FINANCIAL INCLUSION IN GOA: AN ANALYSIS OF ACCESS TO AND USE OF BANKING SERVICES

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ECONOMICS

By

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Research Guide

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CERTIFICATE

I hereby certify that the thesis titled "Financial Inclusion in Goa: An Analysis of Access to and Use of Banking Services" submitted by Ms. Meenakshi Bawa for the award of Doctor of Philosophy in Economics at Goa University, has been completed under my guidance. This thesis is a record of the research work conducted by the candidate during the period of her study and has not previously formed the basis for the award of any degree, diploma, Associate-ship, Fellowship or other similar titles of this or any other University.

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DECLARATION

I, Ms. Meenakshi Bawa, hereby declare that the present thesis titled "Financial Inclusion in Goa: An Analysis of Access to and Use of Banking Services" is the outcome of my own research undertaken under the guidance of Dr. P.K.Sudarsan, Professor, Department of Economics, Goa University. All the sources used in this work have been duly acknowledged in the thesis. This work has not previously formed the basis for the award of any degree, diploma Associate-ship, Fellowship or other similar titles of this or any other University.

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Meenakshi Bawa

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CHAPTER I

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Access to financial services plays a critical role in the development process through the facilitation of economic growth and reduction in income inequality. Inclusive financial systems allow the poor to meet their consumption needs and insure themselves against a number of economic vulnerabilities they face, from illness and accidents to even unemployment. It enables poor people to save and borrow, to build their assets and to make educational and entrepreneurial investments to improve their livelihood. Inclusive finance is particularly important to disadvantaged groups, namely, the poor, women, youth, and rural communities. For these reasons, financial inclusion has gained prominence in recent years as a policy objective to improve the lives of the poor.

The importance of financial inclusion arises from the problem of financial exclusion of nearly three billion people who are away from the formal financial services across the world. Building an inclusive financial system is a complex process. It has been observed that even well-developed financial systems have not succeeded in being 'all-inclusive' and certain segments of the population remain outside the formal financial systems. The importance of an inclusive financial system has thus been widely recognized and financial inclusion is seen as a policy priority in many countries across the globe.

The liberalization of the Indian economy in the 1990s has brought in new players into the field. This has not only been an impetus to the stagnant financial sector but has also brought in competition for the same market space which was relatively unknown in the financial sector till then. Since then, there have been progressive reforms in the financial sector allowing for better and easier facilities and options to the consumer. An increasing financially aware middle class have realized the importance of financial services. Banks have streamlined and rationalized themselves to meet the changing demands of the people. The banking industry has shown tremendous growth in volume and complexity over the last decade or so. Despite making significant improvements in areas relating to financial viability, profitability and competitiveness, there are several concerns that the much needed banking services have not reached a vast segment of the population, especially the underprivileged sections of the society. The major barriers to serve the poor, apart from socioeconomic factors such as lack of regular income, poverty, illiteracy, etc., are the lack of reach, higher cost of transactions and time taken in providing those services.

Most of the unbanked or financially excluded population of India live in rural areas. Nevertheless there is also a significant proportion of the urban population who face the same situation even with easy access to banks. Many of the financially excluded in these areas are illiterates earning a meagre income just enough to sustain their daily needs. For such people, banking still remains an unknown phenomenon or an elitist affair. It is easier for them to keep their money at home or with some money lenders and easily make immediate purchases rather than to follow the cumbersome process at banks. They should be made a part of the formal banking structure so that they could also enjoy the benefits that the banked individuals enjoy. By making them financially inclusive, their financial position would be less volatile. Thus, financial inclusion

plays a significant role in contributing to the process of economic development. In the above context, it is essential to address the extent of depth as well as breadth of the banking sector.

1.2 THE RESEARCH PROBLEM

The state of Goa, apart from being an attractive tourist destination, has established itself as one of the fastest growing industrial and commercial centres in the country. It has made impressive strides in all-round development, as measured by various socio-economic indicators. However, this development has not been balanced. The state of Goa is divided into two districts, namely, North Goa comprising of six talukas and South Goa comprising of six talukas. Dharbandora, which is the sixth taluka in South Goa District, came into existence in April 2012. The coastland region, with the exception of Pernem and Canacona talukas, enjoys the benefits of high development, whereas the development in the midland and hinterland regions is comparatively lower.

Over the last few years, the Goan economy has experienced a service sector-driven growth. The share of the service sector in the state domestic product is more than 50%. This growth, however, is not evenly distributed between different talukas. The talukas have been classified into three categories on the basis of the composite service index. The three talukas of Tiswadi, Salcete and Bardez are highly developed as compared to the other talukas and are thus in the high development category. There are five talukas which fall in the medium development category and three talukas which fall in the low development category (Nayak and Sudarsan, 2008).

In spite of being a late entrant to the banking system, Goa has made tremendous progress and has achieved an excellent banking network spread across the state. The

number of commercial and cooperative bank branches in the state touched 643 in March 2012. Goa has also fared well in terms of demographic penetration of the banking sector. There is a scheduled commercial bank branch for every 3770 people in Goa, as compared to the all-India average of 12577 people (RBI, 2012). However, banking sector outreach varies significantly between the talukas in Goa.

Goa has been declared as a completely financially inclusive state in the sense that at least one member in every household has a bank account. However, mere access to a bank account does not imply financial inclusion. A pertinent question is whether access to banking services has led to the usage of banking services, and if so, to what extent.

It is important to provide an insight into the extent of financial inclusion across the talukas in Goa. Moreover, analyzing the trends in the access to and usage of banking services across the regions of the state and identifying the factors that are associated with financial inclusion at the taluka level assumes a lot of significance. Examining the extent of financial inclusion at the household level and identifying the household characteristics that influence the usage of banking services are also of paramount importance.

1.3 FINANCIAL INCLUSION: A CONCEPTUAL FRAMEWORK

Financial inclusion is one of the biggest challenges today, not just for the developing countries but for developed countries as well. Financial inclusion is basically a process by which financial services are made accessible to all sections of the population. The term financial inclusion is perceived in different ways under different contexts. According to one view only access to credit is treated as financial inclusion whereas according to another view financial inclusion includes all the services extended by the

financial institutions (GOI, 2008). For the past decade or more the simplistic idea of micro-creditas a panacea for poverty has lost ground to a more holistic notion of microfinance, seen as encompassing a range of financial services needed by the poor. More recently, the term financial inclusion has gained ground among microfinance professionals (Conroy, 2008).

A clear-cut distinction is made between microfinance and inclusive finance. Inclusive finance recognizes that a continuum of financial services providers work within their comparative advantages to serve poor and low-income people and micro and small enterprises. However, building inclusive financial sectors includes but is not limited to strengthening microfinance and micro-finance institutions (UN, 2006). There are several dimensions to financial inclusion. A vision of inclusive finance (UN, 2006) is characterized by households and enterprises having access at a reasonable cost to a range of financial services such as credit, savings, pensions and insurance, the existence of sound institutions, financial and institutional sustainability, and customers having access to more than one financial services provider, which ensures a variety of competitive options.

Financial inclusion, or, alternatively, financial exclusion, has been defined in the context of a larger issue of social inclusion, or exclusion, in a society. One of the early definitions of financial inclusion/exclusion has been given by Leyshon and Thrift (1995) who define financial exclusion as those processes that serve to prevent certain social groups and individuals from gaining access to the formal financial system. Carbo et al. (2005) have defined financial exclusion as broadly the inability of some societal groups to access the financial system. Conroy (2005) defines financial exclusion as a process that prevents poor and disadvantaged social groups from

gaining access to the formal financial systems of their countries. According to Sinclair et al. (2009), financial exclusion means the inability to access necessary financial services in an appropriate form. Exclusion can come about as a result of problems with access, conditions, prices, marketing or self-exclusion in response to negative experiences or perceptions.

The Rangarajan Committee on Financial Inclusion (GOI, 2008) defines financial inclusion as the "process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as weaker sections and low income groups at an affordable cost." Financial inclusion broadly means the provision of affordable financial services, namely, access to payments and remittance facilities, savings, loans and insurance services by the formal financial system to those who tend to be excluded. It is believed that holding a bank account itself confers a sense of identity, status and empowerment and provides access to the national payment system. Hence, having a bank account becomes a very important aspect of financial inclusion. Further, financial inclusion should also provide access to credit, perhaps in the form of a General Credit Card or limited overdraft against the no frills account. It should also include access to affordable insurance and remittance facilities, credit counselling and financial education/literacy. The Report of the Rangarajan Committee (GOI, 2008) states that while financial inclusion, in the narrow sense, may be achieved by offering any one of these services, the objective of comprehensive financial inclusion would be to provide a holistic set of services.

Sarma (2008) defines financial inclusion as "a process that ensures the ease of access, availability and usage of the formal financial system for all members of an economy." This definition highlights three dimensions of financial inclusion, namely,

accessibility, availability and usage of the financial system, which together build an inclusive financial system. According to Sarma, as banks provide the most basic forms of financial services, banking inclusion/exclusion is often used as analogous to financial inclusion/exclusion.

The essence of financial inclusion is in trying to ensure that a range of appropriate financial services is available to every individual and enabling them to understand and access those services. Apart from the regular form of financial intermediation, it may include a basic no frills banking account for making and receiving payments, a savings product suited to the pattern of cash flows of a poor household, money transfer facilities, small loans and overdrafts for productive, personal and other purposes, etc.. For promoting financial inclusion, there is a need to address the issue of exclusion of people who desire the use of financial services, but are denied access to the same. In countries with a large rural population like India, financial exclusion has a geographic dimension as well. Inaccessibility, distances and lack of proper infrastructure hinder financial inclusion. Vast majorities of population living in rural areas of the country have serious issues in accessing formal financial services (GOI, 2008).

According to Kochhar (2009), financial exclusion forms part of a much wider social exclusion. Underpinning financial exclusion are the problems of poverty arising due to low incomes or being unemployed, ignorance or lack of awareness about financial products and environment relating to lack of access to financial services. Financial inclusion does not refer to only providing accessibility of the entire range of financial products and services, but it must also be appropriate, fair and transparent. CRISIL (2013) defines financial inclusion as “the extent of access by all sections of society to formal financial services, such as credit, deposit, insurance, and pension services”.

In the present study, in order to examine the extent of financial inclusion at the taluka level in Goa, financial inclusion is defined as "a process that ensures the access and usage of the banking system for all members of the economy."

1.4 MEASUREMENT OF FINANCIAL INCLUSION

Several indicators have been used to assess the extent of financial inclusion. Earlier studies on financial inclusion have used individual indicators separately to assess the extent of financial inclusion. The most commonly used indicator to measure the extent of financial inclusion is the percentage of adult population having bank accounts. Some other indicators are number of bank branches per million people, number of automated teller machines (ATMs) per million people, amount of bank credit and amount of bank deposit. When any of these indicators is used individually, it would provide only partial information on the inclusiveness of the financial system of an economy.

Five indicators measuring the access of the adult population to the financial system were proposed by Chidzero (2005). These indicators were the percentage of the adult population who have one or more financial product provided by a formal financial institution (the financially captured), within those that are financially captured, the percentage of the population that have a bank product (formal bank), within those that are financial captured, the percentage of the population that do not have a bank account, but have a non-bank product (formal-other) from organizations such as microfinance institutions, insurance companies, retailers etc, the percentage of the adult population that is exclusively using informal financial services (the 'Financial Frontier') and the percentage of the adult population who do not have any financial product from either formal or informal providers (the financially excluded). The five

indicators were placed within the three segments, 'Financially Captured', 'Financial Frontier', and 'Financially Excluded' and form the Access Strand.

There were two sub-levels of the 'Access Strand' which were proposed to complement the headline indicators. The first sub-level illustrates the usage of non-bank (formal other) and informal sector products within the 'Financially Captured segment' and the second one provides a poverty profile of the top level Access Strand segments**.** The formal other and informal sector usage indicators include the percentage of the adult population that are financially captured that have an informal financial product and the percentage of the adult population that are financially captured that have a non-bank financial product. There were four poverty indicators, namely, the percentage of those that are formally banked that earn less than the poverty line monthly income amount, the percentage of those with exclusively non-bank (formal other) financial services that earn less than the poverty line monthly income amount, the percentage of the exclusively informal users that earn less than the poverty line monthly income amount and the percentage of the financially excluded that earns less than the poverty line monthly income amount.

Indicators were constructed by Beck et al. (2007b) to measure outreach of the financial sector in terms of access to banks physical outlets. These were geographic branch penetration, demographic branch penetration, geographic ATM penetration and demographic ATM penetration. Indicators were also developed to measure the use of banking services, namely, loan accounts per capita, loan-income ratio, deposit accounts per capita and deposit-income ratio. The aggregate indicators provided an adequate approximation of the extent to which households and firms use deposit and loan services, respectively.

A comprehensive measure of financial inclusion was developed by Sarma (2008) in order to make inter-country comparisons. Sarma constructed a multidimensional index of financial inclusion (IFI) by considering three dimensions of financial inclusion, namely, accessibility, availability and usage of banking services. Accessibility was measured by the penetration of the banking system in terms of the number of bank accounts per 1000 population. Availability was measured by the number of bank branches and number of ATMs per 100000 people. The usage dimension was measured in terms of the volume of credit plus deposit relative to the Gross Domestic Product (GDP). The IFI was considered as a measure of inclusiveness of the financial sector of an economy. The value of the IFI ranged between 0 and 1, zero indicating lowest financial inclusion or complete financial exclusion and 1 indicating complete financial inclusion. Countries were placed into three categories depending on their IFI values. Those having IFI values between 0.6 and 1 were categorized as high IFI countries, those having IFI values between 0.3 and 0.6 as medium IFI countries and those having IFI values less than 0.3 were called low IFI countries.

In order to assist policymakers in designing effective policies and tracking global progress in financial inclusion, the World Bank (2005) collected the first set of indicators of financial access in countries around the world in 2005. The World Bank proposed three core indicators, namely, the banked (the proportion of the adult population which uses a bank or bank-type institution), the formally included (the proportion of the adult population which uses financial services provided by banks or by other formal financial service providers) and the formally served (the formally included plus those who use only informal financial service providers). The residual group of persons is the voluntarily or involuntarily financially excluded. The formally included gives the broadest measure of formal financial inclusion. The additional core

indicators take into account the kinds of financial services offered. These include the proportion of the adult population which receives money regularly through a formal financial instrument, the proportion of the adult population which keeps money in formal financial instruments which allows them to safeguard and accumulate money and the proportion of adult population who have obtained or have outstanding a loan or credit facility from a formal financial institution, now or over the past twelve months. A poverty dimension has been recommended by including the indicator of the proportion who are 'formally included' among the poor, where the poor are defined as those in the bottom quintile income group. Another sub-indicator is the proportion of persons "formally included" with direct access or indirect access, through other household members.

The indicators were updated by the World Bank (CGAP, 2009) for selected countries in 2008. Building on this work, "Financial Access 2009"introduced new data from a survey of financial regulators in 139 countries. Indicators of access to savings, credit, and payment services in banks and in regulated non-bank financial institutions were suggested.

An index for financial inclusion was developed by Mehrotra et al.(2009) using banking data for sixteen major states of India. The indicators selected for computing the financial inclusion index (FII) seek to cover four dimensions of financial inclusion. The number of rural offices is considered as an indicator of coverage. The number of rural deposit accounts is considered as an indicator of access and availability. The volume of rural deposits is considered as an indicator of the input of the banking system and the volume of rural credit use is considered as an indicator of the output of the banking system. The four dimensions have been converted or normalized into

ratios, that is, per office number of accounts, per office deposit amount, per account deposit amount and per office credit amount. The ratios have been calculated for rural areas. The index was calculated at the district level and the district level index was then aggregated to arrive at the state level index.

An axiomatic measurement approach for the measurement of financial inclusion was employed by Chakravarty and Pal (2010). Following Beck et al. (2007b), six attributes of financial inclusion have been considered, namely, demographic penetration, defined as the number of bank branches per 10 lakh people, geographic penetration, defined as the number of bank branches per 1000 square-kilometre land area, number of deposit accounts per 1000 people, number of credit accounts per 1000 people, deposits-income ratio, and credit-income ratio.

An index of financial inclusion was constructed by Arora (2010) using the same reasoning as Sarma for 98 advanced economies and developing and emerging economies. Arora has included more variables in the outreach dimension by considering both demographic penetration and geographic penetration. The variables for the outreach dimension are geographic branch penetration measured as the number of branches per 1000 square kilometre, demographic branch penetration measured as the number of branches per 100000 people, geographic ATM penetration measured as the number of ATMs per 1000 square kilometre and demographic ATM penetration measured as the number of ATMs per 100000 people. The usage dimension is not considered, but the dimensions of ease and cost of transactions have been included. Twelve variables have been considered for the ease of transactions dimension such as locations to open deposit account, minimum amount to open checking and savings accounts, minimum amounts to be maintained in these accounts, number of documents

required to open these accounts, the minimum amount of consumer and mortgage loans and the number of days to process loan applications. Six variables have been considered for the cost of transactions dimension such as the amount of fees for checking and savings accounts and the cost of transferring funds internationally.

An index was also constructed by Gupte et al. (2012). The Financial Inclusion Index is computed only for India as a geometric mean of four dimensions, namely, outreach (penetration and accessibility), usage, ease of transactions and cost of transactions, following the methodology used by UNDP in computing the HDI in 2010. Their approach differs from earlier ones as it incorporates several additional variables. This makes the index so calculated more robust as compared to earlier indexes.

The Global Financial Inclusion (Global Findex) Database has been analyzed by Demirgüç-Kunt and Klapper (2012). This is a new set of indicators which was developed by the World Bank. The core set of Global Findex indicators addresses five basic dimensions of the use of financial services on the individual level, namely, accounts, savings, borrowing, payment patterns and insurance. Usage of financial services refers to the levels and patterns of the use of various products used by different groups such as the poor, youth and women. The indicator for the use of bank accounts was the percentage of adults with an account at a formal financial institution (such as a bank, credit union, post office or microfinance institution).The percentage of adults who saved within the past twelve months using a formal financial institution (such as a bank, credit union, post office or micro-finance institution(MFI) was the indicator for savings.

The percentage of adults who borrowed within the past twelve months from a formal financial institution (such as a bank, credit union, post office or MFI) and the

percentage of adults with an outstanding loan to purchase a home or an apartment were the indicators for borrowing. The percentage of adults who used a formal account to receive wages or government payments within the past twelve months and the percentage of adults who used a formal account to receive or send money to family members living elsewhere within the past twelve months were the indicators for payments. The percentage of adults who personally purchased private health insurance and the percentage of adults who work in farming, forestry or fishing and personally paid for crop, rainfall or livestock insurance were the core indicators for insurance.

India's first comprehensive measure of financial inclusion has been developed by CRISIL (2013) in the form of an index called the CRISIL Inclusix. It is a relative index that has a scale of 0 to 100. The index incorporates three dimensions of basic banking services, namely, branch penetration, deposit penetration and credit penetration into one single metric. Banking penetration is measured in terms of the number of bank branches per lakh of population. Deposit penetration is measured in terms of number of savings deposit accounts per lakh of population. Credit penetration is measured in terms of three parameters, namely, number of loan accounts per lakh of population, number of small borrower loan accounts as defined by RBI per lakh of population and number of agriculture advances per lakh of population. These parameters focus on the number of people who have been included rather than on the amounts deposited or loaned. The index is based on non-monetary parameters and hence avoids the potentially disproportionate impact of a few high-value aggregates. A CRISIL Inclusix score of 100 indicates the ideal state for each of the three parameters. CRISIL Inclusix scores have been divided into four categories that indicate different levels of the financial inclusion. A score of above 55 indicates high level of financial inclusion. Scores of between 40 and 55 and between 25 and 40 indicate above average

and below average levels of financial inclusion respectively. Scores of below 25 signify low levels of financial inclusion.

1.5 IMPORTANCE OF THE STUDY

The state of Goa has witnessed a significant progress in the banking sector since liberation. The number of commercial and cooperative banks in Goa steadily increased from 5 in 1962, just after liberation, to 300 bank branches in March 1988 after it gained Statehood, and further to 643 bank branches in March 2012. The aggregate deposits registered a remarkable rise from Rs. 9 crore in 1962 to Rs.41099 crore in 2011-12. The gross credit also registered a rise from just Rs. 3 crore in 1962 to Rs. 12334 crore during 2011-12. Consequently, the credit-deposit ratio in 2011-12 was 30 (GOG, 2013b).

However, the spread of the commercial banking network is not uniformly distributed across talukas. During the year 2011-12, it is observed that 382 out of 643 banking branches or 59% were located in North Goa district. The maximum number of branches in North Goa District were in Bardez (137), followed by Tiswadi (120). In South Goa District, Salcete had the maximum number of branches (131), followed by Mormugao (52). The least number of banking offices were in Sattari (11) and Pernem (22) in North Goa district and in Quepem (23) and Canacona (24) in the South Goa District. It is, thus, evident that the availability of banking services varies significantly from taluka to taluka.

The large presence of the banking sector in Goa does not necessarily imply that the state has achieved a wide coverage of banking services. The purpose of this study is therefore, to examine whether the banking sector has achieved both depth and breadth which is a very relevant issue for emerging economies like India.

Goa has been declared as the third state/ union territory in the country followed by Kerala to achieve 100 per cent financial inclusion after Puducherry and Himachal Pradesh. This means that every household has at least one bank account. Since opening a bank account would not indicate the extent to which the account is used, it is necessary to study financial inclusion both in terms of its access and usage. It is also necessary to examine whether or not the degree of financial inclusion is balanced between the developed coastal regions and the less developed hinterland.

This study looks at financial inclusion from a broad perspective. It measures access to banking services in terms of demographic and geographic banking penetration. The use of banking services is measured in terms of total deposits mobilized and total credit advanced. An attempt is then made to use a composite index of financial inclusion for the purpose of comparing the levels of financial inclusion in different talukas in Goa. In order to understand the demand-side factors which influence the usage of banking services, the study uses primary data obtained by interviewing a sample of 400 households.

This study is unique in the sense that is the first study, to the researcher's knowledge, that has been undertaken to examine financial inclusion at the taluka-level covering the entire state of Goa. This study is an important effort in measuring financial inclusion and identifying the factors determining the access and use of banking services in Goa. The findings of this study would have far-reaching implications as Goa is the smallest but one of the most developed states in India.

1.6 OBJECTIVES OF THE STUDY

The main objective of this research study is to examine the extent of financial inclusion in Goa through an in-depth analysis of the access and usage of the banking system across all talukas in Goa.

The specific objectives of the study are as follows:

1. To measure the access to and use of banking services across the talukas in Goa by using a composite index of financial inclusion
2. To identify the factors impacting financial inclusion at the taluka level
3. To examine the extent of financial inclusion at the household level, to analyze the household characteristics which determine financial inclusion among households in Goa and to identify the financially excluded individuals
4. To examine the factors influencing the usage of banking services by households in Goa

1.7 DATA AND METHODOLOGY

This study aims at measuring the access to and use of banking services across the talukas in Goa based on secondary data sourced from the "Report on Credit-Deposit Ratio in Goa" , "Statistical Handbook of Goa" and "Goa at a Glance" published annually by the Directorate of Planning, Statistics and Evaluation, Government of Goa, Panaji. The study covers the eleven talukas of Goa namely,Tiswadi, Bardez, Pernem, Bicholim, Sattari and Ponda in North Goa District, and Sanguem, Canacona, Quepem, Salcete and Mormugao in South Goa District.

The study employs the Index of Financial Inclusion (IFI) to compare the levels of financial inclusion across talukas in Goa for the period 1994-95 to 2011-12. The IFI takes into account two dimensions of financial inclusion, namely, access and use of

banking services, following the methodology used by Sarma (2008, 2010, 2012). Sarma (2008) had developed a multidimensional Index of Financial Inclusion (IFI) which incorporated three dimensions of financial inclusion, namely, accessibility, availability and usage and the IFI was used to compare the extent of financial inclusion across different countries in 2004. The variables and dimensions of financial inclusion used in this study have been selected on the basis of availability of taluka-level data. An attempt is then made to identify the factors associated with financial inclusion at the taluka level. This is done by estimating a pooled regression model.

The study also uses primary data made available by means of a well-structured interview schedule administered to a sample of 400 households across four talukas, two talukas each in North Goa and South Goa districts. The data for the study was collected during the period April 2013 to July 2013. The talukas have been selected on the basis of the composite service sector index (Nayak and Sudarsan, 2008). The households are selected from the list of voters (as per the Special Summary Revision 2013 published by the Election Commission of Goa) by means of systematic random sampling. 100 households from each of the four talukas (Canacona and Mormugao in South Goa and Bardez and Ponda in North Goa) have been interviewed. These households are further stratified into two groups, namely, below poverty line (BPL) and above poverty line (APL). A multiple regression model is estimated to examine the factors impacting financial inclusion of rural and urban households. A binomial logistic regression model is estimated to relate the use of banking services to selected individual and household characteristics.

1.8 CHAPTER OUTLINE

The study is organized into seven chapters. A brief outline of the chapters is described below.

Chapter I is the introductory chapter which states the research problem and highlights the background, importance, objectives, methodology and limitations of the study.

