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**A STUDY ON ASSET LIABILITY MANAGEMENT OF
PARIYARAM SERVICE CO-OPERATIVE BANK LTD NO.593**

by
APARNA RAVEENDRAN
(2014-31-123)

MAJOR PROJECT REPORT

Submitted in partial fulfillment of the
requirements for the post graduate degree of



MBA IN AGRIBUSINESS MANAGEMENT

Faculty of Agriculture
Kerala Agricultural University



COLLEGE OF CO-OPERATION, BANKING AND MANAGEMENT

VELLANIKKARA, THRISSUR-680656

KERALA, INDIA


2016

Declaration

DECLARATION

I, hereby declare that this project report entitled 'A STUDY ON ASSET LIABILITY MANAGEMENT OF PARIYARAM SERVICE CO-OPERATIVE BANK LTD.NO. 593' is a bonafide record of work done by me during the course of major project work and that it has not previously formed the basis for the award to me for any degree/diploma, associateship, fellowship or other similar title of any other University or Society.

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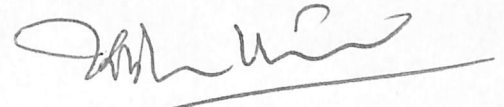

Aparna Raveendran
(2014-31-123)

Certificate

CERTIFICATE

Certified that this project report entitled 'A STUDY ON ASSET LIABILITY MANAGEMENT OF PARIYARAM SERVICE CO-OPERATIVE BANK LTD.NO.593' is a record of major project work done independently by Ms. APARNA RAVEENDRAN under my guidance and supervision and that it has not previously formed the basis for the award of any degree, fellowship or associateship to her.

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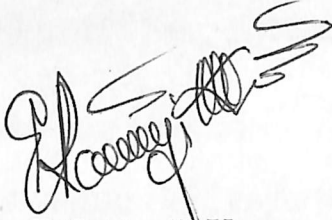
Dr. K.B. Pavithran
Director (Retired)
School of Management
Studies
CUSAT

CERTIFICATE

We, the undersigned members of the advisory committee of Ms. Aparna Raveendran, a candidate for the degree of **MBA in Agribusiness Management**, agree that the project work entitled '**A STUDY ON ASSET LIABILITY MANAGEMENT OF PARIYARAM SERVICE CO-OPERATIVE BANK LTD.NO.593**' may be submitted by Ms. Aparna Raveendran, in partial fulfilment of the requirement for the degree.



Dr. K.B. Pavithran
Director (Retired)
School of Management Studies
CUSAT
(Supervising Guide)



Dr. E.G. Ranjit Kumar
Director of MBA(ABM)
College of Co-operation, Banking &
Management
Kerala Agricultural University
Vellanikkara



Dr. Jayasree Krishnankutty
Associate Professor
Department of Agricultural
Extension
College of Horticulture
Kerala Agricultural University
Vellanikkara
(External Examiner)

THE PARIYARAM SERVICE CO-OP: BANK LTD No.593,
H.O.PARIYARAM-680721 THRISSUR Dt.PH.2746891,MOB:8281451891
Br.Vettilappara ph;2769079, Br.Thazhoor ph;2746173
Br. Konnakuzhy ph;2746611, ELINJIPRA ph:2703170
e-mail: pariyaramscb@yahoo.in

Date : 26/8/2016

To whomsoever It May Concern

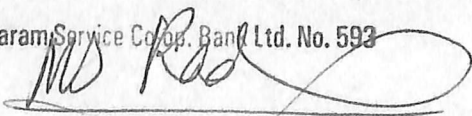
This is to certify that Ms. Aparna Raveendran, MBA Agribusiness student from CCBM, Kerala Agricultural University, Thrissur has done a project work on Study on Asset-Liability Management of Pariyaram Service Co-operative Bank Ltd No. 593 at Pariyaram Service Co-operative Bank, Thrissur from 21st March 2016 to 10th May 2016 as a part of her course curriculum.

During the internship, we found her to be sincere, hardworking and has shown the right attitude and eagerness to learn.

We wish her all the best in all their future endeavour.

For Pariyaram Service Co-operative Bank

For The Pariyaram Service Co-op. Bank Ltd. No. 593
Secretary



Secretary



Acknowledgement

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I would also use this opportunity to beg pardon to all those who have ever been hurt, knowingly or unknowingly by my words and deeds.

For any errors or inadequacies that may remain in this work, of course, the responsibility is entirely my own.

Aparna Raveendran

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Chapter - 1

Design of the Study

Chapter - 1

DESIGN OF THE STUDY

1.1 Introduction

Co-operative Banks in India have become an integral part of the success of Indian Financial Inclusion story. They have achieved many landmarks since their creation and have helped a normal rural Indian to feel empowered and secure. A co-operative bank is an institution which is owned by its members. Co-operative banks helped to overcome the vital market imperfections and serviced the poorer layers of society. Indian Co-operative Banks was also born out of distress prevalent in Indian society. The Co-operative Credit Societies Act, 1904 led to the formation of Co-operative Credit Societies in both rural and urban areas.

The co-operative credit system in the country is structured into separate arms for short term and long term credit. In Kerala, the credit needs of all sectors are largely met by the organized sectors consisting of co-operatives and commercial banks. The short term and medium term credit structure comprises of three tier system with State Co-operative Bank (SCB) at state level, District Co-operative Bank (DCB) at the district level and Primary Agricultural Credit Society (PACS) at the grass root level. In co-operative sector long term loans are channelized through Primary Co-operative Agriculture and Rural Development Banks (PCARDBs) and its network.

A service co-operative is a co-operative that render services rather than provide commodities for their members on service association. In other words, service co-operative can be designed as a voluntary form of organization organized on co-operative principle in such a way as to provide this member every kind of services they might need in their production activity.

Asset Liability Management (ALM) can be defined as a mechanism to address the risk faced by a bank due to a mismatch between assets and liabilities either due to liquidity or changes in interest rates. Liquidity is an institution's ability to meet its liabilities either by borrowing or converting assets. ALM is a part of the overall risk management in banks. It

implies examination of all the assets and liabilities simultaneously on a continuous basis with a view to ensuring a proper balance between funds mobilization and their deployment with respect to their maturity profiles, cost, yield, and risk exposure etc. ALM is basically a hedging response to the risk in financial intermediation. It attempts to provide a degree of protection to the institution from intermediation risk and makes such risk acceptable.

1.2 Background of the study

Cooperation is the process of working or acting together. It is the process by which the components of a system work together to achieve the global properties. In other words, individual components that appears to be “selfish” and independent work together to create a highly complex, greater-than-the-sum-of-its-parts-system.

According to Mr. H. Calvet, cooperation is “a form of organization wherein persons voluntarily associate together as human beings on a basis of equality for the promotion of economic interest of themselves”

The first co operative bank was formed in 1872 in the city of Manchester in UK. The co operative banks in INDIA have a history of almost 100 yrs. Co operative banks are an important constituent of the Indian financial System. Co-operative banks in India are registered under the co-operative societies act. The co operative banks are also regulated by the RBI. They are governed by the Banking Regulation act 1949 and banking laws (cooperative societies) act, 1965.

Societies are formed for different purposes. Generally they can be classified on the basis of their structure and their functions they perform. On the basis of their structure societies are primary and secondary.

Primary societies: Generally, these societies are functioning at villages. For different sections of the people different primary societies are formed at villages. Farmers’ societies, urban banks, marketing societies etc are examples of these types.

Secondary societies: These societies are at district level and state level. These societies control primary societies. District banks, secondary marketing societies are examples.

A service cooperative society is an organization of villagers for mutual help and cooperation to meet their common economic requirements as to increase agricultural production.

The area of operation of a service cooperative society is normally extended to a village/ panchayath.

Cooperative banks are an important constituent of the Indian financial system. The cooperative movement originated in the west, but the importance which such banks have assumed in India is rarely paralleled anywhere else in the world. Their role in rural financing continues to be important even today, and their business in the urban areas also has increased in recent years mainly due to the sharp increase in the number of primary cooperative banks.

The structure of commercial banking is of branch-banking type; while the Cooperative banking structure is a three tier federal one.

1. A State Co-operative Bank works at the apex level. (Works at state level)
2. The Central Co-operative Bank works at the intermediate level. (Works at district level)
3. Primary Co-operative credit societies at base level(Works at village level)

The credit system in a co-operative system consists of the following.

- a) Short term agricultural credit institution
- b) Long term agricultural credit institution
- c) Non-agricultural credit institution

The short term agricultural credit institutions are three categories;

1. Primary agricultural credit society at the village level
2. District co-operative bank at the district level
3. State co-operative bank at the state level

The district co-operative banks are affiliated to state co-operative bank while primary societies are affiliated to the district co-operative banks. The district co-operative bank is a federation of primary societies in a district. It has branches in various parts of the district. The district co-operative banks, in fact serve as the connecting link between state cooperative bank and primary agricultural credit societies.

Asset liability management, ALM, is defined by different scholars like Gup and Brooks (1993), Zawalinska (1999), and Charumathi (2008). Charumathi (2008) defined ALM as a dynamic process of planning, organizing, coordinating, and controlling the assets and liabilities; their mixes, volume, maturities, yield, and costs in order to achieve a specified net interest income (NII). In other words, it deals with the optimal investment of assets in view of meeting

current goals and future liabilities. It is related to the management of the risks associated with liquidity mismatch, interest rates and foreign exchange movements. Therefore, ALM is concerned with an attempt to match assets and liabilities in terms of maturity and interest rate sensitivity to minimize interest rate and liquidity risks (Zawalinska, 1999).

1.2 Statement of the problem

The Pariyaram Service Co-operative Bank (PSCB) Ltd No.593 was registered as a co-operative society in 01-01-1947 and started function in 02-03-1947. It has four branches situated at Vettilapara, Thazhoor, Konnakuzhi and Elinjipra in Thrissur District. It is one of the Class 1 Super Grade Banks in Thrissur district and also has 'A' Grade Audit Classification. The present share capital of the bank is Rs. 193 lakh and the total deposit is Rs. 133 crore. The total loan advance of bank is Rs. 129 crore. Its other services and business activities include distribution of fertilizers and pesticides, seasonal business include onam, vishu fares etc.

Asset-liability management is designed to earn an adequate return while maintaining a comfortable surplus of assets over liabilities. In today's banking scenario, the scope of banks has been extended from mere acceptance of deposits and lending of loans to a wide range of activities. The real challenges faced by the banking sector are associated primarily with risks such as: interest rate risk, liquidity risk and credit risk, etc. ALM is a tool through which risks associated with the business are identified, measured and monitored to strengthen the bottom line. In the process, assets and liabilities are restructured safeguarding the future financial position of the banks. Thus, the process of decision-making is made cost effective and the yields of operations are maximized by a well-programmed and judicious management of liquidity needs coupled with interest commitments spread over time.

The present study is an attempt to analyze the asset - liability management through fund mobilization, fund deployment and reserve maintenance of Pariyaram Service Co-operative Bank Ltd No.593.

1.3 Objectives

1. To study the efficiency in mobilization of funds.
2. To study the efficiency in deployment of funds.
3. To study the efficiency in reserve management.

1.4 Methodology

The study was analytical in nature. Following methodology were adopted to study the asset liability management of Pariyaram Service Co-operative Bank.

1.4.1 Data collection

Both primary and secondary data were used for the present study. Primary data were gathered from the unpublished records and reports of the bank. Secondary data were collected from published annual reports.

1.4.2 Period of the study

The reference period of the study was 10 years 2006-07 to 2015-2016 of PSCB.

1.4.3 Data analysis

Ratios, graphs, charts, diagrams, percentage and gap model were used to analyze the asset-liability management of the bank. The analysis was done with the help of different ratios showing efficiency in mobilization, efficiency in deployment and maintaining reserves.

a) Efficiency in Mobilization

1. Owned funds to borrowed funds ratio

$$\text{Owned Funds to Borrowed Fund Ratio} = \frac{\text{Owned Funds}}{\text{Borrowed Fund}} \times 100$$

$$\text{Owned Fund} = \text{Paid up share capital} + \text{Reserves} + \text{Undistributed Profits}$$

Borrowed Fund = Borrowings + Total Deposit

2. Borrowings to working capital ratio

$$\text{Borrowings to working capital ratio} = \frac{\text{Borrowings}}{\text{Working Capital}} \times 100$$

Borrowings include funds from Government, District Co-operative Central Bank and National Bank for Agriculture and Rural Development.

Working Capital = Share Capital + Deposits + Reserves + Borrowings - Fixed Assets

3. Deposits to Working Capital Ratio

$$\text{Deposits to Working Capital Ratio} = \frac{\text{Deposits}}{\text{Working Capital}} \times 100$$

Working Capital = Share Capital + Deposits + Reserves + Borrowings - Fixed Assets

Deposits include deposit from the members and non-members of the bank

b) Efficiency in Deployment

4. Credit to Deposit ratio

$$\text{Credit to Deposit Ratio} = \frac{\text{Credit}}{\text{Deposit}} \times 100$$

Credit = Loans and Advances made by the bank

Deposits include deposit from the members and non-members of the bank.

5. Credit to owned funds ratio

$$\text{Credit to owned Fund Ratio} = \frac{\text{Credit}}{\text{Owned Fund}} \times 100$$

Credit = Loans and Advances made by the bank

Owned Fund = Paid up share capital + reserves + undistributed profits

6. Credit to Working capital ratio

$$\text{Credit to Working Capital Ratio} = \frac{\text{Credit}}{\text{Working Capital}} \times 100$$

Credit = Loans and Advances made by the Bank

Working Capital = Share Capital + Deposits + Reserves + Borrowings - Fixed Assets

c) Efficiency in operation

7. Net profit to Interest received ratio

$$\text{Net profit to Interest received ratio} = \frac{\text{Net profit}}{\text{Interest received}} \times 100$$

Net profit as per the Profit and Loss a/c

Interest received = Interest received on loans and advance.

8. Net profit to Working capital ratio

$$\text{Net profit to Working Capital ratio} = \frac{\text{Net profit}}{\text{Working Capital}} \times 100$$

Net profit as per the Profit and Loss a/c

Working Capital = Share Capital + Deposits + Reserves + Borrowings - Fixed Assets

9. Net interest income

Net interest income = Interest received - Interest paid

Interest received = Interest received on loans and advance.

Interest paid = Interest paid on deposits

10. Net interest margin

Net Interest Margin = (Interest Received - Interest Paid) / Average Earning Assets

11. Interest paid to Interest received ratio

$$\text{Interest paid to Interest received ratio} = \frac{\text{Interest paid}}{\text{Interest received}} \times 100$$

Interest paid = Interest paid on deposits

12. Interest paid to Deposit ratio

$$\text{Interest paid to Deposit ratio} = \frac{\text{Interest paid}}{\text{Deposit}} \times 100$$

Interest paid = Interest paid on deposits

Deposits include deposit from the members and non-members of the bank.

13. Interest received to Loans and Advances ratio

$$\text{Interest received to Loans and Advances ratio} = \frac{\text{Interest received}}{\text{Loans and Advances}} \times 100$$

14. Spread ratio

$$\text{Spread Ratio} = \frac{\text{Spread}}{\text{Total funds}} \times 100$$

Spread = Interest Received - Interest Paid

15. Burden ratio

$$\text{Burden Ratio} = \frac{\text{Burden}}{\text{Total funds}} \times 100$$

Burden = Non-interest operating Expenditure - Non-interest operating income

16. Profitability ratio

Profitability Ratio = Spread ratio - Burden ratio

d) Reserve maintenance

17. CASA to Total deposit ratio

$$\text{CASA Ratio} = \frac{\text{CASA Deposit}}{\text{Total Deposits}} \times 100$$

CASA means Current Account Savings Account

18. High cost deposit to Total deposit ratio

$$\text{High Cost Deposit to Total Deposit Ratio} = \frac{\text{High Cost Deposit}}{\text{Total Deposits}} \times 100$$

High cost deposits includes fixed deposits and recurring deposits

19. Investment to working capital

$$\text{Investment to Working capital Ratio} = \frac{\text{Investment}}{\text{Working capital}} \times 100$$

20. High interest loan to working capital

$$\text{High Interest Loan to Working capital Ratio} = \frac{\text{High Interest Loan}}{\text{Working capital}} \times 100$$

To measure, understand and manage the mismatch between assets and liabilities stock approach was used.

Stock approach includes certain ratios such as:

1. Liquid Assets to total Assets

$$\text{Liquid assets to Total assets Ratio} = \frac{\text{Liquid assets}}{\text{Total assets}} \times 100$$

Liquid assets include cash in hand and cash at bank

2. Liquid Assets to Total Deposits

$$\text{Liquid assets to Total Deposits Ratio} = \frac{\text{Liquid Assets}}{\text{Total Deposits}} \times 100$$

Liquid assets include cash in hand and cash at bank

3. Liquid Assets to Demand Deposits

$$\text{Liquid assets to Demand Deposits Ratio} = \frac{\text{Liquid Assets}}{\text{Demand Deposits}} \times 100$$

Liquid assets include cash in hand and cash at bank

4. Loans to Deposits

$$\text{Loans to Deposits Ratio} = \frac{\text{Loans}}{\text{Deposits}} \times 100$$

Loans and deposits include total loans and total deposits of the members of bank.

5. Loans to Assets

$$\text{Loans to Total assets Ratio} = \frac{\text{Loans}}{\text{Total assets}} \times 100$$

Loans include total loans given to the members of bank.

1.5 Observations made

1. Share capital
2. Reserves
3. Deposits
4. Borrowings
5. Investments
6. Loans and advances
7. Owned fund
8. Working capital
9. Borrowed funds

10. Over dues
11. Loans outstanding
12. Interest income
13. Interest expenses
14. Non-interest income
15. Non-interest expense
16. Management cost
17. Income from non banking operations

1.6 Scope of the study

The scope of the study limited to PSCB. The findings of the study helped to understand the mismatch in the assets and liabilities of the bank. It will help the bank to manage the mismatch.

1.7 Limitations of the study

Study was restricted to the ALM of PSCB. Hence the inferences and findings cannot be generalized. Study had the limitation to get the primary data which is the unpublished records and reports of the bank

1.8 Scheme of the study

The study is presented in five chapters.

Chapter 1 - Design of the study

Chapter 2 - Review of Literature

Chapter 3 - Pariyaram Service Co-operative Bank – A Profile

Chapter 4 - Analysis and Interpretation

Chapter 5 - Summary of findings, suggestions and conclusion.

The present chapter gives an idea or an outline of the project. It includes Introduction, statement of the problem, objectives, methodology, scope of the study and limitation of the study.

Chapter - 2

Review of Literature

Chapter - 2

REVIEW OF LITERATURE

Review of literature aims to analyze the critical points of current and collected knowledge on the study. This gave an insight into the directions of the research problem under study. Therefore a humble attempt is made to analyze various studies on Asset –Liability Management of banks, which will provide the basis for the investigation.

The Basel committee on banking supervision (2001) proposed and formulated the broad supervisory framework and suggested required standards for bringing best practices in the supervision mechanism of banking system. The motto behind this was to encourage global convergence towards common approaches and standards for banking system per-se. This body also suggested setting up of rigorous risk and capital management requirements to ensure adequate capital reserve for various risks exposure in the process of lending and borrowing operations. It infers banks need to hold larger capital amount for greater exposure of risks. This will ensure solvency and stability.

The Basel II norms (2004) focused on international standard for the amount of capital to be maintained by banks as a safeguard against various risks they come across in the banking business. Gardner and Mills (1991) discussed the principles of asset-liability management as a part of banks' strategic planning and as a response to the changing environment in prudential supervision, e-commerce and new taxation treaties.

Vaidyanathan (1999) discussed many issues in Indian context in asset-liability management and elaborates on various categories of risk that require to be managed by banks. Indian banks in the initial stages were primarily concerned about adhering to statutory liquidity ratio norms; but in the post liberalization era where banks moved away from administered interest rate structure to market determined rates, it became important for banks to prepare themselves with some of these techniques, in order to immunize themselves against interest rate risk. Vaidyanathan concludes that the problem gets accentuated in the context of change in the main liability structure of the banks, namely the maturity period for term deposits. For instance, in 1986, nearly 50% of term deposits had the maturity period of more than five years and only 20%, less than two years for all commercial banks, while in 1992 only 17% of term deposits were more than five years whereas 38% were less than two years (Vaidyanathan, 1995). He also

observed that many banks had inadequate and inefficient management systems. In this study he also observed that Indian banks were more exposed to international markets, especially with respect to FOREX transactions, therefore asset liability management become essential. It will enable banks to manage currency fluctuations. In this study it was also observed that an increasing proportion of investments by banks were being recorded on a market-to-market basis, thus an increased exposure to market risk.

Charumathi (2008) in her study on interest rate risk management concluded that balance sheet risks include interest rate and liquidity risks.

Vaidya and Shahi (2001) studies asset-liability management in Indian banks. They suggested in particular that interest rate risk and liquidity risk are two key inputs in business planning process of banks.

Rajan and Nallari (2004) used canonical analysis to examine asset-liability management in Indian banks in the period 1992-2004. According to this study, SBI and associates had the best asset-liability management in the period 1992-2004. They also found that, other than foreign banks, all other banks could be said to be liability-managed. Private sector banks were found to be aggressive in profit generation, while nationalized banks were found to be excessively concerned about liquidity.

Dash and Pathak (2011) proposed a linear model for asset-liability assessment. They found that public sector banks have best asset-liability management positions, maintaining profitability, satisfying the liquidity constraints, and reducing interest rate risk exposure. Also found public sector banks have best asset-liability management. They also found that public sector banks had a strong short-term liquidity position, but with lower profitability, while private sector banks had a comfortable short-term liquidity position, balancing profitability.

Odhiambo (2006) did a survey of liability management practices in commercial banks in Kenya and found that regular and systematic appraisal of asset liability management policies was a common practice among most banks. Most banks also indicated that their Asset liability management systems were governed by guidelines set by the management board which is a cross functional outfit covering all the major functions in the bank this showed that Asset liability management is a highly strategic issue in most banks, regardless of their size, extensively utilized most of the conventional hedging instruments.

Muhammed (2007) did a survey of liquidity management approaches and their effect on profitability of commercial banks in Kenya. The researcher findings reveal that the most popular theory with bankers is Commercial loan theory; the next is Asset liability management theory. The evidence of use of shiftability and anticipated income theory is weak. However, there was one bank that employed a hybrid strategy i.e. anticipated and commercial loan theory.

Singh Fulbag and Singh Balwinder (2006) in their study "Funds Management in Central Cooperative Banks- Analysis of Financial Margin" attempted to estimate the impact of identified variables on the financial margin of the central cooperative banks in Punjab with help of correlation and multiple stepwise regression approach. The ratio of own funds to working funds and the ratio of recovery to demand were observed to be having positive significant influence on financial margin, whereas over dues to total loans were found to be negatively associated with the concerned parameter. A high percentage of own funds and timely recovery of previous loans outstanding, as a source of funding new loans by the bank, increased the financial margin in these banks.

Jain (2001) has conducted a comparative performance analysis of District Central Co-operative Banks (DCCBs) of Western India, namely Maharashtra, Gujarat and Rajasthan and found that DCCBs of Rajasthan have performed better in profitability and liquidity as compared to Gujarat and Maharashtra.

Bonfim & kim (2011) in a study on European and North American banks in the 2002-2009 period illustrate how banks manage liquidity risk. The authors also identify the determinants of liquidity risk. The results highlight that the type of relationship between liquidity risk and size, performance and the ratio between loans and deposits depends on the type of liquidity risk measure used. Bank size generally has a positive impact on bank liquidity, while the performance measure has an ambiguous relationship with liquidity risk. Kisumu are contingency planning, profitability, banks major obligations and management policies. The author suggested that the findings of his study forms basis for future research extending frontiers of liquidity level in financial markets.

Gosh Roy D(1995) in an article points out that ALM as a tool for increased profitability and managing interest rate volatility have been in vogue in the international banking scenario in the late seventies. With the process of globalisation and deregulation setting in, Indian banks could no longer shy away from managing their assets and liabilities more so in the short run.

Gareth (2008) in a case study of GBS Mutual Bank on interest rate management concludes his thesis by summarizing the practicality of the various interest rate risk hedging alternatives available to the GBS Mutual Bank. He noted that, implementing a particular strategy or instrument depends, on its asset and liability committee's (ALCO) decision. He suggested a further research on liquidity risk management by concluding that since the Asset liability committee is also responsible for a bank's liquidity risk management. The study could be extended to include this risk-type. Thus the lack of liquidity can become a restraint on its profitability which is often referred to as the „tension“ between profitability and liquidity.

