International Journal of Engineering Science Invention
ISSN (Online): 2319 – 6734, ISSN (Print): 2319 – 6726
www.ijesi.org ||Volume 6 Issue 7 series 3 || July 2017 || PP. 108-121

Asset Liability Management in Banks: A Case Study at Central Co-Operative Bank Ltd., Bhawanipatna

Subasis Mishra, Mr. Manas RanjanPati
Gandhi Institute For Technology, Bhubaneswar
MBA Dept., Gandhi Engineering College

I. Introduction

Background of the study:-

Nowadays the banks are the pioneer financial institutions in India. It is considered as the lifeline of Indian economy. The fund requirements of various trade, industry,and agriculture should meet with thehigh level of commitment and responsibility, the banking industry provides them the same service. The smooth operation of thebank will lead to the good financial health of the country, so the banking sector plays a very vital role in the development of a country. Now a day's banks provide various financial services such as savings promotion, funds mobilization to the profitable sector and contribution to the development of a country. It can be stated that presently banks are not only a dealer of money but also act as a leader of development. In other words, it can be said that the banking system reflects the economic health of the country. Presently in India numerous banks are there, to govern and control the entire banking industry one apex bank is there, in India it is the Reserve Bank of India (RBI). It monitors all the activities which are conducted by all of the banks and also provide guidelines for their smooth operation.

The co-operative bank is one of the major banks operating in India. Co-operative banks are formed under the co-operative movement, which was undertaken in the year 1938-39. Unlike other developing countries, India mainly focuses on agricultural and small scale industry. The Co-operative Bank mainly focuses on the primary sector and tiny industries. The development of Co-operative Banks will hopefully lead to the development of the country.

Under the protected environment, for years Indian Banking Industry was not aware of the risk management, but nowadays the things are changing. In the present day scenario, Asset Liability management has become an integral part of Indian banking industry. It is the overall risk management technique followed by banks. It deals with the overall examination of fund mobilization with respect to their maturity, cost, yield, risk exposure, etc. so as to run the industry smoothly and to be in a profitable position. On the other hand, it can be claimed that by the use of Asset Liability Management technique the manager can foresee their bank's risk exposure. The evaluation of the financial status and alternative decision making is the implication of management for future.

Importance of the study

Nowadays there is themushroom growth of banking industry. Apart from that, a bundle of financial institutions have been formed. A cut thought competition is in the market and that mounting with time. Every bank is trying to attract more and more customers by rendering varieties of financial services. In this circumstances the situation arises where the bank should maintain its operations thoroughly, to strive in the competitive banking industry. So there is a need to maintain its asset and liability positions, for the smooth flow of its operations. Asset Liability Management is very essential in this perspective. `

Rationale of the study

The present study "**Asset Liability Management in Banks: A Case Study at Central Co-operative Bank Ltd, Bhawanipatna"** deals with the maintenance of asset and liability, and management of risk. The asset liability management is a risk management technique, by which a manager can ascertain the risk exposure of the bank and can take necessary actions to mitigate that risk. In the present study, the co-operative bank is taken into consideration because as India is an agriculturist's country and themajority of peoples are engaged in agriculture and allied activities. So the co-operative bank helps them to prosper by the financial and managerial support. The co-operative bank basically formed for the co-operative and small scale industries, they render varieties of services for the small scale farmers for making them self sufficient. They are also putting their efforts on the women empowerment.

II. Review Of Literature

In order to be more focused on the study of asset and liability management and to able to find out the research gap, different studies relating to asset and liability management have been studied.There have been extensive studies relating to asset and liability management in banks. Some of the important studies have been reviewed here as under:

R. Vaidyanathan(1999) has carried out a study entitled **"Asset Liability Management: Issues and Trends in Indian Context".** Theissues andtrends in Asset and Liability in India have been studied, and also elaborated on various kinds of risk andtheir management techniques. The study examined the strategies for Asset and LiabilityManagement from both asset as well as liability side. It was found that conglomerateapproach of financial institutions, was becoming very popular in the developing moneymarket.

Charumathi(2008) has undertaken a research on **"Asset Liability Management in Indian Banking Industry - with special reference to Interest Rate Risk Management in ICICI Bank"** to assess the interest rate risk carried out by ICICI bank. It was found that interest rate risk was measured by the use of Reprising Gap Analysis and Duration Analysis. The bank used interest rate derivative to manage the position of asset liability. The bank was an active participant in the interest rate swap market and was exposed to interest rate risk.

Sreekala (2011) in her work entitled **"A Study On Asset And Liability Management In Salem Co-Operative Bank"**has measured the effectiveness and performance of the bank and suggestive measures for the improvement of the selected bank. Data has been collected from the secondary sources; from the annual report and schedules of the selected banks. It was found that the current ratio was not satisfactory and the bank needs to take necessary steps to increase the current ratio. On the other hand, the operating profit ratio shows that the expenses are higher than income so it was suggested that the bank should reduce the avoidable expenses and major transaction should be undertaken through cash.

Frank and Ganesh(2012) conducted a study on "**Asset Liability Management Practices a Study of Public Sector Banks in Kerala State**" with a general objective to analyse theAsset Liability management practice in private sector banks in Karnataka State. The opinions of the respondents regarding ALM practices were analyzed by using statistical methods which revealed that the public sector banks are relatively effective in practicing the Assets and Liabilities management. There should be a proper limit structure, which should be properly monitored by Asset Liability Management Committee (ALCO).

Gupta and Jain (2012) in their research work entitled "**A Study on Co-operative Banks in India with special reference to Lending Practices**" studied the lending practices of co-operative banks in India to measure the efficiencyof co-operative banks. A comparative study has carried out to evaluate the satisfaction level of customers from bank's lending practices. Both primary, as well as secondary data were used for the study. 200 respondents were taken for the study out of which 32% of the respondents have housing loans from the studied bank and 64% preferred to take long term loans with a maturity of more than 3 years.The bank was following a simple procedure for loan processing with an average time of loan processing of approximately 7 days.