Chapter II presents a review of literature on financial inclusion. It examines the research which highlights the significance of financial inclusion and the extent of financial inclusion both within and across countries, namely, cross-country analysis (global studies), intra-country analysis (inter-regional studies outside India) and intra-country analysis (inter-state and intra-state studies in India).The observations and gaps in the existing literature are presented in the final section.

Chapter III describes in detail the methodology employed in the study. It begins by describing the nature of the research and the sampling design. This is followed by explaining the construction of the index of financial inclusion (IFI). The econometric models used in this study are explained as also the operational definitions and variables used in the models.

Chapter IV titled "Financial Inclusion in Goa: A Taluka-Level Analysis" examines the indicators of financial inclusion and trends in the index of financial inclusion across talukas in Goa. This is followed by estimating a pooled regression model so as to identify the factors influencing financial inclusion at the taluka-level.

Chapter V titled "Financial Inclusion in Goa: A Household-Level Analysis" examines financial inclusion at the household level in Goa. The chapter begins by briefly describing the socio-economic profile of the respondents and their households. This is

followed by examining the factors which determine whether or not an individual would have a bank account with the help of a binomial logistic regression model. The factors determining the extent of financial inclusion among households are then analyzed.The number of bank accounts held by a household is used as an indicator of financial inclusion at the household level and a multiple regression model is estimated.The chapter concludes with an analysis of the extent of financial exclusion at the individual level.

Chapter VI titled "Factors Determining Usage of Banking Services by Households" examines the factors influencing the usage of banking services, such as deposits, loans, insurance, money transfers and remittances, pension and shares and mutual funds, by households in Goa.

Chapter VII highlights the major findings and conclusions of the study. This is followed by analyzing the implications of the study and examining the scope for future research.

1.9 LIMITATIONS OF THE STUDY

The study is limited to examining the extent of financial inclusion across the state of Goa in terms of parameters for which taluka-level data is available. The analysis is restricted to the period 1994-95 to 2011-12 as consistent taluka-level data on the dimensions of financial inclusion are not available for all the years prior to 1994-95. The analysis of financial inclusion across talukas in the state does not consider the rural-urban divide or gender aspects mainly due to non-availability of taluka-level data on these aspects.

As far as the primary data is concerned, the household survey is restricted to four talukas, two talukas in each of the two districts of Goa. Further, the responses of the

respondents were accepted to be true by the researcher as it was not possible to verify the claims of the respondents especially those related to income.

CHAPTER II

REVIEW OF LITERATURE

2.1 INTRODUCTION

Financial inclusion has become the buzzword today and has caught the attention of policy makers and economists across the globe. Financial inclusion focuses on the need to bring previously excluded people under the umbrella of financial institutions. Financial inclusion broadly means the provision of affordable financial services, namely, access to payments and remittance facilities, savings, loans and insurance services by the formal financial system to those who tend to be excluded.

Globally the financial sector and, in particular, the banking industry has undergone dramatic changes. Banks usually aim at increasing their customer base and are constantly working towards innovative and effective ways to serve their customers. Despite such transformation, it is surprising to note that a large section of the population remains unbanked or underbanked. The banks have, by and large, been targeting the rich customers and high net worth individuals thereby ignoring the bottom of the pyramid. Financial exclusion plays a major role in trapping people in poverty. The only source of credit for many low income earners is a local pawnbroker or moneylender, who may charge exorbitantly high interest rates. Credit from formal financial institutions would help them to diversify their business opportunities thereby increasing their incomes. Access to affordable financial services thus enlarges

livelihood opportunities and empowers the poor to take charge of their lives. Such empowerment aids social growth as also sustainable growth of the economy.

This chapter presents a review of literature on financial inclusion. The chapter is divided into three sections. The first section examines the research which highlights the significance of financial inclusion in the contemporary world. The second section examines various studies on the extent of financial inclusion both within and across countries. This section is further sub-divided into three parts, namely, cross-country analysis (global studies), intra-country analysis (inter-regional studies outside India) and intra-country analysis (inter-state and intra-state studies in India). The observations and gaps in the existing literature are presented in the final section.

2.2 IMPORTANCE OF FINANCIAL INCLUSION

It has been recognized that increasing access to formal financial services has both private and social benefits. Extending the breadth of financial service availability in a given population leads to economic growth and can also improve income distribution. The poor benefit disproportionately from financial development. Monitoring and measuring levels of access to formal financial services can contribute to achieving the goals of growth and poverty alleviation. In addition to helping policy makers, practitioners, researchers and the private sector more fully understand the current and potential supply and demand for financial services, more comparative data will also serve to provide lessons on enhancing access and motivate countries to reform their financial systems so as to encourage greater access.

An inclusive financial system has several merits. Such a system facilitates the efficient allocation of productive resources and hence can potentially reduce the cost of capital. An inclusive financial system enhances efficiency and welfare by providing avenues

for secure and safe saving practices and also by facilitating a range of efficient financial services. Financial inclusion plays a pivotal role in promoting economic growth and alleviating poverty. Thus, broad financial services outreach is important for several reasons.

Peachey and Roe (2004) undertook a study with a view to provide an overview of the importance of access to finance for all and to identify the main obstacles to access in different parts of the world. It was observed that the percentage rate of access in poorer developing economies was about equal to the percentage rate of exclusion in richer advanced industrial economies. There is well established evidence that bigger and deeper banking systems go hand in hand with more advanced economic development and that a vibrant microfinance sector can augment this though not be a substitute for it. The analysis indicated a strong correlation between access and per-capita gross domestic product both within and across regions. The data analysis showed that lower cash-to-deposit ratios and higher deposit-to-GDP ratios were associated with higher levels of per-capita GDP.

Honohan (2004) studied the link between financial development, growth and poverty. He examined a cross-section of 70 developing countries for which poverty data was available. It was found that deep financial systems appear to be associated with lower poverty. In other words, finance-intensive growth, as measured by banking depth, was empirically associated with lower poverty ratios. However, depth alone was considered to be an insufficient measure of financial development. The four key functions of finance were highlighted, namely, mobilizing savings, allocating capital, monitoring the use of loanable funds by entrepreneurs and transforming risk by pooling and repackaging it. It was argued that summarizing the development of a

financial system by a single measure of the scale of its banking was not likely to fully capture variations in the degree and effectiveness with which it performs these functions. It was argued that monetary depth would be a misleading indicator of financial development if the savings so mobilized were being monopolized by the state.

The **United Nations** (2006) highlighted the fact that in most developing economies, financial services are only available to a minority of the population. Despite the fact that financial sectors are expanding as these economies grow, financial assets usually remain highly concentrated in the hands of a few. A majority of the people in developing countries has no savings accounts, they do not receive credit from a formal financial institution, and have no insurance policies. They rarely make or receive payments through financial institutions. Such limited use of financial services in developing countries has become an international policy concern. Inclusive financial sectors, that is, those in which no segment of the population is excluded from accessing financial services, can contribute towards attaining the goals contained in the United Nations Millennium Declaration, such as halving the proportion of people in the world who live in extreme poverty by 2015. By having access to financial services, poor households would be able to manage their money more effectively. Since these households have unstable income, their needs for reliable financial services are greater than those of richer households. By borrowing and saving, poor households can not only meet their basic consumption needs, but they can also save money for emergencies, education and business opportunities.

Beck et al.(2007a) examined the impact of financial development on the poor by estimating the relationship between finance and changes in both income distribution

and poverty levels. The authors empirically assessed the conflicting views about the impact of financial development on the distribution of income and the incomes of the poor. The impact of financial development on changes in the distribution of income and changes in both relative and absolute poverty has been assessed. Their findings reveal that financial development reduces income inequality and exerts a disproportionately positive impact on the relatively poor. Although the results show that financial development is particularly beneficial to the poor, this study did not suggest ways to foster poverty-reducing financial development. It was pointed out that future research needs to examine the linkages between particular policies toward the financial sector and poverty alleviation.

Sarma (2008) observed that even 'well-developed' financial systems have not succeeded to be 'all-inclusive'. This implies that certain segments of the population remain outside the purview of formal financial systems. An inclusive financial system enables the efficient allocation of productive resources and thus can potentially reduce the cost of capital. In addition, access to appropriate financial services can significantly improve the day-to-day management of finances. An inclusive financial system can play a crucial role in reducing the growth of informal sources of credit, such as moneylenders, which are often found to be exploitative. Thus, an all inclusive financial system promotes efficiency and welfare by providing avenues for secure and safe saving practices and by facilitating a whole range of efficient financial services.

Honohan (2008) analyzed the variation in household access to formal financial services across 162 countries. To begin with, the hypothesis that more access lowers poverty was given a preliminary test. An attempt was made to combine data on client and account numbers at microfinance institutions and banks with the results of

household surveys in a number of countries and macroeconomic data to generate a composite estimate of the fraction of adults using the services of formal financial intermediaries. The data clearly showed that this percentage was small in most developing countries. On the other hand, it was observed that access percentages in the 1980s and 1990s were recorded for households in advanced economies where the relevant policy issues were discussed in terms of exclusion rather than of access.. The new series was then regressed on a number of structural features of national economies. It was found that the strong correlates of household financial access were mobile phone penetration and the quality of institutions. It was observed that although there was a bivariate correlation between access and poverty reduction, multivariate analysis revealed no convincing evidence that access was causally related to a lower poverty headcount. The results showed that if financial development lowers poverty, it is in its depth dimension rather than the access dimension and that this is evident in cross-country data.

Sarma and Pais (2011) examined the relationship between financial inclusion and development by empirically identifying country specific factors that are associated with the level of financial inclusion. Their empirical investigation was based on the data for 49 countries. They found that levels of human development and financial inclusion in a country move closely with each other. They identified factors that are associated to the index of financial inclusion (IFI) by carrying out three sets of regressions of the IFI on three different sets of variables that relate, respectively, to socio-economic factors, physical infrastructure and the banking sector.

Their analysis confirmed that income as measured by per capita GDP is an important factor in explaining the level of financial inclusion in a country. It was found that

income inequality, adult literacy and urbanization are also important factors. Further, physical and electronic connectivity and information availability, indicated by road network, telephone and internet usage, also play positive role in enhancing financial inclusion. From among the banking sector variables, it was observed that the proportion of non-performing assets is negatively associated with financial inclusion. The capital asset ratio is seen to be negatively associated with financial inclusion. Foreign ownership in the banking sector is seen to be negatively affecting financial inclusion, while government ownership does not have a significant effect. Finally, interest rate does not seem to be significantly associated with financial inclusion. The health of the banking sector does not seem to have an unambiguous effect on financial inclusion whereas ownership pattern does seem to have an effect on financial inclusion.

Cull and Scott (2011) acknowledged the fact that the link between financial sector depth and economic growth is well established. They opined that aggregate measures, such as the ratio of credit extended to the private sector to GDP, do not provide information about the average size of a loan (or deposit) and they do not perfectly explain the reach of the financial sector. A highly concentrated banking sector, in which a small number of relatively wealthy depositors and borrowers are responsible for a large share of banking activity, could imply strong financial depth while having limited breadth of outreach. Financial sector breadth is a matter of concern, especially in developing countries. Informational asymmetries, transaction costs, and contract enforcement costs lead to market imperfections that disproportionately disadvantage the poor, who tend to lack collateral, credit histories, and connections and hence the poor tend to be financially excluded.

2.3 EXTENT OF FINANCIAL INCLUSION

This section analyzes the extent of financial inclusion both within and across countries. To begin with, an attempt is made to review the empirical studies on access to and use of formal financial services across countries. Thereafter, studies on financial inclusion within regions outside India and within India have been analyzed.

2.3.1 CROSS-COUNTRY ANALYSIS (GLOBAL STUDIES)

Claessens (2005) reviewed the importance of financial development for economic well-being and analyzed data on the degree of usage of and access to financial services across 46 countries. He considered four dimensions to access, namely, reliability or availability of finance when it is needed, convenience or the ease of access, continuity or repeated access to finance and flexibility or tailoring of the product to the needs of the people. The data on the degree to which households use a basic financial service provided by a formal financial institution showed significant variation across countries.

It was observed that usage in most of the OECD countries was nearly universal, with many percentages above 95% and with an average of 90%. However, in developing countries usage was much less and the average was only 26%. For most developing countries, use of a basic bank account did not exceed 30 percent. Socioeconomic characteristics such as income, wealth and education played an important role in explaining access.

Caskey et al. (2006) examined the ways in which lower-income households obtain basic financial services in urban communities in the United States and in Mexico. In comparing the experiences of the two countries the authors reviewed the extent to

which lower-income households are unbanked, their use of non-bank financial services, and strategies for improving financial services to the unbanked.

In both countries unbanked households were found to be similarly characterized by low income and education levels. However, in Mexico the unbanked included persons who earned well above the median income. The unbanked in both countries tended to rely on cash transactions and on services provided by commercial outlets. However, in Mexico the unbanked depended on informal forms of saving and borrowing not present in the U.S. The unbanked in Mexico showed a high rate of home ownership, suggesting an alternative form of saving not present in the U.S. In finding out the reasons as to why the unbanked do not use banks, the study revealed that while the unbanked in Mexico perceive barriers in the costs and requirements of financial institutions, the unbanked in the U.S. consider their own financial situation and lack of savings as a reason for not using banks. In both countries the unbanked pay a significant cost in terms of additional transaction fees, time, and insecurity, in not using formal sector financial services.

Beck et al. (2007b) made an attempt to measure financial sector outreach and investigate its determinants by developing new indicators of banking sector outreach across 99 countries. It was found that banking sector outreach varied significantly across countries. For instance, the number of branches as per area varied from less than 0.18 branches per 1,000 square kilometre for countries like Bolivia and Botswana to more than 119.65 branches per 1,000 square kilometre for countries like Belgium, and Singapore. For 50% of the countries in the sample, the deposit–income ratio was below 0.66. There wasa positive association between GDP per capita and indicators of the number of branches, ATMs, loans, and deposits. It was observed that both loan–

income and deposit–income ratios were negatively correlated with GDP per capita, although not significantly at the 5% level in the case of loans. At the same time, indicators of the number of banking outlets and loan and deposit accounts tend to be positively correlated with each other and with the standard measure of financial sector depth, the share of private credit to GDP.

It was found that the share of households with bank accounts was positively and significantly correlated at the 1% significance level with the geographic and demographic branch indicators, the geographic and demographic ATM indicators, and the loan and deposit per capita ratios. The share of households with bank accounts was negatively correlated with the loan-income and deposit–income ratios, but in the case of the former the correlation was not statistically significant.

Tejerina and Westley (2007) studied household access to financial services in 22 Latin American countries.. The study also explored the level of usage of credit and savings services and the gaps in access to financial services between poor and non-poor households, urban and rural households, households with and without a micro-enterprise and households with and without an employer. The study analyzed gender gaps at the individual level wherever possible.

The study revealed that the poor interact with the formal financial sector although at significantly lower rates than the non-poor. It also found large gaps between urban and rural areas in household access to savings and credit services as well as large gender gaps. It was also found that a higher percentage of households containing a micro-enterprise had access to formal credit but a lower percentage had access to formal savings compared to households that did not contain a micro-enterprise. Households with an employer had higher access rates for both formal credit and formal savings

than do households that do not contain an employer. The gaps were found to be much smaller in the case of informal credit. Another finding was that women made less use of credit from both formal and informal sources than men. Further, it was found that that poor men were 4.7 times more likely to make use of formal credit than poor women. The smallest gap in formal sector credit usage was found among employers. In this group men were 1.6 times more likely to make use of formal credit than women.

Al-Hussainy et al. (2008) used a set of existing traditional household surveys to assess the quality and coverage of financial variables in these surveys and to explore household characteristics associated with the use of deposit and lending services. The two variables that were considered to explore household characteristics correlated with the use offinancial services were whether at least one member of the household had a bank account (HACCOUNT) and whether at least one member of the household hadreceived a loan over the past twelve months (HLOAN). It was revealed that, on an average, only 1.6% of households in Nicaragua had a bank account in 2001, whereas 34% had bank accounts in Ghana in 1999. Similarly, while only 4.5%of households in Armenia in 1996 had received a bank loan, more than 86% had received such a loan in Guatemala in 2000.Probit regressions of the dummy variable HACCOUNT and HLOAN were run on the different household characteristics. It was found that if a household resides in urban areas, it positively and significantly influenced the use of formal financial services. Larger families were more likely to receive a loan, though were marginally less likely to have a bank account.

There was a positive relationship between the age of the household head and the likelihood of having an account with a financial institution. Similar results hold for

bank loans except for the Guatemala surveys where the coefficients were significantly negative. Married families were more likely to have an account and a loan with formal financial institutions. Households with higher incomes were more likely to have an account with a formal financial institution, while on an average there was no significant relationship between household income and the probability of having a loan. While there was no significant relationship between labour market status and the probability of having an account, households with an unemployed head were less likely to have a loan.

Beck et al.(2008) documented the extent of barriers to banking services across countries, examined their correlation with measures of outreach and explored their association with a number of bank and country characteristics that were expected to drive barriers. They used survey data from 209 banks in 62 countries and developed new indicators of barriers to access and use of banking services around the world. The sample comprised countries across all levels of financial and economic development, as measured by GDP per capita in U.S. dollars and the ratio of private credit to GDP. Indicators for deposit, loan and payment barriers to banking across countries were developed and results were distinguished by three service dimensions, namely, physical access, affordability and eligibility.

A regression model was used to examine the association between barriers and bank and country-level characteristics. The results showed that country characteristics linked with financial depth were weakly correlated with barriers. In particular, barriers were found to be higher in countries where there were more stringent restrictions on bank activities and entry, less disclosure and media freedom, and poorly developed physical infrastructure. Further, barriers for bank customers were found to be higher

where banking systems were predominantly government-owned and lower where there was more foreign bank participation.

Bebczuk (2008) surveyed financial inclusion in Latin American and Caribbean (LAC) countries. The study aimed at characterizing the current status of financial inclusion in LAC countries, distinguishing the involvement of the public and the private sector and identifying the obstacles for a wider outreach. It was observed that there was insufficient financial outreach to the poor in LAC countries. For 12 countries in the region, according to the weighted average, 6.3% of total households had credit and 18% owned a deposit account, and these values fell to 4.5% and 10% for poor households.

A comparison was made between the number of loan and deposit accounts in the formal banking system in LAC countries and in other 180 developed and developing countries. It was observed that for LAC, there were 131 loan accounts and 432 deposit accounts per 1,000 people. This implied quite a low participation in financial markets. The number of deposit accounts was three times larger than that of loan accounts. LAC fared slightly better in loans and worse in deposits with respect to other developing economies. In the developed countries, the average was 321 loan and 1862 deposit accounts, indicating that LAC lagged well behind developed economies in terms of financial breadth. Actual data revealed a scarce use of financial instruments by poor households, which were explained by demand and supply factors. On the supply side, high fees and minimum balances were identified as major barriers for financial inclusion. On the demand side, potential users of banking services usually expressed lack of trust in financial institutions and showed no interest in establishing ties with banks.

Honohan (2008) made estimates across 162 countries of the fraction of the adult population using formal or semi-formal financial intermediaries, whether through deposit accounts or by borrowing. A new composite indicator was developed. The access indicator varied across regions of the developing world, Latin America and the Caribbean having the highest mean and median percentages. However, the variation within each region was quite considerable. The lowest mean and median were for Africa and for the developing countries of Eastern Europe and Central Asia. The correlation between the access and banking depth, as measured by private credit as a percentage of GDP, was low. This makes it clear that access and depth represent different dimensions of the financial sector.

The composite access indicator was regressed on a set of country structural characteristics in order to find out which country tends to have more access. Gross National Income (GNI) per capita was not found to be significant in the regressions that excluded high income countries. The other correlates of income, such as the indicator of institutional governance indicator and the penetration of mobile phones, were found to be more positively associated with financial access. The share of agricultural production was negatively associated with financial access, possibly on account of the physical remoteness of farmers and farm workers from financial service providers. The most significant of the demographic variables was age dependency, which was negatively associated with access.

CGAP (2009) in its work, "Financial Access 2009"introduced new data from a survey of financial regulators in 139 countries. The sample covered more than 94% of the world's population and nearly 98 percent of world GDP. The report indicates that there are as many bank deposit accounts as people in the world today. However, these

accounts are concentrated in developed countries. In poor countries few lower income people use bank deposit accounts, as reflected in the higher average account balances in relation to average income. Lower income clients are served mainly by non bank financial institutions, which include specialized state financial institutions, cooperatives, and deposit- taking microfinance institutions, where average deposits are smaller. It was found that banks remain the main holder of deposits across the globe. But in some countries nonbank deposit service providers hold more deposits than banks thereby serving a broader segment of the market.

CGAP (2010) reviewed survey responses from 142 countries, updated statistics on the use of financial services and analysed the changes that took place in 2009. About 60% of the economies experienced a contraction in real per capita income in 2009 as a result of the deepening of the global financial crisis. A simultaneous increase in the number of accounts and decrease in the value of deposits worldwide shows that access to savings and payment services is a basic need. The use of these services is inelastic with respect to the macroeconomic conditions. The survey showed that 49% of households (or about half of the world) had deposit accounts in formal financial institutions.

It was observed that 85% of total deposit volume and 96 percent of all deposit accounts were held in commercial banks. In a number of economies non-banks played an important role in providing basic deposit services. Physical outreach of the financial system, consisting of branch networks, automated teller machines (ATMs), and point-of-sale (POS) terminals, expanded in 2009. ATM and POS networks expanded faster than bank branches. In 2009 the world on an average added about one bank branch, five ATMs, and 167 POS terminals per 100,000 adults. However, this growth was not

universal. Low-income countries showed the highest rates of growth in the number of bank branches, ATMs, and POS terminals, which is another sign of improved access to financial services.

Arora (2010) examined the extent of financial access in 98 developed and developing countries. The purpose of this study was to construct a financial access index using a multiple indicator and multi-dimensional approach to cover a range of dimensions of access. Further, it used financial access as an input to socio-economic development and developed a new economic development index incorporating financial access. It then compared the level of socio-economic development of the various countries as measured by Human Development Index (HDI) alone, and by the modified index which incorporates financial access.

The results of the study showed that financial access is highest in Belgium, followed by Spain and Germany. Within the developing countries group, Hungary ranks first followed by Croatia and Bulgaria. Other than the sub-Saharan African countries, financial access in the South Asia region is also poor and countries such as Bangladesh, Pakistan, and Nepal rank very low in the index. Further, if financial access is included in Economic Development Index or modified HDI, the ranking of the countries as indicated by UNDP's HDI changes due to differences in the level of financial development. For instance, Belgium which ranks 17th in HDI ranks first in modified HDI reflecting the level of financial access.

Kendall et al. (2010) introduced a new set of financial access indicators for 139 countries. The primary purpose was to assemble a dataset of measures of the breadth of the usage of basic financial products, namely, deposit accounts, loans and payments. This set of indicators builds on previous work (Beck et al 2007b) using a

similar methodology, but is superior as it features broader country coverage and greater disaggregation by type of financial product and by type of institution supplying the product.

It was estimated that there were about 6.2 billion deposit accounts in the world or more than one for each adult. However, these accounts were not evenly distributed. There were 3.2 accounts per adult in developed countries and less than 0.9 accounts per adult in developing countries. Banks were the main providers of deposit services holding 80% of all deposit accounts in the world. About 20% of accounts were held outside the commercial banking sector in cooperatives, credit unions, government banks and microfinance institutions. Assuming three accounts per banked adult on an average puts the number of unbanked adults in developed countries at about 160 million or 19% of all adults and at 2.7 billion adults or 72% of the adults in the developing countries. The penetration of loans varied widely across countries and was closely correlated with economic development.

Beck and Brown (2011) examined survey data for 29,000 households from 29 transition economies to explore how the use of banking services is related to household characteristics and the structure of the banking sector. This study was the first one to examine how the quality of the financial infrastructure and creditor protection affect the use of banking services at the household-level. Two indicators of household use of banking services were employed, namely, whether any member of the household had a bank account and whether any member of the household had a bank debit or credit card. The use of bank accounts and bank cards were highly correlated.

The study found that the use of banking services was more common among households located in urban areas, households with higher income and wealth, as well as for households in which an adult member had professional education and formal employment. By contrast, banking products were used less often by households which depended on transfer income and by Muslim households. An attempt was also made to assess whether the variation in the relationship between individual and household characteristics and the use of formal banking services was associated with variation in bank-ownership and the development of the financial infrastructure across countries. It was found that foreign bank presence was positively associated with the use of banking products among high-income and well-educated households, but negatively associated with the use of banking products by households which relied on transfer income. However, there was no evidence that state-bank ownership would lead to a broader use of banking products among low-income or rural households.

Sarma (2012) used an Index of financial inclusion (IFI) to compare the extent of financial inclusion across different economies. The IFI values computed for various countries indicate that countries around the world are at various levels of financial inclusion. The IFI measures tend to indicate a general improvement in the level of financial inclusion between 2004 and 2010. While low and lower middle income countries dominate the low IFI countries, the medium IFI countries are dominated by upper middle and high income countries. Most of the high IFI countries are also high income countries. Thus, financial inclusion and income levels were found to move in the same direction, although there were some exceptions.