Rauch et al. (2010) study the determinants of liquidity risk and attempt to identify the determinants of liquidity creation. Their results highlight that the most important determinants are macroeconomic variables and monetary policy, while not showing a significant relationship between liquidity creation and bank specific variables such as size and performance.

Vossen, (2010), in a study on Bank liquidity management noted that banks face two central issues concerning liquidity. Banks are responsible for managing liquidity creation and liquidity risk. He concluded that banks must change how to balance their liquidity risk and their role as liquidity providers by restructuring their liquidity management strategies. Liquidity risk exposes banks to financial challenges. Banks attempt to control liquidity risk factors by balancing cash inflows and outflows and some even hold liquidity cushions for strategic purposes. Being exposed to too much liquidity risk expose banks to challenges such as; run away investors, runs by depositors, ratings downgrades, and tougher financing. These consequences are what banks wish to avoid and why they implement policies to protect themselves from liquidity risk.

Horvath et al. (2012) in a study on Czech banks, show how capital impact on bank liquidity creation. Authors highlight that, for smaller banks, Basel III might lead to banks' reduced liquidity creation by introducing tighter capital requirements and symmetrically greater liquidity creation might hamper banks solvency. This means that, enhanced liquidity creation can have some detrimental consequences. The results underline that there is a trade-off between the benefits of financial stability introduced by the capital requirements and those of greater liquidity creation. Accordingly, they sustained that banks that create less liquidity on the market have also a lower exposure to liquidity risk.

Kamau (2013), study on factors influencing liquidity level of Commercial Banks in Kisumu City, Kenya concludes that variations in liquidity level are caused by both internal and external factors. Internal factors found significant in determining liquidity level of commercial banks in

Shinde S R (1998) takes the view that banks are ultimately economic entities securing profits by assuming numerous risks inherent in their financial intermediary and payment function and sophisticated ALM is the key to successful bank management. ALM also includes off-balance sheet activity such as swaps, futures and options

Chawla O P (1998) opined that ALM has evolved from the early practice of managing liquidity on the bank's asset side, to a later shift to the liability side, termed liability management, to a still later realization of using both the assets as well as liabilities sides of the balance sheet to achieve optimum resources management. But that was till the 1970s. In the current decade, ALM covers the management of the entire balance sheet of a bank.

Haslem et al (1999) found that the least profitable very large banks have the largest proportions of foreign loans, yet they emphasize domestic balance sheet (asset/liability) matching strategies.

Conversely, the most profitable very large banks have the smallest proportions of foreign loans, but, nonetheless, they emphasize foreign balance sheet matching strategies.

Bikram De (2003) stated that ownership does not seem to have any effect on the Return on Assets but, public sector banks do seem to have higher Net Interest Margin and Operating Cost Ratio.

Kosmidou et al (2004) found through his research that liability management contributes more in creating the profitability

Pramod Vaidya and Arvind Shahi (2007) discussed in depth, the importance of liquidity risk management and interest rate risk management, various methods of measuring these risks and the challenges faced by Indian banks in managing these risks

Parvinder Arora, Ajay Garg, and Bhavna Ranjan(2007), found that the practice of ALM is the solution to most of the problems faced by banks in the recent times. It is the most scientific way to deal with the challenges put forward by the liberalization and the globalization of the financial services sector.

Kanjana.E.N (2007), found that the “Efficiency, Profitability and Growth of Scheduled Commercial Banks in India” tested whether the establishment expense was a major expense, and out of total expense which is met by scheduled commercial banks is more due to more number of employees. In her empirical study, the earning factor and expense factor which are controllable and non-controllable by the bank.

Chakraborty and Mohapatra (2008) stated in the study that public sector banks have an efficient asset-liability maturity pattern. Also they found that the interest rate risk and liquidity risks are the significant risks that affect the bank’s balance sheet and therefore, they should be regularly evaluated and managed.

Roma Mitra, Shankar Ravi (2008), estimated and compared efficiency of the banking sector in India. The analysis is supposed to verify or reject the hypothesis whether the banking sector fulfils its intermediation function sufficiently to compete with the global players. The results are insightful to the financial policy planner as it identifies priority areas for different banks, which can improve the performance. This paper evaluates the performance of Banking Sectors in India.

Ashok Kumar (2009) found how the financial performance of SBI group, nationalized banks group, private banks group and foreign banks group has been affected by the financial deregulation of the economy. The main objective of the empirical study is to assess the financial performance of Scheduled Commercial Banks through CAMEL Analysis.

Kajal Chaudhary and Monika Sharma (2011) revealed that public banks must pay attention on their functioning. These banks should select borrower very smartly and also public banks should decrease the NPA level. Sometimes the perspective of management also defines the risk profile of banks which further determines the liquidity and profitability tradeoff.

Dr. Anurag B Singhand Ms. Priyanka Tandon(2012) found that , the importance of liquidity risk management and interest rate risk management, various methods of measuring these risks and the challenges faced by Indian banks in managing these risks

Prathap (2013) found that ownership and structure of the banks do have a major bearing in the ALM procedure. It is further observed that SBI and its Associates have the best correlation, thereby indicating the best asset-liability maturity pattern. Most of the Indian banks, unlike foreign banks, are liability-managed banks because they all borrow from money market to

meet their maturing liabilities. The private banks are highly aggressive for profit generation and use the short-term funds for long-term investments.

Dr. Kanhaiya Singh (2013) found that the strategies banks undertook to manage the composition of asset-liability and its impact on their performance in general and profitability in particular. Maturity profiling is used to determining the liquidity position and Duration analysis to measure interest rates risk.

Amit Kumar Meena, Joydip Dhar (2014) found that that the Overall liquidity structure of banks in India is stable but the amount of cash they maintain with them can create problems in long run as it is deteriorating their profits.

Manish Roy Tirkey & Shaban.E. A. Salem found in their study that ICICI bank is better compared to HDFC bank. Ratio analysis was used in order to compare asset/liability management in ICIC bank and HDFC bank.

Swati Dubey & Neeraj Rawat found in their study that there is a direct relationship exists between Asset Liability Management and the profitability of a bank.

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Chapter – 3

*Pariyaram Service Co-operative Bank
– A Profile*

Chapter - 3

PARIYARAM SERVICE CO-OPERATIVE BANK - A PROFILE

3.1 Genesis

The Pariyaram service cooperative bank registered on 6th January 1947 and started its operations from 2nd March 1947 in Mukundapuram taluk at Pariyaram panchayat in Thrissur district. The promoter of the bank was Sri. Padinjakara Devassy Augusthy. He served almost 30 years as the president of Pariyaram Service Co-operative Bank. The bank is regulated by the cooperative department of Kerala.

3.2 Area of operation

The area of operation of the bank extends to the entire Pariyaram panchayat which covers the areas of Pariyaram and Elinjipra villages. The Bank has 4 branches at Vettilapara, Thazhoor, Konnakuzhi and Elinjipra which is at Thrissur district itself.

3.3 Objectives

The main objectives of the bank are as follows:

1. To accept deposit of money from the public repayable on demand or otherwise and withdrawals by cheque, draft, order or otherwise for the purpose of lending or investment.
2. To borrow funds from the members or other to be utilized for both short and medium term loans to members for useful purposes.
3. To encourage thrift, self help and mutual help among members.
4. To market suitable agricultural produce for members.
5. To procure and supply agricultural requirements like seeds, manures, implements, cattle feed etc. and also to procure and distribute household articles to members.
6. To arrange for the sale of agriculture produce of the member to their best advantage through marketing societies.

7. To own or hire processing plants like rice hullers, flour mills, oil crushers etc, improve and machinery like tractors, mechanized plough etc for the benefit of members.
8. To advance short term and medium term loans to the members.
9. To provide gold loan on security of gold
10. To adopt suitable agricultural programmes for members.

3.4 Membership

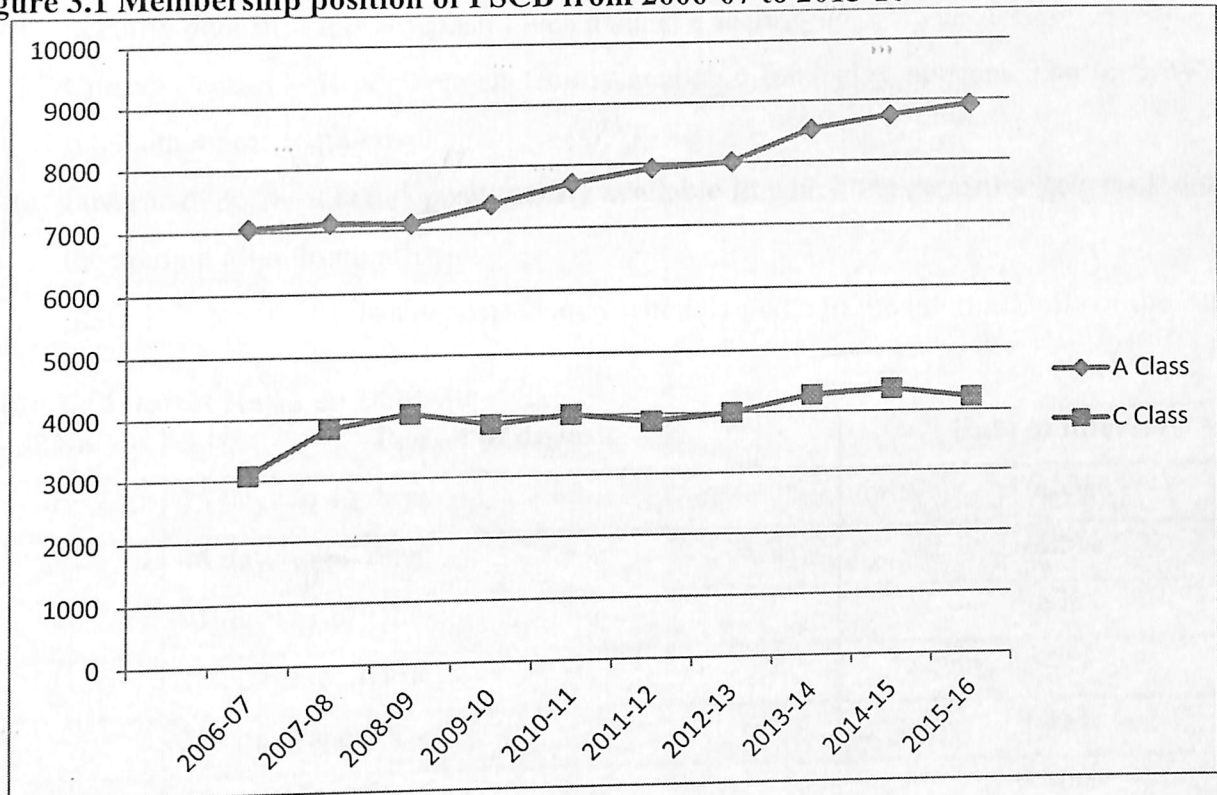
The membership of the bank is confined to those persons who own land, settled permanently in the area of operation and who has attained 18 years of age with sound mind shall be eligible for membership. An application for membership shall be made to the Board of Directors through the Secretary along with the recommendations of a Board member in the prescribed form. The Board of Directors will decide whether he/she can be given membership or not. The employees cannot take share from the Bank. There are four types of shares which are categorized as A class, B class and C class. A class shares are issued to individual members, B class shares are subscribed by the Government. The C class members have no power to attend the general body meeting, take part in voting or other decision making functions of the bank.

Table 3.1 Membership position of PSCB from 2006-07 to 2015-16

Year	A Class	Growth Index (in %)	C Class	Growth Index (in %)
2006-07	7055	100	3076	100
2007-08	7124	101	3831	125
2008-09	7096	101	4061	132
2009-10	7384	105	3867	126
2010-11	7698	109	4002	130
2011-12	7924	112	3876	126
2012-13	8002	113	3998	130
2013-14	8527	121	4273	139
2014-15	8742	124	4358	142
2015-16	8914	126	4216	137

The above table shows the membership position of Pariyaram Service C-operative Bank from 2006-07 to 2015-16. The growth index of A class shows an irregular trend in the first few years of the period under study. But the membership has reached from 7055 members in 2006-07 to 8914 members in 2015-16. The C class membership also shows a similar trend of A class membership. It reached to 4216 members in 2015-16 from 3076 members in 2006-07.

Figure 3.1 Membership position of PSCB from 2006-07 to 2015-16



3.5 Sources of fund

The source of fund of the bank consists of Owned funds and Borrowed Fund. The share capital contribution from the Government, members and reserve funds jointly constitute the Owned fund of the bank. Borrowed funds include deposits from the public, borrowings from the District Co-operative bank and refinance assistance provided and routed through the district bank by NABARD.

The Pariyaram Service Co-operative bank provides a wide range of deposits. The various kinds of deposits provided by PSCB are:

1. Fixed deposit - This is the deposit of a fixed amount of money for a fixed period of time. The minimum amount shouldn't be less than Rs.10. Deposits are accepted for periods ranging from 1 month to 5 years or more.
2. Recurring deposit – this is a monthly deposit.
3. Daily savings deposit – it is a savings deposit where four agents are appointed who collect and remits the money.
4. Security deposit – It is a deposit given against a security.
5. Current deposit – It is a deposit facility available for locker openers. The security of a fixed amount is required.
6. Suvarna deposit– it is a deposit facility available in which the depositor gets back double the amount after 96 months.
7. Staff. P.F deposit – it is a deposit facility which is given to the internal staffs of the bank.

Table 3.2 Interest Rates on Deposits

Sl.No	Period of deposits	Rate of interest
1	15 days to 45 days	6.5%
2	46 days to 90 days	7.25%
3	91 days to 179 days	8%
4	180 days to 364 days	8.5%
5	365 days and above	9.25%
6	Savings deposit	4.50%

3.6 Loans and advances

The various kinds of loans provided by it are:

1. Gold loan - Advancing loans on gold is the most important function of this bank. There are two types of gold loan provided by this bank they are special and ordinary gold loan. Duration of special loan is 3 months and duration of ordinary loan is 1 year. At the due date, the bank may send an ordinary notice after 6months registration notice as. Any further delay in repayment of the amount will be followed by an auction sale of the property.

2. Crop loan - The system of advancing production oriented credit is known as crop loan . This system envisages that the credit needs of the cultivating numbers are to be determined with the reference to the requirements of production in respect of different crops to be grown by them in ensuring cropping season individual credit limit being fixed subject to repay on the duration of the loan is 1 year and interest rate is 7%.
3. Kissan credit card- it is an agricultural loan given for a period of maximum six months to farmers. It is an interest free loan.
4. Agricultural mortgage loan – it is a loan given by mortgaging the documents of lands and immovable properties.
5. Self employment loan – in this type of loan, personal security of three persons is required. It is given for a period of six months. The loan amount is of a maximum of Rs. 5000
6. Integrated Rural Development Program (IRDP) loan – It is a government sanctioned loan given with a subsidy.
7. Mortgage loan – A mortgage loan, also referred to as a mortgage, is used by purchasers of real property to raise funds to buy real estate; or by existing property owners to raise funds for any purpose while putting a lien on the property being mortgaged. The loan is "secured" on the borrower's property.
8. P.F deposit loan – It is a loan given to the staff against the deposit security.
9. EMS bhavana padhathi – It is a loan given for the construction of house.

Table 3.3 Interest rates on loans

Sl.no.	Particulars	Rate of interest %
1.	Kissan credit card	7
2.	Crop loan	7-10
3.	Agricultural mortgage loan	7-14
4.	Self Help Group	9-14
5.	Ordinary gold loan	10-12
6.	Agricultural gold loan	7
7.	Business loan	14
8.	Mortgage loan	14

9.	Integrated Rural Development Program loan	9-14
10.	Overdue interest for all loans	2
11.	Interest free loan OD interest	7.50

3.7 Management and administration

The bank is governed by the General Body and Board of Directors.

General Body

As in any co-operative organization, the supreme authority of the Pariyaram Service Co-operative Bank is the General Body. The General Body has the power to elect the Board of Directors, reviewing and approving the annual accounts and Balance sheet, disposal of net profit based on byelaws, approving the annual budget and annual report of the Bank, amendment of byelaws etc.

Board of Directors

The Board of Directors consists of 11 members. The term of office of the Board is five years. The board will meet in an interval of not more than one week. The quorum required for the meeting is five. The board will look after the day to day administration.

President

The president shall have an overall control on the officers of the bank. The president will be the ex- officio treasurer. He will be responsible for the administration of the society. All the accounts of the bank should be handled by the president and secretary jointly. A vice-president also will be elected for shouldering the responsibilities of the bank in the absence of president.

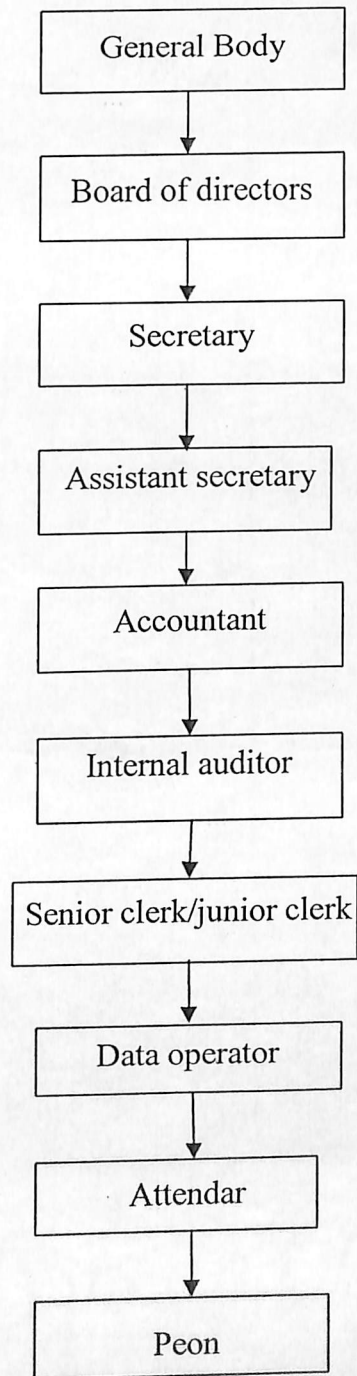
Secretary

The secretary is the chief executive officer of the bank subjected to the control of the president. He will be responsible for general administration and he is a paid employee.

3.8 Organisational structure:

The General Body from among the members elects the Board of Directors and from among themselves elects president. The whole management affairs of the bank are vested with the board. The board appoints a full time secretary who is the chief executive officer to the bank for executing the day to day activities of the bank. There are paid employees under secretary.

ORGANISATIONAL STRUCTURE



Chapter – 4

Analysis and Interpretation

Chapter - 4

ANALYSIS AND INTERPRETATION

4.1 Introduction

Asset Liability Management (ALM) is defined as management of all assets and liabilities (both off and on balance sheet items) of a bank. It involves in assessment of various types of risks and altering the asset-liability portfolio in a dynamic way in order to manage risk.

ALM is a part of the overall risk management in banks. It implies examination of all the assets and liabilities simultaneously on a continuous basis with a view to ensuring a proper balance between funds mobilization and their deployment with respect to their maturity profiles, cost, yield, and risk exposure etc. ALM is basically a hedging response to the risk in financial intermediation. It attempts to provide a degree of protection to the institution from intermediation risk and makes such risk acceptable.

The essence of ALM is identifying, measuring, monitoring and controlling risk in the process of achieving the objectives of the institution within the approved strategic framework. The function of ALM is not just protection from risk. It also opens up opportunities for enhancing the banks net worth.

Objectives of the study were:

1. To study the efficiency in mobilization of funds.
2. To study the efficiency in deployment of funds.
3. To study the efficiency in reserve management.

The study was analytical in nature and for analysis, used different types of ratios to understand the efficiency in fund mobilization, fund deployment, operations and maintaining reserves. And gap model to identify the liquidity gap in assets and liabilities of the balance sheet.

The findings emerged from the study are presented under the following heads:

Section 1 Mobilization of funds

Section 2 Deployment of funds

Section 3 Operational Efficiency

Section 4 Reserve Maintenance

Section 5 Liquidity gap in assets and liabilities of balance sheet

SECTION 1

Mobilization of funds

The main source of funds for bank is share capital and membership fees collected from the members. Normally, the collection of share capital and membership fees is not sufficient to run the entire business of the society and hence, the societies mobilize different types of deposits from members and non members. However, all the credit societies should necessarily keep accounts with District Co-operative Central Bank (DCCB). They can borrow from DCCBs to which they have been affiliated by taking required shares. Hence this section analyzed in which ratio the bank mobilized it's fund for operations.

4.2 Efficiency in Mobilization

4.2.1 Owned Funds to Borrowed Funds Ratio:

$$\text{Owned Fund to Borrowed Fund Ratio} = \frac{\text{Owned Fund}}{\text{Borrowed Fund}} \times 100$$

Owned Fund = Paid up share capital + Reserves + Undistributed Profits

Borrowed Fund = Borrowings + Total Deposit

Table 4.1 Owned Funds to Borrowed Funds Ratio of PSCB from 2006-07 to 2015-16

Year	Owned fund (Rs. in lakhs)	Growth Index (in %)	Borrowed fund (Rs. in lakhs)	Growth Index (in %)	Owned fund to Borrowed fund Ratio (in %)
2006-07	45	100	2454	100	1.8
2007-08	46	102	2940	120	1.6
2008-09	211	469	3350	137	6.3
2009-10	260	578	4288	175	6.1
2010-11	352	782	5280	215	6.7
2011-12	456	1013	8100	330	5.6
2012-13	665	1478	9110	371	7.3

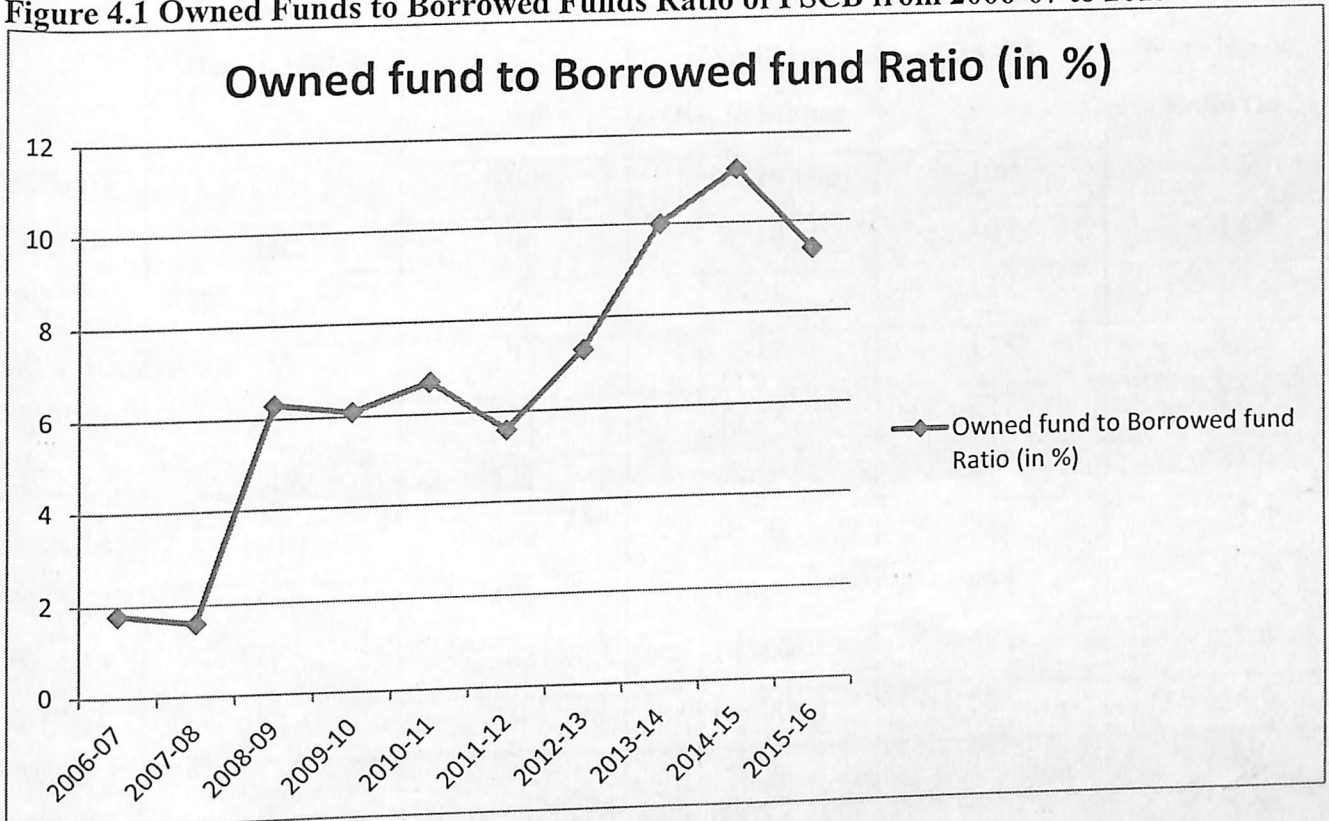
2013-14	1129	2509	11240	458	10
2014-15	1462	3249	13000	530	11.2
2015-16	1484	3298	15835	645	9.4
CAGR	41.8		20.5		18

Source: Annual reports of PSCB from 2006-07 to 2015-16

CAGR: Compound Annual Growth Rate

From the above table we can see that the owned fund to borrowed fund ratio shows an increasing trend. The ratio increased from 1.8 per cent in 2006-07 to 9.4 per cent in 2015-16 with an overall positive growth of 18 per cent. This shows the growth in owned fund was incommensurate with the rate of growth in borrowed fund. This will maintain the capital adequacy ratio as well as the cost of funds of PSCB.