Singh and Tandon(2012) conducted a study on "**Asset-Liability Management in Indian Banking Industry**" with a broad objective to describe the concept and application of ALM technique. The data has been collected from secondary sources from RBI guidelines and reports etc. The effect of ALM on the financial performance of the organizations has been discussedin their study. Also,various techniques by which risk can be assessed and managed have been discussed. It was found that maturity gap analysis has a wide range of focus because it is not only an analysis tool but also a planning tool. The researcher suggested that the bank should maintain a lower maturity gap and the 15-28 days time bucket to avoid liquidity exposure, indicating the stability and credibility of the banking system in India.

Prathap (2013) has undertaken a research work on "**An Empirical Study of Asset and Liability Management by Indian Banks**" to study and analyze the status of ALM approach in the Indian banking system. A sample of nationalized, private and foreign banks operating in theIndian perspective has been taken. Multivariate statistical technique and canonical correlation analysis have been used for the analysis. The study found that a majority of banks have a good ALM framework and also indicated a strong relationship between fixed assets and net worth for all groups of banks.

Scope of the study

The study is confined to Central Co-operative Bank Ltd. (CCB), Bhawanipatna. Therefore, the findings of the study may not be applicable to other public or private sector banks which have not been included in the study.

Objectives of the study

The broad objective of the study is to access the implementation of asset liability policy in the selected bank. The specific objectives are listed below:

1. To evaluate the financing pattern of the bank.
2. To measure the financial efficiency of the bank.
3. To evaluate the impact of asset liability management on profitability of the bank.

The following hypotheses have been formulated and tested in the study:

$H_0$1: There is no relationship between profit and investment.
$H_0$2: Loans and Advances have no significant relationship with deposits.
$H_0$3: There is no relationship between borrowings and investment.

Methodology

The research was largely based on the data from secondary sources. The following methodology has been followed in the present study.

Data sources

The various data which have been used in the study are collected from the annual reports of the selected bank that is The Central Co-operative Bank (CCB) Ltd, Bhawanipatna and also from the audit reports of the bank.

Periodicity

For the study data for five financial years have been taken that is from 2011-12 to 2015-16.

Tools and techniques used

In the present study **"Asset Liability Management in Banks: A Case Study of Central Co-operative Bank Ltd, Bhawanipatna"** Karl Pearson's correlation analysis and ANOVA have been used for testing of hypotheses. The collected data was tabulated, coded and analyzed usingMs Excel and SPSS 22.0 package for relevant analysis. The important tools that are used in the study areAnalysis of Variance (ANOVA) and Karl Pearson's Correlation Analysis.

Analysis of variance (ANOVA) has been used to determine whether significant differences existed between the between the profit and investment; 'loans and advances' and deposits; and borrowings and investments. Correlation Analysis has been used to study the variance among the profitability indicators taken in the study.

Limitations of the study

The present study is limited to Central Co-operative Bank (CCB) Ltd. Bhawanipatna.Only secondary sources of data have been used in this study. The published information has been used, which may or may not be accurate or unbiased. Only monetary aspect of the bank has been taken into consideration. The study is limited to one profit centre of the company, due to the time and geographical constraints.

Co-operative movement in India

The co-operative movement in India is very old. The movement was started in India to encourage and for the development of persons engaged in agriculture and allied activities. It was also aimed at bringing back the exploited classes out of the claws of the money lenders. Based on the recommendation of Sir Fredrick Nicholson (1899) and Sir Edward Law (1901), during the British period, the Co-operative Credit Society Act was passed in 1904, for the establishment of Co-operative Credit Societies all over India. Under this Act, only preliminary credit societies were permitted for the registration, but the non-credit organizations of primary co-operative credit society were left out.

The first Urban Co-operative Society was registered at Kanjeepuram of the state Tamil Nadu in October 1904. Followed by that two more Co-operative Credit Society were registered namely Betegini Co-operative Credit Society in Dharwan district in October 1905 and Bangalore City Co-operative Credit Society in December 1905, both in the state of Karnataka. The introduction of Co-operative Credit Society Act 1904, gave rise to the institutionalization of Co-operative Banking in India. The Act was amended in 1912 for the establishment of Central Co-operative Banks at thedistrict level.

The non-credit societies and central co-operative federation were recognized after the formation of The Cooperate Society Act, 1912. The Act cleared the way for the formation of Central Co-operative Banks all over the country. But the provisions of Co-operative Society Act (1912) were not enough to meet the requirements of the states which had made considerable progress during the co-operative movement. In this regard, Bombay passed a new Act that is the Bombay Co-operative Society Act, 1925 for the development of the state. After that Madras, Bengal,and Bihar passed their own Acts in 1932, 1940 and 1935 respectively. The co-operative movement continued in those states even after independence that is after 1947. Independent India accepted the planned economy concept and also co-operative organizations were given an important role.

The government policy towards the co-operative movement was guided by the recommendation of the Saraiya Committee (1948), which stated that the co-operative society plays a very important role in the democratization of economic planning. Than problems of rural credit were subsequently examined by various expert committees, they also come to the same conclusion. They found no alternatives in the view of structural appropriateness in the Indian context. The Rural Credit Survey Committee (1954) enquires into the problem of rural credit, after a lot of examination they found that the celebrated dictum that cooperation has failed, but the cooperation must succeed.

Co-operative in India had a remarkable progress in various sectors of Indian Economy since 1950. During the last century, the co-operative entered into several sectors such as credit, banking, production, processing, housing, warehousing, transport, textile, irrigation and also in industries. In fact, the productions of sugar and milk co-operatives have made India as a major nation in the world. In the present scenario, India hasthe largest network of co-operative numbering more than a half million, with more than 200 million memberships.