Demirgüç-Kunt and Klapper (2012) analyzed the Global Financial Inclusion (Global Findex) Database, a new set of indicators which was developed by the World Bank

with a view to measure how adults in 148 economies save, borrow, make payments, and manage risk. The data showed that 50% of adults worldwide had an account at a formal financial institution, though account penetration varied widely across regions, income groups and individual characteristics. Globally, more than 2.5 billion adults did not have a formal account, most of them in developing economies. In addition, 22% of the adults saved at a formal financial institution in the past 12 months, and 9% of them had taken out a new loan from a bank, credit union or microfinance institution in the past year. Although half of adults around the world were unbanked, at least 35% of them reported barriers to account use that might be addressed by public policy. The most commonly reported barriers reported were high cost, physical distance, and lack of proper documentation, though there are significant differences across regions and individual characteristics.

2.3.2 INTRA-COUNTRY ANALYSIS (INTER-REGIONALSTUDIESOUTSIDE INDIA):

Kliza and Pederson (2002) used panel data to examine household savings behaviour in Uganda and the role played by formal financial institutions in mobilising those savings. They showed that the probability that a household will acquire a deposit instrument from a financial institution increases significantly for both rural and urban households with improvements in several factors. Those factors include the level of information that is made available to the household, the degree of household access to the financial institution, the level of education of the head of household and the density of financial institutions in the area where the household is located. Among those households that had bank savings deposits, the level of net deposits was positively influenced by increases in the availability of credit facilities, lower transaction costs and higher permanent income. Relatively higher real rates of return on physical assets

and higher transaction costs both had significant negative effects on the level of net deposits held by households.

It was found that increased household size made it significantly more likely that a household would demand formal savings or loans, while household size was not significantly correlated with the demand for insurance. The probability of not demanding any financial service was higher for female-headed than for male-headed households. With regard to age of the household head, the results showed that age is significantly related to loan and insurance demand, and that there appeared to be a life-cycle effect for these two services. In contrast, there was no significant correlation between age of the household head and the demand for savings. Education was found to be a significant factor in determining households' demand for any of the three financial services. It was also demonstrated that better-educated heads were significantly less likely to use no formal financial service. In terms of the relationship between remittances and the demand for financial services, the results suggested that remittances were a substitute for insurance, but they were also a source for savings at a formal institution.

Martinez (2006) analyzed the factors that had prevented the development of an inclusive banking system in Zambia and suggested measures that would help improve access to finance in Zambia. The ratio of bank accounts to population in Zambia was one of the lowest in Sub-Saharan Africa. It was observed that the account holders were usually people living in the urban areas and with a regular employment in the public or private sector. It was found that for most households in Zambia, bank savings and deposits were merely considered to be a way to safeguard notes and coins and not a practical instrument to save money over time. Besides commercial banks, there were

no other types of financial institutions offering savings and deposits in Zambia, which could serve the needs of low-income households not served by commercial banks.

The limited access to banking services in Zambia was reflected in the low number of bank branches in urban as well as rural areas. Zambia's rural environment was not particularly conducive to the establishment of viable businesses. The rural areas suffered from lack of basic infrastructure and relatively high costs of operating bank accounts. Only 0.37% of the Zambian population had a credit or loan account with a commercial bank. It was observed that 73% of the total loan portfolio of banks was composed of loans granted to private firms, the remaining 27% being granted to individuals and households. Micro-finance Institutions only served 50,000 customers, representing 0.005% of Zambia's population.

The limited outreach of the Zambian banking system was attributed to several factors such as the inadequate sequencing of liberalization reforms, insufficient economic growth coupled with widespread poverty and lack of jobs in the formal economy, weaknesses in Zambia's national payments system and deficiencies in the legal and judiciary framework.

Solo and Manroth (2006) provided an overview of financial access in Bogotá and urban Colombia between 1998 and 2003. Access to financial services had been declining in Colombia, as shown by decreasing levels of financial depth and intermediation and decreasing availability of basic financial services in relation to population size. A household survey in Bogotá revealed that 61% of the adult population did not have access to any form of formal financial services such as checking or savings accounts, payment services or loans. Both the number of current and savings accounts per 100 inhabitants decreased between 1998 and 2003. The

growing use of electronic banking services reflected increased acceptance of alternative banking technologies by the banked. It was found that the average number of individuals served by a bank branch increased by about 25%.However, the ATM coverage by banks had shown an improvement. As private banks provided the majority of financial services, there were low levels of financial access in Colombia.

The supply side analysis of financial services showed that banks in Colombia provided costly services mainly catered to the high income clients. The high minimum balance requirements also created barriers to accessing financial services. Lack of resources and high costs of bank accounts were identified as key reasons why people did not use formal financial services. The demand side perspective of financial exclusion revealed that the majority of the unbanked were poor. The unbanked had three times greater unemployment than the banked and also had lower educational attainment. The unbanked saved and borrowed largely in the informal sector. However, the high home ownership rates show that the unbanked had the capacity to build assets. Location was also a factor leading to financial exclusion. It was found that there was a large bank branch presence in higher income areas. The existing gaps between supply and demand have led to the exclusion of a significant share of the population from formal financial services. This study points out to the key issues of financial access in Colombia both from the supply-side and demand-side.

Djankov et al. (2008) used nationally representative survey data from Mexico to compare households with savings accounts in formal financial institutions to their neighbours who do not have such accounts. Their major objective was to investigate why such few people have savings accounts and further to examine the view that bank

usage is low simply because the poorer the household, the more likely it is that the cost of a bank account outweighs its benefits.

The findings revealed that although neighbouring banked and unbanked households had similar demographic and occupational profiles, the former were more educated and had far greater wealth. The median banked household spent 32% more per capita than the median unbanked household, and the median per capita wealth in banked households was 88% higher than that in unbanked households. The findings also revealed that education levels, wealth and unobserved household attributes that might be correlated with wealth and education played a major role in explaining who is banked.

It was found that though the banked households earned more than the unbanked, this difference in income was smaller than that in wealth. The latter were also significantly less educated. Income alone accounted for little of the variation in bank usage. It was felt that low levels of education or saving could be the most important reasons for staying unbanked. This study showed that though the level of assets does affect the decision of a household to bank, too much weight has been put on poverty as an explanation for the low usage of bank accounts.

Conrad et al. (2008) investigated the performance of Germany's three-pillar banking system in providing financial services nationwide, regarding different outreach indicators. They examined different outreach measures at the federal state and district levels for the three banking pillars by univariate analyses. They also sought to explain the branch penetration of the regional savings and cooperative banks in all German districts by multivariate analyses.

At the federal state level, bank outreach showed South-North and West-East gaps. Combining regional and bank data at the district level for 2005, they examined the determinants of geographic and demographic branch penetration of the regional savings and cooperative banks. Both banking groups showed a larger branch penetration in more wealthy regions, but maintained a larger number of branches per inhabitant in less densely populated regions, easing access to retail banking services. With their comparatively large branch penetration in less wealthy regions, public savings banks helped to reduce regional economic disparities. The branch penetration of both banking groups was found to increase with the share of elder people and bank size in a region. The comparatively low concentration and high branch density of the German banking market may imply broader access to financial services. It was opined that while cross-country evidence shows a large outreach of the German banking sector at the national level, a comprehensive study at the regional level is missing so far.

Doan et al. (2010) used a novel dataset from peri-urban areas of Ho Chi Minh City, Vietnam in 2008 to examine how the poor use their loans, and identified the factors affecting their credit participation and credit constraints with the help of a probit model. The study found that the presence of many commercial banks in the areas does not help the poor who rely heavily on informal credit. Loans in the peri-urban areas were mainly used for non-productive purposes.

It was found that households in more rural areas had a higher probability of borrowing than more urban households mainly due to better community relationships and higher interpersonal trust. Competition by borrowing neighbours adversely affected the opportunity for borrowing in urban areas whereas the poor households' borrowings

relied much more on subsidized credit funds. Furthermore, the poor were highly credit-constrained. Wealthier households, in terms of asset holdings and phone possession, among the poor group appeared less credit-constrained. However, except in the most rural part of the study area, the likelihood of credit constraints was found to increase with distance to the nearest banks, which suggests that supply-side intervention could help in overcoming credit constraints.

Bendig et al. (2009) observed that households' choices for savings products, loans, and insurance in developing countries are strongly interconnected. They simultaneously estimated the determinants of demand for these services by applying a multivariate probit model on household survey data from rural Ghana. The findings showed that poorer households are less likely to participate in the formal financial sector. Further, the usage of savings products, loans, and insurance also depends on other factors, such as households' risk assessment, past exposure to shocks, and trust in the providing institution.

Boakye and Amankwah (2012) examined the determinants of financial product usage in Ghana. The study found that financial literacy, educational level, income or expense stability, urban residence, access to electricity, access to communication channels and local's perception about inherent benefits of products were factors that determined whether a person would use a financial product. Though a relatively large proportion (85%) of Ghanaians claimed to be financially literate, the study noted that only 6% of the same group had any form of tertiary education. The low level of education suggested that clients would have difficulty understanding complex financial products. Thus financial literacy, which only introduces the products to the clients but fails to address the use, risks and benefits of the products, is not enough for such

environments. They concluded that financial education, financial products that cater for volatile cash flows, communication of inherent benefits derived from financial products and the use of mobile phones and internet to deliver services would improve the use of financial products in Ghana.

Seluhinga (2013) analyzed the determinants of individual access to formal financial services for livelihood sustainability in Tanzania. It was observed that a majority of Tanzanians, especially in rural areas, were still unable to use financial services. They were forced to rely instead on a narrow range of informal financial services providers, which were often very expensive and risky. This constrained the ability of the people to participate fully in sustainable financial markets to increase their income and to contribute to sustainable development. Hence the study aimed at scrutinizing the determinants of access to formal financial services at the individual level in Tanzania. Data for the study was collected from various primary and secondary sources. Primary data were collected from the three districts whereby two wards were selected from each district. The results revealed that education, income and distance to formal financial service providers were significant and positively affect the access to formal financial institutions in Tanzania as far as sustainable development is concerned.

2.3.3 INTRA-COUNTRY ANALYSIS (INTER-STATE AND INTRA-STATESTUDIES IN INDIA)

A study by **Basu** (2006) revealed that access to finance for the rural poor in India had improved over the past decades, with public sector commercial banks being the dominant providers of formal rural finance. However, the vast majority of India's rural poor still did not have access to formal finance. The World Bank–National Council of Applied Economic Research (NCAER) Rural Finance Access Survey (RFAS) 2003

indicated that rural banks served primarily the needs of richer rural borrowers. It was observed that about 66% of large farmers had a deposit account and 44% had access to credit. Meanwhile, the rural poor faced severe difficulties accessing savings and credit from the formal sector. 87% of the poorest households surveyed (marginal farmers) did not have access to credit, and 71% did not have access to savings from a formal source. Access to formal credit was particularly a problem for the poor when trying to meet unforeseen expenditure and difficulty in accessing formal finance had resulted in a heavy reliance among poorer rural households on informal finance, mostly moneylenders and shopkeepers. Access to other financial services such as insurance was also limited among the rural poor, even though many in this segment would have liked access to insurance. Over 82% of households surveyed in RFAS 2003, had no insurance, and practically none of the poorest households surveyed had insurance.

It was found that banks did not want to serve the rural poor for two basic reasons. Firstly, there was uncertainty about the repayment capacity of poor rural borrowers whose income was irregular. Secondly, the transaction costs of rural lending in India were high, mainly due to *s*mall loan sizes, the high frequency of transactions, the large geographical spread, the heterogeneity of borrowers, and widespread illiteracy. Small rural borrowers found rural banks unattractive as these banks did not provide flexible products and services so as to meet their income and expenditure patterns. Moreover, the transaction costs of dealing with formal banks were high and procedures for opening an account or seeking a loan were cumbersome and costly.

Thyagarajan and Venkatesan (2008) aimed at analyzing the results of the no frills financial inclusion drive in Cuddalore district, Tamil Nadu, India, in terms of coverage by geographical and other categories, cost involved in account opening and

maintenance and transactional usage behaviour of such accounts. The study had undertaken an examination of the different strategies adopted by the banks in the implementation of the project. To understand the reasons expressed by the households for the unwillingness to open bank account, a few branches which had recorded a high degree of unwillingness were visited.

This study presented an overall position of the financial inclusion project in Cuddalore district after one year of its implementation. It was found that 25.3% of the households were still left out of the banking net even after the drive on account of unwillingness to open accounts. This accounted for around 47% of the households which did not have bank accounts already before the implementation of the project. There were large variations in terms of reporting willingness and unwillingness by the banks. The reasons for possible unwillingness could be that many villages were about 15 to 20 kms away from the branches and many households were not in a position to save and use the accounts. But according to the study, the most important reason could be that some branches were not willing to open the accounts as it was felt that these new accounts would not be profitable.

It was revealed that 72% of the accounts had zero or minimum balance even after one year of opening of the accounts. Only 15% of the customers were operating the accounts and bulk of the accounts had not even operated once. The operating accounts showed a steady increase in balances over one year. One of the main reasons behind the non-operative accounts was the lack of financial literacy. Many account holders were not even aware of the purpose of opening a bank account and having a passbook. It was found that at current levels of transaction and average balances, no frills would break even the maintenance cost but not the account opening costs.

Bhandari (2009) studied the drive to financial inclusion in the form of the growth in bank accounts of scheduled commercial banks and the changes in below poverty line population across different states in India. His study provides an insight into the demographic decomposition of scheduled commercial bank activities regarding the growth of savings and credit accounts. In addition, the growth of savings and credit was also investigated. The total study period (1980 – 2007) is divided into three sub periods, namely, pre reform (1980-1990), reform period (1991-1999) and post reform period (2000-2007). The results show that the reform period was the worst in terms of the growth in bank accounts. Rural areas fared better in terms of deposit accounts during pre reform period, while during post reform period the highest growth in bank accounts was observed in metropolitan areas. As far as credit growth of commercial banks is concerned rural credit was severely neglected during the reform period, but revived in the post reform period.

During the post reform period the highest growth in bank accounts was observed in metropolitan areas due to the growth in service and manufacturing sector. In rural areas, the high growth in bank accounts was accompanied by reduction in below poverty line population in Kerala, Gujarat, Rajasthan and Haryana. However, in urban areas the high growth in bank accounts was accompanied by higher reduction in below poverty line population in Jammu and Kashmir, Andhra Pradesh, Orissa, Madhya Pradesh and Rajasthan. The result suggests that the growth in bank accounts was not significantly associated with the reduction in population below poverty line across states. As a poverty reduction strategy, developing inclusive financial systems should be given priority, which is financially and socially sustainable.

Ramji (2009) conducted a study to assess the implementation of the financial inclusion drive and usage of banking services by households in Gulbarga district, Karnataka, India. Financial inclusion was referred here to the total number of households having access to at least one bank account. The study documented the process by which households acquired savings accounts. It looked at the means by which banks identified unbanked households, the manner in which accounts were opened and the strategies adopted by banks to spread awareness about the financial inclusion drive. The study also aimed at finding out the ways in which the financial inclusion drive shaped the financial lives of households. It also examined whether access to a savings account led to usage of that account and of other formal financial services. The study focused on low-income households who were considered as the most financially excluded.

The study revealed that though the number of households with bank accounts doubled over the duration of the financial inclusion drive, 36% of the sample remained excluded from any kind of formal or semi-formal savings accounts and about 70% of the sample did not have a bank account. Further, bank accounts were opened typically to receive government assistance mostly under the National Rural Employment Guarantee Programme (NREGP). Usage and awareness of the accounts, however, remained low. Thus access to accounts did not often lead to usage.

Chakravarty and Pal (2010) developed an index of financial inclusion and illustrated the index using cross-country and sub-national level data. Six attributes of financial inclusion were considered, namely, demographic penetration defined as the number of bank branches per 10 lakh people, geographic penetration defined as the number of bank branches per 1000 square-kilometre land area, number of deposit accounts per

1000 people, number of credit accounts per 1000 people, deposits-income ratio and credit-income ratio. Data on these attributes were used for 24 /27 states corresponding to the year 1991, 2001 and 2007 from various sources. It was observed that all six variables are positively correlated and the correlation coefficients are all significant at 5% level.

It was shown that there was wide variation in terms of financial inclusion across states in India. Surprisingly, the range of the index increased from 0.38 in 1991 to 0.46 in 2007. Comparing the computed financial index for 1991 and 2001, it was found that the levels of financial inclusion in India declined from the year 1991 to 2001. The same was true also in most of the states. However, in India as well as in each of its states the levels of financial inclusion increased during 2001-2007. Delhi and Goa have consistently maintained their first and second ranks, respectively, in all the three years. However, the relative positions of most of the states have changed over time. A notable feature was that in all states, except Delhi, the contribution of geographical penetration of bank branches to overall achievement was the least.

Johnsonand Meka (2010) investigated the nature of financial exclusion and major reasons leading to the financial exclusion of rural households in Andhra Pradesh. It was found that while 37% of the excluded households cited the insufficiency of funds as a reason for not having a savings account, 49% of them cited a reason related to banks or the procedure of opening an account. The other reasons cited by households were the lack of awareness of the banks and their products and lack of required documentation. Although 79% of rural households had access to a savings account, only 14% of these accounts were opened for the purpose of savings. The results revealed that a much greater share of rural households had access to a formal savings

account than they did only ten years ago, though many of these accounts were not actively used for savings. Similarly, a much larger proportion of households were indebted. It was found that recent government initiatives as well as the expansion of the microfinance sector have had an enormous impact on financial inclusion of rural households in recent years.

Swamy (2011) analyzed the issues and challenges involved in financial inclusion and attempted to highlight the factors that can help in achieving financial inclusion for inclusive growth in India, particularly in the context of the feared global slowdown and negative impact of high inflation on the Indian economy. The study indicates that there is a need for further broadening of the bank services in the rural areas. The analysis revealed that there has been uneven distribution of the banking services in terms of population coverage per bank office in the six regions of the country, viz., northern, north-eastern, eastern, central, western and southern. There is a need for addressing the banking needs of the north-eastern, eastern and central regions of the country. The analysis pointed out that a very large number of farmer households have been excluded from the financial services. There is a need to provide banking services to all the social groups in an equitable manner so as to achieve social and economic equity in the country. The study shows that financial inclusion among the farmer households has so far been able to serve only the large and medium farmers and has completely neglected the marginal and small farmers.

Kumar and Mishra (2011) attempted to measure and understand financial inclusion by looking at the supply-side of financial services in terms of banking outreach indicators such as number of deposit and credit accounts, number of bank branches, average deposit and credit amount per account and credit utilized and demand-side for

financial services in terms of indicators of household level access such as the proportion of households having saving, credit and insurance facilities. Separate composite financial inclusion indices using both the data sets were calculated for the year 2002-03 for all the States/Union Territories of India and used as complementary to each other to get a comprehensive picture. In both the cases, it was observed that there was a lot of variation across states. Even within a state, differences were clearly evident between rural and urban areas for the different indicators considered. The presence of informal sector in providing financial services was significant, especially in rural areas. It was suggested that from a policy perspective, it is imperative to widen the ambit of policy initiatives under financial inclusion, which will reduce the dependency on informal source of financial services, particularly credit. The authors also stated that it is necessary to provide greater focus on vulnerable states and regions in providing access to financial services on which they are lagging.

Singh and Kodan (2011) have analyzed the relationship between financial inclusion and development with the help of the IFI developed by Sarma (2008), examined the spatial pattern of financial inclusion in India and attempted to identify the factors associated with financial inclusion. 15 states and 6 union territories of India were selected for the purpose.

Punjab ranked first in terms of IFI and second in terms of the HDI. Financial inclusion was found to be very closely and positively related to HDI and per capita Net State Domestic Product (NSDP). Though the IFI was positively correlated to the coefficients of sex-ratio, literacy rate and employment rate, these coefficients were not found to be statistically significant to financial inclusion. It was found that four states (Punjab, Tamil Nadu, Kerala and Karnataka) had very high financial inclusion, four

states (Haryana, Gujarat, Andhra Pradesh and Maharashtra) experienced moderate financial inclusion and seven states (Assam, Bihar, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh and West Bengal) experienced low levels of financial inclusion. There was no significant disparity in financial inclusion among the states, but the range of the value of the IFI was high. This study provides useful information on the level of financial inclusion across the states in India. For a more meaningful analysis of the nature of financial inclusion, an intra-state analysis would be desirable as this would help identify the state-specific factors determining financial inclusion.

Ghosh (2011) examined the factors affecting banking outreach at the sub-national level in India. His study utilized a consistent set of indicators of banking outreach and explored their empirical association with a number of state-level variables, such as those relating to its economic structure, educational attainment, infrastructure availability and institutional quality. The analysis highlighted an important role for state-level variables in explaining banking outreach. While the importance of literacy in explaining banking outreach was found to be quite pervasive, the analysis revealed that institutional quality was an important factor affecting the penetration and availability of banking services, although its role in impacting the use of banking services was limited.

Using time series data on Indian states for 1973-2004, the analysis indicated a divergence across states in terms of the outreach of formal finance over time, ceteris paribus. The analysis indicated significant differences in the extent of banking outreach between coastal and land-locked states. The analysis also suggested a role for improving labour regulations. Generally educational attainment and infrastructure development draw significant attention, owing to their visible impact on banking

outreach. Labour regulations, however, were observed to be important as well. By constraining output and employment, protective employment regulations could also hinder banking outreach. The study suggested a reverse link from growth to finance, that is, rigid state level labour regulations could hold back industrial growth and in turn, impede banking outreach.

Kuri and Laha (2011) attempted to measure the inter-state variations in the access to finance using a composite index of financial inclusion. There was observed to be a wide inter-state variation in the level of financial inclusion in India. Among the states of India, Chandigarh was at the top and Manipur was at the bottom in terms of the level of financial inclusion. West Bengal was found to lie among lower category states of India in the process of financial inclusion. District-wise variation of the extent of financial inclusion was not found to be so pronounced as most of the districts belonged to the low financial inclusion category. Inter-village analysis of financial inclusion revealed that some surveyed villages were better performers than others in including the excluded in the formal financial network. In this context, the study dealt with the socio-economic determinants of financial inclusion in rural West Bengal.

Empirical results using the binary probit regression model showed that the asset level of the household, as determined by the operated land holding, significantly enhanced the probability of becoming a bank customer. However, the land reform measures, which have created significant impact on landless, small and marginal farmers in West Bengal, especially in providing economic security, failed to augment the process of financial inclusion by bringing them in the network of financial services. The most striking result is that the customers' lack of awareness of banking services was found to significantly determine the level of inaccessibility of basic financial services.

Broadly, the existence of information asymmetry in financial services was found to act as an obstacle to the process of financial inclusion.

Kumar (2011a) studied the spatial and temporal distribution of financial inclusion efforts of the postal department and suggested steps for further improvements of improving access and usage of finance, especially for the backward and disadvantaged fraction of the society. His study used information on state-wise characteristics, which primarily reflect not only the level of financial activity and awareness but also the factors that contribute towards higher financial aspirations and requirements. The analysis spans across eighteen major states of India over a period from 1990 to 2008.

The study focused on the postal department treating it as a vital medium of financial inclusion, where individuals could obtain a wide array of financial services commencing from opening of a basic savings account to long term savings products. It provided more sophisticated financial services, such as, pension schemes, insurance products, micro credit etc. The output variables consisted of number of savings accounts and balances kept in such accounts. The income per capita and population constituted the input variables. The study employed the Data Envelopment Analysis (DEA) approach to examine the inclusion intensity and inclusion growth across the states.

The results revealed that although there has been improvement, significant progress has not been observed in postal savings penetration and its usage as reflected by accounts per capita and savings per capita trend during the period of study. Across the states, low preference for postal services seemed to be the norm by the more advanced states. This could be attributable to superior avenues, better socio-economic factors and other demographic aspects available to the people residing in the more prosperous

regions. The Data Envelopment Analysis reveals a more or less continuous enhancement of the inclusion intensity, measured as the level of financial inclusion of a region compared to the optimal frontier, notably from 1999 onwards. The inclusion growth also registered positive and beneficial changes. Among the constituents of inclusion growth, both intensity change and technology change effects were found to be positive for most of the years. The results indicate that both usage of postal services and inherent macro economic conditions of the regions have contributed towards improved inclusion.

Chattopadhyay (2011) aimed at examining the extent of financial inclusion in West Bengal. The study followed a multidimensional approach while constructing the index of financial inclusion (IFI), its approach being similar to the one used by Sarma (2008). The IFI used in the study considered three dimensions of financial inclusion, namely, banking penetration, availability of the banking services and usage of the banking system. The index was computed for the period 2006-07 to 2009-10. The index was first computed for 23 states of India along with all-India average. Then the index was computed for 18 districts of West Bengal for which data was available.

The study showed that Kolkata district had the highest value of IFI followed by Darjeeling. Only Kolkata district belonged to the high IFI group with IFI value of 0.5 or more and the rest of the districts belonged to the low level of IFI value, that is, 0 to 0.3. In order to get a comparable picture, state-wise IFI was also computed. It was found that Kerala had the highest value of IFI followed by Maharashtra and Karnataka. The six states of Tamil Nadu, Punjab, Andhra Pradesh, Himachal Pradesh, Sikkim and Haryana form the group of medium IFI states with IFI values between 0.3

and 0.5. In fact, all-India average IFI was also in the medium IFI category. All other states had low IFI values, ranging between 0.0 and 0.3.