Figure 4.1 Owned Funds to Borrowed Funds Ratio of PSCB from 2006-07 to 2015-16



4.2.2 Borrowings to working capital ratio

$$\text{Borrowings to working capital ratio} = \frac{\text{Borrowings}}{\text{Working Capital}} \times 100$$

Borrowings include funds from Government, District Co-operative Central Bank and National Bank for Agriculture and Rural Development.

Working Capital = Share Capital + Deposits + Reserves + Borrowings - Fixed Assets

Table 4.2 Borrowings to working capital ratio of PSCB from 2006-07 to 2015-16

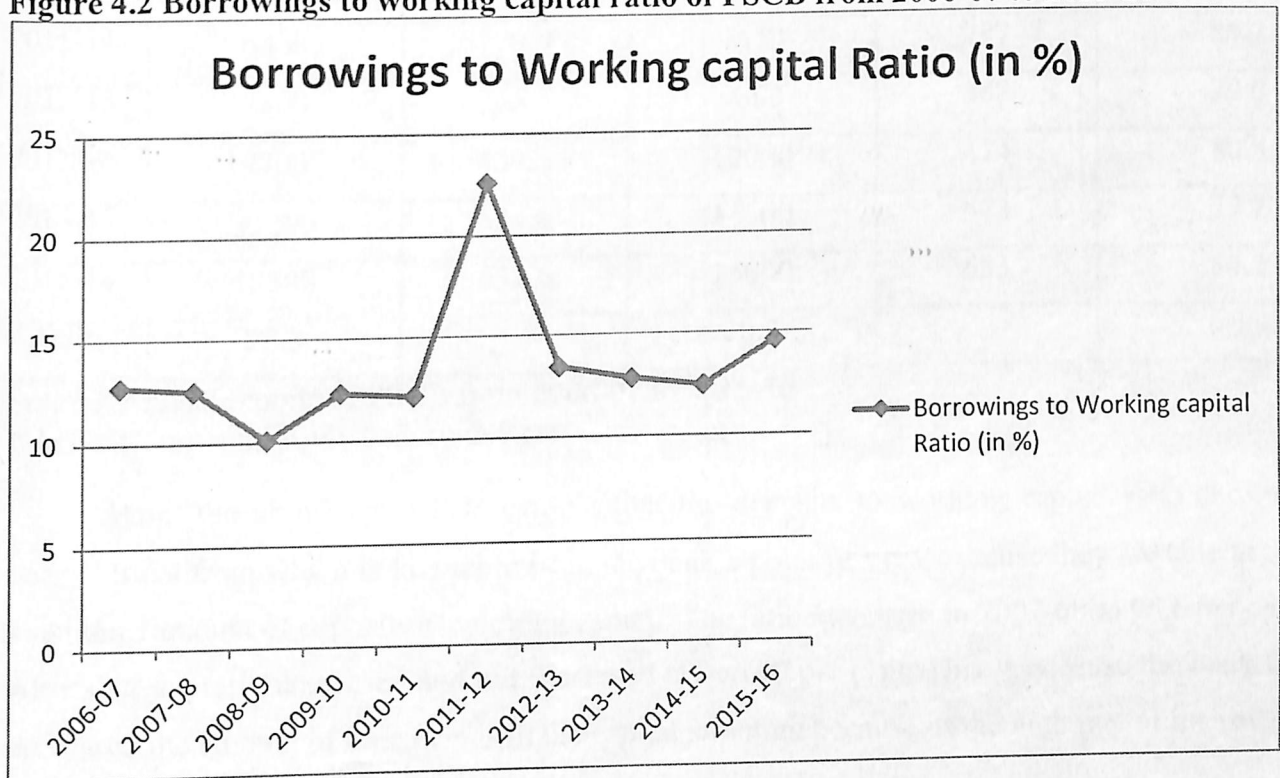
Year	Borrowings (Rs. in lakhs)	Growth Index (in %)	Working capital (Rs. in lakhs)	Growth Index (in %)	Borrowings to Working capital Ratio (in %)
2006-07	320	100	2529	100	12.7
2007-08	340	106	2718	107	12.5
2008-09	350	109	3461	137	10.1
2009-10	553	173	4513	178	12.3
2010-11	695	217	5739	227	12.1
2011-12	1700	531	7510	297	22.6
2012-13	1310	409	9800	388	13.4
2013-14	1540	481	12000	474	12.8
2014-15	1800	563	14500	573	12.4
2015-16	2335	730	16000	633	14.6
CAGR	22		20.3		1.4

Source: Annual reports of PSCB from 2006-07 to 2015-16
CAGR: Compound Annual Growth Rate

The above table shows the borrowings to Working Capital ratio of the bank. It is evident that the ratio shows an irregular trend from 12.7 per cent in 2006-07 to 14.6 per cent in 2015-16. During the ten financial years the highest ratio was 22.6 per cent in 2011-12. From 2011-12 to

2015-16 the ratio came down to 14.6. This shows that the bank has enough funds to carry out the activities.

Figure 4.2 Borrowings to working capital ratio of PSCB from 2006-07 to 2015-16



4.2.3 Total Deposit to working capital ratio

$$\text{Total Deposit to Working Capital Ratio} = \frac{\text{Total Deposit}}{\text{Working Capital}} \times 100$$

$$\text{Working Capital} = \text{Share Capital} + \text{Deposits} + \text{Reserves} + \text{Borrowings} - \text{Fixed Assets}$$

Table 4.3 Total Deposits to working capital ratio of PSCB from 2006-07 to 2015-16

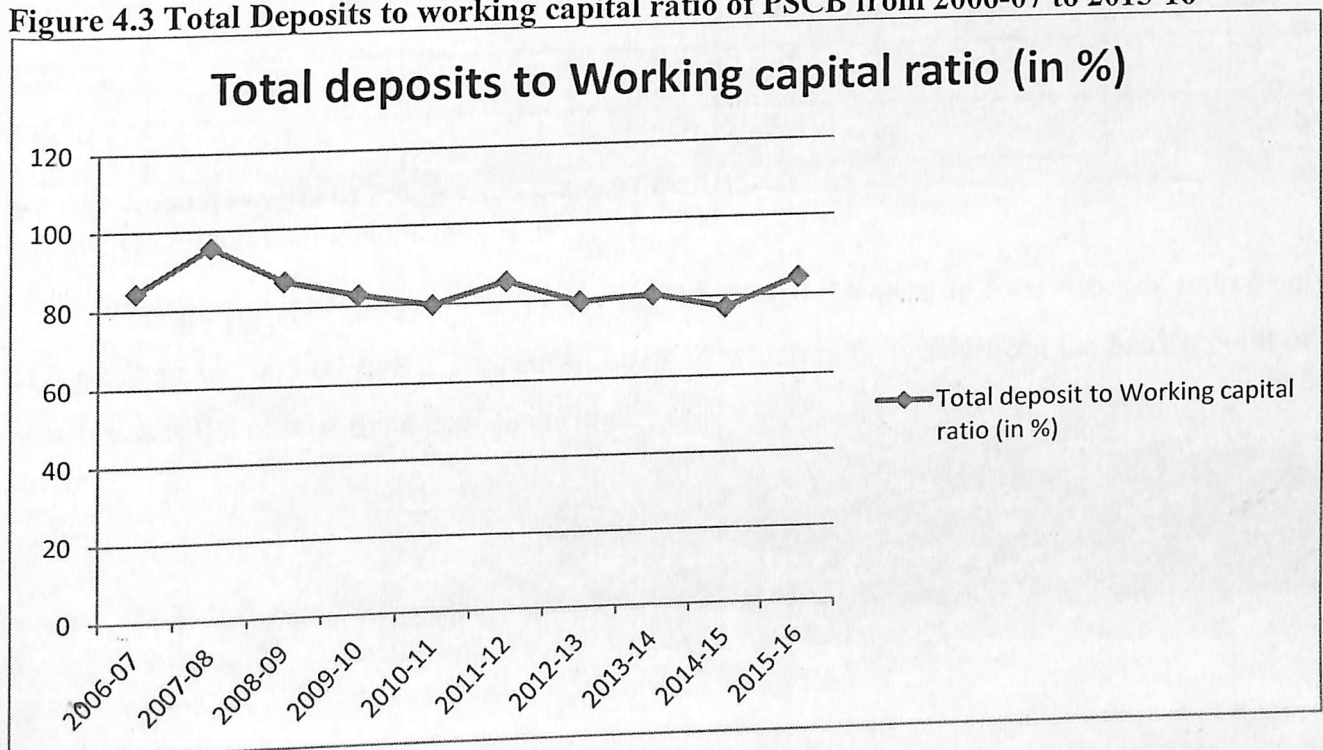
Year	Total Deposits (Rs. in lakhs)	Growth Index (in %)	Working capital (Rs. in lakhs)	Growth Index (in %)	Total Deposits to Working capital Ratio (in %)
2006-07	2134	100	2529	100	84.4
2007-08	2600	121.8	2718	107	95.6

2008-09	3000	140.1	3461	137	86.7
2009-10	3735	175	4513	178	82.8
2010-11	4585	214.9	5739	227	79.9
2011-12	6400	299.9	7510	297	85.2
2012-13	7800	365.5	9800	388	79.6
2013-14	9700	454.5	12000	474	80.8
2014-15	11200	524.8	14500	573	77.2
2015-16	13500	632.6	16000	633	84.4
CAGR	20.3		20.3		

Source: Annual reports of PSCB from 2006-07 to 2015-16
CAGR: Compound Annual Growth Rate

From the above table it is evident that the deposits to working capital ratio shows a normal trend from which is favorable from the bank's point of view because they are able to use maximum amount of deposits as working capital. The ratio increased in 2007-08 to 95.6 per cent. After that the ratio decreased and not increased above 90 per cent. This is because the bank has decreased the amount of borrowings in the capital structure because of the high rate of interest.

Figure 4.3 Total Deposits to working capital ratio of PSCB from 2006-07 to 2015-16



4.2.4 Fixed Deposits to Total Deposits Ratio:

$$\text{Fixed Deposits to Total Deposits Ratio} = \frac{\text{Fixed Deposits}}{\text{Total Deposits}} \times 100$$

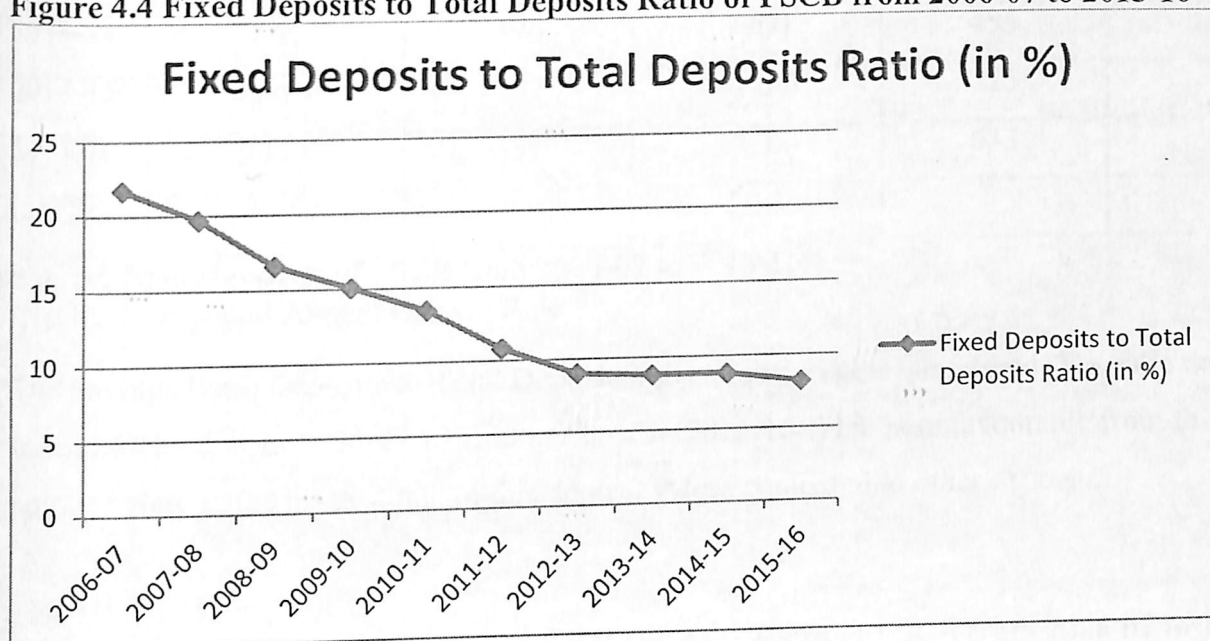
Table 4.4 Fixed Deposits to Total Deposits Ratio of PSCB from 2006-07 to 2015-16

Year	Fixed Deposits (Rs. in lakhs)	Growth Index (in %)	Total Deposits (Rs. in lakhs)	Growth Index (in %)	Fixed Deposits to Total Deposits Ratio (in %)
2006-07	463	100	2134	100	21.7
2007-08	512	111	2600	122	19.7
2008-09	498	108	3000	140	16.6
2009-10	564	122	3735	175	15.1
2010-11	617	133	4585	215	13.5
2011-12	689	149	6400	300	10.8
2012-13	704	152	7800	366	9.0
2013-14	850	184	9700	455	8.8
2014-15	983	212	11200	525	8.8
2015-16	1102	238	13500	633	8.2
CAGR	9.1		20.3		

Source: Annual reports of PSCB from 2006-07 to 2015-16
CAGR: Compound Annual Growth Rate

The above table shows a decreasing trend in Fixed deposits to Total deposits ratio from 21.7 per cent in 2006-07 to 8.2 per cent in 2015-16 which is favorable from the bank's point of view because the cost of fixed deposits is high.

Figure 4.4 Fixed Deposits to Total Deposits Ratio of PSCB from 2006-07 to 2015-16



4.2.5 Savings Bank Deposits to Total Deposits:

$$\text{Savings Bank Deposits to Total Deposits Ratio} = \frac{\text{Savings Bank Deposits}}{\text{Total Deposits}} \times 100$$

Table 4.5 Savings Bank Deposits to Total Deposit Ratio of PSCB from 2006-07 to 2015-16

Year	Savings Bank Deposits (Rs. in lakhs)	Growth Index (in %)	Total Deposits (Rs. in lakhs)	Growth Index (in %)	Savings Bank Deposits to Total Deposits Ratio (in %)
2006-07	204.5	100	2134	100	9.6
2007-08	268.4	131	2600	122	10.3
2008-09	250.3	122	3000	140	8.3
2009-10	330.2	162	3735	175	8.8
2010-11	450.7	220	4585	215	9.8
2011-12	478.8	234	6400	300	7.5
2012-13	479.4	234	7800	366	6.1

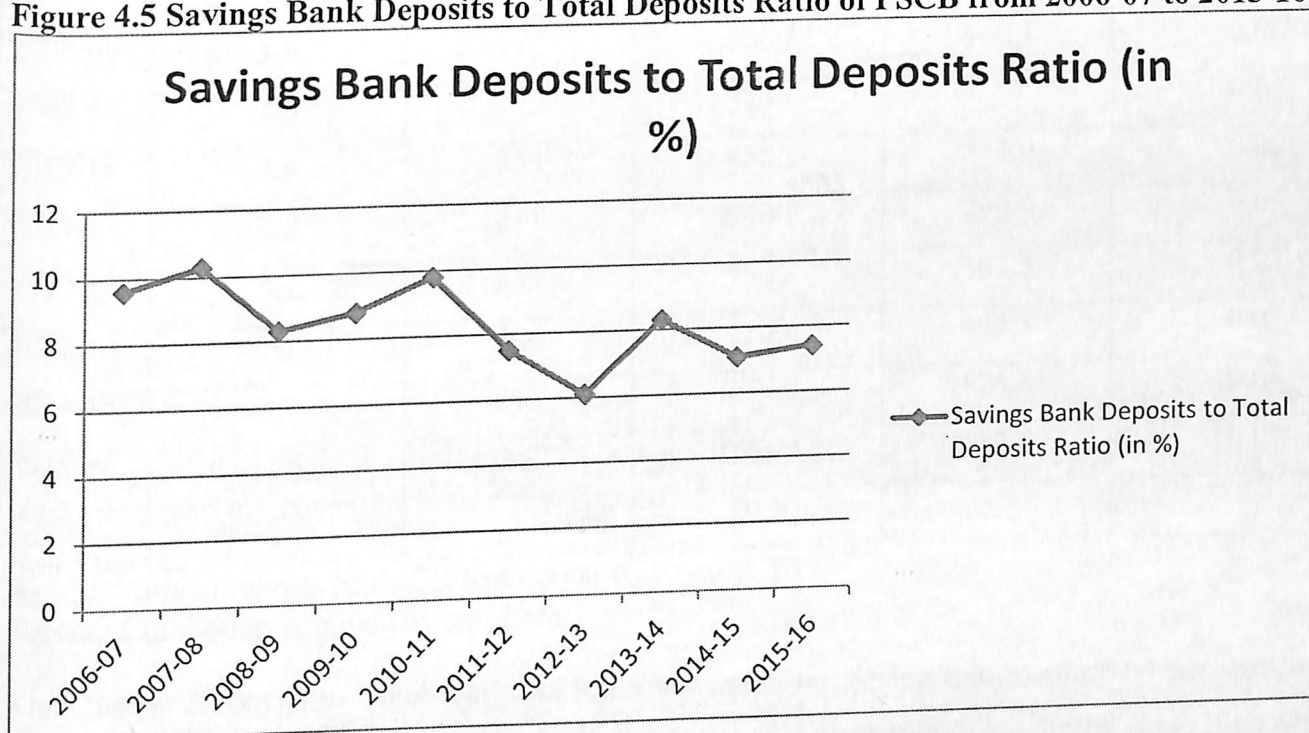
2013-14	805	394	9700	455	8.3
2014-15	800.7	392	11200	525	7.1
2015-16	996.3	487	13500	633	7.4
CAGR	17.2		20.3		-0.03

Source: Annual reports of PSCB from 2006-07 to 2015-16

CAGR: Compound Annual Growth Rate

The Savings Bank Deposits to Total Deposits ratio shows a decreasing trend. The ratio decreased from 9.6 per cent in 2006-07 to 7.40 per cent in 2015-16. This is unfavourable from the bank's point of view as the interest rate of this deposit is less compared to other deposits.

Figure 4.5 Savings Bank Deposits to Total Deposits Ratio of PSCB from 2006-07 to 2015-16



4.2.6 Current Deposits to Total Deposits:

$$\text{Current Deposit to Total Deposit Ratio} = \frac{\text{Current Deposit}}{\text{Total Deposit}} \times 100$$

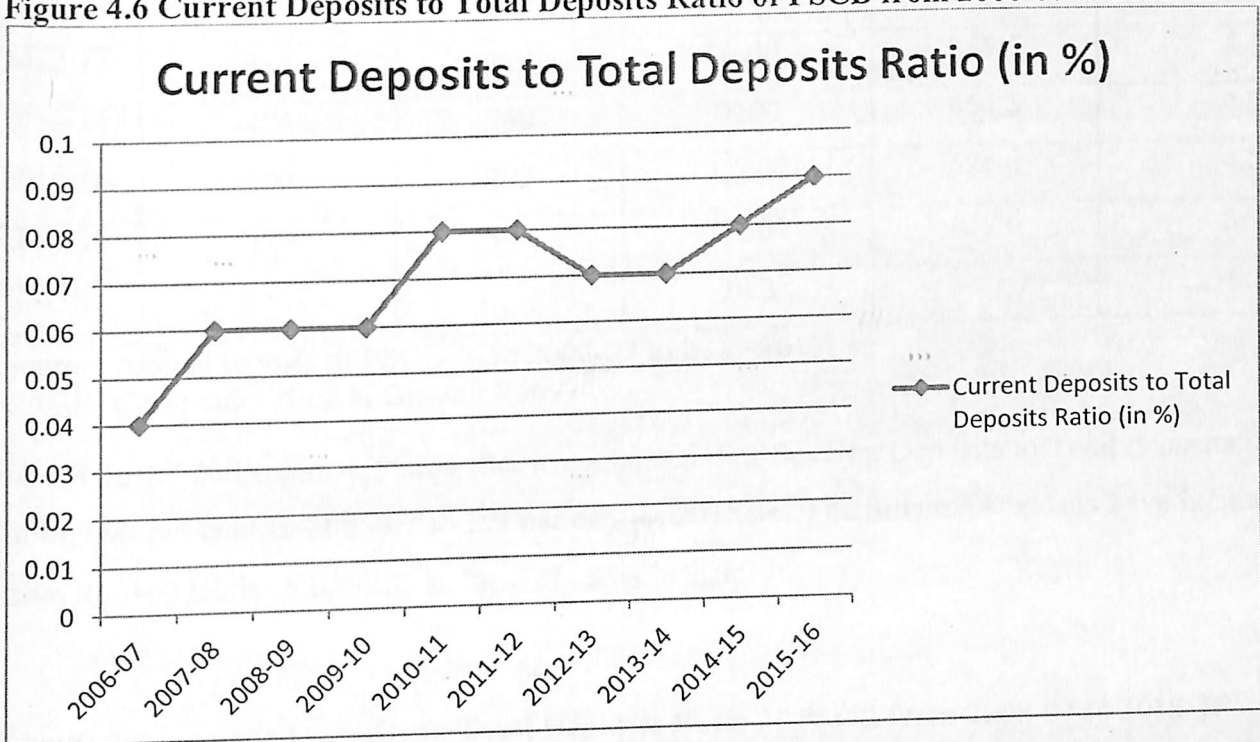
Table 4.6 Current Deposits to Total Deposits Ratio of PSCB from 2006-07 to 2015-16

Year	Current Deposits (Rs. in lakhs)	Growth Index (in %)	Total Deposits (Rs. in lakhs)	Growth Index (in %)	Current Deposits to Total Deposits Ratio (in %)
2006-07	1.02	100	2134	100	0.04
2007-08	1.6	157	2600	121.8	0.06
2008-09	1.8	176	3000	140.1	0.06
2009-10	2.3	225	3735	175	0.06
2010-11	3.6	353	4585	214.9	0.08
2011-12	4.8	471	6400	299.9	0.08
2012-13	5.7	559	7800	365.5	0.07
2013-14	7.1	696	9700	454.5	0.07
2014-15	8.9	873	11200	524.8	0.08
2015-16	11.8	1157	13500	632.6	0.09
CAGR	27.7		20.3		8.4

Source: Annual reports of PSCB from 2006-07 to 2015-16
CAGR: Compound Annual Growth Rate

The Current Deposits to Total Deposits Ratio shows an increasing trend from 0.04 per cent in 2006-07 to 0.09 per cent in 2015-16, which is favorable from the bank's point of view. It shows the bank's efficiency in mobilization of low cost funds.