After independence, no significant development was made in the field of co-operatives for the first 3 years that was up to 1949. That was because of the partition problem and the absence of aconcrete program for national re-organization problem. However, in the free India, different provisions of five year plans were introduced for giving strength to the co-operative structure of the country.

The first plan recommended the training of personnel's and setting up of Co-operative Marketing Society. The proposal of thesecond plan is for the extension of co-operative activities into various fields. It focused on the warehousing co-operative at thestate level as well as central level. The third plan brought about new co-operatives such as Co-operative Society of Cotton, Sugarcane, Milk supply etc; also some steps were taken to train personnels. Many regional centres were established to train the workers such as the Co-operative Training College at Pune. The consolidation of theco-operative system was emphasized in the fourth plan. The high yield crops program was started at that time, for those different credit societies were organized.

A special provision was made for the improvement of central bank during the fifth plan. The Farmer's Service Societies establishment was also recommended. In the sixth plan, aprogram for the transformation of primary village society to multipurpose society was laid down.

1. To reconstruct the policies and of co-operative so that it can bring about theeconomic development of people.
2. To extend co-operative activities to the fields of food processing, dairy farming, poultry farming, fisheries and many other related fields.
3. To give necessary training and guidance for developing skilled efficient personnels.

In the seventh plan, more importance was given for the expansion of co-operative societies to get public participation and to get its main objective that is for the faster social justice and to have a sharp focus on employment and poverty alleviation.

2.4: Formation of Co-operative banks

The co-operative bank is a financial organization which belongs to its members. The members are the owners as well as the customers of their bank. Co-operative banks are usually created by the persons belong to the same local and professional community of sharing acommon interest. It provides a variety of banking and financial services such as loans, deposits, banking accounts,unlike other banks. It differs in the way of their organization, their goal, their values and their governance from other stockholders banks. In most of the countries, co-operative banks are supervised and controlled by banking authorities and have to respect prudential banking regulations, which enable them to sustain with the stockholder's banks. The co-operative banks have some common features which are stated bellow.

Customer-Owned Entity: In a co-operative bank, the needs of the customers meet the needs of the owners, as co-operative bank members are both that is customers and owner. As a consequence, the first aim of the co-operative bank is not to maximize the profit, but to provide the best possible products and services to its members.

Democratic Member Control: Co-operative banks are owned and controlled by the members, who democratically elect the board of the directors. Members usually have equal voting rights, according to the co-operative principle of "one person, one vote".

Profit Allocation: In a co-operative bank, a significant portion of the annual profit, benefit or surplus is usually allocated to constitute reserves. A part of this earning can also be distributed among the members, usually profit is allocated to the members either through patronage dividend, which is related to the use of co-operative services and products by the members, or through a dividend or an interest, which is related to the number of shares subscribed by each of the members.

2.5: Types of co-operative banks

The co-operative banks are small size organizations which operate in both urban and rural centres. They finance small borrowers apart from professional and salary classes. They are being regulated by Reserve Bank of India and governed by Banking Regulation act. 1949 and banking laws (co-operative society) Act.1965. The structure of co-operative bank is divided into 5 categories-

- Primary co-operative credit society
- Central co-operative banks
- State co-operative banks
- Land development banks
- Urban co-operative banks

Primary co-operative credit society

The Primary co-operative credit society is an association of borrowers and non-borrowers in a specific locality. The funds of this society are derived from share capital, deposits,and loans from central co-operative banks. The borrowing powers are fixed of the members as well the society. Loans are given for the purpose of the purchase of cattle, fertilizers,and pesticides.

Central co-operative banks

The central co-operative banks are the federation of primary credit society in a district. The funds of the banks are consisting of share capitals, deposits, loans and over drafts from state co-operative banks and joint stocks. These banks provide finance to member societies within the limits of the borrowing capacities of societies.

State co-operative banks

The state co-operative banks are the federations of central co-operative banks. They are assumed to be a watch dog of the co-operative banking structure in the state. The funds of the banks are consisting of share capital, deposits, and loans and over draft from the Reserve Bank of India. They lend money to thecentral co-operative bank and primary society, not directly to the farmers.

Land development banks

The land development banks have 3 fine organizations such as state, central and primary level and they give long term credit to farmers & small scale entrepreneurs for developmental purpose. The state land development bank overseas the activities of primary land development bank situated at district and Tahsil areas of the state. They are governed by the state govt. & RBI. Now the supervision of LDB has been assumed by NABARD. The bank does not accept deposits from thepublic.

Urban co-operative banks

The urban co-operative banks are referred to primary co-operative banks located in urban and semi urban areas. These banks were traditionally centred on communities, localities, work for place groups. They usually lend to small borrowers and businesses. They provide credits to small scale industries, salaried employees and other rural and semi rural residents.

2.6: Functions of co-operative banks

The basic functions of co-operative banks which differentiate them from other commercial banks are as follows:

- Co-operative banks were established under the Co-operative Society Acts of different states.
- Co-operative banks function in a three tire setup with State Co-operative Bank, District Co-operative Bank, and Primary Co-operative Society.
- Co-operative banks function on the principles of cooperation, not on the commercial parameters.

2.7: Co-operative Banking in India

In India, co-operative banks have a history of over 100 years. The co-operative banks are an important part of Indian Financial System by their role, the expectation they fulfil and their numbers etc. the banks usually operates in the rural areas but now they have also spread their legs to the urban areas by increasing the numbers of Primary Co-operative Banks. The co-operative banks of India are registered under the Co-operative Society Act. They are also regulated by the Reserve Bank of India (RBI) and governed by Banking Regulation Act 1949 and Banking Laws (Co-operative Societies) Act 1955.

The co-operative banks are the well established financial service organization in India. In 1904 the first legislation on cooperation was passed. The Maclagen Committee envisaged a three tire structure of co-operative banking in 1914; they are Primary Agricultural Credit Services (PACs) at the grass root level, Central Co-operative Banks at thedistrict level and State Co-operative Bank at thestate or apex level. The first co-operative bank was formed in Baroda nearly 100 years back.

