bank-customer relationship and bank operation in Ethiopia. The study used both descriptive and quantitative research designs with primary and secondary source of data. The researcher applied purposive sampling technique to choose the participants. For the aim of data analysis and presentation, the study used both descriptive and multiple regression analysis. The study was discovered that the outbreak of COVID-19 was negatively and significantly affected the banking portfolio's fundamental principles, namely, profitability, liquidity and safety in Ethiopia. The episode of COVID-19 has considerably increased profitability crunch, capital adequacy crisis, credit risk and liquidity risk. Further, the researcher explored that Coronavirus explosion significantly influenced Ethiopia's bank-customer relationship. In managing its investment portfolio, a bank manager must balance the intention of liquidity, safety and profitability to surmount the uncertainty because of the outbreak of COVID-19. The Ethiopian banks should implement a new financial product distribution channel model, such as, bancassurance to diversify revenue sources and credit and liquidity risks rather than stick to fund-based income. The commercial banks must fast the maturity transformation and liquidity provision by taking short-term deposits, making medium-term and long-term loans with monitoring of unintelligible loans through digitalization. Finally, the Ethiopian banking industry must broaden their banking system's digitalization to lessen the extent of profitability, liquidity and credit distress by reaching out the untapped market and bank everywhere than just at bank.

Keywords: Impact, Coronavirus, Banking, Portfolio, Profitably, Liquidity and Safety.

I. INTRODUCTION

Our planet has experienced pandemics from ancient eras to up to date—the pandemics shocked business, economic, social and political conditions of the world, including Ethiopia. As results, the governments and scholars dialogue is rising regarding the potential impacts of the Coronavirus for the banking industry. This spread of the coronavirus or COVID-19 weakening the extent of economic and business activities all

over the world. More evidently, it posed immediately, and permanents shock to manufacturing, services, and merchandising companies whereby the banking industry is not exceptional. Financial sector businesses, including banks that lend to organizations, investors and individuals are influenced negatively all through the planet (El-Mousawi and Kanso, 2020).

The methods and procedures engaged to progress the possibility of containing the

COVID-19 eruption have impacted the financial services sector throughout the globe; and had negative implications on the banking industry such as demand and supply of new loan; asset values, liquidity, interest rate, capital adequacy, exchange rate, credit risk and revenue crunch (Bipasha and Suborna, 2020). Thus, the broad objective of this study was to identify whether the banking industry has experienced a similar problem in Ethiopia.

2. NEED FOR THE STUDY

Nowadays, a COVID-19 pandemic has had numerous adverse implications on the day to day activities of the majority of business organizations and individuals. Most of the individual has stayed at houses, social distancing is applying wherever, industries have partly stopped their activities, and several companies are either locked down or operating from home. Measures and methods proposed by states to increase their capacity to reduce the spread have shocked the national and international banking businesses; in turn will have multiple impacts on the level of deposit, lending, revenue, and services to the customers, investors and the general public. Empirical evidence showed that the extent banking services have shocked due to the emergency of COVID-19 pandemic. Ethiopia banks are not unique from other banks worldwide regarding the pandemic. The Ethiopia circumstances, however, is right as the government has partially lifted restrictions on novel Coronavirus. Piece of empirical evidence (such as Melamedov 2020 and Bipasha and Suborna, 2020) had attested that COVID-19 has negative impacts on the banking industry. Borrowers and businesses face job losses, slowed sales, and declining profits as the virus continues to spread around the world. The articles indicated that customers of the banks requested for the financial relief and postponement of credit disbursement.

Moreover, the authorities, practitioners and researchers acknowledged that the pandemic might affect the banking industry in terms of liquidity, assets value, capital adequacy, interest income, exchange rate, credit, customers and employee. However, it is not clear whether this pandemic could have any such implications in Ethiopian banking industry. Hence, the researcher expected a need for investigating the impact of Coronavirus on

the financial services sector in general and banking industry in particular in Ethiopia. Given the gaps, a diagnosis of implications of COVID-19 for the Ethiopian banking portfolio was essential for the following reasons:-

- Firstly, in Ethiopia, the banking industry remains the fundamental sources of short-term and long-term sources of finance for investment that is why banks are growing, for instance, Zamzam Banks, Gada bank and Kush Bank.
- Secondly, the banking industry considered as main driver and fuel to sustain the country's rapidly growing and expanding economic activities.
- Thirdly, Ethiopian's financial industry remains considerably unused as it has a limited-scale, ineffective and adequate regulatory infrastructure, lesser degree of innovation in products and processes, and the role of technology are still at an infant stage.
- Fourthly, there is a rumour that Ethiopian banking industry is faced high default or non-performing loan, reduction in employee benefit and squat bakers and customer relationship, thus essential to study the potential shock of the outbreak of COVID-19.
- Fifthly, in Ethiopia, the banking industry plays a crucial in improving economic growth; and a shock to the fund mobilization procedure might have considerable negative impacts on the economy. They are the engine of economic growth since banks have a lion share in providing long-term and short-term financing for the economy.
- Eventually, the Coronavirus could significantly shock the performance, survival and growth of the banking industry in the African nations because banks play a leading position in an economy. In that case, discovering how the Coronavirus could influence the banking portfolio could offer relevant evidence regarding the distress of Covid-19 for Ethiopian Banking Industry.

3. RESEARCH QUESTION AND HYPOTHESIS

- Is the outbreak of Coronavirus influence the Ethiopian Banking Industry Portfolio?

Based on the initial scenarios and little studies of the Novel Coronavirus in Ethiopia, and the study mentioned above question, the researcher has derived the following null hypothesis:

Ho: The outbreak of Coronavirus (COVID-19) does not have significant impacts on the Ethiopian banking industry's profitability, capital adequacy, credit status, liquidity, customer relationship and operations.

4. OBJECTIVES OF THE STUDY

The overall aim of this study was to identify whether the outbreak of Coronavirus pandemic influences the banking portfolio in Ethiopia. Specifically, it has addressed the following objectives:

- To study whether the outbreak of Coronavirus shock banking profitability and capital adequacy in Ethiopia.
- To study whether the outbreak of Coronavirus causes the credit risks in Ethiopian baking industry.
- To study whether the outbreak of Coronavirus shock liquidity of the banking industry in Ethiopia.
- To study whether the Coronavirus outbreak influence bank Customer relationship in Ethiopia.
- To study the magnitude of the impact of Coronavirus outbreak on the Banking Industry operation in Ethiopia.

3. REVIEW OF RELATED LITERATURE

In this part, the researcher looked at the prior studies on the impacts of an outburst of the Coronavirus on the banking portfolio, mainly in terms of profitability crisis, liquidity risk, and credit risk as well as capital adequacy crunch. Moreover, the researcher looked at studies on the influence of Coronavirus on the banking operation and customer relationship.