Figure 4.6 Current Deposits to Total Deposits Ratio of PSCB from 2006-07 to 2015-16



4.2.7 Suvarna Deposits to Total Deposits:

$$\text{Suvarna Deposits to Total Deposits Ratio} = \frac{\text{Suvarna Deposits}}{\text{Total Deposits}} \times 100$$

Suvarna deposit– it is a deposit facility available in which the depositor gets back double the amount after 96 months.

Table 4.7 Suvarna Deposits to Total Deposit Ratio of PSCB from 2006-07 to 2015-16

Year	Suvarna Deposits (Rs. in lakhs)	Growth Index (in %)	Total Deposits (Rs. in lakhs)	Growth Index (in %)	Suvarna Deposits to Total Deposits Ratio (in %)
2006-07	168	100	2134	100	7.9
2007-08	176	105	2600	121.8	6.8
2008-09	182	108	3000	140.1	6.1
2009-10	191	114	3735	175	5.1
2010-11	203	121	4585	214.9	4.4

2011-12	209	124	6400	299.9	3.3
2012-13	318	189	7800	365.5	4.1
2013-14	404	240	9700	454.5	4.2
2014-15	500	298	11200	524.8	4.5
2015-16	527	314	13500	632.6	3.9
CAGR	12.1		20.3		-6.8

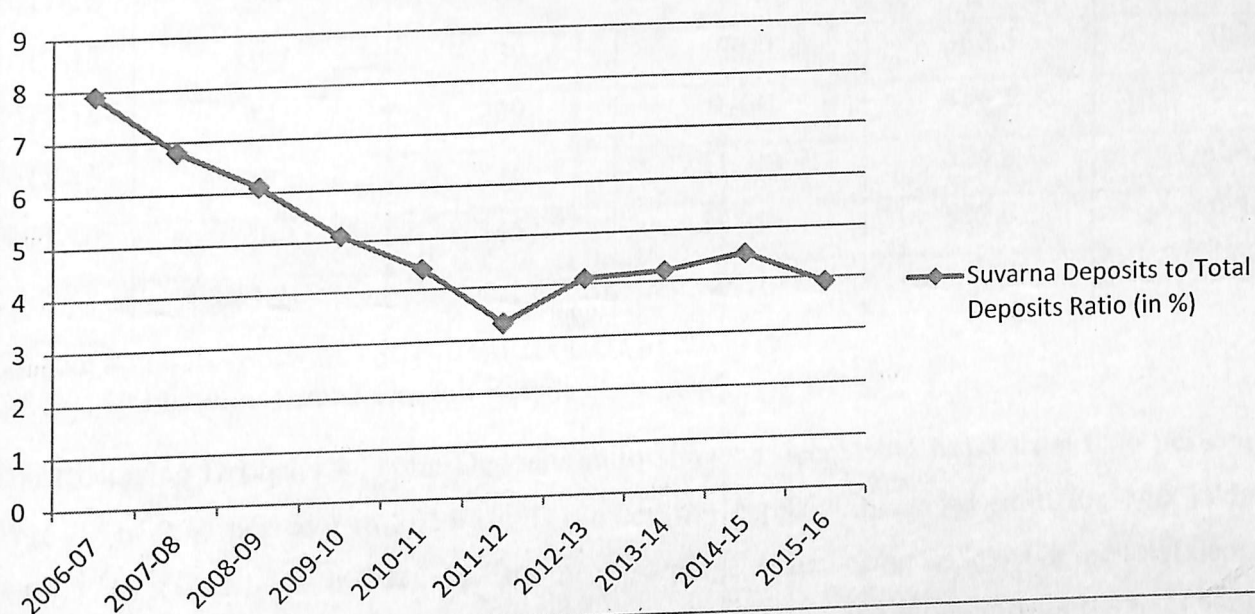
Source: Annual reports of PSCB from 2006-07 to 2015-16

CAGR: Compound Annual Growth Rate

The table 4.7 and figure 4.7 shows an irregular trend of Suvarna Deposits to Total deposits ratio from 7.90 per cent in 2006-07 to 3.9 per cent in 2015-16. The Suvarna Deposits have increased from Rs. 168 lakhs in 2006-07 to Rs. 527 lakhs in 2015-16.

Figure 4.7 Suvarna Deposits to Total Deposits Ratio of PSCB from 2006-07 to 2015-16

Suvarna Deposits to Total Deposits Ratio (in %)



4.2.8 Recurring Deposits to Total Deposits:

$$\text{Recurring Deposits to Total Deposit Ratio} = \frac{\text{Recurring Deposit}}{\text{Total Deposit}} \times 100$$

Table 4.8 Recurring Deposits to Total Deposits Ratio of PSCB from 2006-07 to 2015-16

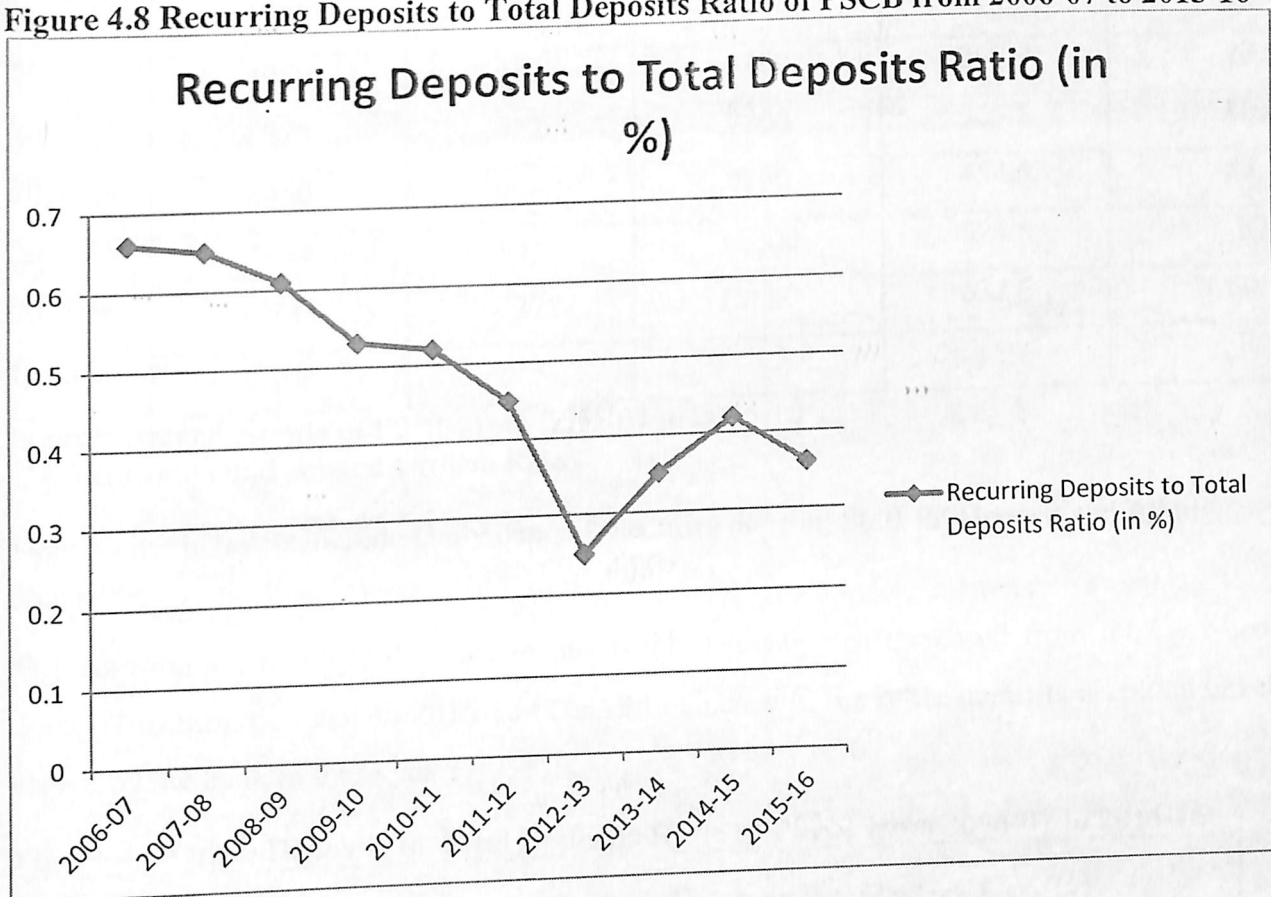
Year	Recurring Deposits (Rs. in lakhs)	Growth Index (in %)	Total Deposit (Rs. in lakhs)	Growth Index (in %)	Recurring Deposits to Total Deposits Ratio (in %)
2006-07	14.2	100	2134	100	0.66
2007-08	17.1	120	2600	121.8	0.65
2008-09	18.4	130	3000	140.1	0.61
2009-10	20.1	142	3735	175	0.53
2010-11	24.3	171	4585	214.9	0.52
2011-12	29	204	6400	299.9	0.45
2012-13	19.7	139	7800	365.5	0.25
2013-14	34	239	9700	454.5	0.35
2014-15	48	338	11200	524.8	0.42
2015-16	49	345	13500	632.6	0.36
CAGR	13.2		20.3		-5.9

Source: Annual reports of PSCB from 2006-07 to 2015-16

CAGR: Compound Annual Growth Rate

The Recurring Deposits to Total Deposits ratio shows a decreasing trend from 0.66 per cent in 2006-07 to 0.36 per cent in 2015-16. The recurring deposits increased from Rs. 14.2 lakhs in 2006-07 to Rs. 49 lakhs in 2015-16. But the percentage of recurring deposits in the total deposits is decreasing. Considering the mobilization of funds, this is unfavourable from the bank's point of view.

Figure 4.8 Recurring Deposits to Total Deposits Ratio of PSCB from 2006-07 to 2015-16



4.2.9 Other Deposits to Total Deposits Ratio:

$$\text{Other Deposits to Total Deposit Ratio} = \frac{\text{Other Deposit}}{\text{Total Deposit}} \times 100$$

Table 4.9 Other Deposits to Total Deposits Ratio of PSCB from 2006-07 to 2015-16

Year	Other Deposits (Rs. in lakhs)	Growth Index (in %)	Total Deposits (Rs. in lakhs)	Growth Index (in %)	Other Deposits to Total Deposits Ratio (in %)
2006-07	1488	100	2134	100	69.7
2007-08	1625	109	2600	121.8	62.5
2008-09	2050	138	3000	140.1	68.3
2009-10	2627	177	3735	175	70.3

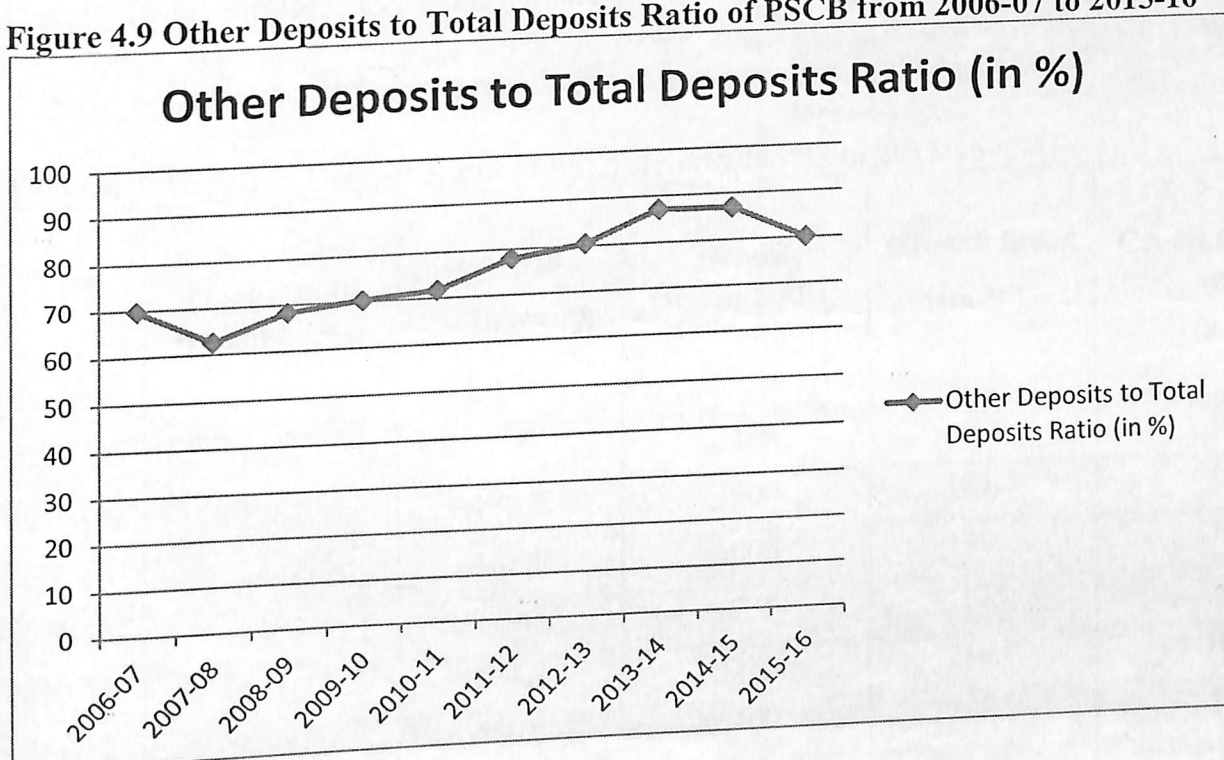
2010-11	3286	221	4585	214.9	71.7
2011-12	4989	335	6400	299.9	77.9
2012-13	6273	422	7800	365.5	80.4
2013-14	8450	568	9700	454.5	87.1
2014-15	9744	655	11200	524.8	87
2015-16	10814	727	13500	632.6	80.1
CAGR	21.9		20.3		1.4

Source: Annual reports of PSCB from 2006-07 to 2015-16
CAGR: Compound Annual Growth Rate

Note: Other deposits include Daily deposit, Security deposit, Staff PF Deposit and Athulya Deposit.

The contribution of other deposits to the Total Deposits was increased from 69.7 per cent in 2006-07 to 80.1 per cent in 2015-16. The old balances in the other deposits accounts have not closed by the bank in these years.

Figure 4.9 Other Deposits to Total Deposits Ratio of PSCB from 2006-07 to 2015-16



SECTION 2

Deployment of funds

Primary Agricultural Credit Societies (PACS) deploy funds in the creation of assets in the form of cash in hand, bank balance in current accounts, loans and advances, investments in the shares of other cooperatives, Fixed Assets and other assets. This section analyzed the efficiency of bank in deploying its deposit, owned fund and working capital for the credit creation.

4.3 Efficiency in Fund Deployment

4.3.1 Credit to Deposit Ratio:

$$\text{Credit to Deposit Ratio} = \frac{\text{Credit}}{\text{Deposit}} \times 100$$

Credit = Loans and Advances made by the bank

Deposits include deposit from the members and non-members of the bank.

Table 4.10 Credit to Deposit Ratio of PSCB from 2006-07 to 2015-16

Year	Total Credit (Rs. in lakhs)	Growth Index (in %)	Deposit (Rs. in lakhs)	Growth Index (in %)	Credit to Deposit Ratio (in %)
2006-07	1332	100	2134	100	62.4
2007-08	1782	133.8	2600	121.8	68.5
2008-09	2432	182.6	3000	140.1	81.1
2009-10	3187	239.3	3735	175	85.3
2010-11	4718	354.2	4585	214.9	102.9
2011-12	6000	450.5	6400	299.9	93.8
2012-13	8000	600.6	7800	365.5	102.6
2013-14	9900	743.2	9700	454.5	102.1
2014-15	11600	870.9	11200	524.8	103.6

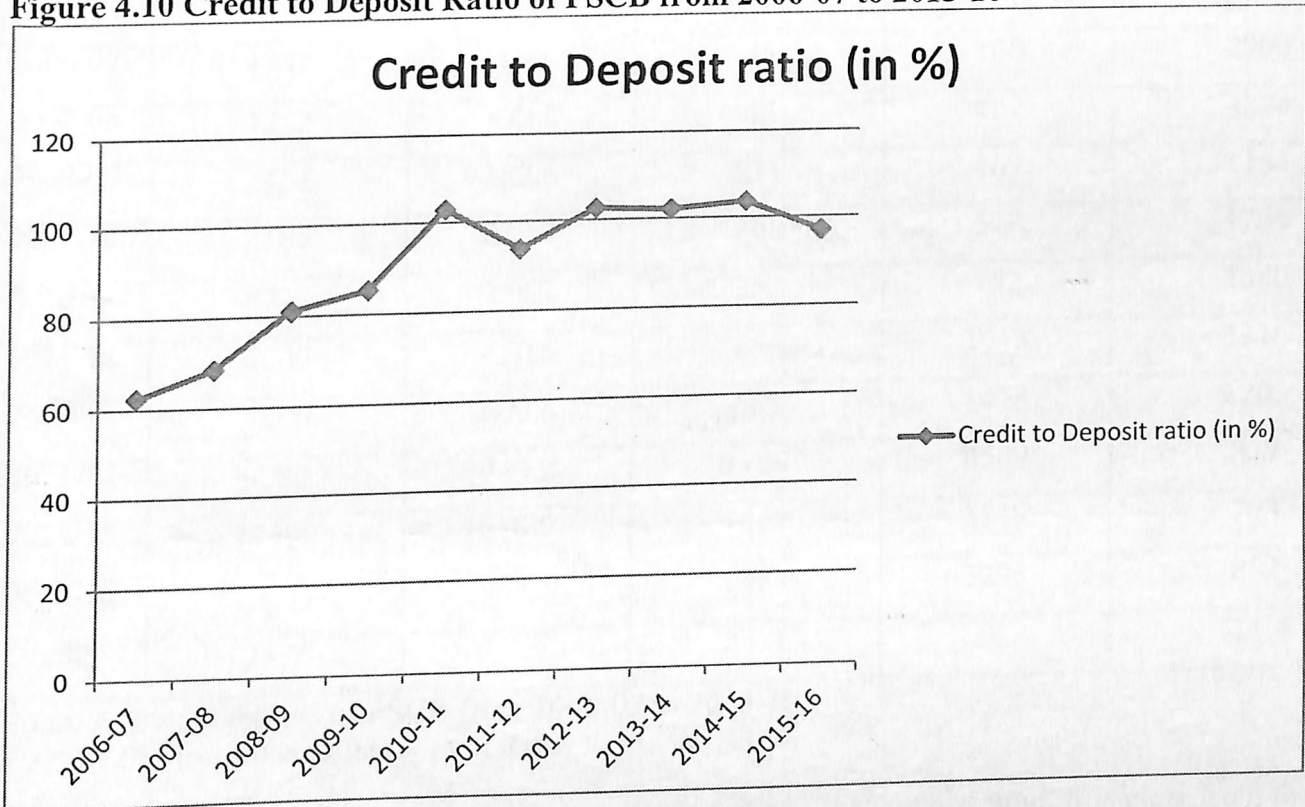
2015-16	13087	982.5	13500	632.6	96.9
CAGR	25.7		20.3		4.5

Source: Annual reports of PSCB from 2006-07 to 2015-16

CAGR: Compound Annual Growth Rate

The above table reveal that the proportion of credit to deposit ratio of PSCB for the past 10 years. It is evident that the deposits of the bank have increased from Rs. 2134 lakhs in 2006-07 to Rs.13500 lakhs in 2015-16. The credit disbursement of the bank also increased from Rs. 1332 lakhs in 2006-07 to Rs. 13087 lakhs in 2015-16. The credit to deposit ratio has increased from 62.4 per cent to 96.9 per cent. So the increase in the ratio indicates that the bank has efficiency in the utilization of deposits.

Figure 4.10 Credit to Deposit Ratio of PSCB from 2006-07 to 2015-16



4.3.2 Credit to Owned fund Ratio:

$$\text{Credit to owned Fund Ratio} = \frac{\text{Credit}}{\text{Owned Fund}} \times 100$$

Credit = Loans and Advances made by the bank

Owned Fund = Paid up share capital + reserves + undistributed profits

Table 4.11 Credit to Owned fund Ratio of PSCB from 2006-07 to 2015-16

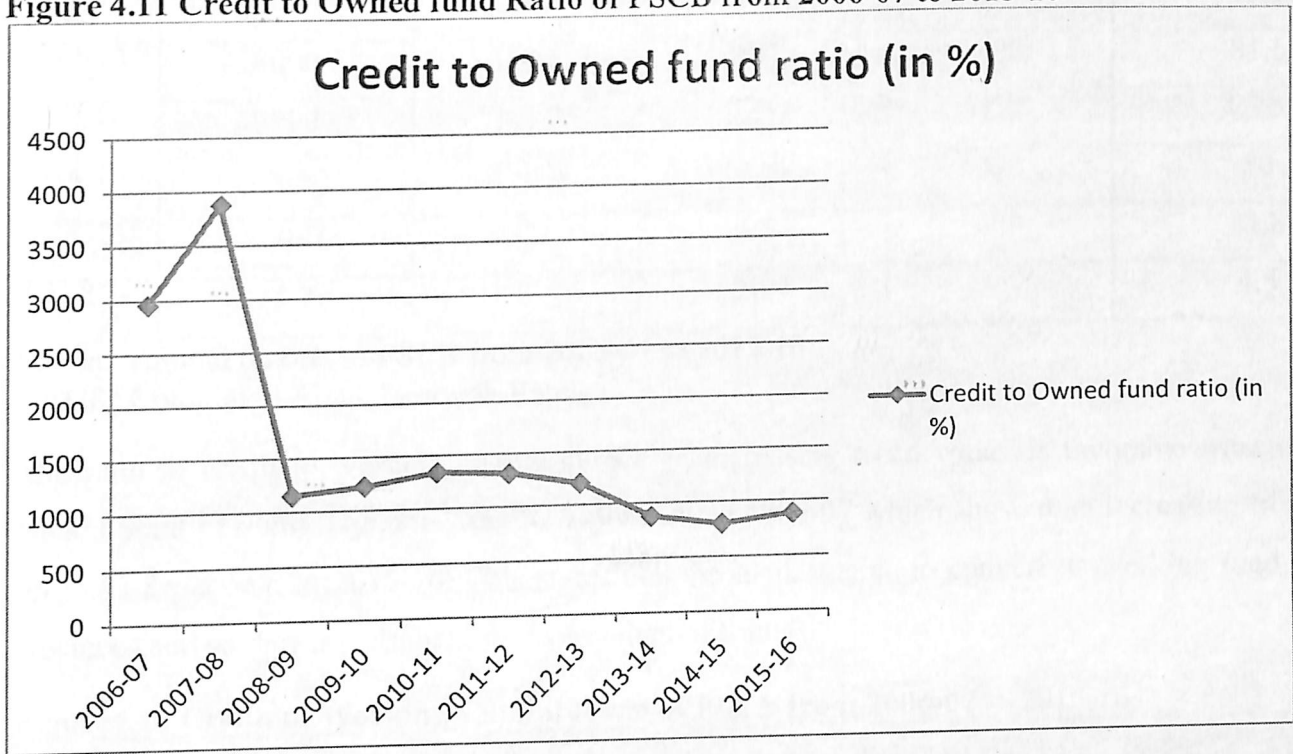
Year	Total Credit (Rs. in lakhs)	Growth Index (in %)	Owned fund (Rs. in lakhs)	Growth Index (in %)	Credit to Owned fund Ratio (in %)
2006-07	1332	100	45	100	2960
2007-08	1782	133.8	46	102	3874
2008-09	2432	182.6	211	469	1153
2009-10	3187	239.3	260	578	1226
2010-11	4718	354.2	352	782	1340
2011-12	6000	450.5	456	1013	1316
2012-13	8000	600.6	665	1478	1203
2013-14	9900	743.2	1129	2509	877
2014-15	11600	870.9	1462	3249	793
2015-16	13087	982.5	1484	3298	882
CAGR	25.7		41.8		-11.4

Source: Annual reports of PSCB from 2006-07 to 2015-16

CAGR: Compound Annual Growth Rate

The table 4.11 and figure 4.11 shows the proportion of credit to owned fund. It is clear from the graph that the ratio shows a decreasing trend from 2008-09 which is favorable from the bank's point of view. During the past 8 years the bank is much efficient in deployment of funds.