In the beginning of 20th century, co-operative banks arrived in India to create a unique type of institution based on the principles of co-operative organizations and management. They acted as the substitutes of money lenders, to give short and long term credit with a reasonable rate of interest.

In the formative stage, co-operative banks were urban co-operative societies which run on acommunity basis and they have some restriction in their landing activities to meet the credit requirements of their members. In 1939, the concept of theurban co-operative bank was spelt out for the very first time by Mehta Bhansali Committee. They defined urban co-operative bank. The provision of Banking Regulations Act, 1949 section 5 define an urban co-operative bank as "a primary co-operative bank other than a primary co-operative society" was made applicable in 1966.

The co-operative banking structure is divided into two parts such as short term structure and long term structure. While theshort term co-operative structure is a three tire structure, the long term co-operative structure is a two tire structure as mentioned bellow:

Short term co-operative bank structure:
- At apex level State Co-operative Banks (state level)
- At intermediate level the Central Co-operative Bank (district level)
- At base level the Primary Co-operative Credit Society (village level)

Long term co-operative bank structure:
- At apex level State Co-operative Agricultural and Rural Development Banks (SCARDBs)
- At district level or block level Primary Co-operative Agriculture and Rural Development Banks (PCARDBs)

Objectives of co-operative banks

The objectives of co-operative banks are as follows:
- Cooperation and transparency
- Courtesy and understanding
- Efficiency and professionalism
- Speedy processing and prompt action
- Fair and speedy settlement of disputes
- To act as a friend, philosopher,and guide to its members.

Central Co-operative Bank (CCB), Bhawanipatna

The Central Co-operative Bank Ltd, Bhawanipatna is a bank to serve the agriculturists and small scale industry in the union territory of Kalahandi and Nuapada district. They mainly focus on agricultural credit and empowering the cooperative society in their operational field. The bank operates in 18 blocks with 17 branches. It got registered on 31st October 1949.

Formation of CCB

The Central Co-operative Bank Ltd. was established in the year 1949. The bank operates in two districts such as Kalahandi and Nuapada. And their objective is to specially serve the farmers to the best extent. The bank has achieved a tremendous progress in all fields during the period of 58 years. The bank is functioning with its 17 branches in the entire union territory of Kalahandi and Nuapada district.

The list of members and stake holding is given in the table below

Table 2.1: Stake Holding of CCB, Bhawanipatna(values in lakhs)

Year	**Numbers of Members**			**Stake Holdings**			
	Association and State govt.	**Individuals**	**Total**	**Association**	**Govt.**	**Individual**	**Total**
2010-2011	170	1746	1916	1424.58	135.00	45.74	1605.32
2011-2012	170	1752	1922	1521.44	135.00	45.54	1701.98
2012-2013	170	1735	1905	1619.12	135.00	44.49	1798.61
2013-2014	170	1709	1879	1775.17	135.00	42.70	1952.88
2014-2015	170	1690	1860	1962.81	135.00	41.40	2139.21

Source: Annual report Central Co-operative Bank Ltd. Bhawanipatna

During the last 1 year, the bank has done many developmental works such as, has established generators for flawless lightning, new ATM counters have been established, the Rupay debit card launch, bank on wheals services etc. this bank gives special attention to agriculture and allied activities. The bank has planned to distribute a total of 225 crores of short term loans for the purpose of agriculture. They are now also planning to grant loans to tenant farmers group and joint liability groups. Apart from that, they are also focusing on the women empowerment and they are trying to make them self sufficient through giving them loans and other managerial facilities.

The bank has been collecting rice from the farmers with a reasonable price so that the farmers, as well as the bank, will be benefited out of that. They are also planning to provide modern equipment, acollection of agricultural products, providing warehouses at a reasonable price with proper agricultural information. For these developmental works now they are joining their hands with NABARD.

Overall Performance

During years the Central Co-operative Bank Ltd. Bhawanipatna has been developed a lot by its performance. Table 2.2 to 2.4 reveals the performance of the bank from2000-2001 to 2014-2015.

The performance with respect to the cash and bank balance, investments, loans and advances, loans issued during the year and other assets are stated in Table 2.2 for fourteen years that is from the year 2000-2001 to 2014-2015 of Central Cooperative Bank Ltd, Bhawanipatna.

Table 2.2: Performance With Respect to Cash, Investment, Loans and Other Assets

Year	**Cash and Bank Balance**	**Investment s**	**Loans and Advances**	**Loan Issued During the Year**	**Other Assets**
2000-01	115.56	542.04	2642.9	1263.27	2142.47
2001-02	124.19	566.3	2508.59	763.43	2885.73
2002-03	395.17	865.83	2781.04	1018.83	3314.9
2003-04	233.49	855.27	3096.83	1983.82	3311.92
2004-05	271.92	962.76	4366.14	4011.74	2257.23
2005-06	197.78	1061.67	5162.86	3455.2	2718.46
2006-07	516.62	2330.37	6625.51	3862.3	2814.09
2007-08	434.2	1726.49	7276	6692.92	2842.88
2008-09	474.66	6230.96	7823.39	7391.53	2344.29
2009-10	1439.53	7269.81	9859.64	10822.21	2550.93
2010-11	1029.81	7819.24	12898	12067.02	2500.66
2011-12	1036.8	8292.18	14714.4	18685.11	3126.18
2012-13	1697.49	10582.28	16210	12987.21	2949.91
2013-14	2728.15	11183.34	18853.5	16194.34	3357.48
2014-15	2363.4	10578.57	23177.3	19583.57	3396.07

The performance of Central Co-operative Bank Ltd, Bhawanipatna with respect to total income, total expenditure, cost of management, working capital, percentage of COM to WC and profit/loss during the years are stated in Table 2.3