A survey of 329 households was conducted in three districts of West Bengal, namely, East Midnapore, Birbhum and Murshidabad in order to understand the nature and extent of financial inclusion in the State. The study focused on some socio-economic indicators like occupation, literacy, landholding pattern in rural areas, rural indebtedness and people's opinion about banking services in India in general and West Bengal, in particular. It was observed that around 38% of the respondents felt that they did not have sufficient income to open an account in the bank. It was also found that moneylenders were still a dominant source of rural finance despite wide presence of banks in rural areas. It was observed that it was not only the supply-side factors, but also the demand-side factors that were responsible for financial exclusion.

Kumar (2011b) utilized state-wise panel data spanning over a period from 1995 to 2008 in an attempt to assess the behaviour and determinants of financial inclusion in India. It was found that the increase in bank branch network, captured by average population per branch, was found to have a beneficial impact on deposit and credit penetration. However, the strength of causality was weaker in case of credit penetration. It was found that income had a positive and significant role in determining the level of financial inclusion. Further, the employee base was also found to be a significant variable indicating that employed people seem to be more active, aware, interested with regard to banking activities, which would contribute towards financial inclusion. Using tests for convergence it was found that the states tend to maintain their respective level of banking activity vis-à-vis the rest of the states with the policy

implication that more attention needs to be given to the low performing regions to enable them to close the gap with respect to better performing regions.

Pal and Pal (2012) analyzed income related inequality in financial inclusion in India using a representative household level survey data, linked to state-level factors. Their findings show that the extent of financial exclusion was quite severe among households across all income groups. Further, income related inequality in financial inclusion varied widely across sub-national regions in India, but it was quite high in most of the cases. They opined that income related inequality in financial inclusion could not be considered as synonymous to income inequality. A notable result was that greater availability of banking services fostered financial inclusion, particularly among the poor. This study also provided estimates of the effects of various socio, economic and demographic characteristics of households on propensity of a household to use formal financial services, and compared that for rural and urban areas.

Their econometric analysis revealed that per-capita income was a major determinant of a household's propensity to use formal financial services. It also showed that greater availability of banking services could foster financial inclusion, particularly among the poor households. It was found that education, employment status and household size also significantly affected the probability of a household to be financially included, in both rural and urban sectors. Household income and employment status seemed to have stronger effect on an urban household's propensity to be financially included compared to that of a rural household. It was also found that the probability of a rural household to use formal financial services was greater than that of an urban household.

Chithra and Selvam (2012) observed that there was wide inter-state variation in the level of financial inclusion in India. Among the different states of India, Chandigarh

was at the top and Manipur was at the bottom in terms of the level of financial inclusion. Further, out of 28 states in India, Maharashtra was at the top and Chhattisgarh was at the bottom in terms of the level of financial inclusion index. The empirical analysis for identifying the determinants of financial inclusion revealed that socio-economic factors like income, literacy and population were found to have significant association with the level of financial inclusion. Further, physical infrastructure for connectivity and information were also found to have a significant association with financial inclusion. Among the banking variables deposit and credit penetration were found to have a significant association with financial inclusion. Finally, the credit-deposit ratio and investment ratio were not found to be significantly associated with financial inclusion.

Bagli and Dutta (2012) sought to examine the achievement of the Indian states with respect to financial inclusion. Applying the methodology of rotated principal component analysis, this study computed a comprehensive measure of financial inclusion for each state. For this analysis ten indicators of financial inclusion were considered. The ranks of the states in accordance with the composite score showed that although the state of Goa was the best, most of the states in the southern region performed better in terms of financial inclusion. However, the levels of financial inclusion of the states in India had a low mean and high disparity. This study revealed a strong positive association between the human development and the financial inclusion of the states in India.

A study by **CRISIL** (2013) reveals that in 2011, India's overall CRISIL Inclusix, a comprehensive index used to measure financial inclusion, stood at 40.1 (on a scale of 100) which was much below some of the highest ranked states/union territories such as

Puducherry (79.6), Chandigarh (78.1), and Kerala (76.1). However, there was a definite improvement from the scores in 2010 (37.6) and 2009 (35.4). Improvement in deposit penetration score was considered as the key driver of this improvement. This score is a reflection of under-penetration of formal banking facilities in most parts of the country. Only one in two Indians has a savings account, and only one in seven Indians has access to banking credit. Further, the bottom 50 scoring districts have just 2 per cent of the country's bank branches. The study revealed that the number of savings bank accounts was about four times the number of loan accounts. The findings of the study underscored the wide disparities that exist across India and within states in terms of access to financial services**.**

2.4 SOME OBSERVATIONS AND GAPS IN EXISTING LITERATURE

The review of literature undertaken by the researcher has revealed that improving access to finance plays a crucial role in promoting economic growth, reducing income inequality and alleviating poverty. A financial system becomes more efficient and functions better when it is more inclusive. Though substantial research has been done on financial depth, relatively less research has been done on financial breadth.

The cross-country and intra-country studies have been found to be useful to compare the degree of financial inclusion across countries or across regions within a particular country. Several researchers have attempted to develop consistent and comparable cross-country indicators of banking system outreach. These indicators would be useful to measure access to and use of financial services. Household surveys have also been undertaken so as to relate various household characteristics to the use of formal financial services.

However, the researcher has identified certain gaps in the existing literature. In a large number of empirical studies, access to financial services has generally been considered in terms of demographic penetration or geographic penetration. The usage of banking services has generally been considered in terms of only deposits and loans or credit. This could be largely attributable to non-availability of data on other indicators of access and usage of financial services. Furthermore, the time frame for comparing the degrees of financial inclusion across or within countries is found to be limited.

A review of the studies on financial inclusion in India reveals that many of these studies focus mainly on rural areas or low income groups. The problem of financial exclusion could, however, be experienced even in urban areas. Further, most of the studies are based on secondary data. Although household surveys are often the only way to get detailed information on which households use which services from which types of institutions, household surveys focusing on financial services are few. Rigorous research on measuring and evaluating the impact of access to financial services requires detailed data at the micro level. Many studies undertaken at the intra-state level are constrained to selected districts or regions within the state or consider few financial products.

The present study seeks to fill these gaps by examining financial inclusion in both districts and across all talukas in the state of Goa for a period of eighteen years. In addition to secondary data, the study uses primary data so as to identify the household characteristics which are associated with the usage of banking services. For this purpose, the study covers households residing in both rural as well as urban areas. Thus, supply-side data is complemented with a household survey so as to identify the characteristics of the population with access to the banking system.

CHAPTER III

METHODOLOGY

3.1 INTRODUCTION

The present study is empirical in nature in which the researcher aims at examining the extent of financial inclusion in Goa through an in-depth analysis of the access and usage of banking services across the talukas in Goa. The analysis of secondary data is for the period 1994-95 to 2011-12.

In this study, in order to analyze the extent of financial inclusion at the taluka-level, financial inclusion is defined as the process that ensures the ease of access and usage of the formal financial system for all members of an economy. This definition emphasizes two dimensions of financial inclusion, namely, access and usage of the financial system.

As banks are the gateway to the most basic forms of financial services, banking inclusion/exclusion is often used as analogous to financial inclusion/exclusion (Sarma, 2008). In this study, banking inclusion is considered as analogous to financial inclusion. This study refers exclusively to commercial and cooperative banks functioning in the state of Goa for the simple reason that the banking sector intermediates most of the funds in the economy.

In order to characterize banking sector outreach across the talukas, this study uses two classes of indicators that correspond to the access to and use of banking services. These dimensions of access and use of banking services are largely motivated by availability of relevant and consistent taluka-level data so as to compute comparable IFI. It must be noted that access to banking services is not synonymous with the use of banking services. Individuals who enjoy access to banking services might decide not to use them, due to socio-cultural reasons or high opportunity costs. It is therefore necessary to carefully distinguish between these concepts when discussing banking sector outreach. Access refers to the possibility to use banking services and usage refers to the actual use of financial services.

The access to banking services is measured in terms of two indicators, namely, geographic branch penetration (i.e. bank branches per 100 square kilometre) and demographic branch penetration (i.e. bank branches per 10000 people), basically reflecting the availability of banking services. The indicator of branches per square kilometre helps characterize the geographic penetration of banks and can be interpreted as a proxy for the average distance of a potential customer from the nearest bank branch. Higher geographic penetration would indicate lesser distance and easier geographic access. The per capita measure of branches is used to characterize the demographic penetration of the banks and can be interpreted as a proxy for the average number of people served by each bank branch. Higher demographic penetration would indicate fewer customers per branch, and hence easier access. Higher branch intensity in demographic and geographic terms implies greater access to the use of banking services by households. The use of banking services is measured in terms of total deposits mobilized and total credit advanced. A larger amount of deposits and credit is interpreted as indicating greater usage of banking services by households.

In order to understand financial inclusion at the household level, an attempt is made to relate certain characteristics of the household to the degree of financial inclusion.There are a number of ways by which one can examine the degree or extent of financial inclusion among households. In general, financial inclusion is measured on the basis of the number of bank accounts held by households. In the present analysis, the number of bank accounts that a household has is used as an indicator of financial inclusion. An attempt is also made to identify the factors affecting the usage of banking services such as deposits, loans, insurance, payments and remittances, pensions and mutual funds by households. This is done with the help of information gathered through a household survey. The survey has been conducted in rural as well as urban areas and both Above Poverty Line (APL) and Below Poverty Line (BPL) households have been interviewed. This study is unique as it is the only intra-state study, to the researcher's knowledge, that has been undertaken in Goa to measure financial inclusion at the taluka and household levels.

This chapter presents a detailed description of the methodology employed for the study. The chapter begins with definitions of the main concepts and measures used while collecting primary data for this study. This is followed by describing the sampling design, the index of financial inclusion, the multiple regression model and the binomial logit model estimation. The chapter ends with a clear definition of the variables used in these models.

3.2 OPERATIONAL DEFINITIONS

In the present study, an attempt is made to analyze the access and usage of banking services by households in Goa. The household is the basic unit of analysis in the study. The main concepts and measures used while collecting primary data for this study have been defined below.

1. **Household**: According to the Census of India 2011 (Directorate of Census Operations, Goa, 2012), "a 'household' is usually a group of persons who normally live together and take their meals from a common kitchen. Persons in a household may be related or unrelated. However, if a group of unrelated persons live under one roof, but do not take their meals from the common kitchen, then they are not constituent of a common household." In this study, this definition is followed and further modified. For the purpose of this study, if a person is working abroad or in another city but contributing to household income, he/she is considered as a member of the household. Similarly, if a child is studying out of Goa but is dependent on his/her parents, then he/she is considered as a member of the household. Those entering the household on account of marriage and new born babies are counted as members of the household, even if they had lived with the household for less than six months.

2. **Household size**: The number of resident members and non-resident dependents of a household, as well as non-resident members, who are contributing to household income, are considered while calculating household size.

3. **Head of the Household**: The head of a household is generally the person who bears the chief responsibility for managing the affairs of the household. He/she is the main decision-maker in the household and the person best informed about the household's finances. Usually, he/she is the chief earner or the oldest member in the household.

4. **Household Income**: Household income refers to regular receipts such as wages and salaries, income from self-employment, interest and dividends from invested funds, and pensions or other benefits from government schemes. Household income comprises the regular or recurring receipts of households. It provides a measure of resources available to the household for consumption and savings.

5. **Literacy**: A person aged seven years and above who can both read and write with understanding in any language is considered as literate. It is not necessary that a person should receive any formal education to be considered as literate (Directorate of Census Operations, Goa, 2012).

6. **Type of house**: A pucca house is one which has walls made of burnt bricks, stones (packed with lime or cement), cement, concrete, timber, etc, and roofs made of tiles, GCI (Galvanised Corrugated Iron) sheets, asbestos cement sheet, RBC (Reinforced Brick Concrete), RCC (Reinforced Cement Concrete) and timber etc. Flats and bungalows are also pucca houses but with modern tiles and fittings and roofs made of RCC.

A kutcha house is one which has walls and/or roofs of which are made of materials other than those mentioned above, such as un-burnt bricks, bamboos, mud, grass, reeds, thatch, loosely packed stones, etc. A semi -pucca house is one which has fixed walls made up of pucca material but roof is made up of the material other than those used for pucca house.

7. **Urban and rural areas**: The definition of urban areas used in this study is the same as that adopted by the Census of India 2011. Accordingly, urban areas are defined as:

"(a) All statutory places with a municipality, corporation, cantonment board or a notified town area committee, etc.,

(b) A place satisfying the following three criteria simultaneously:

(i)Minimum population of 5,000,

(ii)At least 75 per cent of male working population engaged in non-agricultural pursuits, and

(iii) A density of population of at least 400 persons per sq km (1,000 per sq mile)" (Directorate of Census Operations, Goa, 2012)

Cities, that is, towns with a population of 100000 and above, and census towns have been considered as urban areas.

According to the Census of India 2011 (Directorate of Census Operations, Goa, 2012), "all areas which are not urban are by definition rural. The basic unit of rural areas is the revenue village which has definite surveyed boundaries. The revenue village may comprise several hamlets but the entire village has been treated as one rural unit."

3.3 SAMPLING DESIGN

The study uses primary data made available by means of a structured interview schedule administered to 400 households across four talukas in the state of Goa. The data for the study was collected during the period April 2013 to July 2013. A five-stage stratified sample design has been adopted so as to generate representative samples. Sample districts, talukas, villages and towns, wards and households formed the five stages of selection for the sample.

At the first stage of selection, both districts, namely, North Goa District and South Goa District were selected. At the second stage of selection, talukas were selected on the basis of the composite service sector index. According to this index, there were three talukas in the high development category, five talukas in the medium development category and three talukas in the low development category (Nayak and Sudarsan, 2008). Accordingly, for the present study, one taluka from the high development, two talukas from the medium development and one taluka from the low development category were selected. Bardez and Ponda in North Goa District and Mormugao and Canacona in South Goa District were selected. Bardez was categorized as belonging to

the high development category, Mormugao and Ponda belonged to the medium development category and Canacona belonged to the low development category.

At the third stage of selection, within each taluka, two rural areas and two urban areas were randomly selected on the basis of the lottery method. The proportion of households from rural and urban areas respectively was decided on the basis of the urbanization figures of the respective taluka as provided by the Census of India 2011 (Directorate of Census Operations Goa, 2012). Accordingly, 68% of the households in Bardez, 62% of the households in Ponda, 85% of the households in Mormugao and 28% of the households in Canacona were selected from urban areas.

Table 3.1: Distribution of Sample Households by Taluka and Locality

District/Taluka / Location	North Goa District		South Goa District	
	Bardez	**Ponda**	**Mormugao**	**Canacona**
Urban area I	34	31	42	14
Ward 1	17	16	21	7
Ward 2	17	15	21	7
Urban area II	34	31	43	14
Ward 1	17	16	21	7
Ward 2	17	15	22	7
Urban Households	68	62	85	28
Rural area I	16	19	10	36
Ward 1	8	10	5	18
Ward 2	8	9	5	18
Rural area II	16	19	5	36
Ward 1	8	10	3	18
Ward 2	8	9	2	18
Rural Households	32	38	15	72
Total	100	100	100	100

At the fourth stage of selection, the wards were randomly selected on the basis of the lottery method. Each city, census town or village is further divided into localities or wards. Two wards in each urban area and two wards in each rural area were covered.

Hence, within each taluka, eight wards were selected. The study covered 32 wards across four talukas in Goa. The number of households selected from each ward in urban areas and rural areas is presented in table 3.1.

At the fifth stage of selection, households were selected from the list of voters (as per the Special Summary Revision 2013 published by the Election Commission of Goa) by means of systematic random sampling.100 households from each of the four talukas (Bardez and Ponda in North Goa and Mormugao and Canacona in South Goa) were interviewed. In Bardez, 17 households from each of the wards in urban areas and 8 households from each of the wards in rural areas formed part of the sample. In Ponda,16 households each from two wards in urban areas, 15 households each from the other two wards in urban areas, 10 households each from two wards in rural areas and 9 households each from the other two wards in rural areas formed part of the sample. In Mormugao,21 households from each of the three wards in urban areas, 22 households from the fourth ward in urban areas, 5 households from each of the two wards in rural areas, 3 households from the third ward and 2 households from the fourth ward in rural areas formed part of the sample. In Canacona, 7 households from each of the wards in urban areas and 18 households from each of the wards in rural areas formed part of the sample.

These households were further stratified into two groups, namely, below poverty line (BPL) and above poverty line (APL). Those households were deemed BPL as per the list of BPL procured from the District Rural Development Agency (DRDA) and as per their ration cards. The Planning Commission estimated the below poverty line percentage to be around 13 % (GOG,2008). On this basis, 10% of the total sample constituted BPL households and were selected on the basis of systematic random

sampling. As taluka-level data on BPL households was not available, the proportion of BPL households who were selected was the same for every taluka. Thus, in each taluka, 10 BPL households were interviewed. Further, all these BPL households resided in rural areas.

For the purpose of increasing accuracy and ensuring adequate item response, the survey was conducted by adopting face-to-face interviews of either the heads of the households or adult members of the households.

3.4 INDEX OF FINANCIAL INCLUSION: METHODOLOGICAL FRAMEWORK

Several indicators have been used to assess the extent of financial inclusion. Earlier studies on financial inclusion have used individual indicators separately to assess the extent of financial inclusion. However, the process of financial inclusion/exclusion is multidimensional. Thus, if these indicators are used individually, it can lead to a wrong understanding of the extent of financial inclusion in an economy. Thus, there is need for a comprehensive measure of financial inclusion. Sarma (2008) developed a comprehensive index of financial inclusion (IFI).Researchers have measured the extent of financial inclusion in specific states in India in terms of the IFI by using a multi-dimensional approach similar to that used by Sarma (Kumar and Mishra,2011; Kumar,2011b; Chattopadhyay, 2011; Singh and Kodan, 2011).

In the present study, the IFI has been constructed largely following the methodology used by Sarma (2008, 2010, 2012).This is the first study, to the researcher's knowledge, which examines the extent of financial inclusion in terms of the IFI across talukas in Goa.

The IFI is computed by first calculating a dimension index for each dimension of financial inclusion .A weight, $w_{di,}$, such that $0 \leq w_{di} \leq 1$ is attached to the dimension d_i, indicating the relative importance of the dimension i in quantifying the inclusiveness of a financial system.

The dimension index for the i^{th} dimension in taluka k, d_{ik}, is computed by the following formula:

$$d_{ik} = w_{di} \frac{A_{ik} - l_i}{M_i - l_i} \quad (3.1)$$

where

w_{di}= Weight attached to dimension i , $0 \leq w_{di} \leq 1$

A_{ik} = Actual value of dimension i in taluka k

l_i = Minimum value of dimension i (empirically observed lowest value)

M_i = Maximum value of dimension i (empirically observed highest value)

In Sarma's index, there is an a-priori fixing of the values of M_i and l_i for each dimension. In Sarma's study, the IFI is computed for up to 95 countries for the period 2004-2010. It was argued that if the empirically observed highest value happens to be 'an outlier', then it will distort the scale of the index, driving the IFI values of all other countries down, even though their performance may be reasonable. This is because all countries will be compared vis-a-vis the outlier country (Sarma, 2012).

In the index used for this study, the empirically observed maximum and minimum values are considered for each dimension. Analytically, the empirically observed highest value of a dimension can be considered as the upper limit for it. Similarly, the empirically observed lowest value of a dimension can be considered as the lower limit

for it. Since the IFI is calculated for different talukas within the same state, there is only a remote possibility of the empirically observed highest value being an outlier. By using empirically observed values, financial inclusion is measured with respect to a prevailing situation. It may be noted that these empirically observed upper and lower bounds are different for different years. The IFI measures the extent of financial inclusion in a particular taluka relative to the prevailing situation in all talukas.

Following Sarma (2012), equation (3.1) ensures that $0 \leq d_{ik} \leq w_{di}$. Higher the value of d_{ik}, higher is a region's achievement in dimension i.If n dimensions of financial inclusion are considered, then, a region's achievements in these dimensions will be represented by a point $Y = (d_1, d_2, d_3 \ldots d_n)$ in the n-dimensional Cartesian space. The point $O = (0, 0, 0 \ldots 0)$ will represent the worst situation while the point $W = (w_{d1}, w_{d2}, \ldots\ldots w_{dn})$ will represent the ideal situation.

The location of the achievement point Y vis-à-vis the worst point O and the ideal point W is the crucial factor in measuring a region's level of financial inclusion. A larger distance between Y and O would indicate higher financial inclusion and vice versa. It is possible that two achievement points may lie at the same distance from W but at different distances from O and vice versa. In such a situation, the region with higher distance from O should be considered more financially inclusive. However, if they have the same distance from O but different distances from W, then the region with less distance from W should be considered more financially inclusive.

While developing a measure of financial inclusion, both these distances (i.e. the distance between Y and O and the distance between Y and W) should be taken into account. The IFI uses a simple average of the Euclidean distance between Y and O and the inverse Euclidean distance between Y and W. Both these distances are normalized

by the distance between *O* and *W*, so as to ensure that they lie between 0 and 1. While computing the simple average between the distances, the inverse distance between *D* and *W* is considered. This ensures that the value of the IFI lies between 0 and 1 and that the IFI is monotonically increasing, that is, higher level of financial inclusion indicates higher value of the index.

In order to compute the IFI, Y_1 (distance between *Y* and *O*) and Y_2 (inverse distance between *Y* and *W*) are computed. The final IFI is computed by taking a simple average of Y_1 and Y_2. The formulae are as follows:

$$Y_1 = \frac{\sqrt{d_1^2 + d_2^2 + \cdots + d_n^2}}{\sqrt{(w_{d1}{}^2 + w_{d2}{}^2 + \cdots + w_{dn}{}^2)}} \tag{3.2}$$

$$Y_2 = 1 - \frac{\sqrt{(w_{d1} - d_1)^2 + (w_{d2} - d_2)^2 + \cdots + (w_{dn} - d_n)^2}}{\sqrt{(w_{d1}{}^2 + w_{d2}{}^2 + \cdots + w_{dn}{}^2)}} \tag{3.3}$$

$$IFI = \frac{1}{2}[Y_1 + Y_2] \tag{3.4}$$

Equation (3.2) for Y_1 gives the normalized Euclidean distance of *Y* from the worst point *O*, normalized by the distance between the worst point *O* and the ideal point *W*. The normalization enables us to ensure that the value of Y_1 lies between 0 and 1. A higher value of Y_1 implies greater financial inclusion. Equation (3.3)for Y_2 gives the inverse normalized Euclidean distance of *Y* from the ideal point *W*. In this equation, the numerator of the second component is the Euclidean distance of *Y* from the ideal point *W*. Normalizing it by the denominator and subtracting by 1 gives the inverse normalized distance. The normalization is done to ensure that the value of Y_2 lies between 0 and 1.The inverse distance is considered so that a higher value of Y_2

corresponds to more financial inclusion. Equation (3.4)**,** which is a simple average of Y_1 and Y_2, incorporates the distances from both the worst point and the ideal point.

As mentioned earlier, in the present study, a two-dimensional approach is followed while constructing the IFI, the two dimensions of financial inclusion being access and usage of banking services. Though both dimensions are considered equally important for measuring financial inclusion, relatively less weight is given to the dimensions due to lack of adequate data on important indicators that completely characterize these dimensions. As far as accessibility of banking services is concerned, the importance of bank branches has come down, particularly in the urban areas, on account of the introduction of internet banking and provision of banking services through telephones. Similarly, data on credit and deposit do not completely depict the usage of the financial system as other services of the banking system, such as payments, remittances and transfers are not included in the analysis.

In the present study, a weight of 0.6 has been provided for the index of accessibility and 0.4 for the index of usage. Given these weights, we can represent a taluka k by a point (a_k, u_k) in the two dimensional space, such that $0 \leq a_k \leq 0.6$ and $0 \leq u_k \leq 0.4$, where a_k and u_k are the access and usage dimension indexes respectively for taluka k computed using equation(3.1). In the two dimensional space, the point (0, 0) will indicate the worst situation (complete financial exclusion) and the point (0.6, 0.4) will indicate the best or ideal situation (complete financial inclusion).

The IFI has been calculated for all talukas in the state of Goa for the period 1994-95 to 2011-12.The IFI_k for a taluka k is measured by the simple average of normalized Euclidean distance of the point (a_k, u_k) from the point (0,0) and its normalized inverse Euclidean distance the ideal point (0.6, 0.4).

The formula used is as follows:

$$IFI_k = 1/2\left[\left[\frac{\sqrt{a_k^2+u_k^2}}{\sqrt{(0.6)^2+(0.4)^2}}\right]+\left[1-\frac{\sqrt{(0.6-a_k)^2+(0.4-u_k)^2}}{\sqrt{(0.6)^2+(0.4)^2}}\right]\right]$$

$$IFI_k = 1/2\left[\left[\frac{\sqrt{a_k^2+u_k^2}}{\sqrt{0.52}}\right]+\left[1-\frac{\sqrt{(0.6-a_k)^2+(0.4-u_k)^2}}{\sqrt{0.52}}\right]\right] \quad (3.5)$$

The distance based IFI as proposed by Sarma (2012) and used in this study satisfies the following mathematical properties:

1. Boundedness: The IFI has well defined and meaningful bounds. It is bounded below by 0 and bounded above by 1.

2. Unit free measure: As each dimension index is unit free, the overall IFI is alsoa unit free measure.

3. Homogeneity: Each dimension index $d_{ik}(A_{ik},l_i,M_i)$, considered as a function of A_{ik}, l_i and M_i is such that $d_{ik}(A_{ik},l_i,M_i) = d_{ik}(\lambda A_{ik},\lambda l_i,\lambda M_i)$, for any scalar $\lambda > 0$. Thus, the dimension indexes are homogeneous functions (of degree zero). The overall index IFI is also homogeneous of degree 0; that is, $IFI_k\ (d_{1k}(A_{1k},l_1,M_1),d_{2k}(A_{2k},l_2,M_2),\ldots, d_{nk}(A_{nk},l_n,M_n)) = IFI_k\ (d_{1k}(\lambda_1 A_{1k}, \lambda_1 l_1, \lambda_1 M_1), d_{2k}(\lambda_2 A_{2k}, \lambda_2 l_2, \lambda 2M_2),\ldots,d_{nk}(\lambda_n A_{nk}, \lambda_n l_n, \lambda_n M_n))$. The homogeneity property of the IFI implies that if the arguments of a dimension index are changed by the same constant, it does not change the value of the dimension index or the overall IFI.