3.1. Theory

Under this, the researcher examined theory on the banking portfolio primarily liquidity, profitability and safety. Thus, the study used portfolio management theory, aka theory of liquidity management because the main goal of Ethiopian commercial banks is to maximize its profit at the given degree of risk. But, its ability

to maximize profit depends upon its investment strategy that indicates the mode in which a manager manages its investment portfolio. In the same way, commercial bank investment rule simply emerges from the implementation of the theory of portfolio management. Portfolio management refers to the prudent management of a bank's assets and liabilities to attain the best combination of profit, liquidity and safety (Semirti, 2020). However, this investment policy can be challenged by the unexpected eruption of COVID-19 pandemic. Practically, an improper mix of the liquidity, safety and profit likely cause disruption of the whole baking operation and customer Excellency. For instance, if the banks need more profit, they may have to sacrifice some safety and liquidity. If it seeks more safety and liquidity, it may have to give up some income. In such the pandemic situation, it might be tricky for managers to determine the optimum balance of liquidity, safety and profit of the bank because they are opposed to each other. Therefore, the application of portfolio management theory to investigate the impacts of the Coronavirus on the Ethiopian banking portfolio was methodologically acceptable.

a) Liquidity:

A commercial bank needs a higher degree of liquidity in its assets. The liquidity of assets refers to the ease and certainty with which it can be turned into cash. The liabilities of a bank are large about its assets because it holds a small proportion of its assets in cash. But its liabilities are payable on demand at short notice. Therefore, the bank must hold a sufficiently large balance of its assets in the form of cash and liquid assets for profitability. If the bank keeps liquidity the uppermost, its profit will be declined. On the other hands, if it ignores liquidity and aims at earning more, it will be disastrous for it. Accordingly, in managing its investment portfolio, a bank must strike a balance among the intention of liquidity and profitability. The balance should be achieved with a relatively high level of safety because banks are subject to numerous constraints that limit the extent of earning assets they can get (Semirti, 2020).

The most liquid of assets are cash, and the next most liquid assets are deposits with the national bank, treasury bills and other short-term bills issued by the federal and state

governments and large firms, and call loans to other banks, firms, dealers and brokers in government securities. The less liquid assets are the various types of loans to customers and investments in long term bonds and mortgages. Thus, the principal sources of liquidity of a bank are its borrowings from the other banks and the national bank and the sales of the assets. But, the extent of liquidity that bank can borrow is based on the availability and interest while challenging to get a large amount of money at low interest, it will hold minimal liquid assets is the difficulty. Due to uncertain towards borrow funds or the cost of borrowing, the bank will keep more liquid assets in its portfolio, which may cause holding excess cash. For instance, the outbreak of COVID-19 likely increases the extent of idle cash in the bank due to the decline of demand for a new loan. Concurrently, the bank is paying interests on idle money.

On the other hand, individuals and companies withdraw a large amount of money for survival because job and income opportunities are declines due to the pandemic. Then, the study used the theory of portfolio management to identify whether it affected the liquidity of the position of the bank in Ethiopia. Similarly, in the pandemic, how banks manage their liquidity, that is acquiring and disposing of their earning assets, can have a significant impact on the financial instruments, borrowing and spending practices of households and businesses and the economy as a whole.

b) Safety:

A commercial bank always operates under conditions of uncertainty and risk. The uncertain is about the amount and cost of funds it can acquire and about its income in the future. The pandemic may worsen the degree of this uncertainty in terms of cost, profit and liquidity. The impediment is the market risk which results from the drop in the prices of debt obligations when the market rate of interest rises and default risk result from bank fears the debtors are not likely to pay back the principal with interest in credit period. This risk is largely focused on customer loans, where banks have a special function to perform and bank loans to businesses and bank mortgage loans are among the high-grade loans of these types (Semirti, 2020).

The Coronavirus likely increases the extent of loan default in term of both market and credit risks. In the light of these risks, a commercial bank has to maintain the safety of its assets as it is prohibited by law to take large risks and required to keep a high ratio of its fixed liabilities to its total assets with itself and also with the national bank in the form of cash. But if the bank follows the safety principle strictly by holding only the safest assets, it will not be able to create more credit, thus lose customers to other banks and its income will be very low. On the other hand, if the bank takes too much risk, it may be highly harmful to it, and then a commercial bank must estimate the number of risks attached to the various types of available assets, compare estimated risk differentials, consider both long-term and short-run consequences and strike a balance. However, the outbreak of COVID-19 makes measurement of the safety of bank complex due to increase in the probability of market and loan uncertainties in the financial services sector. Therefore, this theory helps the researcher to identify whether the Coronavirus increase the credit risk in the banking industry in Ethiopian.

c) Profitability:

One of the principal objectives of a bank is to maximize profit because it is essential for the paying interest to depositors, wage to the staff, dividend to shareholders and meeting other expenses. It cannot afford to hold a large number of funds in cash for that will mean forgoing income. However, the conflict between profitability and liquidity is not very sharp. Liquidity and safety are the main concern for the bank. At the same time, profitability is subsidiary for the very existence of a bank depends on the first two. Thus, the study adopts this theory to check whether the COVID-19 shock the profitability of Ethiopian banking.

Moreover, the COVID-19 may enforce the manager only to emphasis on one of the three mainly profitability. At the same time, the portfolio theory stated that for a bank to earn more profit, it must tone the balance between liquidity and safety. Overall, the aforesaid facts increase the rationality of applying the Portfolio Management Theory vis-à-vis examination of the impacts of COVID-19 banks portfolio in Ethiopia. More evidently, the researchers apply this theory to discover whether the outbreak of

Coronavirus influence banking portfolio in Ethiopia since it is rudiments to sustain a sound bank system.

3.2. Empirical Studies

Bipasha and Suborna (2020) studied the implications of Coronavirus for banks in developing countries. The study found that Coronavirus worsen the situation the extent of non-performing assets in Bangladesh. Further, the study investigated the impact of COVID-19 on non-performing loan in the context firm value, capital adequacy and interest income. The researchers generalized that the COVID-19 undeniably impacted larger banks compared to another size bank. Afterwards, the study revealed that a ten (10) per cent non-performing loan crunch could make the capital adequacy of whole banks ratio below the minimum of the threshold of requirements of BASEL-III.

In contrast, a 13percent or more distress could make it zero or negative at the industrial level. The paper proposed that to reduce the large extent of the banking portfolio crisis in Bangladesh, the banks immediately adopt the innovative method. Finally, the study recommended that the entire banks were experienced in a decrease in asset value, capital adequacy ratio, and interest income at the individual bank and sectoral levels. Mann (2020) and Beck (2020) expressed that COVID-19 impaired survival and financial stability, sustainability and security of financial sectors in developing counties. Bipasha and Suborna (2020) indicated that banks were considerably affected by the outbreak of COVID-19 than other financial sectors towards interest rate, liquidity, credit, market and reputational risks.

World Bank (2020) and Stiller and Zink, (2020) stated that the banking industry would be faced lift in the liquidity, credit, interest rate and market risks due to COVID-19. Further the paper explained that developing countries whereby the banking industry serves millions of persons and organization with lower financial and economic ability and lower environmental policy and intensive competition critically influence by the pandemic. Lagoarde-Segot and Leoni (2021) described that the Coronavirus could pose great extent of loan default, loan recoveries becoming intricate and more challenging, savings eaten up by customers to support daily living, decreased

availability of loanable funds and depressed new investment demand in developing countries. Tarashev (2020) stressed that COVID-19 inject multifaceted consequences to banks, which in return, threatens banking system stability.