Table 2.3: Performance With Respect to Total Income and Expenditure, COM, WC and Profit and Loss of CCB

Year	Total income	Total expenditure	Cost of management	Working Capital	% of COM to WC	Profit/Loss during the year
2000-01	469.05	480.77	133.9	4756.33	2.82	-381.59
2001-02	536.75	572.11	123.28	4956.68	2.48	-35.36
2002-03	547.6	616.41	143.91	6157.45	2.33	-68.81
2003-04	521.63	513.8	156.3	6314.75	2.48	7.83
2004-05	966.02	510.28	169.2	7130.99	2.34	455.74
2005-06	771.5	768.7	195.83	8416.52	2.33	2.8
2006-07	789.99	789.46	244.21	11508.18	1.83	0.53
2007-08	582.85	877.63	227.23	11570.99	1.96	15.15
2008-09	1071.98	1059.6	318.09	16177.1	1.97	12.38
2009-10	1200.61	1199.23	330.45	20425.09	1.62	1.38
2010-11	1617.99	1612.3	363.13	23558.55	1.54	5.69
2011-12	2170.24	2137.95	368.04	26512.76	1.39	32.29
2012-13	2446.93	2408.33	502.94	30821.43	1.36	38.6
2013-14	2845.9	2801.58	605.87	35548.49	1.7	44.34
2014-15	3124.04	2992.71	687.55	39072.73	1.67	131.33

The performance with respect to accumulated loss, audit classification, no. of branches, no. of employees and per branch and per employee business for fourteen years starting from 2000-2001 to 2014-2015 has been stated in Table2.4.

Table 2.4: Performance With Respect to Accumulated loss, Audit, Employees and business

Year	Accumulated loss	Audit Classification	Branches including head	No. Of employees	Per branch business	Per employees business
2000-01	1086.46	C	17	183	294.51	25.99
2001-02	1121.82	C	17	183	292.13	25.54
2002-03	1190.63	C	17	182	347.16	32.43
2003-04	4666.82	B	17	180	378.85	35.38
2004-05	727.06	B	17	176	508.04	46.72
2005-06	724.26	C	17	167	555.87	53.26
2006-07	723.73	B	17	158	800.4	82.09
2007-08	708.57	A	17	154	804.86	81.05
2008-09	696.2	A	17	147	916.03	99.7
2009-10	694.82	A	17	149	1249.61	133.29
2010-11	689.13	A	18	151	1284.52	144.62
2011-12	656.84	A	18	131	1456.2	188.97
2012-13	618.24	A	18	198	1518.82	138.07
2013-14	573.9	A	18	191	1771.91	166.99
2014-15	442.57	A	18	185	2226.96	360.56

Current Ratio

The current ratio indicates the liquidity position of the bank. It indicates how the bank maintains its current assets and liability for the smooth operation of the bank. In order to calculate the current ratio of Central Co-operative Bank (CCB) Ltd, Bhawanipatna, 5 year data has been taken, for the calculation of current ratio, the following Table 4.1 has been formed.

Table 4.1: Showing Year Wise Current Ratio

Year	Current Assets	Current Liability	Current Ratio
2011-12	3126.18	2187.63	1.43
2012-13	2949.91	3143.77	0.93
2013-14	3357.48	4365.09	0.77
2014-15	3396.07	977.37	3.47
2015-16	4396.2	2363.55	1.86

It is observed from Table 4.1 that the current ratio of the bank for the year 2011-12, 2012-13, 2013-14, 2014-15 and 2015-16 are found to be 1.43, 0.93, 0.77, 3.47 and 1.86 respectively. Here except 2014-15, the current ratio during the study period was below thestandard that is below 2:1 or 2. This implies that the bank has not maintained sufficiently the current assets as per requirement.

Current Asset to Fixed Asset Ratio

The current asset to fixed asset ratio indicates the current asset proportion as compared to the fixed asset. In order to find out the proportion of current asset following Table 4.2 has been formed, by taking five years of data.

Table 4.2: Year Wise Current Asset to Fixed Asset Ratio

Year	Current Assets	Fixed Asset	Current Asset to Fixed Asset Ratio
2011-12	3126.18	2091.3	1.5
2012-13	2949.91	2021.04	1.45
2013-14	3357.48	2574.72	1.3
2014-15	3396.07	5750.06	0.6
2015-16	4396.2	5669.67	0.77

It is observed fromTable 4.2 that in the year 2011-12 to 2013-14 the current asset to fixed asset ratio is subsequently decreasing at a nominal rate. The period 2013-14 shows a significant fall in the value of thecurrent asset to fixed asset ratio. This depicts that the bank has not maintained enough current assets, to run the banking business.

Net Profit Turnover Ratio

The Net Profit Turnover Ratio indicates the financial performance of the bank, deals with the net profit earned by the bank. The higher net profit ratio indicates the better performance. In order to evaluate the Net Profit Ratio of Central Co-operative Bank (CCB) Ltd, five years financial data have been taken. This has been shown in Table 4.3.

Table 4.3: Year Wise Net Profit Ratio

Year	Net Profit	Net Revenue	Net Profit Turnover
2011-12	32.29	2170.24	67.21
2012-13	38.6	2446.93	63.4
2013-14	44.34	2845.9	64.18
2014-15	131.33	3124.04	23.78
2015-16	144.86	3462.03	23.9

Table 4.3 reveals the net profit ratio of the bank. There was a considerable decrease in net profit ratio during the study period. The net profit ratio of the bank was very high on 2011-12 that is 67.21, but on 2015-16 it was 23.9. It can be observed from the above table, that the net profit ratio of the bank is decreasing frequently.

Cash Turnover Ratio

The Cash Turnover Ratio indicates the cash position of the bank. Through this ratio how effectively the bank utilize its fund can be found out. In order to calculate the cash efficiency during the study period, 5 years data has been taken. The following Table 4.4 illustrates the cash turnover ratio of the Central Co-operative Bank (CCB) Ltd, Bhawanipatna.