Figure 4.11 Credit to Owned fund Ratio of PSCB from 2006-07 to 2015-16



4.3.3 Credit to Working Capital Ratio:

$$\text{Credit to Working Capital Ratio} = \frac{\text{Credit}}{\text{Working Capital}} \times 100$$

Working capital = Current assets - Current liabilities

Table 4.12 Credit to Working Capital Ratio of PSCB from 2006-07 to 2015-16

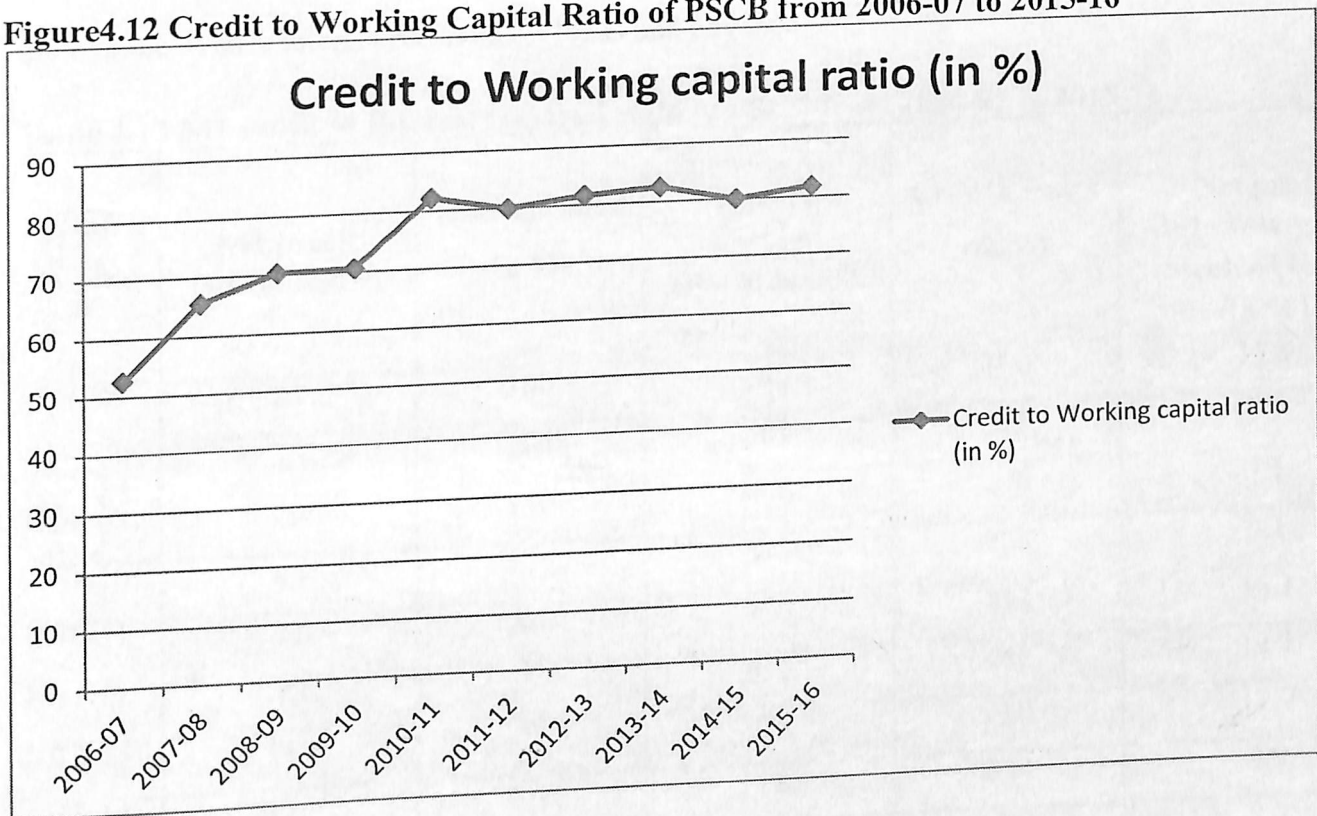
Year	Total Credit (Rs. in lakhs)	Growth Index (in %)	Working Capital (Rs. in lakhs)	Growth Index (in %)	Credit to Working Capital Ratio (in %)
2006-07	1332	100	2529	100	52.7
2007-08	1782	133.8	2718	107	65.6
2008-09	2432	182.6	3461	137	70.3
2009-10	3187	239.3	4513	178	70.6
2010-11	4718	354.2	5739	227	82.2

2011-12	6000	450.5	7510	297	79.9
2012-13	8000	600.6	9800	388	81.6
2013-14	9900	743.2	12000	474	82.5
2014-15	11600	870.9	14500	573	80
2015-16	13087	982.5	16000	633	81.8
CAGR	25.7		20.3		4.5

Source: Annual reports of PSCB from 2006-07 to 2015-16
CAGR: Compound Annual Growth Rate

The ratio of credit to working capital shows an increasing trend which is favorable from the bank's point of view. The ratio was 52.7 per cent in 2006-07 which showed an increasing trend up to 81.8 per cent in 2015-16. This states that the bank is able to convert its working fund to advances and so they are efficient in deployment of funds.

Figure 4.12 Credit to Working Capital Ratio of PSCB from 2006-07 to 2015-16



SECTION 3

Operational Efficiency

Banking operations ensures the bank's processes and transactions are executed correctly, which minimizing the risk and maximizing the profit.

4.4 Efficiency in Operation

4.4.1 Net profit to Interest received ratio

$$\text{Net profit to Interest received ratio} = \frac{\text{Net profit}}{\text{Interest received}} \times 100$$

Net profit as per the Profit and Loss a/c

Interest received = Interest received on loans and advance.

Table 4.13 Net profit to Interest received ratio of PSCB from 2006-07 to 2015-16

Year	Net profit (Rs. in lakhs)	Growth Index (in %)	Interest received (Rs. in lakhs)	Growth Index (in %)	Net profit to Interest received Ratio (in %)
2006-07	25	100	140	100	17.9
2007-08	26	104	365	261	7.1
2008-09	29	116	406	290	7.1
2009-10	43	172	473	338	9.1
2010-11	71	284	439	314	16.1
2011-12	73	292	655	468	11.1
2012-13	117	468	924	660	12.7
2013-14	119	476	1195	854	9.9
2014-15	127	508	1457	1041	8.7
2015-16	154	616	1800	1286	8.5
CAGR	19.9		29.1		-7.2

Source: Annual reports of PSCB from 2006-07 to 2015-16

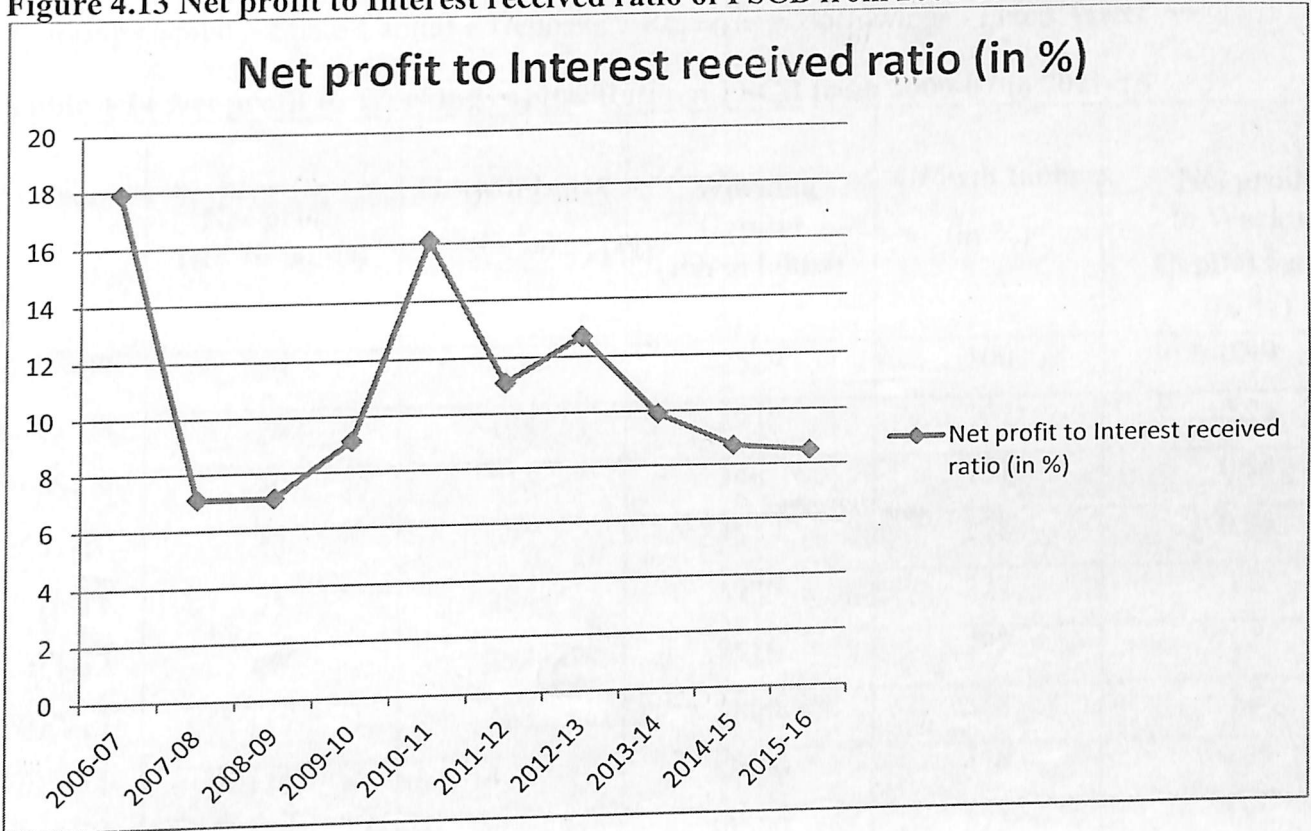


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CAGR: Compound Annual Growth Rate

Table 4.13 and figure 4.13 depicts the ratio of net profit to interest received. From the table and figure it is clear that the ratio is positive when there is a net profit. It is evident that the bank incurred profit throughout the period of study. And the profit shows an increasing trend. The highest ratio was registered in 2006-07 (17.9).

Figure 4.13 Net profit to Interest received ratio of PSCB from 2006-07 to 2015-16



4.4.2 Net profit to Working capital ratio

$$\text{Net profit to Working Capital ratio} = \frac{\text{Net profit}}{\text{Working Capital}} \times 100$$

Net profit as per the Profit and Loss a/c

Working Capital = Share Capital + Deposits + Reserves + Borrowings - Fixed Assets

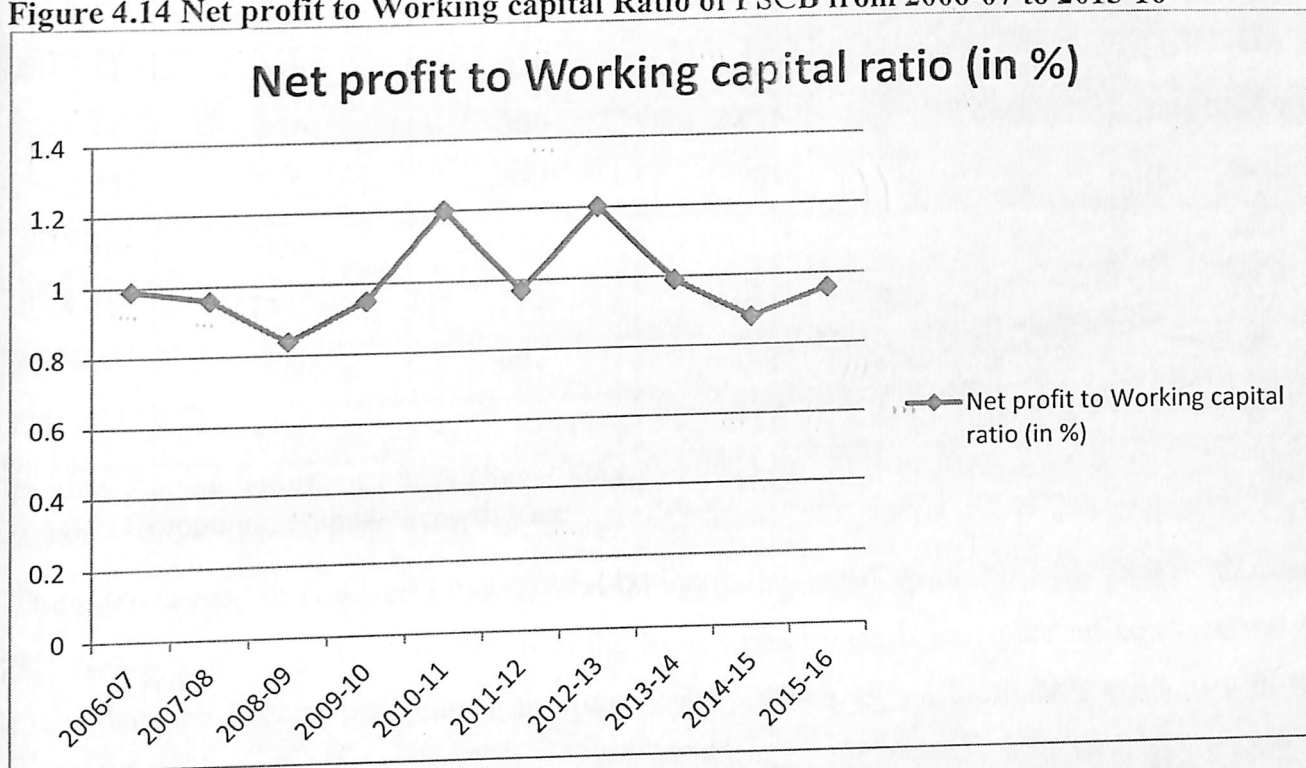
Table 4.14 Net profit to Working capital Ratio of PSCB from 2006-07 to 2015-16

Year	Net profit (Rs. in lakhs)	Growth Index (in %)	Working Capital (Rs. in lakhs)	Growth Index (in %)	Net profit to Working Capital Ratio (in %)
2006-07	25	100	2529	100	0.99
2007-08	26	104	2718	107	0.96
2008-09	29	116	3461	137	0.84
2009-10	43	172	4513	178	0.95
2010-11	71	284	5739	227	1.2
2011-12	73	292	7510	297	0.97
2012-13	117	468	9800	388	1.2
2013-14	119	476	12000	474	0.99
2014-15	127	508	14500	573	0.88
2015-16	154	616	16000	633	0.96
CAGR	19.9		20.3		-0.3

Source: Annual reports of PSCB from 2006-07 to 2015-16
CAGR: Compound Annual Growth Rate

From the table 4.14 and figure 4.14 it is evident that the net profit to working capital shows an increasing trend up to 2012-13 and showed a decreasing trend from 2013-15. But the last financial year showed an increasing trend which is favorable from the bank's point of view. Because it depicts that from the current assets and liabilities the bank is able to make profit. The highest ratio was registered (1.2) in 2010-11 and 2012-13 and the lowest ratio (0.84) in 2008-09.

Figure 4.14 Net profit to Working capital Ratio of PSCB from 2006-07 to 2015-16



4.4.3 Interest paid to Interest received ratio

$$\text{Interest paid to Interest received ratio} = \frac{\text{Interest paid}}{\text{Interest received}} \times 100$$

Interest paid = Interest paid on deposits

Interest received = Interest received on loans and advance.

Table 4.15 Interest paid to Interest received Ratio of PSCB from 2006-07 to 2015-16

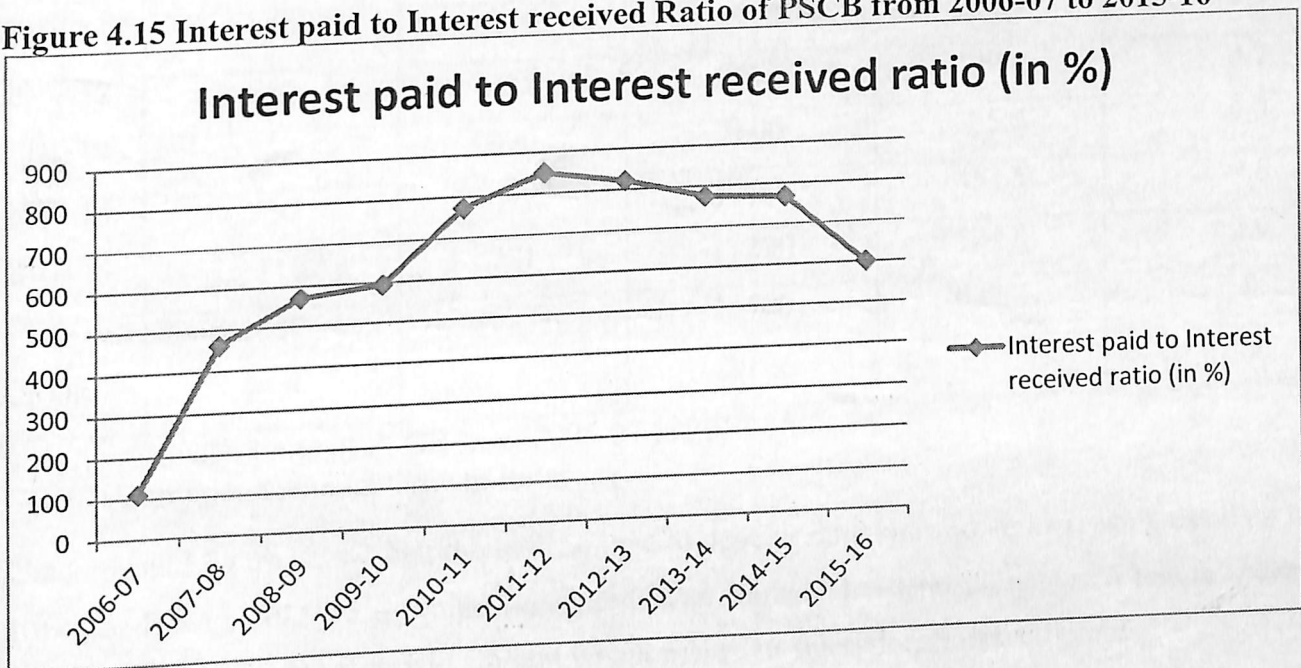
Year	Interest paid (Rs. in lakhs)	Growth Index (in %)	Interest received (Rs. in lakhs)	Growth Index (in %)	Interest paid to Interest received Ratio (in %)
2006-07	155	100	140	100	111
2007-08	168	108	365	261	46
2008-09	231	149	406	290	56.9

2009-10	281	181	473	338	59.4
2010-11	339	219	439	314	77.2
2011-12	556	359	655	468	84.9
2012-13	759	490	924	660	82.1
2013-14	926	597	1195	854	77.5
2014-15	1117	721	1457	1041	76.7
2015-16	1080	697	1800	1286	60
CAGR	21.4		29.1		-5.9

Source: Annual reports of PSCB from 2006-07 to 2015-16
 CAGR: Compound Annual Growth Rate

The interest paid to received ratio showed an increasing trend up to 2012-13. Then it shows a decreasing trend. This is favorable from the bank's point view because the interest received is more than the interest paid during the past 5 years which shows the bank's efficiency in its operations.

Figure 4.15 Interest paid to Interest received Ratio of PSCB from 2006-07 to 2015-16



4.4.4 Interest paid to Deposit ratio

$$\text{Interest paid to Deposit ratio} = \frac{\text{Interest paid}}{\text{Total deposits}} \times 100$$

Interest paid = Interest paid on deposits

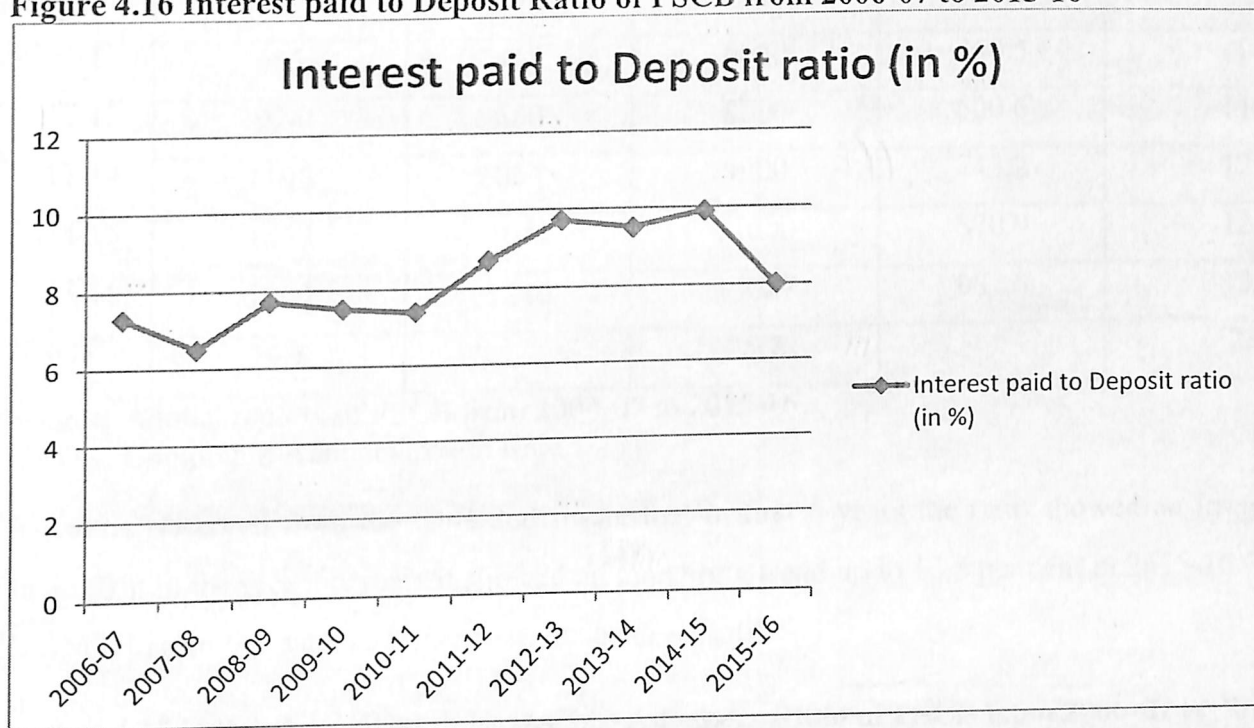
Table 4.16 Interest paid to Deposit Ratio of PSCB from 2006-07 to 2015-16

Year	Interest paid (Rs. in lakhs)	Growth Index (in %)	Deposit (Rs. in lakhs)	Growth Index (in %)	Interest paid to Deposit Ratio (in %)
2006-07	155	100	2134	100	7.3
2007-08	168	108	2600	121.8	6.5
2008-09	231	149	3000	140.1	7.7
2009-10	281	181	3735	175	7.5
2010-11	339	219	4585	214.9	7.4
2011-12	556	359	6400	299.9	8.7
2012-13	759	490	7800	365.5	9.7
2013-14	926	597	9700	454.5	9.5
2014-15	1117	721	11200	524.8	9.9
2015-16	1080	697	13500	632.6	8
CAGR	21.4		20.3		0.92

Source: Annual reports of PSCB from 2006-07 to 2015-16
CAGR: Compound Annual Growth Rate

The table and figure shows that the interest paid to deposit ratio showed an increasing trend up to 2014-15. But in 2015-16 the ratio decreased even though the deposit increased which means bank tried to reduce interest paid amount which makes its operations more efficient.