Bipasha and Suborna (2020) argued that banking industry possibly experiences significant extent of default risk and rates as results of decrease in revenues and cash inflows to their borrowers due to the economic distress and precautionary measure of COVID-19. The banks that have substantial lending exposure, particularly to export-oriented industries and small businesses may see a steep raise in default rates during and post covid-19. Further, the overall condition may turn many borrowers into willful defaulters and may increase the credit risk of the banks. It is possible that the market value of collaterals provided against secured loans may decline in value, further enhancing the credit and default risk for banks.

Baret and Celner (2020) indicated that banks industry could experience liquidity crunch because many depositors and investors can need to withdraw their savings to support their living and health expenses. During the COVID-19 income opportunities for people and organizations declined in return, they consume their saving amount; furthermore, individuals losing works will urgently try to survive on their savings. This will cause a liquidity crisis and limit the lending capacity of banks. Carletti (2020) studied the bank business model in the Post-Covid-19 World. They described that COVID-19 would be challenged banking business model in terms of low-interest rates. This situation results in low profitability to the banks' industry mainly those highly depend on maturity transformation and net interest revenue. Secondly, COVID-19 imposed released prudential requirements, regulatory scrutiny and compliance costs, which in return, impose pressure on banks' profitability and lessened their competitiveness relative to shadow banks. Thirdly, the outbreak of the COVID-19 cause massive application of digital technologies and the emergence of new competitors in the banking atmosphere, which provides new products and services and helped improve the efficiency of incumbent banks.

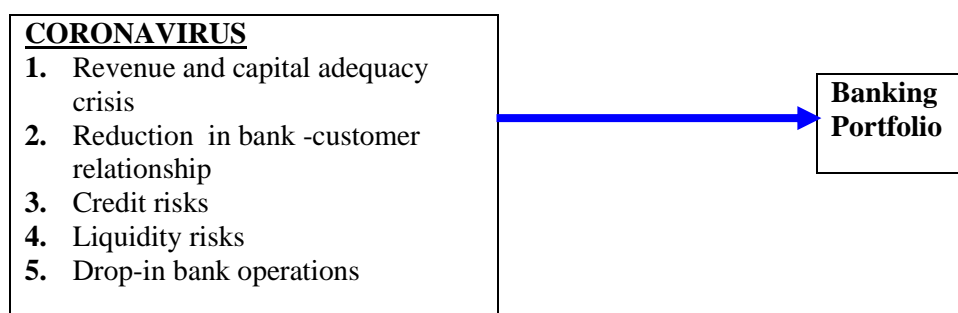
Asli et.al (2020) analyzed the bank stock prices around the world to assess the

impact of the COVID-19 pandemic on the banking sector. Further paper studied the role of financial sector policy announcements on the performance of bank stocks. The study found that the crisis and the countercyclical lending role that banks are expected to play have put banking systems under significant stress, with bank stocks underperforming their domestic markets and other non-bank financial firms. The paper recommended that measures of liquidity support, borrower assistance, and monetary easing moderated the adverse impact of the crisis, but this is not true for all banks or in all circumstances. For example, borrower assistance and prudential measures exacerbated the stress for banks that are already

undercapitalized and/or operate in countries with little fiscal space. In the end, the paper proposed that vulnerabilities will need to be carefully monitored as the pandemic continues to take a toll on the world's economies.

Melamedov (2020) explained that borrowers and businesses face job losses, slowed sales, and declining profits as the virus continue to spread around the world. Banking customers are likely to start seeking financial relief, increase in expenses of the bank, liquidity, profitability and employee benefit. Finally, the current researcher developed the following conceptual framework in line with empirical studies and theoretical facts.

Figure 1: Shows conceptual framework



3.3. Research Gap

The information from the theory and empirical studies acknowledged the value of studying the impacts of COVID-19 on the Ethiopian banking industry's profitability, liquidity, safety, bank-customer relationship as well as banking operation. Moreover, until now, to a maximum of my knowledge, no similar study was conducted on the impact of COVID-19 on banking portfolio in Ethiopia. Thus, the study has narrowed the gap by investigating the implications of Coronavirus on the banking portfolio in Ethiopia in line with the portfolio management theory.

4. METHODOLOGY

To address the main aim of the study, the researcher used a descriptive survey because Kothari (2004) explained it involves a careful and complete observation of units. It is a research method help researcher to look in deepness than breadth. Furthermore, the study was employed quantitative approaches since it assisted the researcher to analyze and present the data quantitatively. The primarily data was

collected by means of a self-administered questionnaire because it is more reliable for this type of study. Evermore, this piece of paper has utilized secondary sources of data, including published and unpublished materials from the website.

The study used Likert scale extended from strongly agree to disagree strongly, namely strongly agree (5); Agree (4), Neutral (3); Disagree (2) and strongly disagree (1). The scale was used in the paper consistent with the mean value. This gives the statistical implication that averages which are less than 1.8 reveals strongly disagree approval to the item, and mean range between 1.80 and 2.59 reflect disagree permission to the item. In contrast, mean values between 2.60 and 3.39 indicate neutral consent of the members of the sample to the item. The mean values between 3.40 and 4.19 shows agree on consent to the item and mean values higher than 4.20 shows strongly agree on consent to the item. The level of rage adopted from El-Mousawi and Kanso (2020). The regarding the dependent variable "banking portfolio" the study used five scales,

including no shock at all (5), little shock (4), Neutral (3), shock (2) and high shock (1).

4.3. Sampling technique

The target population of this study was the whole employees of the branches of public and private banks in the Western Oromia of Ethiopia. From the entire 2000 employees, the researcher purposely selected 205 since it is scientifically sufficient. The main reasons behind utilization for purposive sampling were that the incidence of large numbers of population in extended geographical location and the homogeneity of people. The sampling units include managers, customer services officers, accountants, cashiers and other officers with BA and Masters Degrees holders.

4.4. Data analysis and presentation

For data analysis, the study used both descriptive analysis and inferential analysis. The descriptive analysis incorporated frequency, percentage, mean and standard deviations whereas the inferential analysis included multiple regressions analysis, ANOVA, Pearson correlation matrix; Cronbach's alpha coefficient and principal components analysis performed using SPSS-V24 and Excel.

The dependent variables of this study were the banking portfolio. The independent variable was COVID-19 distress including profitability and capital adequacy crunch, credit risk, liquidity risk, inapt customer relationship and disruption of bank operation.

Then, the COVID-19 in terms of the profitability and capital adequacy crisis included revenue erosion; decreases in savings and increases in withdrawal; a fall in interest and noninterest income; increases in the operating and other expenses; diminish in the capital adequacy; reductions in core banking profitability, lower in asset value or firm values of banks and unauthorized access.

The COVID-19 on in terms of credit risks included a temporary and permanent loan default; drop in demand and supply of new loan; increase in non-performing loans; drop in assets; reduction in new investment demand; decrease in loan and non-loan services demands, decrease in the availability of loanable funds and decrease in the credit management.