Table 4.4: Year Wise Cash Turnover Ratio

Year	Net Revenue	Cash	Cash Turnover
2011-12	2170.24	1036.79	2.1
2012-13	2446.93	1697.49	1.44
2013-14	2845.9	2728.14	1.04
2014-15	3124.04	2363.4	1.32
2015-16	3462.03	1655.15	2.1

The standard or ideal cash turnover ratio is 10:1. It indicates the effective utilization of cash of the bank. It is observed from the Table 4.4 that over the study period the cash position was not satisfactory. It was highest in the year 2011-12 and 2015-16, that is 2.1, which is less than the standard. This indicates the bank is not maintaining its cash properly.

Current Asset Turnover Ratio

The current asset turnover ratio indicates the revenue earning capacity by the use of current assets. It deals with how the bank earns revenue by the use of current assets efficiently. In order to calculate the current asset turnover ratio, data of 5 financial years have been taken into consideration. The calculation of current asset turnover ratio has been stated in Table 4.5

Table 4.5: Year Wise Current Asset Turnover Ratio

Year	Revenue	Current Asset	Current Asset Turnover
2011-12	2170.24	3126.18	0.7
2012-13	2446.93	2949.91	0.82
2013-14	2845.9	3357.48	0.84
2014-15	3124.04	3396.07	0.91
2015-16	3462.03	4396.2	0.78

The current asset turnover ratio should be higher so that the bank remains in the favourable trend in the form of an increase in revenue with the use of fewer current assets. The table 4.5 reveals that the bank from 2011-12 to 2015-16 have current asset turnover ratio 0.7, 0.82, 0.84, 0.91 and 0.78 respectively. The year 2014-15 recorded the highest current asset turnover ratio that is 0.91times. It shows that the bank performed well during the study period, and the bank is maintaining the same trend of current asset turnover ratio.

Fixed Asset Turnover Ratio

The fixed asset turnover ratio indicates how properly the bank is managing its fixed assets. Whether the bank is retaining its fixed asset for a long time or is trading the assets frequently, this can be found out by the calculation of fixed asset turnover ratio. A higher ratio indicates the overtrading of fixed assets. In order to that Table 4.6 is formed by taking 5 years of financial data.

Table 4.6: Year Wise Fixed Asset Turnover Ratio

Year	Revenue	Fixed Asset	Fixed Asset Turnover
2011-12	2170.24	2091.3	1.03
2012-13	2446.93	2021.04	1.21
2013-14	2845.9	2574.72	1.1
2014-15	3124.04	5750.06	0.54
2015-16	3462.03	5669.67	0.61

It is observed from Table 4.6 is that the fixed asset turnover ratio was very low, that indicates that there is no overtrading of fixed assets during the study period. On 2012-13 it was at its highest point that is 1.21. That means the bank is retaining its fixed asset for a long time.

Total Asset Turnover Ratio

The total asset turnover ratio indicates the management of total assets; it includes both the fixed as well as the current assets. The efficient utilization of total asset can be assessed by this ratio. In order to evaluate the total asset turnover ratio Table, 4.7 has been formed, by taking 5 years of financial data.

Table 4.7: Year Wise Total Asset Turnover Ratio

Year	Revenue	Total asset	Total asset turnover
2011-12	2170.24	26512.76	0.08
2012-13	2446.93	30821.43	0.07
2013-14	2845.9	35548.6	0.08
2014-15	3124.04	39072.73	0.08
2015-16	3462.03	43742.58	0.079

It is observed from Table 4.7 that the total asset turnover ratio from 2011-12 to 2015-16 are 0.08, 0.07, 0.08, 0.08 and 0.079 respectively. It shows a decreasing trend in the total asset turnover ratio during the study period. This indicates that the bank has not utilized its total assets properly and efficiently because the ratios are less than 1.

Relationship of the profitability indicators of the bank

In the study five profitability indicators, namely investment, deposit, loans and advances, borrowing and profit have been taken keeping into view the objective of the study that is, To evaluate the financial efficiency of the bank. A correlation among the indicators so taken has been calculated. Out of the five indicators four indicators namely investment, deposit, loans and advances and borrowings have been taken as independent variable and profit of the bank for last 16 years starting from 2000-01 to 2015-16 as thedependent variable, and the result is shown in Table 4.8.

Table 4.8: Pearson'scorrelations of profitability indicators

	Investments	**Deposit**	**Loans and Advances**	**Borrowings**	**Profit**
Investment	1	.959	.918	.970	.225
Deposit	.959	1	.975	.978	.310
Loans and Advances	.918	.975	1	.983	.306
Borrowings	.970	.978	.983	1	.263
Profit	**.225**	**.310**	**.306**	**.263**	**1**

Pearson's Correlation is significant at 0.05 significance level (2-tailed).

It is evident from the Table 4.8 that the Pearson's correlation coefficient of profit with other indicators ranges from 0.225 to 0.310, which shows a positive relationship between the two variables. Deposit as the independent variable has the highest Pearson's correlation coefficient value of 0.310 indicating to be the most influencing factor to measure the profitability of the bank.

Testing of hypotheses

As stated before, three hypotheses have been formulated as follows:

$\mathbf{H_01}$: There is no relationship between profit and investment.

$\mathbf{H_02}$: Loans and Advances have no significant relationship with deposits.

$\mathbf{H_03}$: There is no relationship between borrowings and investment.

The hypotheses $\mathbf{H_01}$, $\mathbf{H_02}$,and$\mathbf{H_03}$ have been tested using the financial indicators derived from the financial statements.

Effect of investment on profit

The relationship between profit and investment has been studied and the first hypothesis (H_01)that is: H_01: There is no relationship between profit and investment, have been formulated which is discussed in Table 4.9.