4. Monotonicity: The IFI is a monotonous function of the dimension indexes. This means that higher values in the dimension indexes, implying higher levels of financial inclusion, will give rise to higher values of the IFI (Sarma, 2012).

There is no doubt that the IFI is very useful for comparing the extent of financial inclusion across different regions. It can be used to monitor the progress of regions with respect to financial inclusion over time. However, the IFI used in the present study has the following limitations:

1. It does not consider all dimensions of financial inclusion. It includes only the accessibility and usage dimensions but does not take into account dimensions such as the ease of transactions and cost of transactions. There is no doubt that a multi-dimensional approach would lead to a more robust IFI. However, the present study had to restrict itself to only two dimensions of financial inclusion mainly due to non-availability of taluka-level data on other dimensions of financial inclusion.

2. The IFI suffers from lack of taluka-specific information due to the aggregative nature of the data. For instance, geographical aspects of financial inclusion such as the rural-urban divide and gender related aspects are not covered in the study.

3. The IFI does not distinguish between resident and non-resident bank accounts. As a result of this, certain talukas such as Salcete and Bardez may show high levels of financial inclusion on account of a large number of non-resident banking activities.

3.5 MULTIPLE REGRESSION MODEL ESTIMATION USING THE METHOD OF ORDINARY LEAST SQUARES

In order to understand the factors affecting financial inclusion at the taluka level, a multiple regression model is estimated following the method of ordinary least squares (OLS).

A panel data set or longitudinal data set is used to estimate the regression model. The data set has both cross-sectional and time series features, the cross-section corresponding to the talukas and the time series corresponding to the period 1994-95 to 2011-12. A pooled regression is run over all the data using the method of ordinary

least squares. In other words, all the data is pooled together and no distinction is made between the cross section and time series data. In the present analysis, a pooled regression approach is used instead of a fixed effects or random effects model for the simple reason that the talukas that are pooled together do not show much heterogeneity.

In the present analysis, the IFI is the dependent variable.

Following Ramanathan (2002), the logistic model may be expressed in the following functional form:

$$\ln\left(\frac{P}{1-P}\right) = \beta_0 + \beta_1 X_1 + u \qquad (3.6)$$

where P is the value of the dependent variable between 0 and 1.

In the case in which P is strictly between 0 and 1, the method is simply to transform P and obtain y, where

$$y = \ln\left(\frac{P}{1-P}\right) \qquad (3.7)$$

Then regress y against the constant $\beta_0$andX_1 (more explanatory variables can be added).

In order to identify the factors affecting financial inclusion at the taluka level, in the regression equation, the dependent variable, y, is a logit transformation of the index of financial inclusion (IFI) described earlier. Unlike the IFI which lies between 0 and 1, the transformed variable lies between -∞ and ∞. This allows us to carry out the classical OLS regression (Sarma and Pais, 2011; Singh and Kodan, 2011).The transformed variable is a monotonically increasing function of IFI, and hence it

preserves the same ordering as IFI. The transformed variable, y, is a logit function of the original variable IFI. It is defined as follows:

$$y = \ln\left(\frac{IFI}{1-IFI}\right) \tag{3.8}$$

The general form of the regression equation is

$$y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_n X_n + u \tag{3.9}$$

where y is the dependent variable, X_1, X_2 ….X_n are regressor or independent variables, β_1,β_2…β_n are the parameters to be estimated from the data and u is the error term following classical OLS assumptions. In order to identify the factors affecting financial inclusion at the taluka level, the transformed IFI variable, y, is regressed over three socio-economic variables, namely, urbanization, student enrolment (which is a proxy for education level) and tourist arrivals.

An attempt is made to examine the factors determining financial inclusion at the household level. In this context, the number of bank accounts held by a household is used as a measure of financial inclusion. The most commonly used indicator to measure the extent of financial inclusion is the percentage of adult population having bank accounts. Studies have revealed that the most important part of financial services in a region is generally measured by number of people who have access to bank accounts (Beck & De la Torre, 2006; Littlefield et al, 2006). An attempt is made to identify the factors influencing the number of bank accounts held by a household, which is used as an indicator of financial inclusion. For this purpose, a multiple regression model is estimated following the method of ordinary least squares. The form of the regression equation is the same as shown in equation (3.9) above. In this model, the dependent variable, y, is defined as the number of bank accounts held by a

household. It is regressed over the following explanatory variables: age of the household head (HAGE), educational attainment of the household head (HEDU), monthly household income (HHINC), location of the household (HHLOC), number of employed members in the household (HHEMP), poverty line status of the household (HHAPL), number of adult members in the household (HHADULTS) and household members being beneficiaries of government schemes (HHGOVTBEN).

3.6 BINOMIAL LOGIT MODEL ESTIMATION USING THE MAXIMUM LIKELIHOOD METHOD

The logistic model is useful when the dependent variable takes values only between 0 and 1 (or between 0 and 100, if it is in percent form). In this study, the binomial logit model is estimated to explain the factors determining whether an individual has a bank account or not. The binomial logit model is also employed to explain the factors influencing the usage of banking services such as deposits, loan, insurance, money transfers and remittances, pension and shares and mutual funds by households. The binomial logit is an estimation technique for equations with dummy dependent variables that avoids the unboundedness problem of the linear probability model by using a variant of the cumulative logistic function.

Following Brooks (2008), the logistic function, F, which is a function of any random variable, z_i, may be expressed as follows:

$$F(z_i) = \frac{e^{z_i}}{1+e^{z_i}} = \frac{1}{1+e^{-z_i}} \tag{3.10}$$

where e is the exponential under the logit approach. The function, F, is in fact the cumulative logistic distribution. In the binomial logit model, the dependent variable takes the value of 0 or 1.

The logistic model estimated would be as follows:

$$P_i = \frac{1}{1+e^{-(\beta_0+\beta_1 x_{1i} \ +\cdots+\beta_k x_{ki} \ +u_i)}} \tag{3.11}$$

where P_i is the probability that the dependent variable takes the value of 1

With the logistic model, 0 and 1 are asymptotes to the function. Thus, the probabilities will never actually fall to exactly zero or rise to one, although they may come infinitesimally close. In equation (3.11), as z_i tends to $+\infty$, e^{z_i} tends to zero and $\frac{1}{1+e^{-z_i}}$ tends to one. Asz_i tends to $-\infty$, e^{z_i}tendsto infinity and$\frac{1}{1+e^{-z_i}}$ tends to zero.

The logistic model has the following functional form:

$$\ln\left(\frac{P_i}{1-P_i}\right) = \beta_0 + \beta_1 x_{1i} + \ldots.. + \beta_k x_{ki} + u \tag{3.12}$$

where $\ln\left(\frac{P_i}{1-P_i}\right)$ refers to the "log of the odds" for the dummy dependent variable.

If the dependent variable is binary, then the logarithm of $P_i/1-P_i$ is undefined when the dependent variable is either 0 or 1. The procedure used in such a case is the maximum likelihood method, an iterative estimation technique that is especially used for equations that are nonlinear in the coefficients. Maximum likelihood estimation chooses coefficient estimates that maximize the likelihood of the sample data being observed.

Following Studenmund (2010), the logit functional form on the left side of equation (3.12) may be simplified.

Let us define

$$L: \Pr(P_i=1) = \ln\left(\frac{P_i}{1-P_i}\right) \quad (3.13)$$

The L indicates that the equation is a logit of the functional form in equation (3.12) derived from equation (3.11) and the "Pr (P_i=1)" is a reminder that the dependent variable is a dummy and that that a $\widehat{P_i}$ produced by an estimated logit equation is an estimate of the probability that P_i =1. If we now substitute equation (3.13) into equation (3.12), we get

$$L: \Pr(P_i=1) = \beta_0 + \beta_1 x_{1i} + \ldots\ldots + \beta_k x_{ki} + u \quad (3.14)$$

Equation (3.14) will be the standard documentation format for estimated logit equations used in this study.

3.7 VARIABLES

In the model explained in the previous section, several variables have been used. As far as the binomial logit model is concerned, the dependent variable is a dummy variable which takes the value of either 0 or 1. An attempt is made to identify the factors which determine whether or not an individual would hold a bank account. In this model, the holding of a bank account (ACCOUNT) isa dummy variable which takes the value of 1 if the respondent has a bank account and 0 otherwise.

In order to identify the factors which determine the usage of banking services by households, binomial logit models have been used for each of the banking services. The dependent variables that are considered here are regular deposits, loans, insurance, money transfers and remittances, pension and shares and mutual funds. Table 3.2 gives a brief description of the variables used in these models.

Table 3.2: Definitions of Variables Used

VARIABLE NAME	DEFINITION
Usage of Banking Services: Dependent Variables Used in Different Logit Models	
ACCOUNT	Dummy=1 if the respondent has a bank account, =0 otherwise
DEPOSITS	Dummy=1 if the respondent has regular deposits in his/her account, =0 otherwise
HHLOAN	Dummy=1 if any household member has availed of a loan, =0 otherwise
HHINSURE	Dummy=1 if any household member has an insurance policy, =0 otherwise
HHPENSION	Dummy=1 if any household member is a pension holder, =0 otherwise
HHMUTUALFUNDS	Dummy=1 if any household member has invested in shares and/or mutual funds, =0 otherwise
HHREMIT	Dummy=1 if any household member has sent or received money transfers and/or remittances, =0 otherwise
Respondent Characteristics: Explanatory Variables	
EMP	Dummy=1 if the respondent is employed, =0 otherwise
AGE	Age of the respondent (in years)
EDU	Educational attainment of the respondent (years of education)
INC	Monthly income of a respondent (in rupees)
GOVTBEN	Dummy=1 if the respondent is a beneficiary of a government scheme, =0 otherwise
GENDER	Dummy=1 if the respondent is male, = 0 if female
Household Characteristics: Explanatory Variables	
HAGE	Age of household head (in years)
HEDU	Educational attainment of the household head (years of education)
HEMP	Dummy=1 if household head is employed, =0 otherwise
HHINC	Household Monthly income (in rupees)
HHEMP	Number of employed members in a household
HHAPL	Dummy=1 if household belongs to above poverty line category, =0 otherwise
HHSIZE	Household Size: Number of members in a household
HHADULTS	Number of adult members in a household
HHDEP	Number of dependents in a household
HHACCOUNTS	Number of bank accounts held by a household
HHGOVTBEN	Dummy=1 if any household member is a beneficiary of a government scheme, =0 otherwise
HHOWN	Dummy=1 if the household owns its dwelling, =0 otherwise
HHLOC	Dummy=1 if the household resides in an urban area, =0 otherwise
BANKLOC	Dummy=1 if the bank is located near the household's residence or place of work, i.e., less than 5 kms away, =0 otherwise

The explanatory variables relate to the characteristics of respondents and households which are likely to influence the usage of banking services.

A regular deposit into an individual's bank account (DEPOSITS) is a dummy variable which takes the value of 1if the respondent has regular deposits in his/her account and 0 otherwise. The availing of loans by a household (HHLOAN) is a dummy variable which takes the value of 1if any household member has availed of a loan and 0 otherwise. Investment in insurance by a household (HHINSURE) is a dummy variable which takes the value of 1 if any household member has an insurance policy and 0 otherwise.A household receiving pension (HHPENSION) is a dummy variable which takes the value of 1if any household member is a pension holder and 0 otherwise. Investment in shares and/or mutual funds (HHMUTUALFUNDS) is a dummy variable which takes the value of 1if any household member has invested in shares and/or mutual funds and 0 otherwise. The sending or receiving of money transfers and/or remittances (HHREMIT) is a dummy variable which takes the value of 1if any household member has sent or received money transfers and/or remittances and 0 otherwise.

As far as the respondent characteristics are concerned, the employment status of the respondent (EMP) is a dummy variable which takes the value of 1 if the respondent is employed and 0 otherwise. The age of the respondent (AGE) is measured in years. The educational attainment of the respondent (EDU) is measured as years of education. The monthly income earned by the respondent (INC) is measured in thousands of rupees. The respondent being a beneficiary of some government scheme (GOVTBEN) is a dummy variable which takes the value of 1 if the respondent is a beneficiary of a government scheme and 0 otherwise.

Several household characteristics are used as explanatory variables in the models. The age of the household head (HAGE) is measured in years.The educational attainment of the household head (HEDU) is measured as years of education. The employment status of the household head (HEMP) is a dummy variable which takes the value of 1 if the household head is employed and 0 otherwise. The monthly income earned by the household (HHINC) is measured in thousands of rupees. HHEMP refers to the number of family members who are employed. The poverty line status of the household (HHAPL) is a dummy variable which takes the value of 1if the household belongs to the above poverty line category and 0 otherwise.

HHSIZE refers to the size of the household, that is, the total number of people that constitute the household. The number of adult members in a household (HHADULTS) refers to the number of those individuals who are 18 years of age or more. The number of dependents in a household (HHDEP) refers to the number of children, senior citizens above 60 years of age and unemployed persons in the household. The number of bank accounts held by a household (HHACCOUNTS) refers to the total number of bank accounts held by all household members.A household member being a beneficiary of some government scheme (HHGOVTBEN) is a dummy variable which takes the value of 1 if any household member is a beneficiary of a government scheme and 0 otherwise. The ownership of dwelling (HHOWN) is a dummy variable which takes the value of 1 if a household owns its dwelling and 0 otherwise. The location of a household (HHLOC) is a dummy variable which takes the value of 1 if a household resides in an urban area and 0 otherwise. The location of the bank (BANKLOC) is a dummy variable which takes the value of 1 if the bank is located near the household's residence or place of work, that is, less than 5kilometres away and 0 otherwise.

The characteristics of the respondent and household outlined above are considered as determinants of financial inclusion in this study. With the help of these variables, the study seeks to examine the extent of financial inclusion at the household level in Goa.

CHAPTER IV

FINANCIAL INCLUSION IN GOA: ATALUKA-LEVEL ANALYSIS

4.1 INTRODUCTION

After liberation in 1961, Goa has been brought into the mainstream of national economic development. Within a span of five decades, Goa has made significant progress in both economic and social fields. The state of Goa has an excellent network of banks and banking facilities. Goa has a presence of almost all public sector and new generation commercial and private sector banks.

This chapter begins by presenting a profile of the banking system in Goa. This is followed by analyzing the trends in the access and usage of the banking system. The index of financial inclusion is computed for all talukas for the period 1994-95 to 2011-12 and the talukas have been categorized into high, medium or low financial inclusion talukas. A pooled regression model is estimated to examine the socio-economic factors determining financial inclusion in the state of Goa.

4.2 BANKING NETWORK IN GOA

Over the years, there has been a phenomenal growth of banking facilities in Goa. The number of bank branches has increased manifold from a mere 5 in 1962 to 643 in

March 2012 (GOG, 2013b). There is a scheduled commercial bank for every 3770 people in Goa, as against the all-India average of 12577 people (RBI, 2012). The State Bank of India with a network of 52 branches in North Goa District and 28 branches in South Goa District is the Lead Bank in the state.The Goa State Cooperative Bank (GSCB) is the apex cooperative bank in the State under the two-tier cooperative credit structure. The GSCB is governed by the Multi State Cooperative Societies' Act 2002 because of its overland branches in the Union Territories of Daman and Diu. The Bank has 64 branches of which 55 are in Goa and 9 branches are in Daman and Diu. The State Cooperative Agriculture & Rural Development Bank (SCARDB) and Regional Rural Banks are absent in Goa. However, the GSCB has a wing of long term lending (SBI, 2012a; SBI, 2012b). The State Level Bankers' Committee (SLBC) had identified both districts of Goa for 100% financial inclusion. It has been claimed that all banks in North Goa and South Goa districts have already achieved 100% financial inclusion by the end of March 2008 (NABARD, 2011a; NABARD, 2011b).

As far as the distribution of bank branches in the state is concerned, it can be observed that 59% of the bank branches were located in North Goa District and 41% in South Goa District in 2011-12. It is pertinent to note that 78.53% of the bank branches were concentrated in the talukas of Bardez, Salcete, Tiswadi, Mormugao and Ponda. These five talukas are the relatively more economically developed talukas of Goa. On the other hand, the talukas of Sattari, Pernem, Sanguem, Quepem and Canacona account for only 17.26% of the bank branches in Goa. The distribution of bank branches has remained almost the same since 1994-95.

Table 4.1 Taluka-wise Number of Bank Branches in Goa

Year / Taluka	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	200 07
Tiswadi	66	71	76	81	86	89	87	89	90	91	91	94	97
Bardez	70	76	79	83	87	91	92	94	97	95	98	102	101
Pernem	10	14	14	15	15	15	15	15	15	15	15	15	15
Bicholim	19	20	20	20	20	20	20	20	20	20	21	21	19
Sattari	7	8	9	10	10	10	11	10	10	11	11	11	12
Ponda	32	34	34	36	39	39	41	42	42	43	43	44	47
North Goa District	**204**	**223**	**232**	**245**	**257**	**264**	**266**	**270**	**274**	**275**	**279**	**287**	**291**
Sanguem	15	16	16	16	16	16	15	15	15	14	15	15	14
Canacona	9	10	10	10	10	12	11	11	11	10	11	12	11
Quepem	12	14	14	15	15	15	15	16	16	16	17	16	16
Salcete	70	79	81	86	91	96	93	93	95	97	97	100	106
Mormugao	32	33	37	37	37	39	44	46	45	44	46	46	47
South Goa District	**138**	**152**	**158**	**164**	**169**	**178**	**178**	**181**	**182**	**181**	**186**	**189**	**194**
Goa State	**342**	**375**	**390**	**409**	**426**	**442**	**444**	**451**	**456**	**456**	**465**	**476**	**485**

Source: Reports on Credit-Deposit Ratio in Goa 1994-95 to 2011-12, Directorate of Planning, Statistics and

Table 4.1 shows the taluka-wise distribution of bank branches in Goa. In 2011-12, the maximum number of branches was located in Bardez (137) which constituted 21.31% of the total number of branches. At the other extreme, the least number of branches was located in Sattari (11) which constituted 1.71% of the total number of branches in the state. Thus, it can be seen that the bank branches have not been evenly distributed across the state.

As per the 2001 census, there are 41 unbanked villages in the state, 20 in North Goa District and 21 in South Goa District, having population above 2000. All these 41 unbanked villages have been provided with the banking services by September 2011. However, even in those talukas which have a large number of bank branches, there are a number of villages having population below 2000 where there are no banks at all.

4.3 ACCESS TO AND USAGE OF THE BANKING SYSTEM IN GOA

Financial inclusion across the talukas in the state is measured in terms of access and usage of banking services. The access to banking is measured in terms of geographic penetration, that is, number of branches per 100 square kilometres, and demographic penetration, that is, number of branches per 10000 people.

Table 4.2 shows the geographic penetration across talukas in Goa. The geographic penetration was the highest in Tiswadi (56.19) followed by Bardez (51.89), Mormugao (47.65) and Salcete (44.72) in 2011-12. Though Tiswadi has been the highest ranking taluka since 2010-11, it can be observed that Mormugao was the highest ranking taluka for several years between 2000-01 and 2009-10 thereby making Tiswadi the second ranking taluka in those years. The geographic penetration was the lowest in Sattari (2.25) followed by Sanguem (3.70), Canacona (6.82) and Quepem (7.23) in 2011-12. It can be observed that Sanguem was the lowest ranking taluka for the period

1995-96 to 2010-11. However, there has been a significant increase in bank branches in Sanguem from 17 in 2010-11 to 31 in 2011-12, thereby leading to an improvement in geographic penetration.

Table 4.3 shows the demographic penetration across talukas in Goa. The demographic penetration was the highest in Bardez (6.06) followed by Tiswadi (6.01), Salcete (4.38) and Mormugao (3.32) in 2011-12. Tiswadi was the highest ranking taluka up to 2009-10. The demographic penetration was the lowest in Quepem (1.90) followed by Sattari (1.92), Bicholim (2.71) and Pernem (2.86) in 2011-12. As far as demographic penetration is concerned, Sattari has been the lowest ranking taluka throughout except in the years 1994-95, 1998-99 and 2008-09.

The highest ranking talukas have remained the same for both geographic and demographic penetration. However, as far as the lowest ranking talukas are concerned, there is a noticeable difference. While Sanguem was the lowest ranking taluka for geographic penetration, Sattari was the lowest ranking taluka for demographic penetration for almost the entire period. Bicholim has fared better in geographic as compared to demographic penetration. On the other hand, Canacona has fared better in demographic as compared to geographic penetration.

Table 4.2 Geographic Penetration across Talukas in Goa

Year / Taluka	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	200 07
Tiswadi	30.10	33.24	33.89	37.93	40.27	41.67	40.74	41.67	42.14	42.61	42.61	43.68	44.7
Bardez	26.52	28.79	29.93	31.44	32.96	34.47	34.85	35.61	36.74	35.99	37.12	38.64	38.2
Pernem	3.97	5.56	5.56	5.96	5.96	5.96	5.96	5.96	5.96	5.96	5.96	5.96	5.96
Bicholim	7.96	8.37	8.37	8.37	8.37	8.37	8.37	8.37	8.37	8.37	8.79	8.79	7.96
Sattari	1.43	1.93	1.94	2.04	2.04	2.04	2.25	2.04	2.04	2.25	2.25	2.25	2.45
Ponda	10.93	11.61	11.61	12.29	13.32	13.32	14.00	14.34	14.34	14.69	14.69	15.03	16.0
Sanguem	1.79	1.91	1.91	1.91	1.91	1.91	1.79	1.79	1.79	1.67	1.79	1.79	1.67
Canacona	2.56	2.84	2.84	2.84	2.84	3.41	3.12	3.12	3.12	2.84	3.12	3.41	3.12
Quepem	3.77	4.40	4.40	4.71	4.71	4.71	4.71	5.03	5.03	5.03	5.34	5.03	5.03
Salcete	23.90	26.97	27.65	29.36	31.06	32.77	31.75	31.75	32.43	33.11	33.11	34.14	36.1
Mormugao	30.14	30.24	33.90	33.90	33.90	35.74	40.32	42.15	41.23	40.32	42.15	42.15	44.7

Note: The values computed in this table are based on data from the Reports on Credit-Deposit Ratio in G 1994-95 to 2011-12,Directorate of Planning, Statistics and Evaluation, Government of Goa

Table 4.3Demographic Penetration across Talukas in Goa

Year / Taluka	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Tiswadi	4.23	4.48	4.69	4.95	5.17	5.27	5.43	5.48	5.46	5.46	5.38	5.48	5.57
Bardez	3.47	3.71	3.79	3.92	4.04	4.16	4.04	4.07	4.13	4.00	4.07	4.17	4.07
Pernem	1.41	1.94	1.91	2.01	1.98	1.95	2.08	2.05	2.02	1.99	1.96	1.93	1.91
Bicholim	2.11	2.18	2.15	2.12	2.08	2.05	2.20	2.17	2.14	2.11	2.18	2.15	1.91
Sattari	1.43	1.49	1.65	1.81	1.78	1.75	1.88	1.68	1.65	1.80	1.77	1.74	1.87
Ponda	2.34	2.45	2.41	2.51	2.68	2.63	2.74	2.77	2.73	2.75	2.71	2.73	2.87
Sanguem	2.37	2.49	2.45	2.41	2.37	2.33	2.34	2.31	2.27	2.09	2.20	2.17	1.99
Canacona	2.07	2.27	2.23	2.19	1.56	2.55	2.50	2.47	2.43	2.18	2.36	2.54	2.30
Quepem	1.75	2.01	1.97	2.08	2.05	2.00	2.03	2.13	2.09	2.07	2.17	2.01	2.10
Salcete	2.99	3.32	3.35	3.50	3.64	3.78	3.55	3.50	3.52	3.57	3.52	3.57	3.73
Mormugao	2.49	2.53	2.79	2.75	2.70	2.80	3.03	3.13	3.01	2.91	2.99	2.95	2.90

Note: The values computed in this table are based on data from the Reports on Credit-Deposit Ratio in Goa 95 to 2011-12, Directorate of Planning, Statistics and Evaluation, Government of Goa

The usage of banking services is measured in terms of total deposits mobilized and total credit advanced. There has been a growth in deposits and credit across the state during the period of study. However, deposits have been larger and have been growing at a faster rate than credit. As a result, the credit-deposit ratio has been low. The low credit-deposit ratio in the state is due to low credit off-take in the state and high level of deposits with banks on account of huge inflow of foreign remittances. The RBI had constituted a 'Special Task Force' (STF) committee to suggest recommendations to raise the credit-deposit ratio in the state.