The COVID-19 on in terms of liquidity risks comprised the decrease in individuals and companies' revenue opportunities lessen in savings, increase in withdrawal and individuals losing jobs. The COVID-19 episode in the context of the bank-customer relationship has consisted of an impairment of the bank-customer relationship; drop in-person interaction and triggering in contagious bank-run. The COVID-19 regarding disruption of bank operations was contained threatens banking system stability; fall in bank monetary and fiscal interventions to support the economy; decline in benefits of employee and decline in the magnitude of financial inclusion. Thus, the following model has used:

Model "1": $BA = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e_i$ whereby,

BA= Banking Portfolio

β_i = Coefficient for X_i

X_1 = Profitability and Capital crunch

X_2 = Decrease in bank-customer relationship

X_3 = Credit Risk

X_4 = Liquidity Risk

e_i = Residual errors

5. RESULTS AND DISCUSSION

Table1: Depicts Descriptive analysis on general information of the respondents

1. Respondent's responses on their ages		
Response	Frequency	Percentage
Less than 20 years	8	4.00
Between 20-40 years	190	93.00
Between 40-60 years	7	3.00
Over 60 years	0	0.00
Total	205	100

2. Respondent's responses on their gender		
Male	133	65.00
Female	72	35.00
Total	205	100
3. Respondent's responses on their Level of education		
TVET	5	2.00
First Degree	160	78.00
Others degree	40	20.00
Total	205	100
4. Respondent's responses on the form of their business enterprises		
Private Commercial Bank	80	39.00
Public Commercial Bank	100	49.00
Cooperative Bank	20	10.00
Development Bank	5	2.00
Total	205	100
5. Respondent's views on their responsibility in the company		
Manager or Loan Officer	70	34.00
Customer service officer	45	22.00
Supervisor	25	12.00
Accountant	33	16.00
Casher	15	7.00
Auditor	17	8.00
Total	205	100

Source: Survey

The initial enquiry was asked to identify the age of the respondents. Subsequently, 93 percent of them were of the age group of 20 years-40 years. Conversely, 8 percent of the contributors were less than 20 years of age, whereas just 7 percent of respondents were between age group of 40-60. No participants were over the 60 years of age. In Table 1, 65 percent and 35 percent of the respondents were males and females in turn. Therefore, most of the participants were male. Concerning their level of education, about 78 percent, 20 percent and 2 percent of the respondents were first degree and other degree and TVET diploma holders' respectively. Therefore, majority of the participants had enough knowledge of banking and portfolio

management as the course of Accounting and Banking as well as Finance formally and broadly provided at BA and MSc degree level in Ethiopia.

With reference to the types of Banks, about 49 percent, 39 percent, 10 percent and 2 percent of the participants stated that their banks were public commercial bank, private commercial bank, cooperative bank and development bank respectively. Regarding their responsibility, 34 percent, 22 percent, 16 percent and 12 percent of the respondents were manager or loan officer, customer service officer, accountant and supervisor respectively. On the other hand, about 7 percent and 5per cent of the respondents were auditors and Cashier in turn.

Table2: Indicates descriptive analysis on respondents views about variables

Observation	Code	Mean	Std. Deviation
Profitability and capital crisis	RCAC	-	-
Coronavirus outbreak likely causes revenue erosion.	RE	4.40	1.290
Coronavirus outbreak likely causes a decrease in savings and an increase in withdrawal.	SW	4.49	1.178
Coronavirus outbreak likely causes a fall in interest and non-interest income.	INII	3.77	.888

Coronavirus outbreak likely amplifies operating and other expenses of the bank.	EB	3.80	.811
Coronavirus cause decreases in capital adequacy as banks could try to utilize part of their Tier1 or 2 capitals to support their operating and financial sustainability.	CA	4.49	1.211
Coronavirus outbreak likely cause reductions in the core banking profitability.	CBP	4.86	.668
Coronavirus outbreak likely causes increases in security problems such as hackers or unauthorized access.	SP	3.97	.419
Coronavirus eruption likely lower asset value or firm values of banks, which in turn, lower capital adequacy of banks, threaten the banks' financial solvency, survival, and sustainability.	RA	3.79	.846
Decrease in bank customer relationship	BCR		
Coronavirus outbreak likely impairs the relationship between bank and customer	BCR	3.90	.524
Coronavirus outbreak likely causes reduction in-person interactions	IPI	3.75	.854
Coronavirus outbreak probable causes triggering in contagious bank-run.	CB	3.80	.770
Credit risks	CR		
Coronavirus outbreak possible causes a temporary and permanent loan default.	TPD	4.57	1.048
Coronavirus outbreak probable affects demand and supply of new loan.	DSL	3.76	.891
Coronavirus outbreak likely results decrease in loan and non-loan services demands.	LNLD	4.44	1.226
Coronavirus eruption probable results increase in non-performing loans.	NPL	4.47	1.231
Coronavirus outbreak likely causes a reduction in new investment demand because of reduced incomes and cash inflows to their borrowers from the economic slow-down and forced shutdown.	ID	4.51	1.114
Coronavirus outbreak probable causes a decrease in the availability of loanable funds and deposits.	ALF	3.70	.854
Coronavirus outbreak likely causes affect the extent of credit management.	ECM	3.92	.513
Liquidity crisis	LR		
Coronavirus outbreak causes a liquidity crunch because the individuals and companies income opportunities increasingly drop, and individuals losing jobs will desperately try to survive on their savings.	EDZ	3.93	.414
The outbreak of Coronavirus results in liquidity crisis since many depositors may choose to withdraw their savings to support their living and health expenses.	BE	3.59	.994
Drop-in bank operations	BO		
Coronavirus outbreak probable threatens banking system stability.	BS	4.42	1.276
Coronavirus outbreak likely causes a decline in bank monetary and fiscal interventions to support the economy.	MFI	4.56	1.126
Coronavirus outbreak likely causes disruption in the operations of banks.	BO	4.55	1.118

The outbreak of Coronavirus likely causes a decrease in employees benefit	BE	4.86	.668
Coronavirus outbreak probable causes a decrease in the magnitude of financial inclusion	FI	4.85	.680
Valid N (listwise)	205		

Source: Survey

In Table 2 the respondents provided diverse opinions regarding the impacts of Coronavirus outbreak on the Ethiopian banking portfolio, typically profitability, capital adequacy, credit, liquidity, customer relationship and operation. To measure the response of the participants on the extent of impact of the Coronavirus outbreak on the banking portfolio in the context of profit and capital adequacy crisis”, the study employed RE, SW, INII, EB, CA, CBP, SP and RA. Therefore, the mean of 4.86, 4.49, 4.49 and 4.40 for CBP, CA, SW and RE depicted that the profit and capital adequacy of banking industry were strongly impaired by the outbreak of Novel Coronavirus in Ethiopia in turn. In the same way, the participants observed that the Coronavirus (Covid-19) incidence caused decrease in the interest and noninterest revenue; decrease in savings and increase in withdrawal; reduction in capital adequacy and the core banking profitability in Ethiopia. On the other hand, the mean of 3.97, 3.80, 3.79 and 3.77 for SP, EB, RA and INII pointed out that the banking portfolio in terms of profit and capital adequacy reasonably influenced by the outbreak of Covid-19 in Ethiopia in turn. Likewise, the participants have agreed that the outburst of Coronavirus result falls in interest and noninterest income; increases in the operating and other expenses, lower asset value or firm values, threaten banks ‘financial solvency and sustainability and increase authorized access in Ethiopia Banks.