Table 4.9: ANOVA table to study the relationship between investment and profit

Source of Variation	SS	Df	MS	F	p-value	F critical
Between Groups	206703753	1	2.07	21.83	5.871	4.1708
Within Groups	284081679	30	9469389			
Total	490785433	31				

It is observed from the Table 4.9 that the calculated F-value is 21.83 is greater than the critical value that is 4.17. This leads to the rejection of the null hypothesis that is, $H_0$1: There is no relationship between profit and investment. This implies that profit has a direct relationship with investment. With the increase in investment bank earn alternate potential to invest in a different product with an object to earn more profit.

Effect of deposits on Loans & Advances

The relationship between deposits and loans and advances has been studied and the second hypothesis ($H_0$2) that is, $H_0$2: Loans and Advances have no significant relationship with deposits, have been formulated which is discussed in Table 4.10.

Table 4.10: ANOVA table to study the relationship between deposits and L&A (Loans and Advances)

Source of Variation	SS	df	MS	F	p-value	F critical
Between Groups	65257972	1	65257972.14	5.276	0.222001	4.1708
Within Groups	1.26E+09	30	41958074.47			
Total	1.32E+09	31				

It is depicted from Table 4.10 that the calculated F-value is 5.276 is less than the critical value that is, 4.17, which leads to the rejection of the null hypothesis, $H_0$2: Loans and Advances have no significant relationship with deposits. This implies that deposit has a significant relationship with loans and advances (L&A). It indicates that thebankuses its deposited amount towards the loans and advances.

Investment of borrowed funds

The relationship between investment and borrowings has been studied and the third hypothesis ($H_0$3) that is, $H_0$3: There is no relationship between borrowings and investment, have been formulated, which is discussed in Table 4.11.

Table 4.11: ANOVA table to study the relationship between borrowing and investment

Source of Variation	SS	d.f	M.S	F	p-value	F critical
Between Groups	71244075	1	71244074.59	2.43	0.129826	4.170877
Within Groups	8.81E+08	30	29367078.43			
Total	9.52E+08	31				

It is apparent from the table that the calculated F-value is 2.43, which is less than the critical value that is 4.17, which leads to the acceptance of the null hypothesis, $H_0$3: There is no relationship between borrowings and investment. This implies there is no relationship between borrowing and investment, and the bank does not use its borrowed fund into profitable investment avenues.

Summary of tested hypotheses

The findings of this chapter particularly the results of hypotheses testing have been listed in Table 4.12.

Table 4.12: Hypothesis wise implication

Hypothesis	Broad description of the hypothesis	Tools applied for testing	Status of the Hypothesis Tested (Accepted/Rejected)	Implication
$H_0$1	There is no relationship between profit and investment.	ANOVA	Rejected	There is a relationship between Profit and Investment.
$H_0$2	Loans and Advances have no significant relationship with deposits.	ANOVA	Rejected	Loans and Advances have significant relationship with Deposits.
$H_0$3	There is no relationship between borrowings and investment.	ANOVA	Accepted	There is no relationship between Borrowings and Investment.

III. Findings

1. It is found that the bank has not maintained enough current assets to meet the current liability so the current ratio of the bank is not satisfactory.
2. It is found that the net profit ratio is decreasing continuously in the successive years.
3. It is found that the bank is not maintaining its cash position effectively.
4. The bank is overtrading its fixed assets.
5. The bank is properly utilizing its deposits.
6. The investments result into agood amount of returns.
7. The bank is not utilizing its borrowed amount for investment purpose.

IV. Suggestions

1. The bank should maintain adequate current assets to meet the current liability effectively.
2. The bank should retain more cash balance to maintain its liquidity.
3. The bank should utilize its borrowed funds towards profitable investments.
4. The bank should also focus on other beneficiaries along with the agriculturists.
5. The bank should make a separate asset liability management department so that they can keep their eyes on the asset liability stability.

Scope for Further Research

Further research can be done by taking more than one bank at a time, for comparative study within theindustry. Periodicity can be further extended to view the comprehensive growth cycle.

References:-

[1]. Adegbie, F. F., Asaolu, T. O., &Enyi, E. P. (2013). Distress Resolution in Nigerian Banking Sector: The Role of Assets and Liabilities Management. International Journal of Financial Research,4(3), 70–82.
[2]. Agrawal, N., &Agrawal, C. p. (2015).Banks in India.Indian Journal of Applied Research, 1–35.
[3]. Andrew Campbell (2007), "Bank Insolvency and Problem of non-performing Loans", Journal of Banking Regulation. 25-45
[4]. Belete, T. (2013).Asset Liability Management and Commercial Banks Profitability in Ethiopia.Research Journal of Finance and Accounting,4(10), 77–92. Retrieved from
[5]. Bidabad, B., &Allahyarifard, M. (2008).Assets and Liabilities Management in Islamic Banking.International Conference on Islamic Banking and Finance, 1–18.
[6]. Chandra, Buddhadebeb (2006), "Performance of Burdwan Central Co-operative Bank in the Development of the District (1988-89 to 1989-99)", Finance India,September, 2006
[7]. Charumathi, B. (2008). Asset Liability Management in Indian Banking Industry - with special reference to Interest Rate Risk Management in ICICI Bank (Vol. II).
[8]. Charumathi, B. (2008). Asset Liability Management in Indian Banking Industry - with special reference to Interest Rate Risk Management in ICICI Bank. International Journal of Advanced Research in Management,6(3), 122–134.
[9]. Cole, A. (1996). Asset/Liability Management in "Kansas Banks Asset/ Liability Management in Kansas Banks.
[10]. Com, P. B. N. B., & Com, M. (2013). An Empirical Study of Asset Liability Management By Indian Banks, 1–10.
[11]. Davronov, S. (2016).Liquidity Management in Commercial Banks of Uzbekistan.Asian Journal of Management Sciences and Education,5(2), 19–27.
[12]. DuttaUttam and BasakAmit (2008), "Apprisal of Financial Performance of Co-operative Banks-a Case Study."The Management Accountant, Case Study, March 2008, 170-174.
[13]. Elahi, P. M. (2011). Funds Gap Management and Asset-Liability Management Technique in Banks.International Conference on Economics and Finance Research,4, 515–518.
[14]. Francis, N. (2014). Influence of Asset Liability Management on Financial Performance of Commercial Banks in Kenya : a Case Study of Diamond Trust Bank. International Journal of Economics, Commerce and Management,II(10), 1–20.
[15]. Geeta Sharma and Ganesh Kawadia (2006), "Funds Management in the Central Co-operative Banks of Punjab- an Analysis of financial Margin", the ICFAI Journal of Management.