Tables 4.4a and 4.4b show the total deposits mobilized across talukas in Goa. The talukas of Tiswadi, Salcete, Bardez and Mormugao accounted for 87.43% of the total deposits mobilized in 2011-12. The largest deposits were mobilized in Tiswadi (Rs.12159.78 crores) followed by Salcete (Rs.10289.90 crores), Bardez (Rs. 7447.98 crores) and Mormugao (Rs.6035.73 crores). Salcete was the highest ranking taluka for almost every year up to 2005-06 and thereafter it occupied the second position. At the other end, the talukas of Sattari, Pernem, Canacona, Sanguem, Bicholim and Quepem accounted for only 7.63% of the total deposits mobilized in 2011-12. The lowest deposits were mobilized in Sattari (Rs.197.66 crores) followed by Pernem (Rs.342 crores), Canacona (Rs.442.83 crores) and Sanguem (Rs.456.92 crores). It is evident that Sattari has been the lowest ranking taluka throughout the period. The talukas of Pernem, Sanguem and Canacona remained the lower ranking talukas throughout the period, their relative positions showing a change for some years.

Table 4.4a Taluka-wise Deposits in Goa 1994-95 to 2002-03

(Rs. in crores)

Year / Taluka	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03
Tiswadi	888.88	972.81	1171.43	1437.49	1703.56	1890.89	2172.04	2517.11	2874.90
Bardez	739.30	864.36	1042.18	1235.29	1428.4	1612.31	1889.87	2120.4	2362.41
Pernem	22.62	28.65	34.04	40.69	47.35	56.19	65.45	76.29	87.75
Bicholim	81.69	96.17	112.18	122.04	131.90	169.55	185.72	202.98	218.85
Sattari	15.69	16.71	19.27	33.22	47.18	33.16	46.01	44.13	49.70
Ponda	136.71	161.83	227.62	253.01	278.41	316.93	381.53	435.35	495.88
North Goa District	**1884.89**	**2140.53**	**2606.72**	**3121.74**	**3636.80**	**4079.03**	**4740.62**	**5396.26**	**6089.49**
Sanguem	50.70	35.09	41.51	50.96	60.42	67.36	73.05	79.35	90.71
Canacona	34.93	40.64	48.20	58.05	67.90	80.26	93.49	104.99	118.48
Quepem	56.33	88.67	101.76	124.06	146.36	154.08	207.31	224.59	252.20
Salcete	870.02	1040.11	1166.51	1491.12	1815.73	2194.67	2478.97	2835.73	3110.36
Mormugao	310.84	369.27	468.80	564.23	659.66	755.61	822.46	987.93	1196.89
South Goa District	**1322.82**	**1573.78**	**1826.78**	**2288.42**	**2750.07**	**3251.98**	**3675.28**	**4232.59**	**4768.64**
Goa State	**3207.71**	**3714.31**	**4433.50**	**5410.16**	**6386.87**	**7331.01**	**8415.90**	**9628.85**	**10858.10**

Source: Reports on Credit-Deposit Ratio in Goa 1994-95 to 2002-03, Directorate of Planning, Statistics and Evaluation, Government of Goa

Table 4.4b Taluka-wise Deposits in Goa 2003-04 to 2011-12

(Rs. in crores)

Year / Taluka	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Tiswadi	3414.12	3433.30	4212.12	5190.11	6349.40	7685.14	8351.64	10743.2	12159.78
Bardez	2704.27	2834.80	3751.78	3843.74	4065.18	4863.77	5237.67	6344.63	7447.98
Pernem	93.98	100.77	112.22	126.23	155.94	204.23	187.49	279.53	342.00
Bicholim	246.29	257.61	299.01	293.15	347.81	442.14	516.38	672.94	802.70
Sattari	60.95	67.00	74.73	103.32	116.15	154.99	133.48	169.03	197.66
Ponda	568.36	596.90	662.06	748.09	985.48	1182.07	1520.11	1737.64	2029.39
North Goa District	**7087.97**	**7290.38**	**9111.92**	**10304.6**	**12020**	**14532.3**	**15946.8**	**19947**	**22979.51**
Sanguem	80.44	92.85	116.06	121.51	219.17	183.68	320.03	292.23	456.92
Canacona	133.71	159.01	165.75	184.68	226.64	276.39	308.52	350.30	442.83
Quepem	290.85	319.16	329.26	361.02	380.98	546.08	548.14	728.32	893.72
Salcete	3659.80	3634.89	5777.02	5177.13	5610.06	6896.21	8136.15	9197.39	10289.9
Mormugao	1221.40	1528.53	2252.65	2756.52	2618.84	3610.36	4246.14	5115.86	6035.73
South Goa District	**5386.20**	**5734.44**	**8640.74**	**8600.86**	**9055.69**	**11512.7**	**13559**	**15684.1**	**18119.1**
Goa State	**12474.2**	**13024.8**	**17752.7**	**18905.5**	**21075.7**	**26045.1**	**29505.8**	**35631.1**	**41098.61**

Source: Reports on Credit-Deposit Ratio in Goa 2003-04 to 2011-12, Directorate of Planning, Statistics and Evaluation, Government of Goa

Table 4.5a Taluka-wise Credit in Goa 1994-95 to 2002-03

(Rs. in crores)

Year / Taluka	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03
Tiswadi	378.50	451.59	561.93	665.19	768.45	874.55	957.4	1214.17	1282.65
Bardez	136.67	167.13	193.81	215.86	237.92	275.92	277.51	306.94	326.59
Pernem	8.17	10.43	13.19	14.91	16.63	18.03	20.72	22.97	22.61
Bicholim	51.69	57.81	60.72	62.82	64.93	64.86	62.13	64.71	67.01
Sattari	6.38	6.43	44.28	27.56	10.85	11.38	13.26	14.69	14.46
Ponda	61.83	75.36	90.59	99.89	109.19	116.61	141.36	150.13	161.95
North Goa District	**643.24**	**768.75**	**964.52**	**1086.23**	**1207.97**	**1361.35**	**1472.38**	**1773.61**	**1875.27**
Sanguem	20.82	24.55	31.81	35.36	38.92	43.22	46.42	48.61	49.11
Canacona	7.05	7.70	9.68	11.33	12.99	13.90	14.95	14.78	14.77
Quepem	23.15	32.74	36.07	37.59	39.12	37.32	39.80	39.64	41.08
Salcete	204.19	234.16	266.38	329.01	391.64	424.82	478.57	531.60	653.44
Mormugao	166.23	180.21	135.81	220.83	305.85	377.63	353.04	453.61	358.26
South Goa District	**421.44**	**479.36**	**479.75**	**634.12**	**788.52**	**896.89**	**932.78**	**1088.24**	**1116.66**
Goa State	**1064.68**	**1248.11**	**1444.27**	**1720.35**	**1996.49**	**2258.24**	**2405.16**	**2861.85**	**2991.93**

Source: Reports on Credit-Deposit Ratio in Goa 1994-95 to 2002-03, Directorate of Planning, Statistics and Evaluation, Government of Goa

Table 4.5b Taluka-wise Credit in Goa 2003-04 to 2011-12

(Rs. in crores)

Year / Taluka	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Tiswadi	1258.20	1459.03	1569.56	2341.06	3317.73	3297.17	4568.82	4882.38	5105.29
Bardez	363.95	412.40	488.45	559.88	683.74	804.31	947.54	1205.77	1495.02
Pernem	20.89	23.73	25.55	31.64	46.70	56.66	53.81	77.51	88.48
Bicholim	74.75	93.93	108.44	132.94	179.57	221.05	262.43	325.76	365.97
Sattari	18.81	26.17	33.69	48.06	64.94	77.20	60.76	74.00	79.60
Ponda	186.61	227.74	270.07	358.74	502.30	499.29	766.47	769.01	876.03
NorthGoa District	**1923.21**	**2243.00**	**2495.76**	**3472.32**	**4794.98**	**4955.68**	**6659.83**	**7334.43**	**8010.39**
Sanguem	44.55	50.20	52.75	59.95	75.40	88.13	107.36	116.41	131.78
Canacona	16.79	22.65	26.82	30.00	47.10	55.43	74.68	91.77	99.38
Quepem	60.42	84.67	95.89	112.36	137.11	168.13	198.99	271.32	332.84
Salcete	605.33	723.58	837.82	1023.25	1193.88	1282.48	1543.48	2007.30	2203.29
Mormugao	446.11	550.18	746.25	776.03	1103.25	914.72	1077.43	1313.29	1556.49
South Goa District	**1173.20**	**1431.28**	**1759.53**	**2001.59**	**2556.74**	**2508.89**	**3001.94**	**3800.09**	**4323.78**
Goa State	**3096.41**	**3674.28**	**4255.29**	**5473.91**	**7351.72**	**7464.57**	**9661.77**	**11134.50**	**12334.17**

Source: Report on Credit-Deposit Ratio in Goa 2003-04 to 2011-12, Directorate of Planning, Statistics and Evaluation, Government of Goa

Tables 4.5a and 4.5b show the total credit advanced across talukas in Goa. The talukas ofTiswadi, Salcete, Mormugao and Bardez accounted for 83.99% of the total credit advanced in 2011-12. The highest credit was advanced in Tiswadi (Rs.5105.29 crores) followed by Salcete (Rs.2203.29 crores), Mormugao (Rs.1556.49crores) and Bardez (Rs.1495.02 crores). The ranking remained the same throughout the period, the only exception being that Bardez occupied the third position and Mormugao occupied the fourth position in 1996-97.At the other end, the talukas of Pernem, Sattari, Canacona, Sanguem, Quepem and Bicholim accounted for about 8.90% of the total credit advanced in 2011-12. The lowest credit was advanced in the talukas of Sattari (Rs. 79.60 crores) followed by Pernem (Rs. 88.48 crores), Canacona (Rs.99.38 crores) and Sanguem (Rs.131.78 crores) in 2011-12. The ranking has not remained the same as it can be observed that Pernem and Canacona have been the lowest ranking talukas prior to 2010-11.

It is evident that the talukas of Tiswadi, Bardez, Salcete and Mormugao, comprising the important commercial centres of Goa, have been dominating the banking scenario throughout. These talukas have been the highest ranking talukas with respect to both access and usage of banking services.

Tables 4.6 and 4.7 present some descriptive statistics of the available data for computing the index of financial inclusion for the years 1994-95 to 2011-12. Statistics pertaining to each dimension (and to each indicator pertaining to each dimension) of the index are presented.

As far as the access dimension is concerned, on an average, geographic penetration has steadily increased from 13.01 branches per 100 square kilometre in 1994-95 to 23.88 branches per 100 square kilometre in 2011-12. On an average, demographic

penetration increased from 2.42 bank branches per 10000 people in 1994-95 to 2.89 bank branches per 10000 people in 2000-01. Thereafter, it registered a slight decline up to 2006-07, but rose to 3.90 bank branches per 10000 people in 2011-12. It can be observed that for both geographic and demographic penetration, the maximum and minimum value recorded has been increasing over the period. On an average there has been an increase in the access to banking services in Goa. As far as geographic penetration is concerned, the coefficient of variation has been substantially high, but it was more or less the same over the period of study being 93% in 1994-95 and 91% in 2011-12. The coefficient of variation for demographic penetration has been comparatively lower, increasing marginally from 35% in 1994-95 to 38% in 2011-12.

As far as the usage dimension is concerned, on an average, total deposits increased from Rs.291.61 crores in 1994-95 to Rs.3736.23 crores in 2011-12, whereas total credit increased from Rs.96.79 crores in 1994-95 to Rs.1121.29 crores in 2011-12. The maximum and minimum values for total deposits and total credit have increased substantially over the period. The coefficient of variation has been high for both deposits and credit. It showed a slight decline from 123% in 1994-95 to 119% in 2011-12 in the case of total deposits, whereas it rose from 120% in 1994-95 to 151% in 2009-10, but thereafter declined to 135% in 2011-12 in the case of total credit. It is revealed that the usage of banking facilities has also increased over the period.

Table 4.6 Descriptive Statistics of Indicators of Access Dimension of Financia

No. of bank branches per 100 sq. km. (Geographic Penetration)													
	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	20 07
Min.	1.43	1.91	1.91	1.91	1.91	1.91	1.79	1.79	1.79	1.67	1.79	1.79	1.
Max.	30.14	33.24	33.90	37.93	40.27	41.67	40.74	42.15	42.14	42.61	42.61	43.68	44
Mean	13.01	14.17	14.73	15.52	16.12	16.76	17.08	17.44	17.56	17.53	17.90	18.26	18
Std. Dev.	12.05	12.80	13.57	14.43	15.11	15.84	16.25	16.72	16.85	16.78	17.08	17.49	18
C.V.	93	90	92	93	94	94	95	96	96	96	95	96	97
No. of bank branches per 10000 people (Demographic Penetration)													
	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003 -04	2004-05	2005-06	2 0
Min.	1.41	1.49	1.65	1.81	1.56	1.75	1.88	1.68	1.65	1.80	1.77	1.74	1
Max.	4.23	4.48	4.69	4.95	5.17	5.27	5.43	5.48	5.46	5.46	5.38	5.48	5
Mean	2.42	2.62	2.67	2.75	2.73	2.84	2.89	2.89	2.86	2.81	2.85	2.86	2
Std. Dev.	0.86	0.87	0.92	0.98	1.11	1.10	1.07	1.11	1.12	1.13	1.09	1.14	1
C.V.	35	33	34	35	40	39	37	38	39	40	38	40	4

Source: Reports on Credit-Deposit Ratio in Goa and Statistical Handbooks of Goa 1994-95 to 2011-12, Dire Evaluation, Government of Goa

Table 4.7 Descriptive Statistics of Indicators of Usage Dimension of Financia

Total Deposits													
	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Min.	15.69	16.71	19.27	33.22	47.18	33.16	46.01	44.13	49.70	60.95	67.00	74.73	103.32
Max.	888.9	1040.1	1171.4	1491.1	1815.7	2194.7	2479.0	2835.7	3110.4	3659.8	3634.9	5777.0	5190.1
Mean	291.6	337.7	403.1	491.8	580.6	666.5	765.1	875.4	987.1	1134.0	1184.1	1613.9	1718.7
Std. Dev.	358.8	412.9	482.9	598.0	713.8	827.3	944.2	1082.9	1209.3	1421.8	1432.6	2057.0	2108.8
C.V.	123	122	120	121	123	124	123	124	122	125	121	127	123
Total Credit													
	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Min.	6.38	6.43	9.68	11.33	10.85	11.38	13.26	14.69	14.46	16.79	22.65	25.55	30.00
Max.	378.5	451.6	561.9	665.2	768.4	874.5	957.4	1214.2	1282.7	1258.2	1459.0	1569.6	2341.1
Mean	96.8	113.5	131.3	156.4	181.5	205.3	218.6	260.2	271.9	281.5	334.0	386.8	497.6
Std. Dev.	116.5	137.3	164.2	198.7	234.8	268.7	291.5	366.6	391.0	381.6	443.8	491.3	699.0
C.V.	120	121	125	127	129	131	133	141	144	135	133	127	140

Source: Reports on Credit-Deposit Ratio in Goa and Statistical Handbooks of Goa 1994-95 to 2011-12, Dire Evaluation, Government of Goa

4.4 INDEX OF FINANCIAL INCLUSION FOR GOA

The Index of Financial Inclusion (IFI) has been computed for all the talukas in the state of Goa. Since the IFI depends on the access and usage dimensions, the indexes of these dimensions are discussed first.

The indicators used to compute the index for the access dimension are geographic penetration and demographic penetration. These indicators are given equal weights and the average of these indexes represents the index for the access dimension.The index value for the access dimension was the highest for Tiswadi (0.59) followed by Bardez (0.58), Salcete (0.41) and Mormugao (0.35) in 2011-12. The ranking remained more or less the same throughout the period, the only exception being that the third ranking taluka has been Mormugao for certain years between 1994-95 and 2005-06, but thereafter it moved to the fourth position. The lowest ranking talukas were Sattari, Pernem, Bicholim and Quepem in 2011-12. The index value for Sattari taluka has been noticeably very low, being zero or close to zero thereby making Sattari the lowest ranking taluka in terms of access throughout except in 1998-99 when Canacona ranked the lowest and in 2008-09 when Sanguem ranked the lowest. Table 4.8 shows the index values for the access dimension across the state.

Table 4.8 Index Values for Access Dimension across Talukas in Goa

Year / Taluka	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2
Tiswadi	0.59	0.60	0.59	0.60	0.60	0.60	0.60	0.59	0.60	0.60	0.60	0.60	0
Bardez	0.48	0.48	0.47	0.45	0.45	0.45	0.44	0.44	0.45	0.43	0.45	0.46	0
Pernem	0.03	0.08	0.06	0.05	0.07	0.05	0.05	0.06	0.06	0.05	0.05	0.04	0
Bicholim	0.14	0.13	0.11	0.08	0.09	0.07	0.08	0.09	0.09	0.07	0.08	0.08	0
Sattari	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Ponda	0.19	0.19	0.16	0.15	0.18	0.16	0.17	0.18	0.18	0.17	0.17	0.17	0
Sanguem	0.10	0.10	0.08	0.06	0.07	0.05	0.04	0.05	0.05	0.02	0.03	0.03	0
Canacona	0.08	0.09	0.06	0.04	0.01	0.08	0.06	0.07	0.07	0.04	0.06	0.07	0
Quepem	0.06	0.08	0.05	0.05	0.06	0.04	0.03	0.06	0.06	0.05	0.06	0.04	0
Salcete	0.40	0.42	0.41	0.39	0.40	0.40	0.37	0.37	0.37	0.37	0.37	0.38	0
Mormugao	0.41	0.37	0.41	0.36	0.34	0.34	0.39	0.41	0.40	0.37	0.40	0.39	0

Note: The index values computed in this table are based on data from theReports on Credit-Deposit Ratio 19
Planning, Statistics and Evaluation, Government of Goa

The indicators used to compute the index for the usage dimension are total deposits and total credit. These indicators are also given equal weights and the average of these indexes represents the index for the usage dimension. As far as the usage dimension is concerned, the index value was the highest for Tiswadi (0.40) followed by Salcete (0.25), Bardez (0.18) and Mormugao (0.16) in 2011-12. The ranking has remained the same throughout the period. The lowest ranking talukas were Sattari, Pernem, Canacona and Quepem in 1994-95 and in 2011-12. In 1996-97 and 1997-98 Pernem ranked lowest followed by Canacona. For all other years, the index value of the usage dimension for Sattari taluka was very low and has been zero or close to zero, thereby making Sattari the lowest ranking taluka in terms of usage. Table 4.9 shows the index values for the usage dimension across the state.

It can be observed that for the period of study, Tiswadi has ranked the highest for both the access and usage dimensions. Bardez ranked second for the access dimension but third for the usage dimension. It is revealed that Salcete has performed better than Bardez for the usage dimension. This implies that even though the access to banking services as measured by banking penetration has not been as high in Salcete as compared to Bardez, the usage of banking services in terms of deposits and credit has been relatively higher there. The larger deposits are probably due to the larger inflow of foreign remittances and the larger credit could be attributed to the greater industrial development and hence greater need for credit in Salcete. Mormugao taluka seems to have been performing better in terms of access as compared to usage of banking services. Bicholim and Ponda talukas have also fared better in terms of access as compared to usage. The same is the case in Canacona, Pernem, Sanguem Quepem and Sattari.

Table 4.9 Index Values for Usage Dimension across Talukas in Goa

Year / Taluka	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	200 07
Tiswadi	0.40	0.39	0.40	0.39	0.39	0.37	0.37	0.38	0.38	0.39	0.39	0.34	0.40
Bardez	0.23	0.24	0.24	0.23	0.22	0.21	0.21	0.20	0.20	0.20	0.21	0.19	0.19
Pernem	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bicholim	0.04	0.04	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Sattari	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ponda	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.05	0.05
Sanguem	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Canacona	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Quepem	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Salcete	0.30	0.30	0.29	0.30	0.30	0.29	0.30	0.28	0.30	0.29	0.30	0.30	0.28
Mormugao	0.15	0.15	0.12	0.14	0.15	0.15	0.13	0.14	0.13	0.13	0.15	0.17	0.17

Note: The index values computed in this table are based on data from theReports on Credit-Deposit Ratio 19
Planning, Statistics and Evaluation, Government of Goa

Sattari has ranked the lowest in terms of both access and usage of banking services, the index values being close to zero for almost the entire period.

Table 4.10 presents the IFI values computed for all talukas for the period 1994-95 to 2011-12. As evident from the table, and as expected, the talukas across the state of Goa are at different levels of financial inclusion. In the year 2011-12, for instance, the levels of financial inclusion, as measured by the IFI, varied from as low as zero for Sattari to as high as 0.99 for Tiswadi.

For the entire period of study, Tiswadi has been the highest ranking taluka with respect to the IFI. The value of the IFI has been very close to 1 in Tiswadi, thus implying that Tiswadi has the highest level of financial inclusion as compared to all the other talukas. In 2011-12, the highest ranking talukas were Tiswadi (0.99), followed by Bardez (0.76) Salcete (0.67)and Mormugao (0.53). The ranking has remained more or less the same throughout the period, with the exception that Salcete occupied the second position and Bardez occupied the third position in 1998-99, 1999-2000, 2003-04, 2006-07 and 2009-10.

At the other extreme, Sattari has been the lowest ranking taluka with respect to the IFI. In Sattari taluka, the IFI has been very close to zero for almost the entire period and hence Sattari can be characterized as the taluka with the lowest level of financial inclusion. In 1994-95, the IFI was the lowest in Sattari (0.00), followed by Pernem (0.03), Quepem (0.09) and Canacona (0.10). The situation changed in 2000-01 with Quepem, Sanguem and Pernem becoming the second, third and fourth lowest ranking talukas respectively. Thereafter the situation worsened in Sanguem as it became the second lowest ranking taluka in 2005-06.Sanguem ranked the lowest in 2008-09 mainly due to the decline in the number of bank branches thereby leading to a fall in

both geographic and demographic penetration. In 1998-99 Canacona had the lowest IFI. However, between 2006-07 and 2011-12, the IFI showed a significant improvement in Canacona and Sanguem. This is attributable to the deeper banking penetration in these talukas due to the increase in bank branches implying greater access to banking services there. However, though there was improvement in access to banking services, there was no corresponding improvement in usage. This indicates that there is no guarantee that if a region fares better in terms of access, it will necessarily fare better in terms of usage of banking services. Nevertheless there was an improvement in the overall IFI in both Canacona and Sanguem. In 2011-12, the lowest ranking talukas continued to be Sattari (0.00), followed by Quepem (0.05), Pernem (0.13) and Bicholim (0.15).

Generally, it is expected that with development and improvements in incomes financial inclusion is likely to improve. Further, a major decline in IFI values is not expected, unless there are situations such as financial crisis or outbreak of war. Thus, we could expect the IFI values to improve in each taluka over the years. In the present study, there has been no consistent or significant change in the IFI in each of the talukas over a period of time.

The talukas have been placed into three categories on the basis of their IFI values as follows:

1. $0.6 \leq IFI \leq 1$ – high financial inclusion

2. $0.3 \leq IFI < 0.6$ – medium financial inclusion

3. $0.0 \leq IFI < 0.3$ – low financial inclusion

Table 4.10 IFI Values for Talukas in Goa

Year / Taluka	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	200 07
Tiswadi	0.99	0.98	0.99	0.99	0.99	0.97	0.97	0.97	0.98	0.98	0.99	0.94	0.99
Bardez	0.73	0.73	0.73	0.69	0.68	0.67	0.66	0.65	0.67	0.65	0.68	0.67	0.64
Pernem	0.03	0.10	0.08	0.07	0.08	0.06	0.06	0.08	0.08	0.06	0.06	0.06	0.04
Bicholim	0.20	0.18	0.16	0.12	0.13	0.11	0.11	0.12	0.12	0.10	0.12	0.11	0.07
Sattari	0.00	0.00	0.01	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Ponda	0.28	0.27	0.24	0.22	0.25	0.23	0.24	0.25	0.25	0.25	0.25	0.24	0.25
Sanguem	0.14	0.13	0.10	0.08	0.09	0.07	0.05	0.07	0.06	0.03	0.05	0.05	0.01
Canacona	0.10	0.11	0.08	0.06	0.01	0.10	0.08	0.09	0.09	0.05	0.08	0.10	0.06
Quepem	0.09	0.11	0.08	0.07	0.09	0.06	0.05	0.08	0.08	0.07	0.09	0.07	0.06
Salcete	0.70	0.72	0.70	0.68	0.69	0.69	0.66	0.64	0.66	0.66	0.66	0.67	0.67
Mormugao	0.59	0.54	0.57	0.52	0.51	0.51	0.56	0.58	0.56	0.53	0.58	0.57	0.57

Note: The IFI values computed in this table are based on data from theReports on Credit-Deposit Ratio Planning, Statistics and Evaluation, Government of Goa

Table 4.11Categorization of Talukas in Goa on Levels of Financial Inclusi

Year / Taluka	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006- 07
Tiswadi	High	High	High	High	High	High	High	High	High	High	High	High	High
Bardez	High	High	High	High	High	High	High	High	High	High	High	High	High
Pernem	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
Bicholim	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
Sattari	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
Ponda	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
Sanguem	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
Canacona	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
Quepem	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
Salcete	High	High	High	High	High	High	High	High	High	High	High	High	High
Mormugao	Med	Med	Med	Med	Med	Med	Med	Med	Med	Med	Med	Med	Med

Note: The talukas are categorized as having high, med (medium) or low levels of financial inclusion on the been computed on the basis of data from theReports on Credit-Deposit Ratio 1994-95 to 2011-12, Dire Evaluation, Government of Goa

Table 4.11 presents the categorization of talukas for the period 1994-95 to 2011-12. It is evident that Tiswadi, Bardez and Salcete talukas have had consistently high IFI values of above 0.6 throughout this period and are categorized as talukas with high financial inclusion. Mormugao has been in the range of medium financial inclusion throughout, the value of the IFI being between 0.5 and 0.6. Ponda, on the other hand, has moved from low levels to medium levels of financial inclusion in 2008-09. All the remaining six talukas are categorized in the category of low level of financial inclusion, the IFI values ranging between 0 and 0.3. Within this category, Sattari has had the lowest IFI values throughout the period, except in 1998-99 and 2008-09. The talukas of Sanguem, Quepem and Pernem have also had low values of IFI, generally below 0.1 throughout the period.