To recognize the opinion of the respondents on the impact of Coronavirus on banking credit situation, the researcher had employed TPD, DDL, LNLD, ID, ALF, ALF and ECM. Accordingly, the mean value of 4.57, 4.51, 4.47 and 4.44 for items TPD, ID, NPL and LNLD asserted that respondents sturdily agreed that the outbreak of Coronavirus caused credit risks in the Ethiopian banking industry in turn. The participants strongly agreed that Coronavirus outbreak causes a temporary and permanent loan default; drop in demand and supply of new loan; decrease in loan and non-loan services demands; increase in non-performing loans;

reduction in assets or firm’s value; diminish in the new investment demand; decline in credit risk management and shrink in the availability of loanable funds and deposits in Ethiopian Banks. Moreover, the mean value of 3.92, 3.76, 3.70 items of ECM, DDL and ALF indicated that the respondents have agreed that Coronavirus eruption results in an increase in credit risks of banks in Ethiopia respectively. They have agreed that the extent of credit management; assets or firm value; demand and supply of new loan and availability of loanable funds and deposits were dropped because of the outbreak of COVID-19 in banks of Ethiopia respectively.

Some respondents justified that due to a decline in the demands of the loan; the amount of cash in their bank is very high. In the same ways, they expressed that the extent of idle cash is very great, while the banks are paying interest on the unused cash for investment. So, the outbreak of COVID-19 pandemic augments the extent of credit risks, profitability crisis and liquidity risks in the Ethiopia baking industry. Furthermore, this type of banking activity decreases the value of assets of the banks since the more amounts of cash is soaked, and interest expense is paid on saturated funds in the bank.

To identify insight of the participants on the influence of Coronavirus on bank-customer relationship, the research used factors, BCR, IPI and CB. Hence, the average values of 3.90 (BCR), 3.80 (CB) and 3.75 (IPI) revealed that the outbreak of Covid-19 pandemic affected the bank-customers relationship, triggering in contagious bank-run and personal interactions in the Ethiopia banking industry respectively. For instance, one the manager of a Commercial Bank of Ethiopia Nekemte explained the outbreak of Coronavirus pandemic was damaged customer excellence because prior to the outbreak of pandemic one customer officer at least handled more than five (5) peoples via one window. However, during the pandemic, the extent was changed due to the defensive measure engaged by the bank. This shows how much the eruption of COVID-19 on the extent

of the banker customer relationship as well as customer handling.

To identify the respondent's opinions regarding the impact of the outbreak of Coronavirus on the liquidity, the study utilized the LCU and LCR. Hence, the mean values of 3.93 (LCU) and 3.59 (LCR) showed that the outbreak of Coronavirus results in the liquidity crisis in the Ethiopian banking industry. The respondents have agreed that the liquidity risk has occurred because most of the depositors withdraw their savings to support their living as well as health expenses; revenue opportunities for the individuals and companies were decreased, and people desperately used their limiting amount of saving to survive during the lockdown. The outbreak of Coronavirus caused liquidity and solvency crisis because the demand for the new loan was decreased in Ethiopia banking ecology.

The BE, FI, MFI, BO and BS have implemented to understand the shocks of the outbreak of the Coronavirus to the banking operation in Ethiopia. Thus, their mean values of 4.86, 4.56, 4.85, 4.55 and 4.42 indicated that the respondents had strongly agreed towards the distress of COVID-19 on the banking operation sequentially. The respondents believed that COVID-19 resulted in fall in employees benefit, reduction in financial inclusion; drop in the bank monetary and fiscal interventions to support the economy and threatens banking system stability in Ethiopia. For instance, on the employee benefit, the respondents described the outbreak of the Coronavirus decrease in new recruitment, in return, the rate of unemployment in amplified in the country. Further, they explained that because of the outbreak of the Coronavirus, the transfer of an employee was delayed or pended in Ethiopia. Generally, the findings of the descriptive statistics attested COVID-19 negatively affected the Ethiopia Banking Portfolio, such as bank profitability, capital adequacy, liquidity, credit, customer relationship and bank operations.

Factor analysis

In this section, the researcher applied principal component analysis, including anti-image, commonalities; KMO; Bartlett's Test; Extraction Method, rotated components matrix, Varimax normalization and Eugene value to make the data ready for regression analysis through data reduction and adjustment, determination of sample adequacy and variance as well as correlations. Hence, the investigators executed factors analysis since the factor loading pointed out an association among the original variables or factors which were keys to know the attribute of meticulous constructs. The squared factor loading asserted the amount of variance in initial predictors that depicted by a component. The study was implemented factor analysis to identify whether the observations were the appropriate picture and determinants for factors in a theoretical framework. After that, the items with a correlation coefficient of more than 0.5 accepted from a rotated components matrix table.

Communality

According to Hair et al. (2010), Communality is the whole amount of variances that the original factors shared with all variables incorporated in the analysis and predicated the variance in individual variable elucidated by the aspects. Thus, in Table 3, the total sum of variance for the items of bank profitability and capital adequacy risk, credit risks, liquidity risk, customer relationship and bank operation were correctly uttered by the common factors in the model. For example, the Communality of 0.815 for RE depicted that 81.5percent of the variance of the revenue erosion on the impact of COVID-19 on the revenue and capital adequacy of the bank was elucidated by this item. Overall, all items in the construct were suitable for the regression analysis as their various was more than 0.50 threshold.

Table 3 shows communalities

	Initial	Extraction
TPD	1	0.591
RE	1	0.815
EB	1	0.652

DSL	1	0.604
CA	1	0.684
RA	1	0.688
INII	1	0.785
LCU	1	0.613
LCR	1	0.639
SW	1	0.681
NPL	1	0.618
BCR	1	0.862
IPI	1	0.92
SP	1	0.739
FI	1	0.766
Extraction Method: Principal Component Analysis.		

KMO and Bartlett's Test

The KMO was calculated both for individual and multiple items to determine their sample adequacy. In the same way, sample adequacy calculated for the whole and sole correlation matrix of the variable to measure the suitability of the factor analysis. Hair et al. (2010) stated that as the KMO approach to 1, the patterns of the relationship were comparatively compressed and then the factor analysis produced a unique and reliable answer for the desired construct in the model. Further, he explained that the appropriate amount of KMO

should be 0.5, whereas less 0.5 assured an inaptness of the factor analysis. Hence, in Table 4, the total value of KMO for the entire items was 0.791, which in return, the data was enough carried out the analysis on the variable. In Table 5, the diagonal of the anti-image matrix for sole items indicated adequacy of sample and correlation for factors analysis at the verge of 0.50. In Table 5, Bartlett's test of sphericity applied to lessen the data to ready it for factor analysis. Thus, the Chi2 of 1936.259 at $p < 0.000$ has affirmed the incidence of enough variance and association between the predictors in the model.