Figure 4.16 Interest paid to Deposit Ratio of PSCB from 2006-07 to 2015-16



4.4.5 Interest received to Loans and Advances ratio

$$\text{Interest received to Loans and Advances ratio} = \frac{\text{Interest paid}}{\text{Deposit}} \times 100$$

Interest paid = Interest paid on deposits

Table 4.17 Interest received to Loans and Advances Ratio of PSCB from 2006-07 to 2015-16

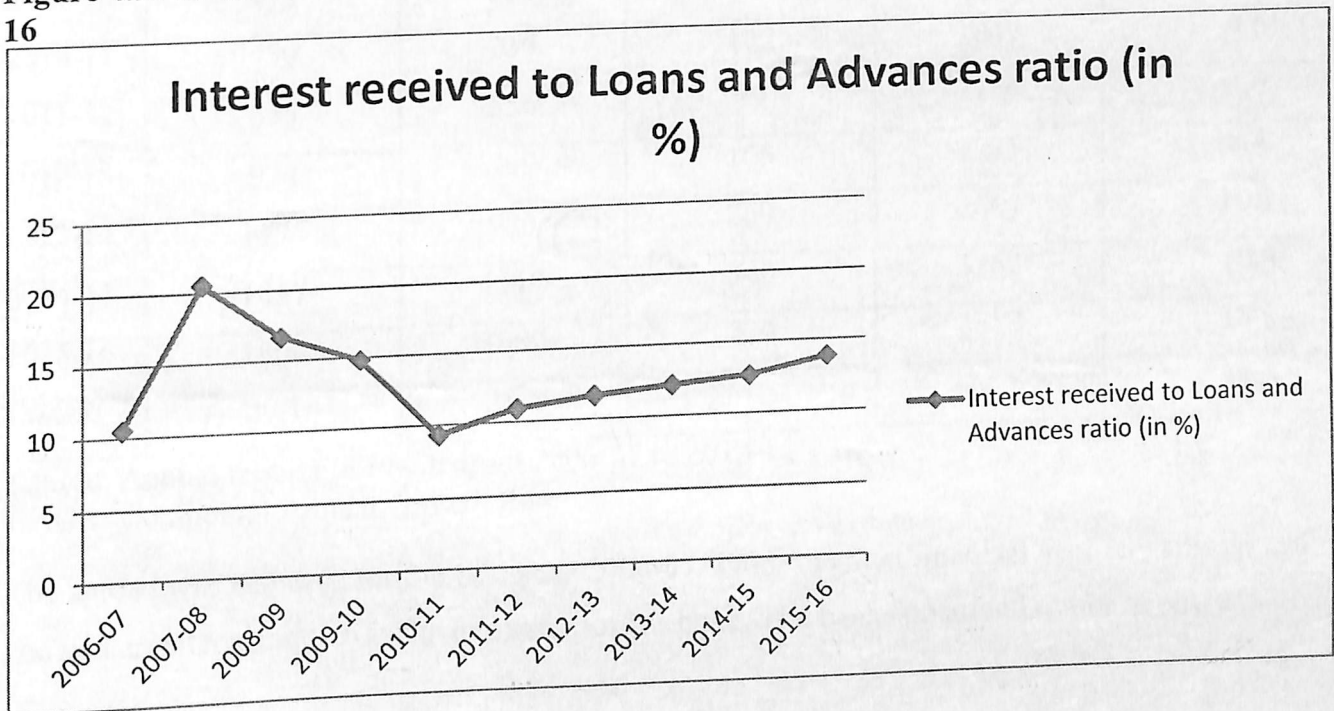
Year	Interest received (Rs. in lakhs)	Growth Index (in %)	Loans and Advances (Rs. in lakhs)	Growth Index (in %)	Interest received to Loans and Advances Ratio (in %)
2006-07	140	100	1332	100	10.5
2007-08	365	261	1782	133.8	20.5
2008-09	406	290	2432	182.6	16.7
2009-10	473	338	3187	239.3	14.8

2010-11	439	314	4718	354.2	9.3
2011-12	655	468	6000	450.5	10.9
2012-13	924	660	8000	600.6	11.6
2013-14	1195	854	9900	743.2	12.1
2014-15	1457	1041	11600	870.9	12.6
2015-16	1800	1286	13087	982.5	13.8
CAGR	29.1		25.7		2.8

Source: Annual reports of PSCB from 2006-07 to 2015-16
CAGR: Compound Annual Growth Rate

It can be observed from the table and figure that in first 5 years the ratio showed an irregular trend. But in the recent 5 years it showed an increasing trend up to 13.8 per cent in 2015-16. This is favorable for the bank as it increases the bank's profit.

Figure 4.17 Interest received to Loans and Advances Ratio of PSCB from 2006-07 to 2015-16



4.4.6 Spread ratio

$$\text{Spread Ratio} = \frac{\text{Spread}}{\text{Total funds}} \times 100$$

Spread = Interest Received- Interest Paid

Table 4.18 Spread Ratio of PSCB from 2006-07 to 2015-16

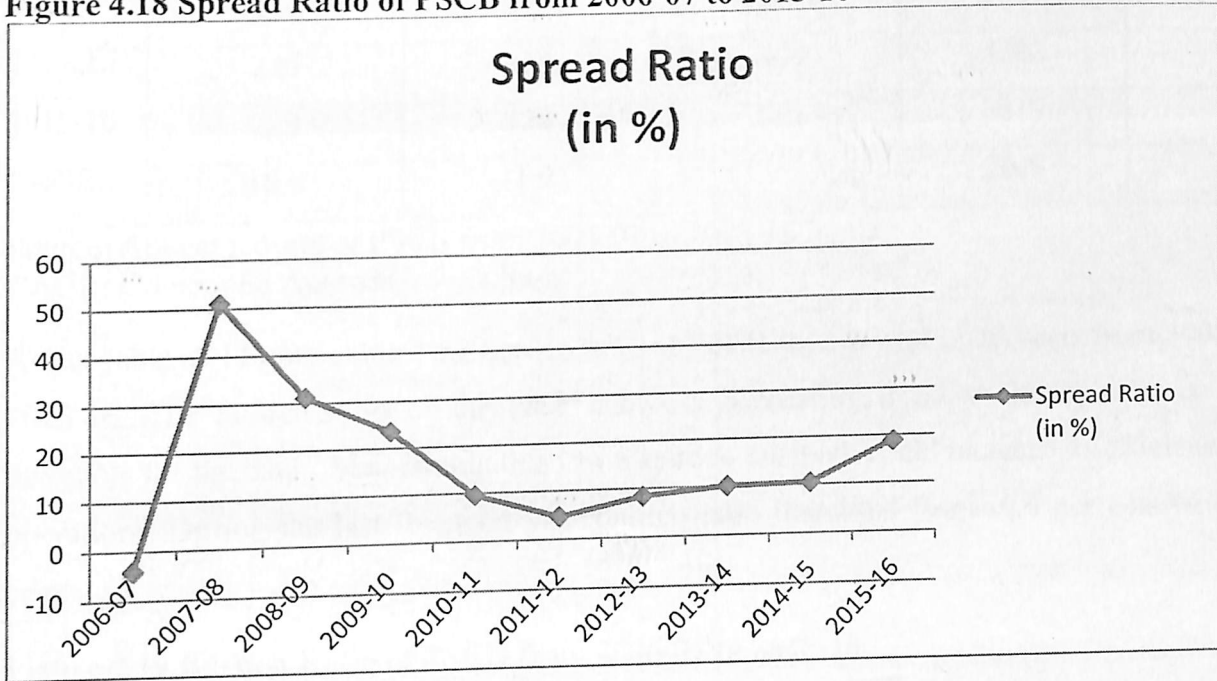
Year	Interest received (Rs. In lakhs)	Interest paid (Rs. in lakhs)	Spread (Rs. in lakhs)	Total funds (Rs. in lakhs)	Spread Ratio (in %)
2006-07	140	155	-15	365	-4.1
2007-08	365	168	197	386	51
2008-09	406	231	175	561	31.2
2009-10	473	281	192	813	23.6
2010-11	439	339	100	1047	9.6
2011-12	655	556	99	2156	4.6
2012-13	924	759	165	1975	8.4
2013-14	1195	926	269	2669	10.1
2014-15	1457	1117	340	3262	10.4
2015-16	1800	1080	720	3819	18.9
CAGR	29.1	21.4		26.5	16.5

Source: Annual reports of PSCB from 2006-07 to 2015-16

CAGR: Compound Annual Growth Rate

The spread was negative for the first year 2006-07. From the next financial year onwards spread showed an increasing trend which is safer for the bank. The banks position is safer as on 2015-16

Figure 4.18 Spread Ratio of PSCB from 2006-07 to 2015-16



4.4.7 Burden Ratio

$$\text{Burden Ratio} = \frac{\text{Burden}}{\text{Total funds}} \times 100$$

$$\text{Burden} = \text{Non-interest operating Expenditure} - \text{Non-interest operating income}$$

Table 4.19 Burden Ratio of PSCB from 2006-07 to 2015-16

Year	Non-interest expense (Rs. in lakhs)	Non-interest income (Rs. in lakhs)	Burden (Rs. in lakhs)	Total funds (Rs. in lakhs)	Burden to Total funds Ratio (in %)
2006-07	53	150	-97	365	-26.6
2007-08	70	149	-79	386	-20.5
2008-09	53	155	-102	561	-18.2
2009-10	80	148	-68	813	-8.4
2010-11	118	202	-84	1047	-8
2011-12	156	218	-62	2156	-2.9
2012-13	157	224	-67	1975	-3.4

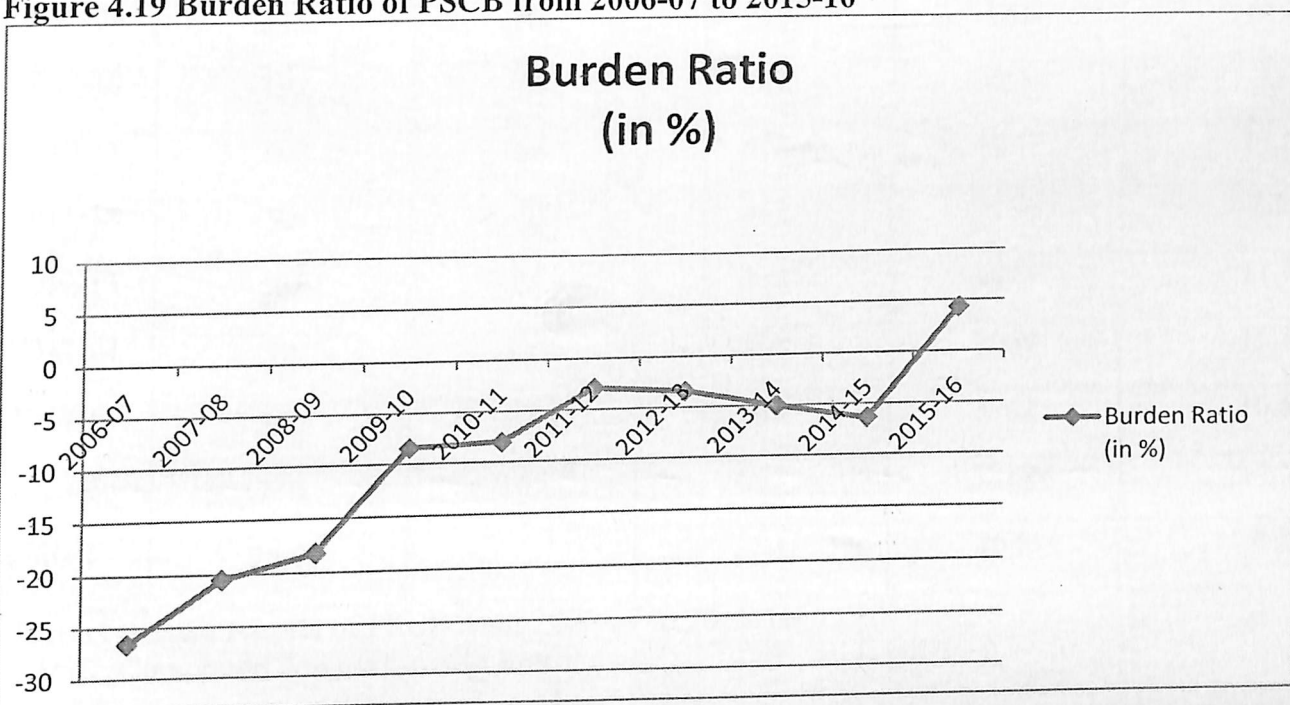
2013-14	211	345	-134	2669	-5
2014-15	225	434	-209	3262	-6.4
2015-16	289	124	165	3819	4.3
CAGR	18.5	-1.9		26.5	

Source: Annual reports of PSCB from 2006-07 to 2015-16

CAGR: Compound Annual Growth Rate

Above table and figure exhibit the burden ratio of PSCB for a period of 10 years from 2006-07 to 2015-16. The burden ratio of the bank shows a decreasing trend. A lower ratio is always favorable for the bank. Maintaining this lower burden the bank could increase its efficiency in its operations. During the last financial year burden ratio increased from -6.4 per cent to 4.3 per cent.

Figure 4.19 Burden Ratio of PSCB from 2006-07 to 2015-16



4.4.8 Profitability Ratio

$$\text{Profitability Ratio} = \frac{\text{Spread - Burden}}{\text{Total funds}} \times 100$$

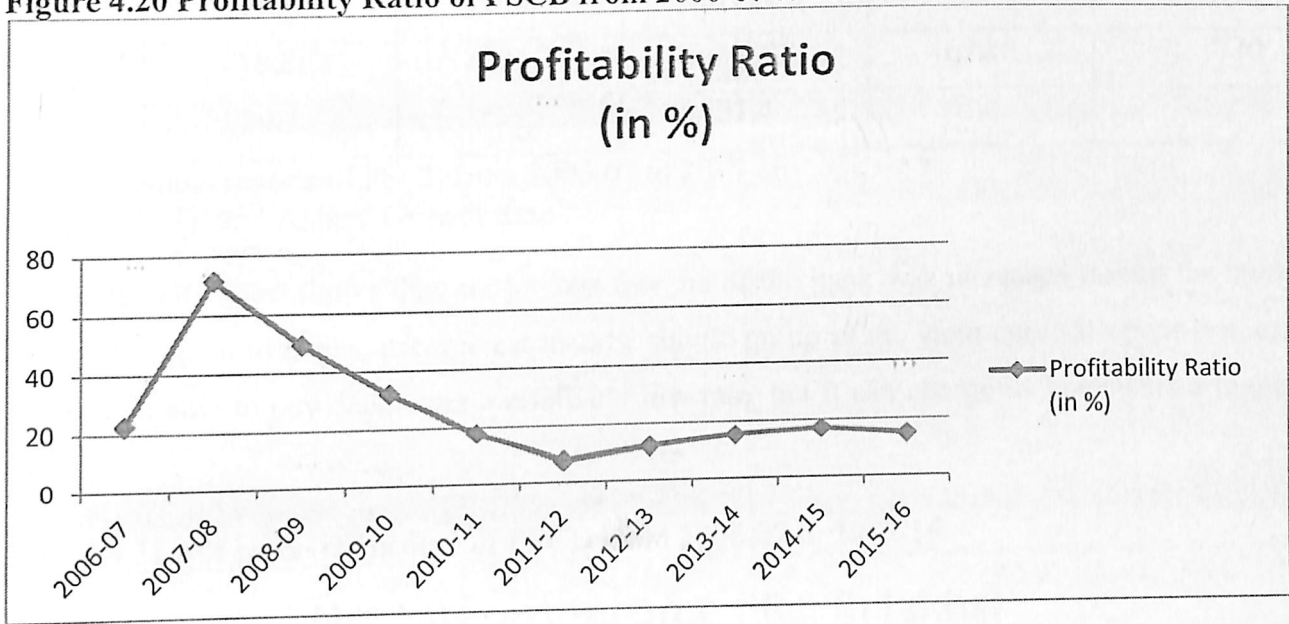
Table 4.20 Profitability Ratio of PSCB from 2006-07 to 2015-16

Year	Spread (Rs. in lakhs)	Burden (Rs. in lakhs)	Profit (Rs. in lakhs)	Total funds (Rs. in lakhs)	Profitability Ratio (in %)
2006-07	-15	-97	82	365	22.5
2007-08	197	-79	276	386	71.5
2008-09	175	-102	277	561	49.4
2009-10	192	-68	260	813	32
2010-11	100	-84	184	1047	17.6
2011-12	99	-62	161	2156	7.5
2012-13	165	-67	232	1975	11.7
2013-14	269	-134	403	2669	15.1
2014-15	340	-209	549	3262	16.8
2015-16	720	165	555	3819	14.5
CAGR	25.7		21.1	26.5	-4.3

Source: Annual reports of PSCB from 2006-07 to 2015-16
CAGR: Compound Annual Growth Rate

Above table shows the Profitability ratio of PSCB from 2006-07 to 2015-16. The profitability ratio shows an irregular trend during the study period. The profitability ratio shows an increasing trend in the last four years i.e. 2012-13 to 2015-16. This is favorable for the bank and should maintain this ratio.

Figure 4.20 Profitability Ratio of PSCB from 2006-07 to 2015-16



4.4.9 Net Interest Income

Net Interest Income = Interest Received - Interest Paid

Interest paid = Interest paid on deposits

Interest received = Interest received on loans and advance.

Table 4.21 Net Interest Income of PSCB from 2006-07 to 2015-16

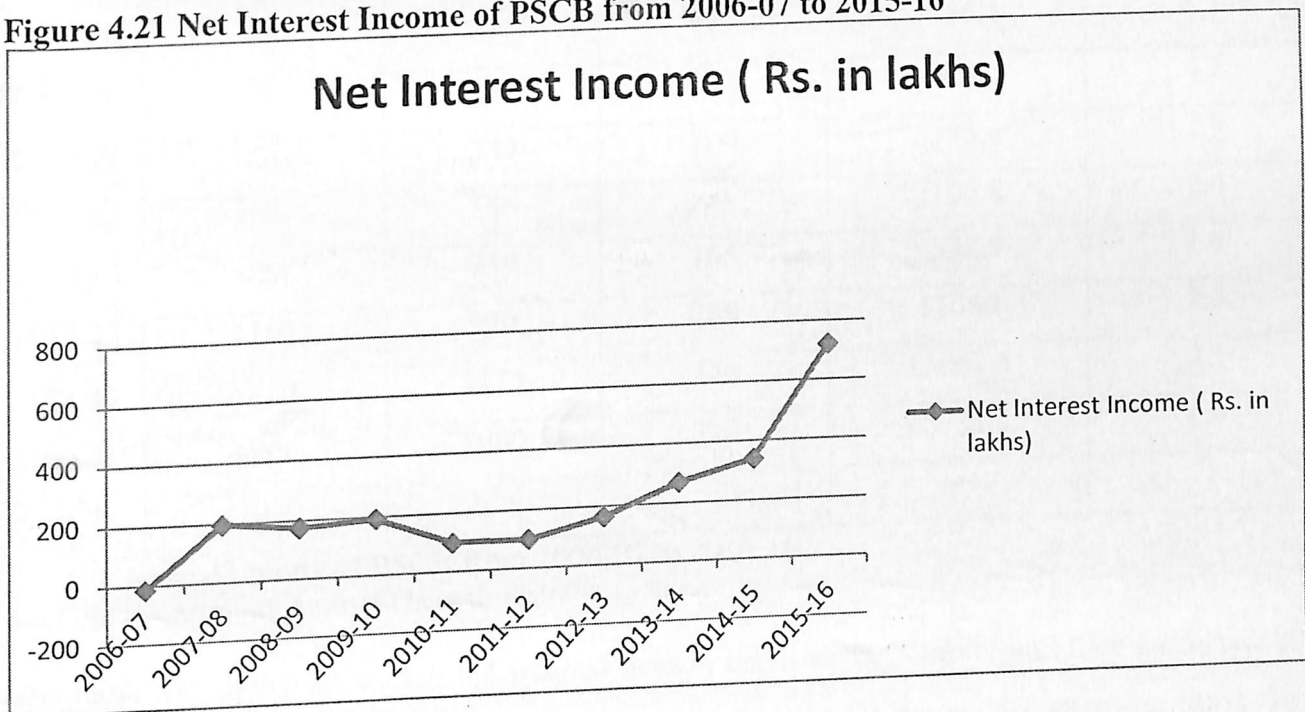
Year	Interest Received (Rs. in lakhs)	Growth Index (in %)	Interest Paid (Rs. in lakhs)	Growth Index (in %)	Net Interest Income (Rs. in lakhs)
2006-07	140	100	155	100	-15
2007-08	365	260.7	168	108.4	197
2008-09	406	290	231	149	175
2009-10	473	337.9	281	181.3	192
2010-11	439	313.6	339	218.7	100
2011-12	655	467.9	556	358.7	99
2012-13	924	660	759	489.7	165
2013-14	1195	853.6	926	597.4	269

2014-15	1457	1040.7	1117	720.6	340
2015-16	1800	1285.7	1080	696.8	720
CAGR	29.1		21.4		

Source: Annual reports of PSCB from 2006-07 to 2015-16
 CAGR: Compound Annual Growth Rate

The table and figure shows that net interest income of the bank was increased during the study period. In regard to banks, net interest income should go up as the yield curve steepens because the bank is able to pay depositors a relatively low rate, but it can charge its borrowers a higher rate.

Figure 4.21 Net Interest Income of PSCB from 2006-07 to 2015-16



4.4.10 Net Interest Margin

Net Interest Margin = Interest Received – Interest Paid / Average Earning Assets

Table 4.22 Net Interest Margin of PSCB from 2006-07 to 2015-16

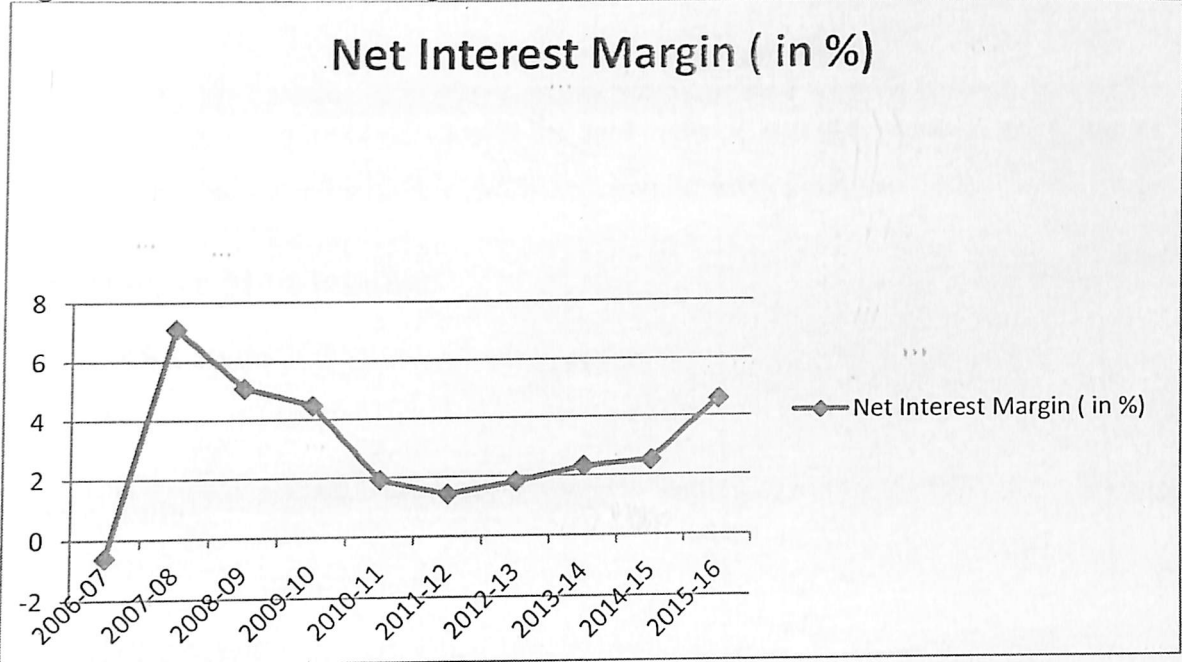
Year	Interest Received (Rs. in lakhs)	Interest Paid (Rs. in lakhs)	Net Interest Income (Rs. in lakhs)	Average Earning Assets (Rs. in lakhs)	Net Interest Margin (in 1%)
2006-07	140	155	-15	2378.7	-0.6
2007-08	365	168	197	2762.5	7.1
2008-09	406	231	175	3456.4	5.1
2009-10	473	281	192	4271	4.5
2010-11	439	339	100	5358.4	1.9
2011-12	655	556	99	7106.8	1.4
2012-13	924	759	165	9398.9	1.8
2013-14	1195	926	269	11660	2.3
2014-15	1457	1117	340	13861.5	2.5
2015-16	1800	1080	720	15731.5	4.6
CAGR	29.1	21.4			

Source: Annual reports of PSCB from 2006-07 to 2015-16

CAGR: Compound Annual Growth Rate

The table and figure shows the net interest margin negative in 2006-07 and then an increasing trend in 2007-08, thereafter a decreasing trend. And currently shows an increasing trend. Net Interest Margin examines how successful a firm's investment decisions are compared to its debt situations. The negative value denotes that the firm did not make an optimal decision, because interest expenses were greater than the amount of returns generated by investments.