[16]. Gupta, J., & Jain, S. (2012). A study on Co-operative Banks in India with special reference to Lending Practices.International Journal of Scientific and Research Publications,2(1), 2250–3153.

[17]. Guthua, A. M. (2013). The effect of asset liability management on the liquidity risk of commercial banks in Kenya.

[18]. Institue, M. (2015).Economy Impact on Commercial Banking assets and liabilities – A Study.IRJA Indian Research Journal,2(8), 2–11.

[19]. Miko, N. U. (2010). Impact of consolidation on the profitability of banks in Nigeria.Nigerian Journal of Accounting Research,6(2), 99–107.

[20]. Mtaki, Frankd. b. g. (n.d.). Asset Liability Management Practices A Study Of Public Sector Banks In Karnataka State. ijrcmeas, 1–6.

[21]. Novickytė, L., &Petraitytė, I. (2014). Assessment of Banks Asset and Liability Management: Problems and Perspectives (Case of Lithuania). Procedia - Social and Behavioral Sciences, 110(2), 1082–1093. https://doi.org/10.1016/j.sbspro.2013.12.955

[22]. P.Sheela, P. M. T. B. (2014). Effect Of Asset-Liability-Management On Commercial Banks Profitability In Indian Financial Market - A Case Study Of Two Public Sector Banks. International Journal of Business and Administration Research Review, 1(6), 92–103.

[23]. Patil, D. S. (2014).“ Inflow and Outflow Management : Opportunities and Challenges in Co- Oprative Banks .” International Journal of Managerial Studies and Research,2(9), 57–62.

[24]. Sathyanarayana, S. S. F. N. (2014). A Study On Asset And Liability Management In ICICI Bank. International Journal of Advanced Research in Management and Social Sciences, 3(7), 20–33.

[25]. Sheela, P. (2015). Asset-Liability-Management – A Comparative Study of a Public and Private Sector Bank. International Research Journal of Business and Management, VIII(1), 34–43.

[26]. Shetty, C., Sjbit, M.-, Patel, P., Sjbit, M.-, &Sjbit, M.-. (2016). An Analysis of Private Banks Exposure to Asset Liability Management. International Journal of Research in IT and Management, 6(10), 92–98.

[27]. Shuib, S. S. B. (2013). Asset Liability Management : Comparative Study Between The Conventional And Islamic Banks In Malaysia.

[28]. Singh, K. (2013). Asset-Liability Management in Banks: A Dynamic Approach. AIMA Journal of Management & Research,7(2), 1–14.

[29]. Singh, V. R. (2016). A Study of Non-Performing Assets of Commercial Banks and it’s recovery in India A Study of Non-Performing Assets of Commercial Banks and it’s recovery in India. Annual Research Journal of SCMS, 4(March), 110–125.

[30]. Sreekala, M. S. P. (2014). A Study On Asset And Liability Management In. International Journal of Advanced Research in Management and Social Sciences,3(7), 20–33.

[31]. Srivastava, S. (2015). Interest Rate Risk Management : A Comparative Study of State Bank of India and ICICI Bank. International Journal of Management and Social Sciences Research,4(7), 104–110.

[32]. TANDON, (2012).Asset - Liabilty Management in Indian Banking Industry.Asia Pacific Journal of Marketing & Management Review,1(3), 121–132.

[33]. Thi, P., & Yen, H. (2015).Asset-Liability Management Activities at Vietnam Joint Stock Commercial Bank for Industry and Trade.

[34]. Trenca, I., &Cociuba, M. I. (2014). How does assets-liabilities management affects the profitability of banks? Journal of Accounting and Management,4(3), 47–50.

[35]. Uddin, S. (2016). The impacts of ASSET LIABILITY MANAGEMENT of selected Banks in Bangladesh. The Cost and Management,44(4), 20–26.

[36]. Uji, W. T. (2016). International Journal of Arts and Humanities (IJAH). International Journal of Arts and Humanities Bahir Dar-Ethiopia,5(16), 151–163.

[37]. Umarani, M. J. and D. R. (2014).Asset-Liability Management in Banks.CKPIM Business Review,II(9), 10–25.

[38]. Zawalinska, K. (1999). Asset and Liability Management. The Institutional Approach to ALM by Commercial Banks in Poland: a Special Focus on Risk Management. Research Project: Sustaining Growth through Reform Consolidation.

[39]. Web references:

[40]. https://www.slideshare.net/vikramsankhala/asset-liability-management-5711446

[41]. https://en.wikipedia.org/wiki/Asset_and_liability_management

[42]. www.wikipedia.org/wiki/Financial_ratio

[43]. www.investopedia.com/Terms/r/ratioanalysis.asp

[44]. Books referred:

[45]. C.R Kothari, Research Methodology Methods and Techniques, New Age International Publisher (Second Revised Edition) May, 1990

[46]. Donald Cooper and Pamela Schindler, Business Research Methods, McGraw Hill Publication (12Th Edition) Feb, 2013

[47]. Shashi K Gupta, R K Sharma and Arjun Gupta, Management Accounting, Kalyani Publishers, Ludhiana, 2010