Table 4: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.791
Bartlett's Test of Sphericity	Approx. Chi-Square	1936.259
	df	5
	Sig.	0.000

Table 5: Anti-image matrices

	TPD	RE	EB	DSL	CA	RA	INII	LCU	LCR	SW	LR	BCR	IPI	SP	FI
TPD	.848a	-	-	-0.05	-0.33	0.29	0.028	-	-	-	0.048	0.21	-	-0.29	-0.13
RE	-	.864a	-0.13	-0.1	-0.22	-0.1	-0.14	-	-	-	0.155	0.268	-	-0.19	0.103
EB	-	-0.13	.817a	0.03	-0.14	0.22	-0.18	0.154	0.095	-	0.124	0.017	-	0.2	0.035
DSL	-	-	0.026	.755a	-0.14	0.18	-0.13	-	0.201	-	-	-	0.068	0.09	0.274
CA	0.078	0.078	0.169	-0.05	.755a	-0.33	0.028	0.102	0.247	0.167	0.048	0.21	0.132	-0.29	-0.13
RA	0.078	-0.13	.817a	-0.1	-0.22	.864a	-0.14	0.294	0.327	0.226	0.155	0.268	0.208	-0.19	0.103
INII	0.169	-0.13	-0.13	0.03	-0.14	0.22	.817a	0.154	0.095	-	0.124	0.017	0.027	0.2	0.035
LCU	0.046	-	0.026	.755a	-0.14	0.18	-0.13	.755a	0.201	-	-	-	0.068	0.09	0.274
LCR	0.046	0.101	0.026	-0.14	.755a	0.18	-0.13	0.094	.755a	0.158	0.168	0.126	0.068	0.09	0.274
SW	0.046	0.101	0.026	-0.14	0.18	-0.13	-0.13	0.094	0.158	.817a	0.124	0.017	0.027	0.2	0.035
LR	0.046	0.101	0.026	-0.14	0.18	-0.13	-0.13	0.094	0.158	0.157	.864a	0.268	0.208	-0.19	0.103
BCR	0.046	0.101	0.026	-0.14	0.18	-0.13	-0.13	0.094	0.158	0.157	0.124	.817a	0.027	0.2	0.035
IPI	0.046	0.101	0.026	-0.14	0.18	-0.13	-0.13	0.094	0.158	0.157	0.124	0.017	.864a	-0.19	0.103
SP	0.046	0.101	0.026	-0.14	0.18	-0.13	-0.13	0.094	0.158	0.157	0.124	0.017	-0.19	.817a	0.035
FI	0.046	0.101	0.026	-0.14	0.18	-0.13	-0.13	0.094	0.158	0.157	0.124	0.017	-0.19	0.035	.864a

CA	-0.326	-0.22	-0.136	-0.14	.841a	-0.4	-0.11	-0.016	0.1	0.107	-0.22	-0.324	0.214	0.1	0.03
RA	0.289	-0.138	0.219	0.18	-0.41	.713a	-0.34	0.059	-0.114	-0.067	0.222	0.029	0.105	-0.09	-0.06
INII	0.028	-0.142	-0.175	-0.13	-0.11	-0.3	.927a	-0.141	-0.128	-0.118	-0.099	0.001	-0.154	0.05	-0.14
LCU	-0.102	-0.294	0.154	-0.09	-0.02	0.06	-0.14	.884a	0.144	0.052	-0.252	0.107	-0.083	-0.03	-0.05
LCR	-0.247	-0.327	0.095	0.2	0.1	-0.1	-0.13	0.144	.848a	-0.219	-0.235	-0.132	0.119	0.2	0.065
SW	-0.167	-0.226	-0.157	-0.16	0.107	-0.1	-0.12	0.052	-0.219	.919a	-0.062	-0.079	0.12	0.03	-0.19
NPL	0.048	0.155	0.124	-0.17	-0.22	0.22	-0.1	-0.252	-0.235	-0.062	.830a	0.139	-0.123	-0.04	-0.1
BCR	0.21	0.268	0.017	-0.13	-0.32	0.03	0.001	0.107	-0.132	-0.079	0.139	.574a	-0.833	-0.59	0.017
IPI	-0.132	-0.208	-0.027	0.07	0.214	0.11	-0.15	-0.083	0.119	0.12	-0.123	-0.833	.596a	0.62	-0.35
SP	-0.29	-0.186	0.204	0.09	0.099	-0.1	0.054	-0.032	0.198	0.033	-0.043	-0.589	0.252	0.622	-0.3
FI	-0.128	0.103	0.035	0.27	0.03	-0.1	-0.14	-0.048	0.065	-0.192	-0.101	0.017	-0.348	-0.3	.845a

Rotated Component Matrix

Table 6: Shows rotated component matrix

Items	1	2	3	4
RE	0.837			
EB	0.77			
SW	0.749			
RA	0.746			
INII	0.725			
CA	0.721			
SP	0.631			
BCR		0.917		
IPI		0.913		
CB		0.798		
DSL			0.748	
NPL			0.709	
TPD			0.665	
LCU				0.833
LCR				0.652
Eigen Value	6.153	1.934	1.493	1.077
% of variance	41.02	12.894	9.951	7.18
Cumulative %	41.02	53.914	63.864	71.044
Rotation Method: Varimax with Kaiser Normalization. a				
a Rotation converged in 6 iterations.				

To make the data suitable for multiple regression analysis, the researcher used Eigenvalue. For this, the predictors with the

variance of $1 \geq$ have been accepted. Accordingly, a decrease in revenue, decrease in the customer relationship, reduction in bank

portfolio, and decline in employees benefit have scored the Eigenvalues of 6.153, 1.934, 1.493 and 1.077 in turn. Therefore, the data was statistically enough for regression analysis because their Eigenvalues were larger than one.

The research has created the predictors depend on the extent of the loading factor of each item. The primary predictor “decrease in revenue” was originated from RE, EB, SW, RA, INII, CA, and SP with a load of 0.837, 0.77, 0.749, 0.746, 0.725 and 0.631 respectively. The second predictor “decrease in customer relationship” derived from BCR, IPI and CB with loads of 0.917, 0.913 and 0.798 in turn. The third independent variable “Reduction in banking portfolio” for the measure of the impact of COVID-19 on the banking products and services was formed from DSL, NPL and TPD with factor loads of 0.748, 0.709 and 0.665 respectively. The last construct “liquidity risk” was created from factors LCU and LCR with the loading factor values of 0.833 and 0.652 in turn. Generally, the revenue and capital adequacy disaster, decrease in the bank-customer relationship, credit risk, and liquidity risk was explained about 41.02 percent, 12.894 percent, 9.951 percent and 7.18 percent of the negative impact of COVID-19 on the banking products and services in turn.