Figure 4.22 Net Interest Margin of PSCB from 2006-07 to 2015-16



SECTION 4

Reserve Maintenance

This section gives an overview about the bank's account maintenance. A good reserve maintenance increase the bank's profit and also liquidity position.

4.5 Reserve Maintenance

4.5.1 CASA Ratio

$$\text{CASA Ratio} = \frac{\text{CASA Deposit}}{\text{Total Deposits}} \times 100$$

CASA means Current Account Savings Account

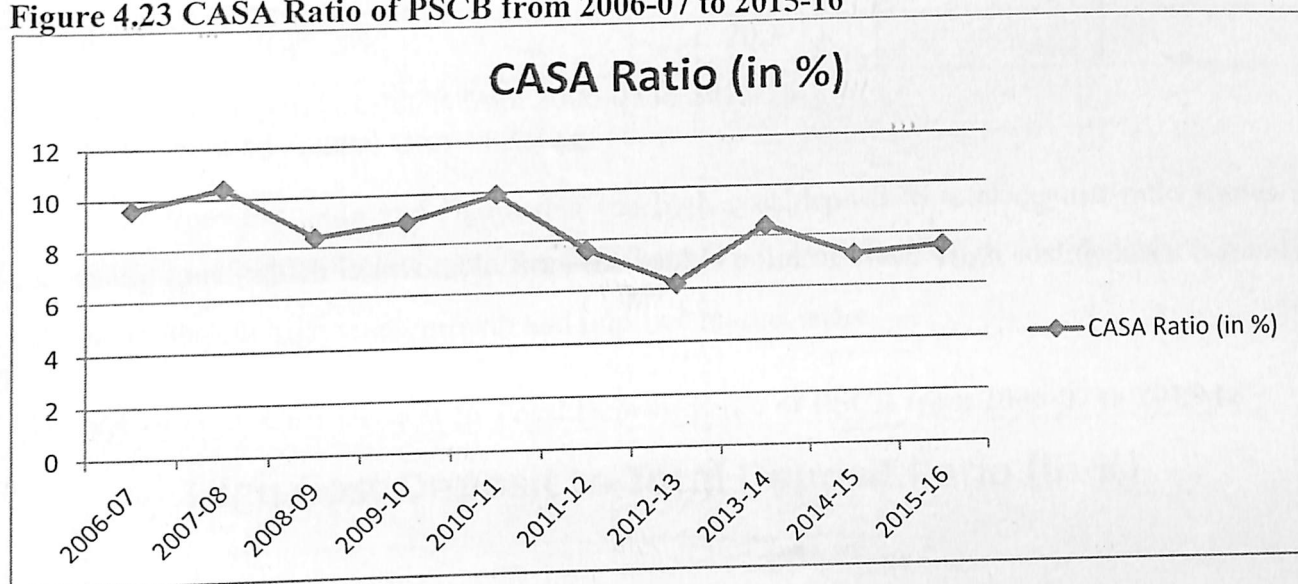
Table 4.23 CASA Ratio of PSCB from 2006-07 to 2015-16

Year	Current deposit (Rs. in lakhs)	Savings deposit (Rs. in lakhs)	CASA Deposit (Rs. in lakhs)	Total Deposit (Rs. in lakhs)	CASA Ratio (in %)
2006-07	1.02	204.5	205.5	2134	9.6
2007-08	1.6	268.4	270	2600	10.4
2008-09	1.84	250.3	252.1	3000	8.4
2009-10	2.32	330.2	332.5	3735	8.9
2010-11	3.62	450.7	454.3	4585	9.9
2011-12	4.8	478.8	483.6	6400	7.6
2012-13	5.7	479.4	485.1	7800	6.2
2013-14	7.1	805	812.1	9700	8.4
2014-15	8.9	800.7	809.6	11200	7.2
2015-16	11.83	996.3	1008.1	13500	7.5
CAGR	27.8	17.2	17.2	20.3	-2.4

Source: Annual reports of PSCB from 2006-07 to 2015-16
CAGR: Compound Annual Growth Rate

The table and figure shows an irregular trend in CASA ratio. The ratio was higher (10.4) in 2007-08 and lower (6.2) in 2012-13. A higher CASA ratio means higher portion of the deposits of the bank has come from current and savings deposit, which is generally a cheaper source of fund.

Figure 4.23 CASA Ratio of PSCB from 2006-07 to 2015-16



4.5.2 High Cost Deposit to Total Deposit Ratio:

$$\text{High Cost Deposit to Total Deposit Ratio} = \frac{\text{High Cost Deposit}}{\text{Total Deposit}} \times 100$$

Table 4.24 High Cost Deposit to Total Deposit Ratio of PSCB from 2006-07 to 2015-16

Year	High Cost Deposit (Rs. in lakhs)	Growth Index (in %)	Total Deposit (Rs. in lakhs)	Growth Index (in %)	High Cost Deposit to Total Deposit Ratio (in %)
2006-07	463	100	2134	100	21.7
2007-08	512	111	2600	122	19.7
2008-09	498	108	3000	140	16.6
2009-10	564	122	3735	175	15.1
2010-11	617	133	4585	215	13.5

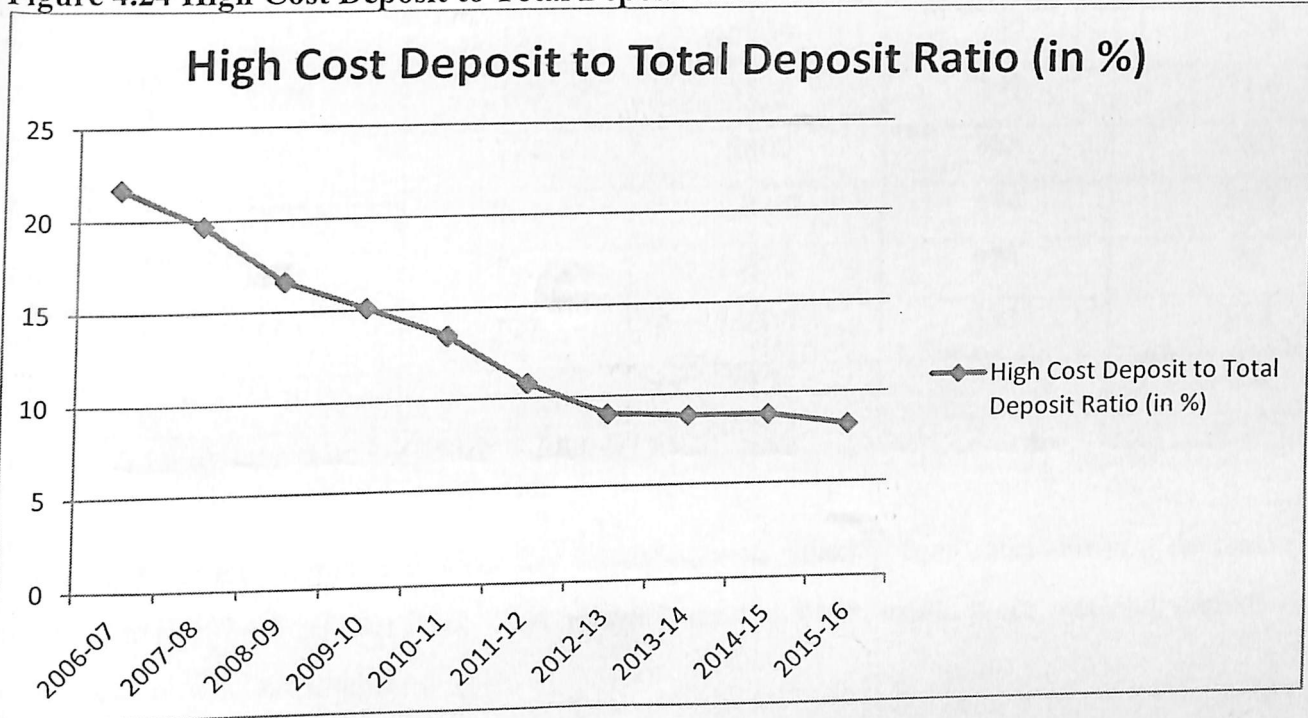
2011-12	689	149	6400	300	10.8
2012-13	704	152	7800	366	9.0
2013-14	850	184	9700	455	8.8
2014-15	983	212	11200	525	8.8
2015-16	1102	238	13500	633	8.2
CAGR	9.1		20.3		

Source: Annual reports of PSCB from 2006-07 to 2015-16

CAGR: Compound Annual Growth Rate

It is clear from the table and figure that the high cost deposit to total deposit ratio shows a decreasing trend which is favorable from the bank's point of view. High cost deposits certainly help banks sustain high credit growth and improve market share.

Figure 4.24 High Cost Deposit to Total Deposit Ratio of PSCB from 2006-07 to 2015-16



4.5.3 Investment to Working capital Ratio

$$\text{Investment to Working capital Ratio} = \frac{\text{Investment}}{\text{Working capital}} \times 100$$

Table 4.25 Investment to Working capital Ratio of PSCB from 2006-07 to 2015-16

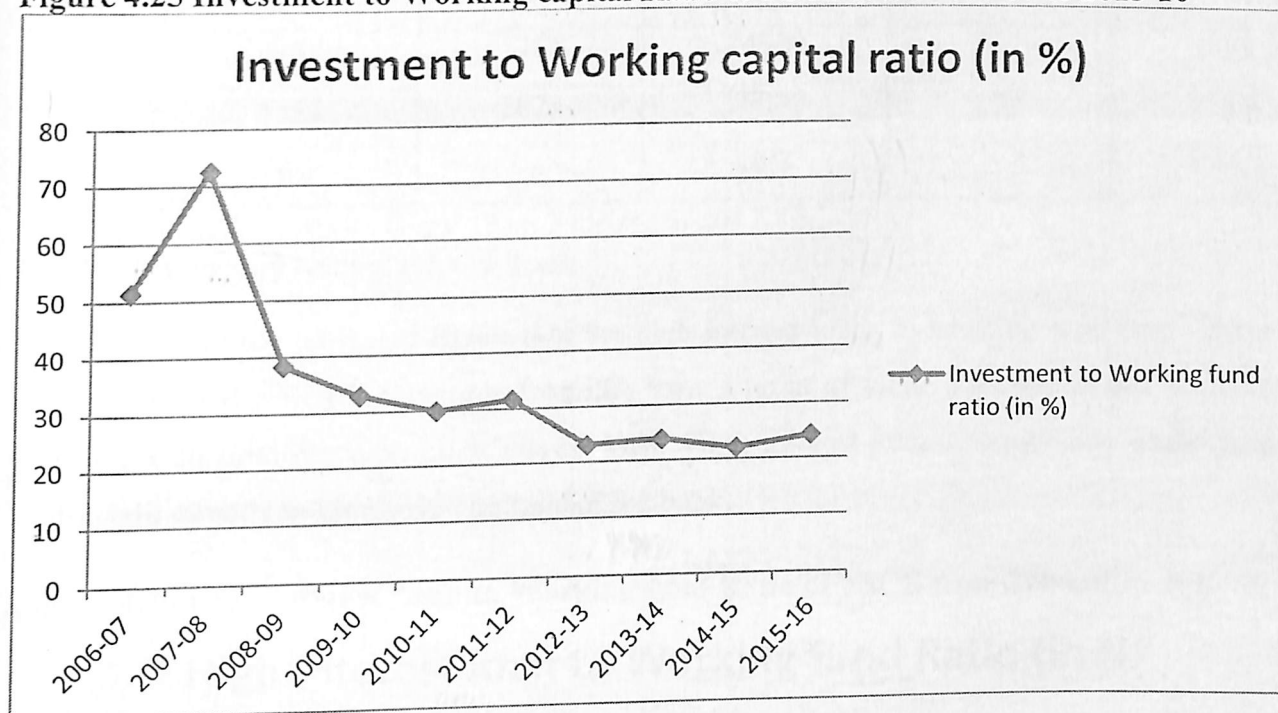
Year	Investment (Rs. in lakhs)	Growth Index (in %)	Working capital (Rs. in lakhs)	Growth Index (in %)	Investment to Working capital Ratio (in %)
2006-07	1300	100	2529	100	51.4
2007-08	1971	152	2718	107	72.5
2008-09	1325	102	3461	137	38.3
2009-10	1480	114	4513	178	32.8
2010-11	1717	132	5739	227	29.9
2011-12	2376	183	7510	297	31.6
2012-13	2261	174	9800	388	23.1
2013-14	2872	221	12000	474	23.9
2014-15	3194	246	14500	573	22
2015-16	3861	297	16000	633	24.1
CAGR	11.5		20.3		-7.3

Source: Annual reports of PSCB from 2006-07 to 2015-16

CAGR: Compound Annual Growth Rate

From the table and figure it is clear that investment to working fund ratio shows a decreasing trend from 2007-08 to 2015-16. This shows that the bank using their working capital in investment in a decreasing trend.

Figure 4.25 Investment to Working capital Ratio of PSCB from 2006-07 to 2015-16



4.5.4 High Interest Loan to Working fund Ratio

$$\text{High Interest Loan to Working fund Ratio} = \frac{\text{High Interest Loan}}{\text{Working fund}} \times 100$$

Table 4.26 High Interest Loan to Working fund Ratio of PSCB from 2006-07 to 2015-16

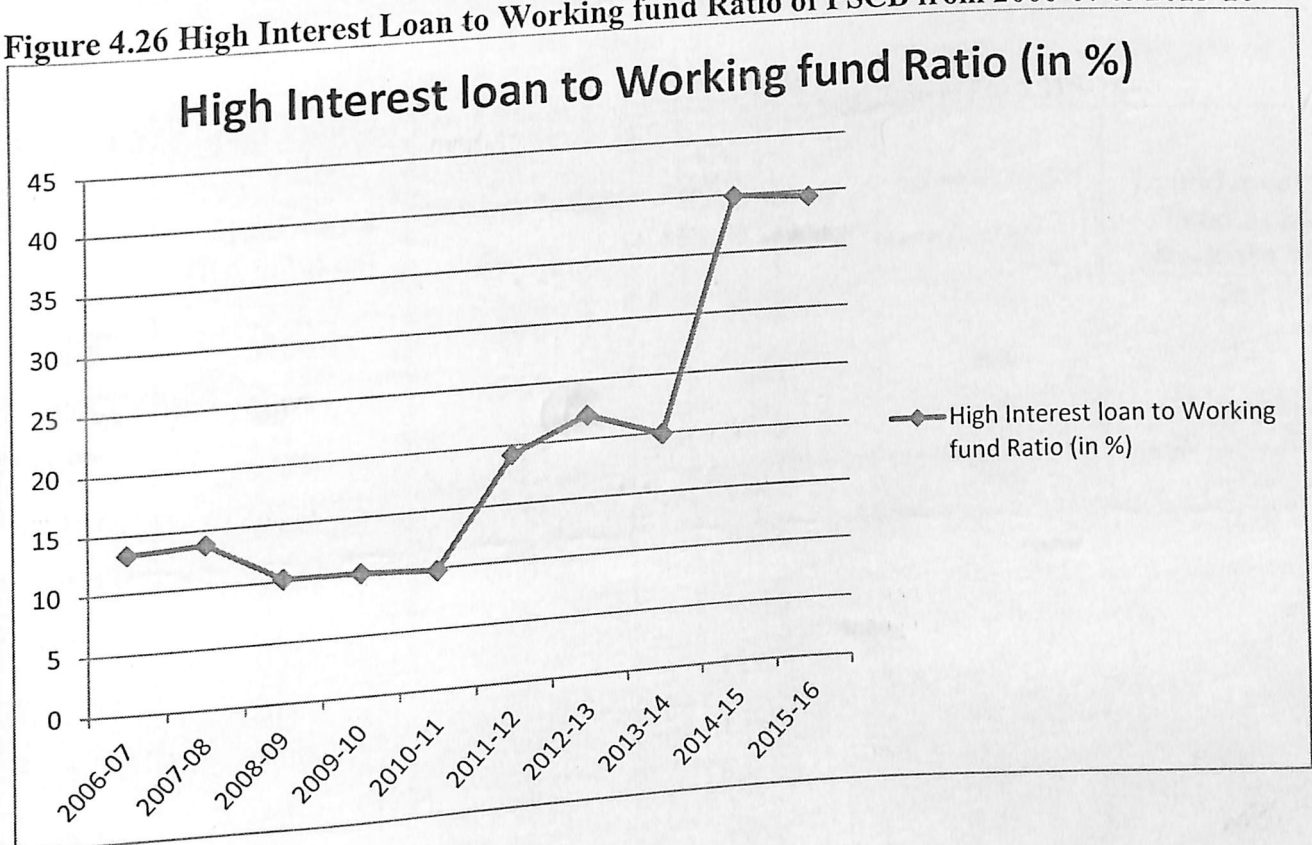
Year	High Interest Loan (Rs. in lakhs)	Growth Index (in %)	Working fund (Rs. in lakhs)	Growth Index (in %)	High Interest Loan to Working fund Ratio (in %)
2006-07	337.1	100	2529	100	13.3
2007-08	373.5	111	2718	107	13.7
2008-09	353.7	105	3461	137	10.2
2009-10	456.5	135	4513	178	10.1
2010-11	560	166	5739	227	9.8
2011-12	1440	427	7510	297	19.2
2012-13	2158	640	9800	388	22

2013-14	2396	711	12000	474	19.9
2014-15	5784	1716	14500	573	39.9
2015-16	6318	1874	16000	633	39.5
CAGR	34.1		20.3		1.1

Source: Annual reports of PSCB from 2006-07 to 2015-16
 CAGR: Compound Annual Growth Rate

It is clear from the table and figure that the high interest loans to working fund ratio shows an increasing trend which is favorable from the bank's point of view. This shows that bank using their working fund more on high interest loan. High interest loan certainly help banks sustain high credit growth and improve earnings of the bank.

Figure 4.26 High Interest Loan to Working fund Ratio of PSCB from 2006-07 to 2015-16



SECTION 5

Liquidity gap in assets and liabilities of balance sheet

4.6 Stock Approach

To measure, understand and manage the mismatch between assets and liabilities of the bank certain important ratios were used in this approach.

4.6.1 Liquid Assets to Total Assets Ratio

$$\text{Liquid assets to Total assets Ratio} = \frac{\text{Liquid assets}}{\text{Total assets}} \times 100$$

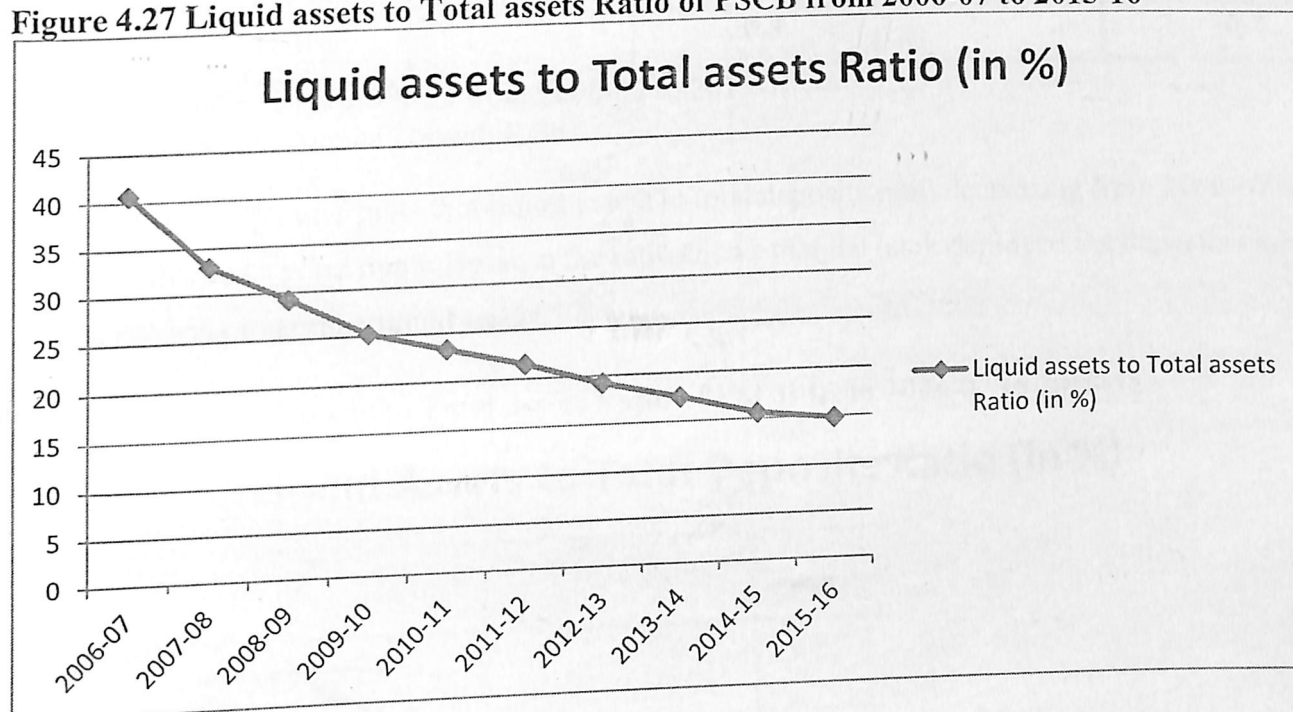
Table 4.27 Liquid assets to Total assets Ratio of PSCB from 2006-07 to 2015-16

Year	Liquid assets (Rs. in lakhs)	Growth Index (in %)	Total assets (Rs. in lakhs)	Growth Index (in %)	Liquid assets to Total assets Ratio (in %)
2006-07	1056	100	2593	100	40.7
2007-08	1202	114	3642	140	33
2008-09	1376	130	4713	182	29.2
2009-10	1564	148	6211	240	25.2
2010-11	1748	166	7515	290	23.3
2011-12	2072	196	9615	371	21.5
2012-13	2490	236	12977	500	19.2
2013-14	2794	265	15982	616	17.5
2014-15	3231	306	20683	798	15.6
2015-16	3543	336	23987	925	14.8
CAGR	12.9		24.9		-9.6

Source: Annual reports of PSCB from 2006-07 to 2015-16
CAGR: Compound Annual Growth Rate

It is evident from the table and graph that the liquid assets to total assets ratio shows a decreasing trend for the past 10 years. In a liquidity crisis, the low liquid assets to total assets ratio can be hazardous to the bank's financial health and survival.