Thus the IFI values clearly indicate that the level of financial inclusion is significantly low in large parts of the state of Goa. It is observed from the study that although there has been an improvement in outreach activity in the banking sector, the achievement is not significant.

4.5 FACTORS DETERMINING FINANCIAL INCLUSION

There are several factors that affect financial inclusion and the interaction of these factors with each other is likely to have a significant impact. Sarma and Pais (2011) identified certain factors and categorized them as (i) socio-economic factors such as income, employment, inequality, educational attainment, literacy and so on, (ii) factors relating to physical infrastructure such as road network, telephone and television network, access to information through newspapers, radio, cable TV, computer and internet and (iii) banking sector factors such as soundness of the banking system, ownership pattern of banks and interest rates.

Socio-economic factors have an important influence on financial inclusion. The literature on financial inclusion has looked at financial exclusion as a reflection of a broader problem of 'social exclusion'. In the industrialised and high income countries which have a well-developed banking system, studies have shown that the exclusion from the financial system occurs to persons who belong to low-income groups, the ethnic minorities, immigrants, the aged and so on (Kempson et al., 2004; Barr, 2004; Buckland et al., 2005; Devlin, 2009; Sarma and Pais,2011). The geographical factor also plays an important role. For instance, studies have shown that people living in rural areas and in locations that are remote from urban financial centres are more likely to be financially excluded (Leyshon and Thrift, 1995; Kempson and Whyley, 2001; Beck and Brown, 2011). Studies have also shown that countries with low levels of income inequality tend to have relatively high levels of financial inclusion (Buckland et al., 2005; Kempson, 2006). In other words, the levels of financial inclusion are found to rise in response to both prosperity and declining inequalities. Since taluka-level data on income and income inequalities are not available, this factor is not covered in the present analysis.

Employment has also been found to be associated with financial inclusion (Goodwin et al., 1999; Kempson, 2006). The unemployed or those with irregular employment are less likely to participate in the financial system. Studies have found that payment of wages through automated cash transfer (ACT) has been one of the main influences on financial inclusion in the UK. Recent evidence also suggests that the continued payment of social security benefits and the state pension in cash is significantly related to financial exclusion (Kempson and Whyley, 1999). The informal sector or the informal economy accounts for a large and significant share of employment in several less developed countries (ILO, 2002). In these countries and also in the industrialized

countries, formal sector employment could imply participation in the formal financial system through receiving wages and salaries routed through the formal banking system. Formal employment also implies inclusion in employment related social security system, benefits of which are availed through the formal banking system. Thus, the proportion of formal sector employment would be an important indicator of the level of financial inclusion. This factor, however, is not covered in the present analysis on account of non-availability of taluka-level data.

In the present study, an attempt is made to analyse the impact of certain factors on the level of financial inclusion across the talukas in Goa. The factors considered here are urbanization (URB), student enrolment (SE) which is considered as a proxy for education level) and tourist arrivals (TA). Urbanization and tourist arrivals could be considered as proxies for development. The analysis is restricted to these three variables on account of non-availability of taluka-level data for other relevant variables such as income and employment.

Studies have shown that the use of banking services is found to be more common among households located in urban areas, households with higher income and wealth, as well as for households in which an adult member had professional education and formal employment (Martinez, 2006; Beck and Brown, 2011; Pal and Pal, 2012).Rural population or the proportion of rural population has been found to be negatively associated with financial inclusion. In other words, urbanization is positively associated with financial inclusion (Solo and Monroth, 2006; Al-Hussainy et al., 2008; Sarma and Pais, 2011). Urbanization is thus considered to be an important factor influencing financial inclusion. Urbanization is defined here as the percentage of urban population to total population. For the present study, the figures for urbanization are

available only for the census years. For the years in between the census years, the figures have been arrived at by the interpolation method by using the percentage change method. Urbanization is accompanied by industrialization and economic development. In the present analysis, urbanization is thus expected to be a positive determinant of financial inclusion.

Higher literacy rates, particularly adult literacy, have also been found to be positively associated with financial inclusion (Sarma and Pais, 2011). The level of education of the people in a region influences the level of financial inclusion (Kliza and Pederson, 2002; Caskey et al., 2006; Al-Hussainy et al., 2008; Ghosh, 2011; Cull and Scott, 2011; Seluhinga, 2013). In the present analysis, the total number of students enrolled in schools at the higher secondary education level, colleges and universities is considered as a proxy for the education level. It is believed that generally an individual who has completed his/her higher secondary education, graduation or post-graduation, would be in a better position to make financial decisions than an individual who is a school dropout. Hence, this is considered as an important factor determining financial inclusion. An increase in the number of students enrolled is expected to be a positive determinant of financial inclusion.

Tourism is one of Goa's fastest growing industries. Historically oriented toward the service sector, Goa's economy has experienced spectacular economic growth over the years. From the macroeconomic perspective tourism is clearly an important source of economic growth in Goa. Tourism does have significant direct benefits at the local level by generating employment and improving wages, and several indirect effects such as stimulating growth in tourism-related activities such as services and transportation. Tourism revenues go beyond hotel operators and employees, tour

operators, restaurateurs and shop-workers who sell goods and services to tourists. Tourist expenditures are typically incurred partly on local goods and services, further raising output and incomes. To the extent that local goods and services are elastic in supply and can thus expand as demand grows, the multiplier effects of tourism (or increases in other sector outputs) would be substantial. The total impact of tourism on income generation and distribution depends on more than just the direct spending by tourists on various commodities and services. Similarly poverty reduction impacts go beyond the employment and income generated by direct contacts with tourists as a function of multiplier effects of other sectors on output. Thus, tourism does have an impact on financial inclusion as well. It is argued here that an increase in the number of tourists in a particular region will result in higher levels of financial inclusion. In other words, there is a direct relationship between tourist arrivals and financial inclusion.

In the present analysis, a pooled regression model is estimated so as to analyze the impact of the three socio-economic variables, namely, student enrolment, urbanization and tourist arrivals on financial inclusion. The regression equation is expressed as follows:

$$y = \beta_0 + \beta_1 SE + \beta_2 URB + \beta_3 TA + u \quad (4.1)$$

where

y=Transformed IFI [y=ln (IFI/(1-IFI)]

β_0= Constant or intercept term

β_1 ,β_2,β_3 =Parameters to be estimated

SE=Student enrolment, that is, number of students enrolled in schools at the higher secondary education level, colleges and universities

URB= Urbanization, that is, percentage of urban population to total population

TA= Tourist arrivals, that is, number of domestic and foreign tourists

u= Error term

The pooled regression model is then estimated using the classical OLS (Ordinary Least Squares) method. The results of the regression where the transformed IFI, y, is regressed over the selected socio-economic variables are presented in Table 4.12.

The results of the regression model are satisfactory and interesting. It can be seen that the estimated coefficients of all the three independent variables have the expected signs. The coefficient of student enrolment is significant at 1% level. Student enrolment is found to have a positive impact on financial inclusion. In other words, the larger the number of students enrolled, thus implying higher education level, the higher will be the level of financial inclusion. The coefficient of urbanization is significant at 1% level. Urbanization is also found to have a positive impact on financial inclusion. This means that as the proportion of urban population to the total population increases, the level of financial inclusion will also increase. The coefficient of tourist arrivals is significant at 5% level. Tourist arrivals have a positive impact on financial inclusion implying that as the number of tourists increases, the level of financial inclusion will also increase.The model has been corrected for heteroskedasticity and robust standard errors have been reported.

The adjusted R squared is 0.696, which is fairly good considering the fact that we have used pooled cross section data. The model fits well because 69.6% of the variation in the dependent variable is explained by the explanatory variables. The F-value is 93.26 and the p-value of obtaining an F-value of 93.26 or greater is practically zero. This reveals that all independent variables jointly determine the dependent variable and the

model is very good. All the explanatory variables are found to be individually and collectively statistically significant.

Table 4.12Factors Determining Financial Inclusion at the Taluka-Level

Dependent Variable:y [y=ln(IFI/(1-IFI)]	
Variable	**Coefficients**
Constant	-4.4446 (0.2597)***
SE	0.0003 (0.00004)***
URB	0.0364 (0.0045)***
TA	0.000002 (0.000001)**
No. of observations	198
F (3,194)	93.26
P-value (F)	0.000
R- squared	0.701
Adjusted R- squared	0.696

Note: Robust standard errors are in parentheses
***Significant at 0.05 level*
****Significant at 0.01 level*

These findings indicate that regions characterized by low levels of education, low degree of urbanization and low levels of tourist arrivals seem to be less financially inclusive. From the above analysis, it can be seen that though Goa has been declared as a completely financially inclusive state, the degree of financial inclusion varies across talukas. Government policy to improve levels of education and urbanization, and also to promote tourism, will have far-reaching implications on the status of financial inclusion in Goa.

4.6 CHAPTER SUMMARY

The study shows that there has been a substantial growth of banking facilities in Goa. The number of bank branches has increased manifold from a mere 5 in 1962 to 643 in

2012. However, the bank branches have not been evenly distributed across the state. During the period 1994-95 to 2011-12, deposits have been larger and have been growing at a faster rate than credit. As a result, the credit-deposit ratio has been low. The low credit-deposit ratio in the state is due to low credit off-take in the State and high level of deposits with banks is largely due to the large inflow of foreign remittances.

The economically developed talukas of Tiswadi, Bardez, Salcete and Mormugao have been dominating the banking scenario in the state of Goa. These four talukas have ranked the highest with respect to both access and usage of banking services. For the period of study, Tiswadi has ranked the highest for both the access and usage dimensions. Bardez ranked second for the access dimension but third for the usage dimension. Salcete, on the other hand, has performed better for the usage dimension. Sattari has ranked the lowest in terms of both access and usage of banking services, the index values being close to zero for almost the entire period.

Tiswadi, Bardez and Salcete have had consistently high IFI values and are therefore categorized as talukas with high levels of financial inclusion. Mormugao has been in the range of medium financial inclusion throughout. Ponda, on the other hand, has moved from low levels to medium levels of financial inclusion in 2008-09.All the remaining six talukas are categorized in the category of low level of financial inclusion, the IFI values ranging between 0 and 0.3.

The results of the multiple regression model estimated show that student enrolment, urbanization and tourist arrivals have a positive impact on financial inclusion All these explanatory variables are found to be individually and collectively statistically

significant as determinants of financial inclusion. This implies that regions that are less developed are also less financially inclusive.

CHAPTER V

FINANCIAL INCLUSION IN GOA: A HOUSEHOLD LEVEL ANALYSIS

5.1 INTRODUCTION

In order to have an understanding of the extent of financial inclusion among households in Goa, the study uses primary data made available by means of a structured interview schedule administered to 400 households across four talukas in the state of Goa. The study covers households residing in both rural and urban areas. Households are stratified into below poverty line (BPL) and above poverty line (APL) households.

This chapter begins by presenting the profile of the head of the household and the socio-economic profile of respondents. The nature of bank accounts held by the respondents and the factors determining the holding of a bank account are then discussed. The latter part of this chapter deals with the analysis of the factors influencing financial inclusion at the household level. This is followed by a comparative analysis of factors influencing financial inclusion in rural and urban households. The chapter concludes with an analysis of the extent of financial exclusion at the individual level.

5.2 GENERAL PROFILE OF HOUSEHOLD HEAD

This section highlights the characteristics of the head of households. Out of the total sample of 400 households, it is found that 83.25% of the household heads were males.

The age profile of the household heads indicates that 75.5% of them were between 35 and 65 years of age. Only 5.5% were in the age group of 25 to 35 years and 19% of them were above 65 years of age. The mean age was 53.73 years with the age distribution having standard deviation of 11.22. The youngest household head was 28 years old whereas the oldest household head was 93 years old. The general profile of the household head is shown in table 5.1.

Table 5.1 General Profile of Household Head

Sr. No.	General Profile		No. of Households	Percentage
1	Gender	Male	333	83.25
		Female	67	16.75
2	Age	18-25 years	0	0.00
		25-35 years	22	5.50
		35-45 years	64	16.00
		45-55 years	121	30.25
		55-65 years	117	29.25
		65 years & above	76	19.00
3	Educational Attainment	Illiterate	52	13.00
		No formal education	3	0.75
		Below Primary	21	5.25
		Primary	24	6.00
		Below SSC	49	12.25
		SSC	88	22.00
		HSSC	31	7.75
		Undergraduate	21	5.25
		Graduate	79	19.75
		Post-graduate	32	8.00
4	Employment Status	Employed	265	66.25
		Unemployed	135	33.75

Source: Primary data from field survey

As far as educational attainment is concerned, it was found that 13% of them were illiterate and 24.25% of them had either no formal education or were school dropouts. It is observed that 29.75% of them had completed either their secondary or higher secondary education, 5.25 % were undergraduates and 27.7% were either graduates or post-graduates. This shows that the educational attainment of the household heads was

generally high. Further, 66.25% of them were employed, while the remaining 33.75% were unemployed.

5.3 SOCIO-ECONOMIC PROFILE OF RESPONDENTS

This section provides an insight into the socio-economic characteristics of the respondents and their households.

Table 5.2 General Profile of Respondents

Sr. No.	General Profile		No. of respondents	Percentage
1	Gender	Male	235	58.75
		Female	165	41.25
2	Age	18-25 years	46	11.5
		25-35 years	93	23.25
		35-45 years	96	24.00
		45-55 years	77	19.25
		55-65 years	57	14.25
		65 years & above	31	7.75
3	Marital Status	Single	97	24.25
		Married	269	67.25
		Widowed	31	7.75
		Divorced	3	0.75
4	Religion	Hindu	310	77.5
		Muslim	34	8.50
		Christian	56	14.00
5	Caste	General	289	72.25
		Scheduled Caste	10	2.50
		Scheduled Tribe	48	12.00
		Other Backward Classes	53	13.25
6	Educational Attainment	Illiterate	22	5.50
		No formal education	0	0.00
		Below primary	8	2.00
		Primary	11	2.75
		Below SSC	42	10.50
		SSC	94	23.50
		HSSC	51	12.75
		Undergraduate	21	5.25
		Graduate	108	27.00
		Post-graduate	43	10.75
7	Household Size	1 member	11	2.75
		2 -3 members	104	26.00
		4 - 5 members	203	50.75
		6 - 7 members	58	14.50
		8 - 9 members	13	3.25
		10 members & above	11	2.75

Source: Primary data from field survey

The general profile of the respondents is presented in table 5.2. It can be observed that 58.75% of the respondents were males and 41.25% were females. The respondents were between 20 and 93 years of age. An analysis of the age of the respondents shows that 34.75% of them were between 18 and 35 years of age and 57.50 % of them were between 35 and 65 years of age. Only 7.75% were 65 years or older. The mean age was 42.08 years with the age distribution having standard deviation of 14.36.

As far as marital status is concerned, it is found that a large proportion (67.25 %) of the respondents were married, 24.25 % of them were single or never married and only 8.50 % of them were either widowed or divorced. The religious profile of the respondents indicates that 77.5% of them were Hindus, 14 % of them were Christians and only 8.50 % of them were Muslims. The findings show that a large proportion of the respondents (72.25 %) belonged to the general caste category.

The overall picture of the level of educational attainment of respondents shows that only 5.50% of them were illiterate and 15.25 % of them were school dropouts, not being able to complete their schooling. It is observed that 36.25 % of the respondents had completed their secondary or higher secondary education and 5.25 % of them were undergraduates. A considerably large proportion of the respondents, namely, 37.75 %, were either graduates or postgraduates. This shows that the educational attainment of the respondents was generally high.The household size varied from one member to 17 members with a mean of 4.46 having a standard deviation of 2.03. The study reveals that 2.75% of the respondents lived by themselves, 76.75% of the respondents had a household size of 2 to 5 members and 20.50% of them had a household size of 6 members or more.

Considering the fact that the educational status of the respondents was, in general, high, it is found that 68 % of them were employed and 32 % were unemployed. The aspects related to the employment status of the respondents are shown in table 5.3. Among the respondents who were employed, 43.01 % were working in the private sector, 15.44 % had government jobs and 33.09 % were self-employed. Since 90 % of the respondents belonged to above poverty line (APL) households, it is found that only 8.46 % of them worked as daily wage earners. Moreover, 71.69 % of the respondents had permanent jobs, 18.75 % of them had temporary jobs and 9.56 % of them were employed on probation or on contract basis.

Table 5.3 Employment Related Aspects of Respondents

Sr. No.	Aspects related to employment		No. of respondents	Percentage
1	Whether Employed	Yes	272	68.00
		No	128	32.00
2	Nature of job	Government	42	15.44
		Private	117	43.01
		Self employed	90	33.09
		Daily wage earner	23	8.46
3	Employment Status	Temporary	51	18.75
		On Probation	2	0.74
		Contract	24	8.82
		Permanent	195	71.69
4	Work Experience	Less than 5 years	74	27.21
		5-10 years	46	16.91
		10-15 years	45	16.54
		15-20 years	35	12.87
		20-25 years	22	8.09
		25-30 years	23	8.45
		30 years & above	27	9.93
5	Number of household members employed	Nil	10	2.50
		1-2 members	317	79.25
		3-4 members	69	17.25
		5-6 members	4	1.00

Source: Primary data from field survey

As far as work experience is concerned, the study reveals that 44.12 % of the respondents had worked for less than ten years, 29.41 % of them had been working for a period of 10 to 20 years and 16.54 % of them had a work experience of 20 to 30

years. It is observed that 9.93 % of the respondents had been working for thirty years or more. Moreover, in 96.50% of households, there were between one and four members employed.

Table 5.4 presents data on details related to housing of the respondents. As far as location of residence is concerned, 60.75% of the respondents resided in urban areas and 39.25% of them resided in rural areas. A large proportion of the respondents, namely, 93.25% lived in their own accommodation and only 6.75% of them lived in rented premises. As far as the type of house is concerned, 44.75% of the respondents lived in either flats or bungalows, 47.25% of them lived in pucca houses and only 8% of them lived in kutcha or semi-pucca houses. This is possibly because 90% of the households were APL households.

Table 5.4 Details related to Housing of Respondents

Sr. No.	Details related to housing		No. of respondents	Percentage
1	Location	Urban	243	60.75
		Rural	157	39.25
2	Home ownership	Own	373	93.25
		Rented	27	6.75
3	Type of house	Kutcha	8	2.00
		Semi-pucca	24	6.00
		Pucca	189	47.25
		Flat	95	23.75
		Bungalow	84	21.00

Source: Primary data from field survey

It is generally observed that when individuals are asked about their income, there is a tendency of people to understate their income. Since it was not possible to verify the claims of the respondents, the income mentioned by the respondent is accepted as the most conservative estimate of his or her income. Out of the total sample of 400

respondents, 360 respondents belonged to APL households and the remaining 40 respondents belonged to BPL households.

Table 5.5 shows the summary statistics pertaining to the monthly income of respondents of both BPL and APL households and monthly household income as well.

Table 5.5 Summary Statistics of Monthly Income of Respondents and Households

	Monthly Income of Respondent		Monthly Income of Household	
	APL	BPL	APL	BPL
Minimum	0	0	5000	750
Maximum	125000	3250	125000	4250
Mean	15666.67	1050	34555.56	2687.5
Standard Deviation	22950.23	1263.643	32727.09	921.17191
Coefficient of variation	146	120	95	34

Source: Primary data from field survey

As far as monthly income earned by respondents belonging to APL households is concerned, the study reveals that 30.56% of them were unemployed and hence did not earn any income. It is observed that 52.49% of the respondents earned up to Rs 30000/- per month. About 14.45% of the respondents earned between Rs 30000/- and Rs 70000/- per month and only 2.5% of them earned above Rs 80000 per month. This shows that respondents belonging to APL households earned moderate incomes, their incomes ranging up to Rs 125000/- The average income of these respondents were Rs.15666.67.

The analysis of monthly income earned by respondents belonging to BPL households reveals that 45% of these respondents were unemployed and hence did not earn any income at all. The findings show that17.50% of the respondents earned an income of less than Rs 1000 per month, 10% of them earned an income between Rs 1000 and Rs 2000 per month and another 10% earned an income between Rs 2000 and Rs 3000 per month. Further, only 17.50 % of the respondents earned an income between Rs 3000

and Rs 4000 per month. The maximum income earned was Rs 3250/-. The average income of these respondents was only Rs 1050/- This clearly indicates that income levels were low for a large proportion of the respondents belonging to BPL households. The coefficient of variation for these respondents was 120% as compared to 146% for respondents belonging to APL households.

As far as monthly income of APL households is concerned, the study reveals that 59.44% had a monthly household income of up to Rs 30000/- and 29.44% had a monthly household income of Rs 30000/- to Rs70000/-. Only 11.12% had a monthly household income of Rs 70000/- or more. The monthly income of APL households ranged between Rs 5000/- and Rs 125000/-. The average monthly income of APL households was Rs 34555.56. The analysis of monthly income of BPL households reveals that a large proportion of these households, namely, 75%, earned between Rs 2000/- and Rs 4000/- per month. It is found that 17.50% of the respondents had a monthly household income of less than Rs 2000/- and 7.50% of them had a monthly household income of Rs 4000/- or more. The monthly household income ranged between Rs 750/- and Rs 4250/-. and the average income of BPL households was Rs 2687.50. The coefficient of variation of income for APL households was much higher than for BPL households (95% as compared to 34%).

5.4 NATURE OF BANK ACCOUNTS OF RESPONDENTS

The study reveals that 385 respondents, constituting 96.25%of the sample, had bank accounts. They had willingly opened these accounts. They had the necessary documents at the time of opening the account. Out of these 385 respondents, 57.66% of them had only one bank account. 37.92% of them had either two or three bank accounts and only 4.41% of them had four or more bank accounts. The remaining 15

respondents did not have a bank account on account of either no income or insufficient incomes.Table 5.6 shows the details of bank accounts held by respondents.

Table 5.6 Details of Individual Bank Accounts

Sr. No.	Details of bank accounts		No. of respondents	Percentage
1	Number of individual bank accounts	One	222	57.66
		Two	110	28.57
		Three	36	9.35
		Four & above	17	4.41
2	Reasons for opening bank account	To receive loans	12	3.12
		To receive government benefits	29	7.53
		To receive wage/salary	105	27.27
		For savings	239	62.08
3	Duration of bank account	Less than 5 years	106	27.53
		5-10 years	74	19.22
		10-15 years	72	18.70
		15-20 years	32	8.31
		20-25 years	31	8.06
		25-30 years	28	7.27
		30 years & above	42	10.91

Source: Primary data from field survey

A large percentage of respondents (62.08%) claimed that they opened bank accounts for the purpose of savings. While 27.27% of the respondents opened bank accounts so as to receive wages or salaries, 10.65% of them opened bank accounts either to receive payments from government schemes or to receive loans. Many of the male respondents who were married claimed that their wives were not employed but opened bank accounts only recently so as to receive payments from the Griha Aadhar Scheme. This is, however, not reflected in the table given above.

The study reveals that among the respondents who had bank accounts, 92.99% of them had only savings accounts and 7.01% of them had both savings and current accounts. The study also reveals that 92.73% of the respondents were aware of the various

deposit schemes offered by banks. However, only 49.09% of them had invested in recurring and/or fixed deposits. The others claimed that as they had insufficient incomes, they kept their money in savings or current accounts only. It is observed that 46.75% of the respondents had bank accounts for less than 10 years, 27.01% of them had bank accounts for a period of 10 to 20 years, 15.33% of them had accounts for 20 to 30 years and 10.91% of them had bank accounts for 30 years or more.

5.5 FACTORS DETERMINING INDIVIDUAL BANK ACCOUNTS

Several factors influence individuals to hold a bank account. Studies have revealed that income-related reasons stand out as the main reason for not having a bank account (Kempson, 2006; Kibua, 2007; Bebczuk, 2008; Chattopadhyay, 2011). Martinez (2006) observed that in Zambia, the account holders were usually people living in the urban areas and with a regular employment in the public or private sector. Solo and Manroth (2006) observed that in Colombia, the demand side perspective of financial exclusion revealed that the majority of the unbanked were poor. The unbanked had three times greater unemployment than the banked and also had lower educational attainment. Caskey et al (2006) found that in both the U.S. and Mexico, the unbanked households are similarly characterized by low income and education levels.