Regarding the cumulative variance percentage, the initial factor “profitability and capital adequacy crisis” described 41.02 percent of the negative impact of COVID-19 on the banking portfolio in Ethiopia. The second

predictors “decrease in customer relationship” elucidated 53.914 percent of the negative effect of COVID-19 on bank customer relationship in Ethiopia. Third predictor “Credit risks” expressed 63.864 percent of the negative effect of COVID-19 on the credit and deposit risk in banks portfolio in Ethiopia. The fourth predictors “Liquidity risk” described 71.044 percent of the negative effect of COVID-19 outbreak on the liquidity position of the banking industry portfolio in Ethiopia. Thus, the constructs model has correctly measured the impact of the outbreak of Coronavirus on the Ethiopian banking industry in general and its products and services in particular. In view of that, the above-mentioned validities were fully or else partially supported by the works of Nevin and Amosun (2020), Melamedov (2020), Bipasha and Suborna (2020), Jessica et al. (2020) and Carletti (2020) because they realized identical factors towards the disruption of COVID-19 on the banking industry. Pertaining to a banking operation, the researcher excluded whole items of the variable from a multiple regression model due to their factor loading of the rotated component matrix.

Test of Validity and Reliability

In this part, the researcher has tested the validity and dependability of the research instruments using plot test and Cronbach's Alpha coefficient of more than 0.60 set by Hair et al (2010). On the subject of validity, the pilot study was conducted; in return, the outputs matched with the premeditated outcomes of the research. Furthermore, Table 7 depicts that the research instruments were more reliable to assess the impacts of Coronavirus on the Ethiopian Banking Industry in the viewpoint of banking revenue, capital adequacy, bank-customer relationship, credit risks, and liquidity risks as well as banking operations.

Table 7: Depicts reliability test

Reliability Statistics	
Cronbach's Alpha	N of Items
0.904	15

Test of Correlation

In order to test the relationship among predictors and dependents variables, the study implemented Pearson Correlation matrix. Accordingly, there was a strong positive correlation among decrease in revenue, decrease in the customer relationship, reduction in banking portfolio and decline in benefits of employees and the outbreak of Novel Coronavirus in the Ethiopian Banks industry.

As indicated in Table 8, the correlation among COVID-19 and reduction in revenue, customer relationship, portfolio and employee benefit was positive and considerable at the 0.05 and 0.01 (2-tailed) critical levels. In other words, the Coronavirus has negative and significant association with banking revenue, banking customer relationship, banking portfolio and banks employee in Ethiopia.

Table 8: Pearson correlation on the shocks of Covid-19 to the bank portfolio

Variables	Banking Portfolio	Revenue & Capital crisis	Decrease Bank Customer relationship	Credit Risks	Liquidity crisis
Banking Portfolio	1	.154*	.151*	.157*	.197**
		0.027	0.031	0.025	0.005
Profitability & Capital adequacy crisis	.154*	1	0	0	0
	0.027		1	1	1
The decrease in bank customer relationship	.151*	0	1	0	0
	0.031	1		1	1
Credit Risk	.157*	0	0	1	0
	0.025	1	1		1
Liquidity crisis	.197**	0	0	0	1
	0.005	1	1	1	
*. Correlation is significant at the 0.05 level (2-tailed).					
**. Correlation is significant at the 0.01 level (2-tailed).					

Multiple Regression Analysis

According to Kothari (2004) the regression is one of the fundamental statistical tools used by researchers to investigate the magnitude of the association between predictors and the dependent variable. Further, the regression analysis used to predict the degree of influence

of predictors over the dependent variable. Therefore, the output of multiple regression analysis on Table 9 depicts that the adjusted R² of 0.56 reflects that all the predictors used in the research elucidate for about 56percent of the discrepancy level of impacts of COVID-19 in the banking industry in Ethiopia.

Table 9: Shows model summary of regression analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.71	0.565	.560	.185

Table 10: ANOVA table for regression analysis

Model	Sum of Squares	Df	Mean Square	F	Sig.	
1	Regression	11.993	4	2.998	6.174	.000
	Residual	97.129	200	.486		
	Total	109.122	204			

Regarding ANOVA, the output of the research on Table 10 reveals that the values of the degree of freedom DF (4) with the F value of 6.174 has considerable level of $p < 0.000$, which in return,

all the predictors are mutually considerable in describing disparity of factors that influencing banking industry's in Ethiopia.

Table 11: Indicates coefficients of regression analysis

Banking Portfolio	Coef.	Std. Err.	t	P> t	95.0% Confidence Interval for B		Collinearity Statistics
					Lower Bound	Upper Bound	VIF
_cons	4.22	.049	86.692	0.000	4.124	4.315	1.00
Profitability and Capital adequacy crisis	-.113	.031	2.31	0.022	.017	.209	1.00
Decrease in bank customer relationship	-.110	.040	2.26	0.025	.014	.207	1.00
Credit Risks	-.115	.049	2.35	0.020	.018	.211	1.00
Liquidity Risks	-.144	.010	2.96	0.004	.048	.240	1.00

In Table 11, the dependant variable was banking portfolio while predictors COVID-19, was measured in terms of profitability and capital crisis, credit risks, liquidity risks, drop in bank-customer relationship and operation. Table 11 depicts that the outbreak of Coronavirus has significantly affected banking portfolio in the viewpoint of profitability and capital adequacy crisis, credit risk, liquidity risk and drop in the bank-customer relationship at 0.01 and 0.05 critical levels. Thus, by related t-value of the predictor's profitability and capital adequacy crisis (2.31); decrease in a bank customer relationship (2.26); credit risks (2.35) and liquidity risks (.049) with their parallel p-values of 0.022, 0.025, 0.020 and 0.004 the study was partly rejected a null hypothesis "The COVID -19 does not have a significant impact on banking portfolio in the context of the profitability and capital adequacy crisis (2.31); decrease in the bank-customer relationship (2.26); credit risk (2.35) and liquidity risk (2.96) in Ethiopia. Thus, the banking portfolio specifically, profitability, capital adequacy, credit and liquidity and the bank-customer relationship were significantly influenced by the episode of Coronavirus in Ethiopia.

Due to its factor loading, the study has not tested the level of impact of COVID-19 on the banking operation, including banking system stability; bank monetary and fiscal interventions to support the economy; reduction in the magnitude of financial inclusion and employee benefit. However, the results of the descriptive analysis were confirmed the negative impact of COVID-19 on the banking operation in the study area.

The Various Inflation Factor (VIF) in Table 11 indicates the absence of multicollinearity among the predictors in the regression model.

In the same ways, the VIF asserted lack of autocorrelation among the variables in the model.

6. CONCLUSION

The primary aim of this study was to get a clear opinion on the impact of Coronavirus outbreak on the Ethiopian banking industry in the context of banking revenue, bank-customer relationship, banking portfolio, employee benefits. The main reasons behind this research were that to the maximum of information and experience so far; no study carried out on a similar topic in Ethiopian banking industry. Furthermore, the Coronavirus is the recent phenomena, which in return require cavernous investigation as it influencing daily activities and portfolio of the companies in general and the banking industry in particular. To convene this, five objectives were considered:

1. To study whether the outbreak of Coronavirus shock banking profitability and capital adequacy in Ethiopia.
2. To study whether the outbreak of Coronavirus causes the credit risks in Ethiopian baking industry.
3. To study whether the outbreak of Coronavirus shock liquidity of the banking industry in Ethiopia.
4. To study whether the Coronavirus outbreak influence bank Customer relationship in Ethiopia.
5. To study the magnitude of the impact of Coronavirus outbreak on the Banking Industry operation in Ethiopia.