Figure 4.27 Liquid assets to Total assets Ratio of PSCB from 2006-07 to 2015-16



4.6.2 Liquid Assets to Total Deposits Ratio

$$\text{Liquid assets to Total Deposits Ratio} = \frac{\text{Liquid Assets}}{\text{Total Deposits}} \times 100$$

Table 4.28 Liquid assets to Total Deposits Ratio of PSCB from 2006-07 to 2015-16

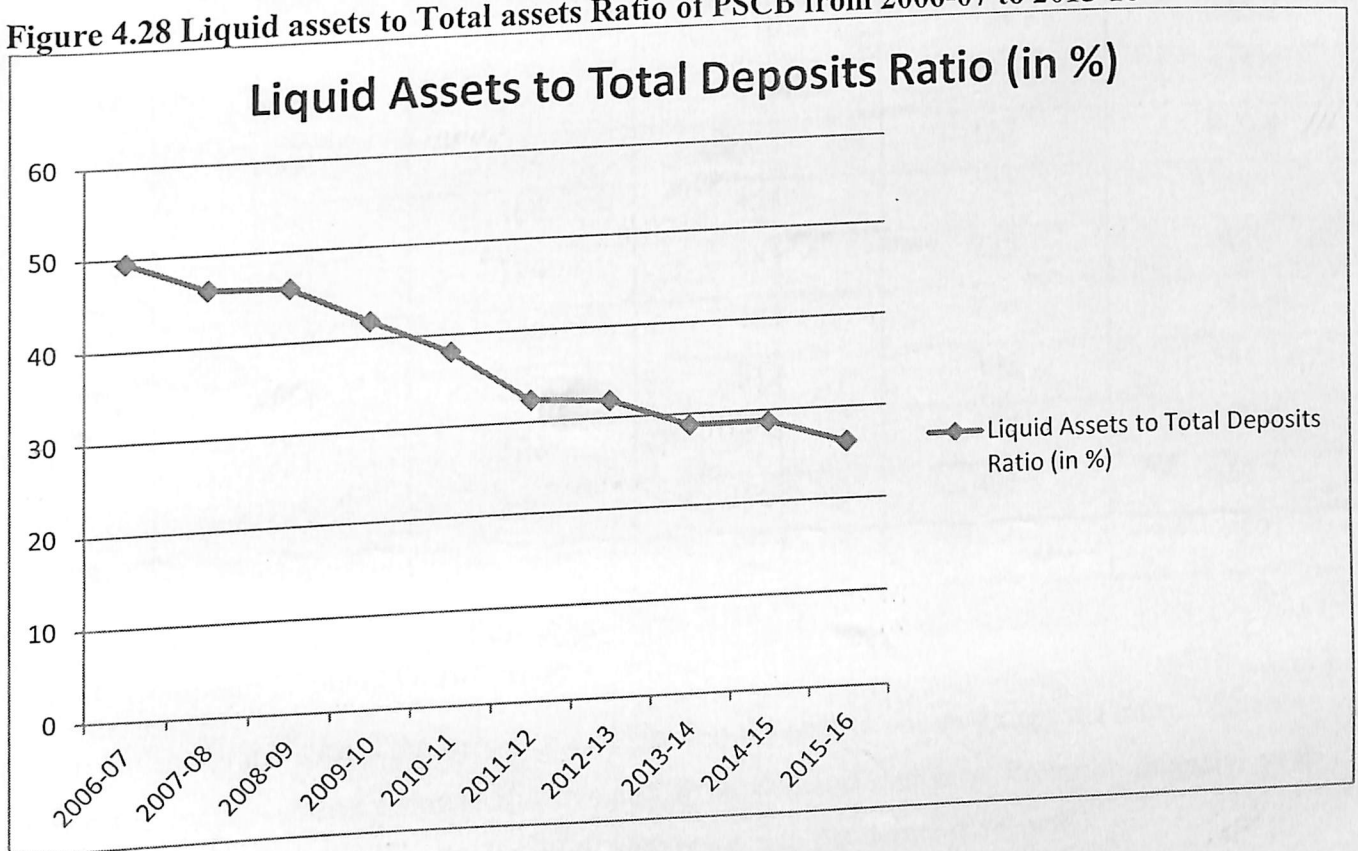
Year	Liquid assets (Rs. in lakhs)	Growth Index (in %)	Total Deposits (Rs. in lakhs)	Growth Index (in %)	Liquid assets to Total Deposits Ratio (in %)
2006-07	1056	100	2134	100	49.5
2007-08	1202	114	2600	121.8	46.2
2008-09	1376	130	3000	140.1	45.9
2009-10	1564	148	3735	175	41.9
2010-11	1748	166	4585	214.9	38.1
2011-12	2072	196	6400	299.9	32.4

2012-13	2490	236	7800	365.5	31.9
2013-14	2794	265	9700	454.5	28.8
2014-15	3231	306	11200	524.8	28.8
2015-16	3543	336	13500	632.6	26.2
CAGR	12.9		20.3		-6.2

Source: Annual reports of PSCB from 2006-07 to 2015-16
CAGR: Compound Annual Growth Rate

The table and graph interprets that liquid assets to total deposits ratio decreasing from 2006-07 to 2015-16 which is a good trend. Because the ratio shows that the bank deployed the deposits more on other assets rather than liquid assets.

Figure 4.28 Liquid assets to Total assets Ratio of PSCB from 2006-07 to 2015-16



4.6.3 Liquid Assets to Demand Deposits Ratio

$$\text{Liquid assets to Demand Deposits Ratio} = \frac{\text{Liquid Assets}}{\text{Demand Deposits}} \times 100$$

Liquid assets include cash in hand and cash at bank

Table 4.29 Liquid assets to Demand Deposits Ratio of PSCB from 2006-07 to 2015-16

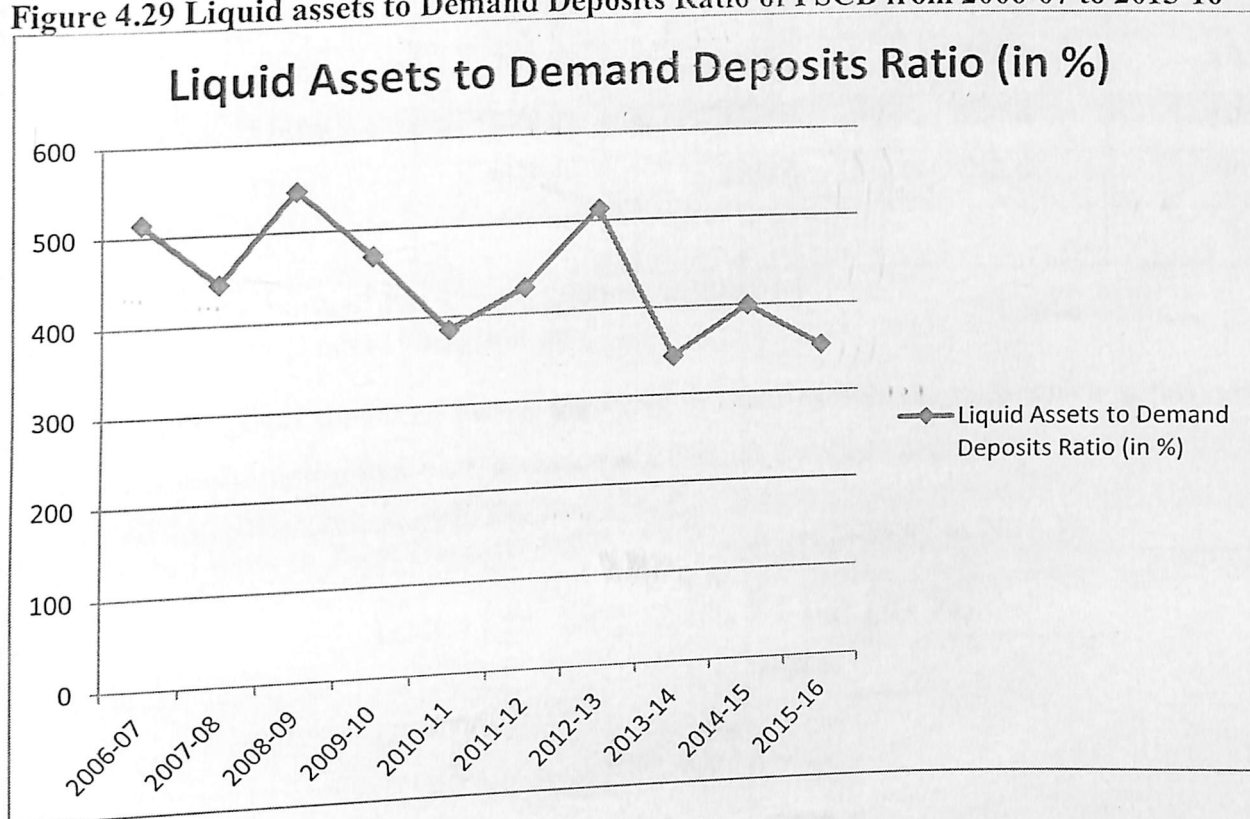
Year	Liquid assets (Rs. in lakhs)	Growth Index (in %)	Demand Deposits (Rs. in lakhs)	Growth Index (in %)	Liquid assets to Demand Deposits Ratio (in %)
2006-07	1056	100	205.5	100	513.9
2007-08	1202	114	270	131	445.2
2008-09	1376	130	252.1	123	545.8
2009-10	1564	148	332.5	162	470.4
2010-11	1748	166	454	221	385
2011-12	2072	196	483	235	429
2012-13	2490	236	485	236	513.4
2013-14	2794	265	812	395	344.1
2014-15	3231	306	809	394	399.4
2015-16	3543	336	1008	491	351.5
CAGR	12.9		17.2		-3.7

Source: Annual reports of PSCB from 2006-07 to 2015-16

CAGR: Compound Annual Growth Rate

The table and graph shows the irregular trend in liquid assets to demand deposits ratio. This ratio shows the bank's ability to meet the demand from demand deposits. Previous financial year (2015-16) shows a decrease in the liquidity with respect to the demand deposit.

Figure 4.29 Liquid assets to Demand Deposits Ratio of PSCB from 2006-07 to 2015-16



4.6.4 Loans to Deposits Ratio

$$\text{Loans to Deposits Ratio} = \frac{\text{Loans}}{\text{Deposits}} \times 100$$

Table 4.30 Loans to Total Deposits Ratio of PSCB from 2006-07 to 2015-16

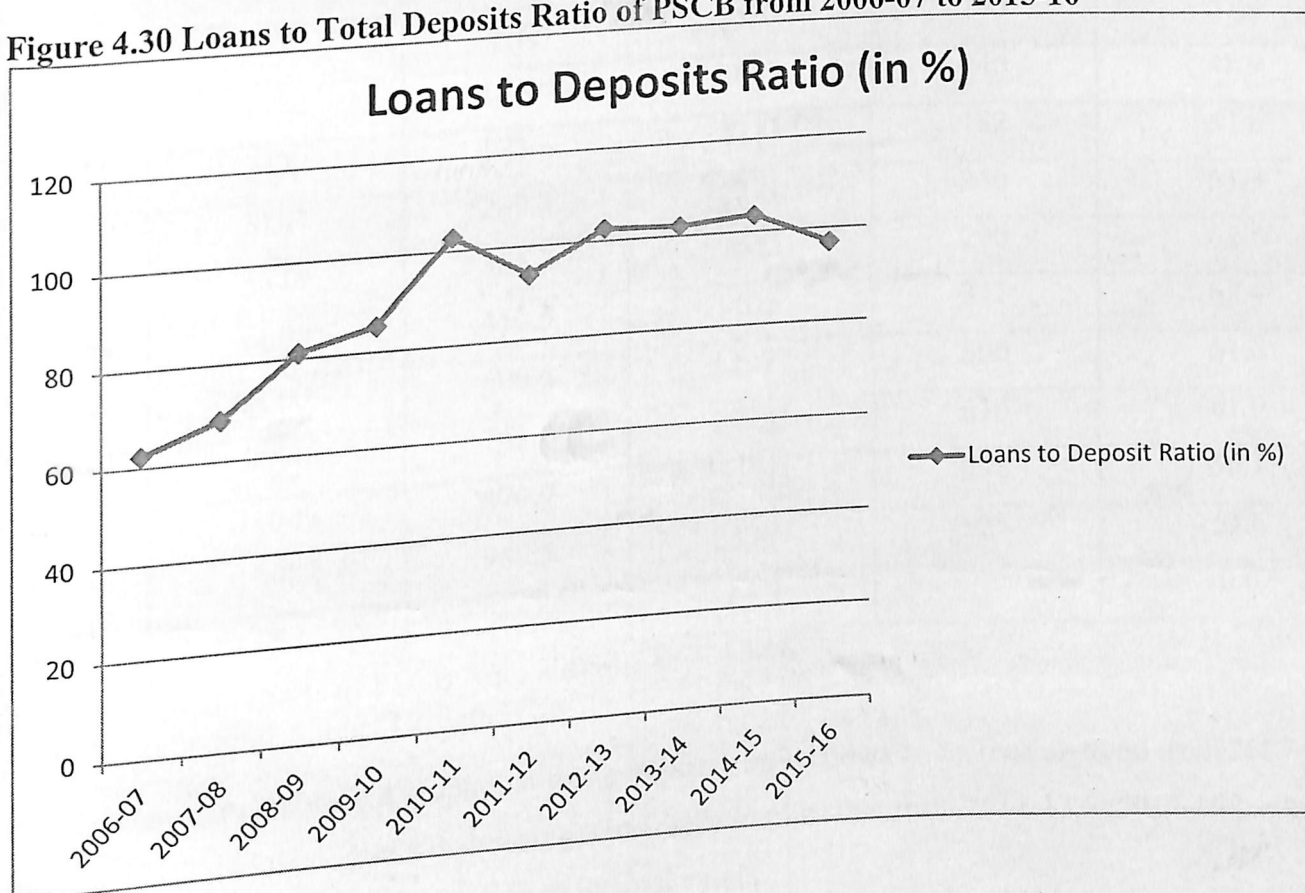
Year	Loans (Rs. in lakhs)	Growth Index (in %)	Total Deposits (Rs. in lakhs)	Growth Index (in %)	Loans to Total Deposits Ratio (in %)
2006-07	1332	100	2134	100	62.4
2007-08	1782	133.8	2600	121.8	68.5
2008-09	2432	182.6	3000	140.1	81.1
2009-10	3187	239.3	3735	175	85.3
2010-11	4718	354.2	4585	214.9	102.9
2011-12	6000	450.5	6400	299.9	93.8

2012-13	8000	600.6	7800	365.5	102.6
2013-14	9900	743.2	9700	454.5	102.1
2014-15	11600	870.9	11200	524.8	103.6
2015-16	13087	982.5	13500	632.6	96.9
CAGR	25.7		20.3		4.5

Source: Annual reports of PSCB from 2006-07 to 2015-16
CAGR: Compound Annual Growth Rate

The table and graph shows an increasing trend in loans to deposits ratio which is favorable to bank. Because it implies that bank is using their deposit for credit creation.

Figure 4.30 Loans to Total Deposits Ratio of PSCB from 2006-07 to 2015-16



4.6.5 Loans to Assets Ratio

$$\text{Loans to Total assets Ratio} = \frac{\text{Loans}}{\text{Total assets}} \times 100$$

Loans include total loans given to the members of bank

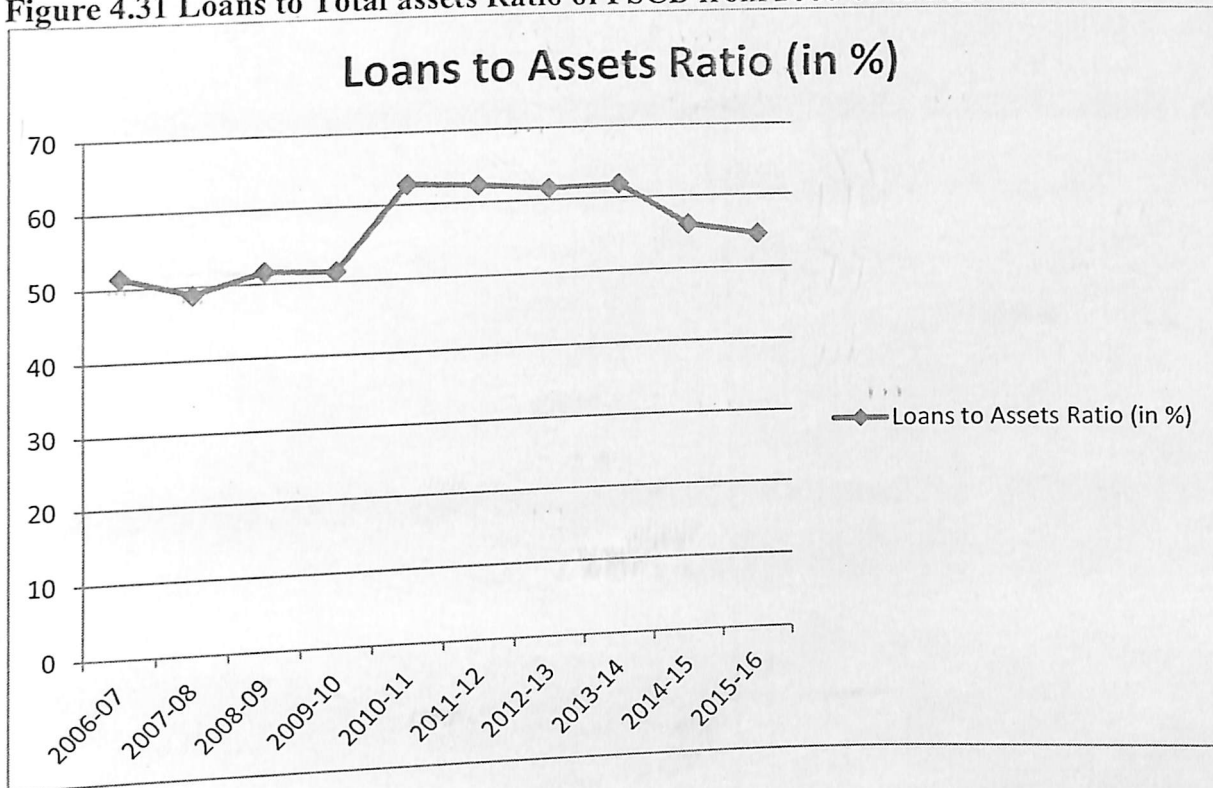
Table 4.31 Loans to Total assets Ratio of PSCB from 2006-07 to 2015-16

Year	Loans (Rs. in lakhs)	Growth Index (in %)	Total assets (Rs. in lakhs)	Growth Index (in %)	Loans to Total assets Ratio (in %)
2006-07	1332	100	2593	100	51.4
2007-08	1782	133.8	3642	140	48.9
2008-09	2432	182.6	4713	182	51.6
2009-10	3187	239.3	6211	240	51.3
2010-11	4718	354.2	7515	290	62.8
2011-12	6000	450.5	9615	371	62.4
2012-13	8000	600.6	12977	500	61.6
2013-14	9900	743.2	15982	616	61.9
2014-15	11600	870.9	20683	798	56.1
2015-16	13087	982.5	23987	925	54.6
CAGR	25.7		24.9		0.6

Source: Annual reports of PSCB from 2006-07 to 2015-16
CAGR: Compound Annual Growth Rate

It is clear from the table and graph that loans to assets ratio shows an increasing trend from 2007-08 to 2011-12 and thereafter a decreasing trend. This implies that from 2012-13 to 2015-16 bank failed to generate more loan according to its total assets.

Figure 4.31 Loans to Total assets Ratio of PSCB from 2006-07 to 2015-16



Chapter - 5

*Summary of Findings and
Suggestions*

Chapter - 5

SUMMARY OF FINDINGS, SUGGESTIONS & CONCLUSION

Major findings of the study are presented below based on the objectives of the study.

5.1 Efficiency in mobilization of funds

1. The owned fund to borrowed fund ratio shows an increasing trend. The ratio increased from 1.8 per cent in 2006-07 to 9.4 per cent in 2015-16 with an overall positive growth of 18 per cent. This shows the growth in owned fund was commensurate with the rate of growth in borrowed fund. This will maintain the capital adequacy ratio as well as the cost of funds of PSCB.
2. Borrowings to Working Capital ratio of the bank show an irregular trend from 12.7 per cent in 2006-07 to 14.6 per cent in 2015-16. From 2011-12 to 2015-16 the ratio came down to 14.6. This shows that the bank has enough funds to carry out the activities.
3. The deposit to working capital ratio shows a normal trend which is favorable from the bank's point of view because they are able to use maximum amount of deposits as working capital.
4. Among the total deposits bank reduced the high cost deposits such as fixed deposits, recurring deposits and suvarna deposits. While the low cost deposits like current deposit and savings deposit shows an increasing trend.

5.2 Efficiency in deployment of funds

1. The credit to deposit ratio has increased from 62.4 per cent in 2006-07 to 96.9 per cent in 2015-16. So the increase in the ratio indicates that the bank has efficiency in the utilization of deposits.
2. The credit to owned fund ratio shows a decreasing trend from 2008-09 which is favorable from the bank's point of view. Because this indicates that the bank lending money more from borrowings rather than from owned fund. During the past 8 years the bank is much efficient in deployment of funds.

3. The ratio was 52.7 per cent in 2006-07 which showed an increasing trend up to 81.8 per cent in 2015-16. This states that the bank is able to convert its working fund to advances and so they are efficient in deployment of funds.

5.3 Efficiency in operation

1. Net profit to interest received ratio is positive when there is a net profit. It is evident that the bank incurred profit throughout the period of study. And the profit shows an increasing trend.
2. From the last financial year(2014-15) onwards net profit to working capital ratio showed an increasing trend which is favorable from the bank's point of view. Because it depicts that from the current assets and liabilities the bank is able to make profit.
3. The interest paid to received ratio showed an increasing trend up to 2012-13. Then it shows a decreasing trend. This is favorable from the bank's point view because the interest received is more than the interest paid during the past 5 years which shows the bank's efficiency in its operations.
4. The interest paid to deposit ratio showed an increasing trend up to 2014-15. But in 2015-16 the ratio decreased even though the deposit increased which means bank tried to reduce interest paid amount which makes its operations more efficient.
5. During the last 5 years interest received to loans and advances ratio showed an increasing trend up to 13.8 per cent in 2015-16. This is favorable for the bank as it increases the bank's profit.
6. The spread was negative for the first year 2006-07. From the next financial year onwards spread showed an increasing trend which is safer for the bank. The banks position is safer as on 2015-16
7. The burden ratio of the bank shows a decreasing trend. A lower ratio is always favorable for the bank. Maintaining this lower burden the bank could increase its efficiency in its operations.
8. The profitability ratio shows an irregular trend during the study period. The profitability ratio shows an increasing trend in the last four years i.e. 2012-13 to 2015-16. This is favorable for the bank and should maintain this ratio.

9. Net interest income of the bank increased during the study period. In regard to banks, net interest income should go up as the yield curve steepens because the bank is able to pay depositors a relatively low rate, but it can charge its borrowers a higher rate.
10. Net interest margin negative in 2006-07 and then an increasing trend in 2007-08, thereafter a decreasing trend. And currently shows an increasing trend. Net Interest Margin examines how successful a firm's investment decisions are compared to its debt situations. The negative value denotes that the firm did not make an optimal decision, because interest expenses were greater than the amount of returns generated by investments.

5.4 Efficiency in reserve maintenance

1. The CASA ratio was higher (10.4) in 2007-08 and lower (6.2) in 2012-13. A higher CASA ratio means higher portion of the deposits of the bank has come from current and savings deposit, which is generally a cheaper source of fund.
2. High cost deposit to total deposit ratio shows a decreasing trend which is favorable from the bank's point of view. High cost deposits certainly help banks sustain high credit growth and improve market share.
3. High interest loans to working fund ratio shows an increasing trend. This shows that bank using their working fund more on high interest loan. High interest loan certainly help banks sustain high credit growth and improve earnings of the bank.

5.5 Liquidity gap in assets and liabilities of balance sheet

1. The liquid assets to total assets ratio shows a decreasing trend for the past 10 years. In a liquidity crisis, the low liquid assets to total assets ratio can be hazardous to the bank's financial health and survival.
2. Liquid assets to total deposits ratio decreasing from 2006-07 to 2015-16 which is a good trend. Because the ratio shows that the bank deployed the deposits more on other assets rather than liquid assets.
3. Liquid assets to demand deposits ratio show an irregular trend in the study period. In 2015-16 it is decreased which is not good for bank.
4. Loans to deposits ratio show an increasing trend which is favorable to bank. Because it implies that bank is using their deposit for credit creation.

5. Loans to assets ratio shows an increasing trend from 2007-08 to 2011-12 and thereafter a decreasing trend. This implies that from 2012-13 to 2015-16 bank failed to generate more loan according to its total assets.

SUGGESTIONS

From the findings the researcher has suggested the following for further improvement of the performance of the bank.

1. A higher ratio on net profit to working capital is expected, which shows more effective and efficient management of funds.
2. The bank should explore the possibility of increasing the credit by extending the same to new ventures.
3. Proper planning leads to correct utilization of working capital and essential steps should be taken to arrange the working capital and then make use of it.
4. The net profit has to be increased so as to provide dividends to the share holders.
5. The analysis of spread, burden and profitability gives the operational efficiency of the bank. The bank is lowering its burden till 2014-15 and thus the profitability is also rising. The bank should maintain this position and should try to increase its profitability by engaging in non banking activities such as agency services. It will increase the bank's non interest income, reduce burden and increase profitability.
6. Improve the liquidity position to mitigate the liquidity crisis.

CONCLUSION

The project 'A Study on Asset Liability Management of Pariyaram Service Co-operative Bank Ltd. No. 593 was conducted in the light of the importance of Asset Liability Management in banking sector. A perfect combination of assets and liabilities makes the bank capable to maintain its profitability.

The main objective of the bank is accepting the deposits and lending the money. These deposits and loans have different maturity period. And the bank has to allocate the deposits and loans in the different maturity period by maintaining its liquidity position.

The present study shows that the bank is efficient in its fund mobilization, deployment of funds and efficient in maintaining the reserves. This implies they are maintaining the liquidity position, however, they have to improve the liquidity to meet the liquidity crisis.

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