To reach the objectives, the following key null hypothesis was tested:

H₀: The outbreak of Coronavirus (COVID-19) does not have significant impacts on the Ethiopian banking industry's profitability,

capital adequacy, credit status and liquidity, customer relationship and bank operations.

The researcher applied descriptive survey research and quantitative design with both primary and secondary sources of data. The researcher selected 205 employees of banks by using a purposive sampling method. The preliminary data collected via a self-administered questionnaire. For data analysis, the researcher used both descriptive and inferential analyses. Evermore, SPSS-24 and Excel tools were used.

The researcher has given concentration to increasing demand for studying the impacts of Coronavirus (COVID-19) on the Ethiopian Banking Industry. The researcher concluded that the outbreak of Coronavirus (COVID-19) significantly influence banking revenue, bank-customer relationship, banking portfolio and bank employee benefits in Ethiopian Banking Industry. More importantly, the researcher recognized that Coronavirus (COVID-19) was significantly decreased the amount of banking revenue, bank-customer relationship, banking portfolio and bank employee benefits in Ethiopia at 0.01 critical level.

- The impact of COVID-19 measured in terms of banking profitability and capital adequacy has a significant influence on the Ethiopia banking portfolio. The study further asserted that the outbreak of Coronavirus (COVID-19) significantly causes a reduction in revenue, decrease in savings and increase in withdrawal; fall in interest and non-interest income; augment in operating and other expenses; reduction in capital adequacy; drop in the core banking profitability and increases in unauthorized access in the Ethiopian Banking Industry at 0.01 significant levels. Then, the Ethiopian banking industry shall increase the degree of reliance on digital banking such as telephone banking system to bank everywhere than at the bank. The Ethiopian banking industry should be implemented new financial product distribution channel model, for example, Bancassurance to diversify sources of revenue rather than stick to fund-based incomes. In order to reduce unauthorized access, during a difficult time, advisable if the Ethiopian banking industry use conventional and digital controlling systems because it influences the core banking profitability. It will better if the banking industry facilitates the demand for the loan to reduce excess cash balance at banks.
- The right way for the Ethiopian banking industry is to provide loan to the new investors and individuals to lessen idle cash and reduce payment of interest on money soaked in the bank without investment. More subtly, through digitalization, the commercial bank shall fast on maturity transformation and liquidity provision by taking short-term deposits and making medium-term and long-term loans with the monitoring of incomprehensible loans, for which it is difficult to get funding on the market.
- The outbreak of Coronavirus (COVID-19) considerably shocked on the extent of the bank-customer relationship in the Ethiopian banking atmosphere. Therefore, the right way for the banking industry, both public and private banks in Ethiopia are to broaden the culture providing banking products and services from remote via online banking platforms. It is recommendable if the banking industry easily sends clients a text message link, allowing them to complete forms, submit documents, upload ID, and sign through digital signature totally through their mobile platform. Moreover, it is better if the Ethiopian banking Industry strictly follows all defensive tactics to boost the relationship among the bankers, investors and customers. The bank must create awareness on the importance of digital banking system like Mobile banking to enhance the level of customer Excellency.
- The impact of COVID-19 measured in the context of a reduction in credit risks has a considerable negative impact on Ethiopian Banking Portfolio because the outbreak of COVID-19 worsens uncertain about the amount and cost of funds it can acquire and its income in the future. Moreover, the findings assured that the COVID-19 was argument the extent of market risk which results from the drop in the prices of debt obligations when the market rate of interest rises and default risk that results from bank fears that the debtors are not likely to pay

back the principal and interest in given credit period.

- A commercial bank has to maintain the safety of its assets and required to keep a high ratio of its fixed liabilities to its total assets with itself and also with the national bank in the form of cash. The bank should not simply follow the safety principle strictly by holding only the safest assets because it diminishes the extent of credit, thus lose customers to other banks and crunch its profit. Again not advisable for the bank to takes too much risk during the pandemic as it will be highly harmful to the bank manoeuvre. The right ways for the banks are to estimate the number of risks attached to the various types of available assets, contrast forecasted risk differentials and consider the short term, medium-and long-term consequences and toning a balance among the two.
- The findings indicated that the outburst of the Coronavirus (COVID-19) drastically caused a drop in the demand and supply of new loan, temporary and permanent loan default; increase in non-performing loan; reduction in assets or firm's value; reduction in new investment demand; decrease in the availability of loanable funds and decline in credit risk management in the portfolio of Ethiopian banking. Therefore, the correct technique for the Ethiopian banking is to develop and implement new credit policy, forbearance/lending products and limit policies; accelerate digitization to react to the changes in customers and investors demands with a new delivery approach.
- The Ethiopian banking industry must improved scenario planning by assessing scenarios (by sector, high-risk clients etc.), project key metrics and refine provisions and manage future credit implications by creating and apply structured changes to credit processes and reporting.
- The study recommended that measures of liquidity support and monetary easing moderated the adverse impact of the crisis and vulnerabilities will need to be carefully monitored as the pandemic continues to take a toll on the country's economies.
- The impact of Coronavirus (COVID-19) measured in the context of liquidity risk has a negative critical influence on banking

portfolio in the Ethiopian banking industry. In light with the finding, the study recommended that the bank must maintain the balance between safety, liquidity and profitability of Ethiopian banks. The bank must hold a sufficient proportion of its assets in the form of cash and liquid assets for the reason of profitability. In theory, if the bank keeps liquidity the uppermost, the level of its profit will be diminished while ignorance of liquidity and aims at maximizing profit will disastrous the liquidity. Thus, in managing its investment portfolio, a bank manager must balance the intention of liquidity and profitability.

- The results of the descriptive analysis revealed that the outbreak of Coronavirus (COVID-19) was significantly threatens banking system stability; bank monetary and fiscal interventions to support the economy; operations of the banks and the degree of financial inclusion. Thus, it is recommendable for the Ethiopian Banking Industry to assemble restructuring capabilities and functions though strategy, operational capacity and automation help them to operate in everyday and difficult situations. Therefore, it is better if the Baking Industry in Ethiopia Act with purpose and integrity that assist the society beyond the bank's core remit and education, health and community. It is more advisable if the Banking Industry in Ethiopia adopts the idea of the Triple-Bottom line (such as profit, people and planet) rather than focus on the profit maximization strategy.
- The researcher recommended that the Ethiopian banking industry is expected to observe a fall banking portfolio including, profitability, liquidity, capital adequacy and safety both at the individual bank and sectoral levels. Moreover, the study findings suggest an instant and innovative strategy measures in order to surmount major and contagious banking portfolio distress in Ethiopia. The Ethiopian banking call to adopt credit risk models such as stress testing model designed Bangladesh national bank to assess the socks of Coronavirus to Ethiopian banking portfolio such as assets value, capital adequacy, revenue, interest rates, exchange rates, credit risk, and liquidity risk.

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