Educational attainment, employment status, income, age, gender and household size have been found to be significant factors affecting the holding of a bank account (Kempson et al., 2004; Johnson and Nino-Zarazua, 2008; Al-Hussainy et al., 2008; Ghosh, 2011; Cull and Scott, 2011; Pal and Pal, 2012; Seluhinga, 2013).Location of the bank is also a factor leading to financial exclusion (Solo and Manroth, 2006; Beck et al., 2008). Collard et al. (2001) found that the people most likely to be excluded from financial services are those living on low incomes, especially if they are not in

paid work and living on income-related benefits. The longer the head of household has been out of paid work, the more likely they are to be financially excluded.

Kliza and Pederson (2002) show that the decision to hold a savings deposit in a bank in Uganda is positively related to the information available to the household on the respective banking system, the education level and work experience of the household head, and the proximity of the financial institution. Kempson et al. (2004) found that in Australia, the social security system relies heavily on direct deposit of benefits into a bank account and, therefore, the prevalence of unbanked adults is much lower than in other developed nations.

Studies have revealed that in India, bank accounts are opened typically to receive government assistance such as the National Rural Employment Guarantee Programme and Indira Awaaz Yojana (Ramji, 2009; Johnson and Meka, 2010; Kuri and Laha, 2011; Pal and Pal, 2012). Owning a bank account in a financial institution depends as much on the source of income as on the age and education of the chief earner. It has been observed that fewer rural households hold accounts in banks as compared to urban households (Shukla, 2010).

In the present study, an attempt is made to identify the factors determining whether or not an individual would have a bank account. For this purpose, a binomial logistic regression model is estimated. The dependent variable, ACCOUNT, is a dummy variable taking the value of 1 if the respondent has a bank account and 0 otherwise. The factors that are considered to have an influence on whether an individual has a bank account or not are as follows: respondent's gender (GENDER), age of the respondent (AGE), educational attainment of the respondent (EDU), employment

status of the respondent (EMP), the respondent being a beneficiary of a government scheme (GOVTBEN) and location of the household (HHLOC).

The logistic model is expressed as follows:

$$L: \Pr(ACCOUNT=1) = \beta_0 + \beta_1 GENDER + \beta_2 AGE + \beta_3 EDU + \beta_4 EMP + \beta_5 GOVTBEN + \beta_6 HHLOC + u \quad (5.1)$$

It is hypothesized that males are more likely to have a bank account as compared to females. The male members in a household are generally those who are employed as compared to their female counterparts, the latter often preferring to be just housewives. Hence, male members are more likely to have bank accounts.

The age of an individual is considered to be an important factor determining whether he/she would have a bank account or not. It is expected that as an individual gets older, he/she would generally be employed. Moreover, as he/she would have more years of work experience, he/she would generally be earning more income and have more savings as well. Thus, an older individual is more likely to have a bank account.

The educational attainment of an individual is also considered to be an important factor that determines whether he/she would have a bank account or not. It is believed that generally an individual who is more educated is in a better position to understand the importance of savings. He would generally be employed. The higher the level of educational attainment, the greater would be his/her earnings. It is thus hypothesized that the higher the educational attainment of an individual, the greater is the likelihood of him/her having a bank account.

It is hypothesized that if an individual is employed, he/she is more likely to have a bank account. If an individual is employed, he is likely to save a part of his income

and would generally put his savings in a bank and/or financial institution. If he/she is working for the private sector or the government, his/her wage or salary is usually credited to the bank account. In case of a self-employed person, he/she would deposit his earnings in the bank and make payments through the banking system.

It is hypothesized that if an individual is a beneficiary of some government scheme, then it is more likely that he/she would have a bank account. This is because a beneficiary of any government scheme wouldreceive payments through direct transfer into his/her bank account. Thus, an individual needs to open a bank account in order to avail of benefits of any government scheme. It is also expected that if an individual belongs to an APL household, it is more likely that he/she would have a bank account. People belonging toBPL households generally have low incomes and have either zero or low savings. They would generally keep their savings, if any, as cash at home so as to meet any unforeseen contingencies. Thus, they do not feel the need to open a bank account.

It is also hypothesized that individuals residing in urban areas are more likely to have bank accounts as compared to their counterparts residing in rural areas. This is because they are not only more educated, but are also more aware of banking services. The levels of financial literacy are higher for individuals residing in urban areas. Moreover, urban individuals have the added advantage of the proximity of banks to their residence or workplace.

Table 5.7 presents the results of the binomial logistic regression model. The dummy dependent variable is the holding of a bank account (ACCOUNT). It can be observed thatthe educational attainment of the respondent is significant at 1% level. The respondent's educational attainment has a positive impact on him/her having a bank

account. With every additional year of education, an individual is, on an average, 0.39% more likely to have a bank account, holding all other variables constant. The respondent's age is statistically significant at 10% level. As an individual grows older by a year, he/she is, on an average, 0.06% more likely to have a bank account, holding all other variables constant.

Table 5.7 Determinants of Individual Bank Accounts

Dependent Variable: ACCOUNT(Dummy=1 if a respondent has a bank account, =0 otherwise	
Variable	**Marginal Effects**[#]
Constant[##]	-2.4827 (1.4535)*
GENDER	0.1399 (0.0125)
AGE	0.0006 (0.0003)*
EDU	0.0039 (0.0015)***
EMP	0.0185 (0.0153)
GOVTBEN	0.0152 (0.0076)**
HHLOC	-0.0139 (0.0092)
No. of observations	400
LR $chi^2(6)$	33.54
Prob>chi^2	0.0000
Pseudo- R^2	0.262
No. of cases correctly predicted	384 (96%)

Note: [#] *The marginal effects (dy/dx) are reported at the mean*
[##] *The coefficient is reported for the constant*
Standard errors are in parentheses
**Significant at 0.10 level*
***Significant at 0.05 level*
****Significant at 0.01 level*

The respondent being a beneficiary of a government scheme is statistically significant at 5% level. An individual who is a beneficiary of a government scheme is, on an

average, 1.52% more likely to have a bank account, holding all other variables constant. The other explanatory variables, namely, the respondent's gender, his/her employment status and location of the household, are not found to be statistically significant.

In the model, the pseudo-R^2 is 0.262. The likelihood ratio chi-square test, LR chi^2 (6), has a value of 33.54.The value of the prob>chi^2 is 0.0000. This implies that the effect of at least one of the independent variables likely differs from zero. This shows that the model fits significantly well. Moreover, 384 cases or 96% of the cases have been correctly predicted. Thus, the overall model is statistically significant.

The individual's educational attainment is considered to be an important factor determining whether he/she would have a bank account or not. Therefore, an attempt is made to examine the impact of the explanatory variables on the likelihood of an individual having a bank account at different levels of education. For this purpose, marginal effects are calculated at education levels at primary school, that is, four years of education, secondary school, that is, ten years of education and graduation, that is, fifteen years of education.

Table 5.8 shows the marginal effects at different levels of education. It can be observed that the marginal effects of an individual being a beneficiary of government schemes, his/her age and educational attainment show a significant decline at higher levels of education. Moreover, an individual's age and his/her being a beneficiary of government schemes are not significant factors for individuals who are graduates. This implies that an individual with primary school education is relatively more likely to have a bank account if he/she is a beneficiary of some government scheme, as he/she

grows older by a year and with every additional year of education, as compared to an individual with secondary school education or graduation.

Table 5.8 Determinants of Individual Bank Accounts: Marginal Effects at different levels of education

Variable	Marginal Effects		
	At EDU=4 years[#]	At EDU=10 years[#]	At EDU=15 years[#]
GENDER	0.1180 (0.0932)	0.0212 (0.0181)	0.0042 (0.0045)
AGE	0.0055 (0.0034)*	0.0009 (0.0005)**	0.0002 (0.0001)
EDU	0.0348 (0.0189)*	0.0060 (0.0022)***	0.0012 (0.0007)*
EMP	0.1492 (0.1052)	0.0279 (0.0219)	0.0056 (0.0057)
GOVTBEN	0.1436 (0.0626)**	0.0233 (0.0102)**	0.0046 (0.0034)
HHLOC	-0.1221 (0.1046)	-0.0211 (0.0181)	-0.0042 (0.0029)

Note: [#]The marginal effects (dy/dx) are reported at the mean for other variables
Standard errors are in parentheses
**Significant at 0.10 level*
***Significant at 0.05 level*
****Significant at 0.01 level*

5.6 FACTORS DETERMINING FINANCIAL INCLUSION AT THE HOUSEHOLD LEVEL

There are a number of ways by which one can examine the extent of financial inclusion.The most commonly used indicator to measure the extent of financial inclusion is the percentage of adult population having bank accounts. If the number of people in a particular state or region having bank accounts is higher, financial inclusion is considered to be higher. The most important part of financial services in a region is typically measured by number of people who have access to bank accounts (Beck & De la Torre, 2006; Littlefield et al, 2006). This is because bank accounts enable people to perform important financial functions like access to savings schemes,

access to credit, taking loan, insurance, money transfer etc.. Thus, bank accounts determine access to many other financial services.

Internationally, having a current or savings account by itself is not regarded as an exact indicator of financial inclusion. In developed countries, financial inclusion is generally related to the issues about social exclusion and welfare. In India, the basic concept of financial inclusion is defined in terms of the percentage of adult population having bank accounts. In this study, the number of bank accounts held by a household is used as an indicator of financial inclusion. It is based on the assumption that, higher the number of household bank accounts, higher will be the banking activity and hence, the extent of financial inclusion would be higher.

Table 5.9 Number of Bank Accounts held By Households

No. of bank accounts	No. of households	Percentage
1	43	10.75
2 – 3	199	49.75
4 – 5	107	26.75
6 – 7	34	8.50
8 – 9	7	1.75
10 & above	10	2.50
Total	400	100

Source: Primary data from field survey

The study reveals that there were 1377 adults in the 400 sample households and the total number of bank accounts held by them was 1406. All the sample households had at least one bank account. Table 5.9 indicates the number of bank accounts held by households.

The number of accounts held by households varied from 1 to 19. In 10.75% of the households, there was only one bank account. In 76.50% of the households, there were

between two to five bank accounts. In 12.75% of the households, there were six or more bank accounts. The average number of bank accounts held by households was 3.515 and standard deviation was 2.168.

There are several factors which influence the number of bank accounts held by a household. In the industrialised and high income countries which have a well-developed banking system, studies have shown that persons who belong to low-income groups, immigrants, the aged and so on are generally excluded from the financial system (Barr, 2004). Kempson et al. (2000) found that in the United States, families without deposit accounts were disproportionately likely to have low incomes, to be headed by a person younger than 35 years or older than 75 years, to be headed by an unemployed person and to be in the bottom 25% of the wealth distribution.

Beck and Brown (2011) have shown that the use of banking services is more common among households located in urban areas, households with higher income and wealth, as well as for households in which an adult member has professional education and formal employment. Studies have shown that people living in rural areas and in locations that are remote from urban financial centres are more likely to be financially excluded (Leyshon and Thrift, 1995; Kempson and Whyley, 2001). Employment has also been found to be associated with financial inclusion (Goodwin et al., 1999). The unemployed or those with irregular employment are less likely to participate in the financial system.

In order to study the extent of financial inclusion which is indicated by the number of bank accounts held by a household, a multiple regression model is estimated. The basic objective of this model is to understand the factors that determine the number of bank accounts that households have. The factors that are considered to be positive

determinants of financial inclusion are as follows: age of the household head (HAGE), educational attainment of the household head (HEDU), monthly household income (HHINC), location of the household (HHLOC), number of employed members in the household (HHEMP), poverty line status of the household (HHAPL), number of adult members in the household (HHADULTS) and household members being beneficiaries of government schemes (HHGOVTBEN).

It is hypothesized that the age of the household head will have a positive impact on financial inclusion. This is because as an individual gets older, he would have more years of work experience to his/her credit and would generally be earning more income. Moreover, an older person would generally have been married for a longer time and would have older children. Thus, it is more likely that the number of bank accounts held by a household would be greater if the head of the household is older.

The educational attainment of the household head is also considered to be an important factor influencing financial inclusion. It is believed that generally a more educated individual would be in a better position to make financial decisions than a less educated individual. Thus, if the head of the household is more educated, he would be in a better position to understand the importance of saving and would generally put his savings in a bank or any other financial institution. He would also encourage his family members to save. Thus, if a household is headed by a more educated individual, financial inclusion is expected to be greater.

The level of financial inclusion in a region or country is found to be positively associated with the level of income and prosperity. So also at the household level, it is expected that if there is a rise in household income, it is likely to lead to greater financial inclusion. As a household earns more income, it will be in a better position to

save. Moreover, household income may rise if there are more earning members in the family. If there are more earning members in the family, it would generally result in more saving and investment. As a result, the household would probably be holding more bank accounts.

Studies have shown that people residing in urban localities are more likely to be financially included. In the present study, it is expected that financial inclusion would be higher for households living in urban areas as compared to those living in rural areas. This is because people residing in urban areas are expected to be earning higher incomes and are considered to have attained higher levels of education as compared to people living in rural areas. Moreover, households living in urban areas are likely to have greater access to banks than their counterparts residing in rural areas.

Higher levels of employment are found to be positively associated with financial inclusion. In the present analysis, it is expected that if there are more employed members in a household, this will have a positive impact on financial inclusion. This is for the simple reason that as more family members are employed, they are bound to keep their savings in banks and other financial institutions. In other words, they would be brought into the banking net and hence would be considered to be financially included.

It is also expected that if there are more adult members in a household, financial inclusion is likely to be greater. Generally, adult male members are employed and are thus more likely to have bank accounts. If their wives are not working, they would either be holding joint bank accounts or would open bank accounts so as to avail of benefits from various government schemes. There is no doubt that in many middle-

income and high- income households, bank accounts are opened even for minors. But the general case is that accounts are opened for adult members.

The present study covers both below poverty line (BPL) and above poverty line (APL) households. It is expected that APL households are more likely to be financially included as compared to BPL households. The BPL households generally have low incomes as a result of which they are not in a position to save much on a monthly basis. In fact most of them can barely make ends meet and thus cannot save at all. They would generally keep their savings, if any, as cash at home so as to meet emergency needs or for any unforeseen contingencies.APL households would generally be more financially included as their income levels rise.

The Government of Goa has introduced various schemes such as the Indira Awaas Yojana (IAY), Dayanand Social Security Scheme (DSSS) and the Griha Aadhar (GA) Scheme. A striking feature that the study revealed is that many respondents opened bank accounts primarily to receive government payments under these schemes rather than for the purpose of saving. The IAY is a centrally sponsored scheme funded on cost sharing basis between the central and state governments. It is a flagship rural housing scheme, the aim of which is to provide shelter to those who are BPL. The scheme was introduced on 1st April 1999.Financial assistance is provided for construction of new houses and upgradation of existing houses to the extent of Rs 35000/- and Rs 15000/- respectively. Under the scheme, from the year 2012-13 financial assistance of Rs. 70000/- is provided for construction of new house including sanitary toilet and smokeless chullah and Rs. 15,000/- for upgradation of existing ones (GOG 2013a).

The DSSS, which is sponsored by the state government, came into force on 1st January 2002.It provides monthly pension of Rs 1000/- per month to senior citizens (60 years and above), disabled persons and single women.With effect from April 2012, the revised assistance is given at the rate of Rs.2000/-, Rs.2500/- and Rs.3500/- to the beneficiary under various categories.

The Goa Government launched the Griha Aadhar Scheme in January 2013 to address the problem of spiralling prices and to provide support to the housewives/homemakers from middle, lower middle and poor sections of the society, to maintain a reasonable standard of living for their families. Under this scheme an amount of Rs.1000/- per month is provided directly to the housewives/homemakers to achieve this objective. Any married woman who is above the age of eighteen years and is a resident of Goa for the last fifteen years is eligible to apply provided that the gross income of husband and wife taken together does not exceed Rs.300000/- per annum. Further, the beneficiary or the husband should not be in receipt of the benefit under the Dayanand Social Security Scheme. However, a widow having a child living shall be eligible for benefit under this scheme, even though she is a beneficiary of the DSSS till the child attains 18 years of age.

It is expected that a household would have more bank accounts if its members are beneficiaries of any of the schemes mentioned above. The beneficiaries of these schemes receive payments through direct transfer into their bank accounts. Thus, many individuals would open bank accounts primarily to avail of these payments.

In the present analysis, the dependent variable, namely, the number of bank accounts held by a household, is an indicator of financial inclusion. It is regressed over eight independent variables. Three of the explanatory variables, namely, HHLOC, HHAPL

and HHGOVTBEN are dummy variables. It is hypothesized that all the independent variables are positive determinants of financial inclusion.

The regression equation is expressed as follows:

$$y = \beta_0 + \beta_1 HAGE + \beta_2 HEDU + \beta_3 HHINC + \beta_4 HHLOC + \beta_5 HHEMP + \beta_6 HHAPL + \beta_7 HHADULTS + \beta_8 HHGOVTBEN + u \quad (5.2)$$

The results of the regression analysis are presented in Table 5.10. Model 1(Equation 5.2) estimates the impact of factors on financial inclusion of all households. Model 2 and model 3 (Equation 5.3) estimate the impact of factors on financial inclusion of urban and rural households respectively.

The estimation results pertaining to model 1 (Equation 5.2) show that the coefficient of the household income is statistically significant at 1% level. Household income is found to have a positive impact on financial inclusion.If the monthly household income increases by Rs 10000/-, the number of bank accounts held by a household is expected to increase by 0.20 (Table 5.10). This means that as the level of monthly household income increases, the level of financial inclusion will be greater.

The coefficient of the number of adult members in a household is statistically significant at 1% level. If there is one more adult member in a household, the number of bank accounts held by the household is expected to increase by 0.42. Thus, the number of adult members in a household is also found to have a positive impact on financial inclusion implying that if there are more adult members in a household, the level of financial inclusion will be higher.

The coefficient of the age of the household head is statistically significant at 1% level. The age of the household head is found to have a positive impact on financial

inclusion. If the household head grows older by a year, the number of bank accounts held by a household is expected to increase by 0.02. In other words, the older the head of the household, the higher will be the level of financial inclusion.

The coefficient of the poverty line status of the household is statistically significant at 5% level. If a household belongs to the above poverty line (APL) category, it is found to have a positive impact on financial inclusion. If a household is an APL household, the number of bank accounts held by the household is expected to increase by 0.57. In other words, financial inclusion is likely to be greater if the household belongs to the APL category than if it belongs to the BPL category.

The coefficient of the number of employed members in a household is found to be statistically significant at 5% level. The number of employed members in a household has a positive impact on financial inclusion. If there is one more employed member in a household, the number of bank accounts held by the household is expected to increase by 0.29. Thus, if there are more employed members in a household, financial inclusion will be greater.

The coefficient of the educational attainment of the household head is statistically significant at 5% level. Thus, the educational attainment of the household head is also found to have a positive impact on financial inclusion. With every additional year of education of the household head, the number of bank accounts held by the household is expected to increase by 0.04. This means that if the head of the household is more educated, it will imply greater financial inclusion. Two of the explanatory variables, namely, location of the household and household members being beneficiaries of government schemes, are not found to be statistically significant.

Table 5.10 Household Determinants of Financial Inclusion

Dependent variable:y (Number of bank accounts held by a household)			
Variable	**Coefficients**		
	MODEL 1 (All HHs)	**MODEL 2 (Urban HHs)**	**MODEL 3 (Rural HHs)**
Constant	-1.0746 (0.5549)*	-0.9149 (0.8433)	-0.6832 (0.5267)
HAGE	0.0203 (0.0075)***	0.0206 (0.0111)*	0.0217 (0.0094)**
HEDU	0.0374 (0.0187)**	0.0309 (0.0284)	0.0581 (0.0234)**
HHINC	0.00002 (0.000004)***	0.000024 (0.000005)***	0.00003 (0.000008)***
HHLOC	-0.2464 (0.1996)		
HHEMP	0.2879 (0.1426)**	0.2436 (0.1957)	0.3286 (0.2162)
HHAPL	0.5716 (0.2351)**		
HHADULTS	0.4169 (0.0714)***	0.5137 (0.1077)***	0.3442 (0.1065)***
HHGOVTBEN	0.1902 (0.2109)	0.3168 (0.3460)	0.0218 (0.2184)
No. of observations	400	243	157
F value	23.31	12.66	23.14
P-value(F)	0.000	0.000	0.000
R-squared	0.424	0.394	0.488
Adjusted R-squared	0.412	0.378	0.467

Note: Robust standard errors are in parentheses
* *Significant at 0.10 level*
** *Significant at 0.05 level*
*** *Significant at 0.01 level*

The model has been corrected for heteroskedasticity and robust standard errors have been reported. The adjusted R squared is 0.412, which is fairly good considering the fact that we have used cross-section data. The model fits well because 41.2% of the variation in the dependent variable is explained by the explanatory variables. The F-value is 23.31 and the p-value of obtaining an F-value of 23.31 or greater is practically

zero. This reveals that all independent variables jointly determine the dependent variable and the model is very good. In other words, all the explanatory variables are found to be collectively statistically significant.

It would be interesting to compare the extent of financial inclusion of households residing in rural areas vis-à-vis households residing in urban areas and find out which factors have an impact on financial inclusion in rural and urban areas respectively. In order to do so, two separate regression models are estimated for urban and rural households respectively. As in the earlier model, the dependent variable is the number of bank accounts held by a household, which is considered as an indicator of financial inclusion. The explanatory variables that are considered in these models areage of the head of the household (HAGE), educational status of the household head (HEDU), monthly household income (HHINC), number of employed members in the household (HHEMP), number of adult members in the household (HHADULTS) and household members being beneficiaries of government schemes (HHGOVTBEN). The poverty line status of the household is not considered here as in the urban areas all households were found to belong to the above poverty line category.

The regression equation is expressed as follows:

$$y=\beta_0 + \beta_1 HAGE + \beta_2 HEDU + \beta_3 HHINC + \beta_4 HHEMP + \beta_5 HHADULTS + \beta_6 HHGOVTBEN + u \quad (5.3)$$

Out of the total sample of 400 households, 243 households were residing in urban areas. As far as urban households are concerned, results of model 2 (Equation 5.3) reveal that the coefficient of the monthly household income is found to be statistically significant at 1% level. If the monthly household income increases by Rs 10000/-, the number of bank accounts held by a household would increase by 0.24.

The coefficient of the number of adult members in a household is found to be statistically significant at 1% level.If there is one more adult member in an urban household, the number of bank accounts held by the household is expected to increase by 0.51 (Table 5.10). The monthly income of the household and the number of adult members in a household are found to have a positive impact on financial inclusion for urban households. This means that with an increase in the monthly income of the household or with an increase in the number of adult members in the household, financial inclusion would be higher.

The coefficient of the age of the head of the household is found to be statistically significant at 10% level. If the household head grows older by a year, the number of bank accounts held by a household is expected to increase by 0.02.The age of the household head has a positive impact on financial inclusion for urban households. Thus, as the age of the household head increases, financial inclusion would be higher. Thus, three of the explanatory variables are found to be statistically significant.

As far as the goodness of fit is concerned, the adjusted R squared is 0.378 implying that 37.8 %of the variation in the dependent variable is explained by the explanatory variables. In this model, the F-value is 12.66 and the p-value of obtaining an F-value of 12.66 or greater is practically zero. This reveals that all independent variables jointly determine the dependent variable and the model is very good. We can reject the null hypothesis that all explanatory variables together have no effect on financial inclusion.

Out of the total sample of 400 households, 157 households were residing in rural areas. As far as rural households are concerned, results of model 3 (Equation 5.3) show that the coefficient of the educational attainment of the household head is

statistically significant at 5% level. With every additional year of education of the household head, the number of bank accounts held by a household is expected to increase by 0.06 (Table 5.10). The educational attainment of the household head is found to have a positive impact on financial inclusion for rural households. This means that if the head of the household is more educated, it would lead to greater financial inclusion in rural households.

The estimation results show that the educational attainment of the household head is not statistically significant in the case of urban households. There are two possible explanations for this. Firstly, in urban areas, a relatively larger proportion (78.6%) of the household heads has completed secondary education as compared to only 39.5% in rural areas. It is possible that as individuals complete their secondary or higher secondary education, they would probably migrate from rural to urban areas. Secondly, people living in urban areas, irrespective of whether they are educated or not, are more aware of the importance of savings and investment as also the benefits of bank accounts as compared to their counterparts living in rural areas. Hence, education does not prove to be a significant factor influencing financial inclusion in urban areas.

The model also shows that coefficient of the monthly income of the household is found to be statistically significant at 1% level. If the monthly household income increases by Rs 10000/-, the number of bank accounts held by a household would increase by 0.30. The monthly household income has a positive impact on financial inclusion for rural households implying that with an increase in the monthly income of the household, financial inclusion would be higher. The monthly income of the household is statistically significant at 1% level for both rural as well as urban households. However, the impact of the monthly income of the household on financial

inclusion is found to be stronger in rural areas vis-à-vis urban areas. This is possibly because urban households have relatively higher incomes as compared to rural households and thus would already be having a number of bank accounts. In the case of rural households, an increase in household income would improve their ability to save and in most cases, they would need to open bank accounts.

As in the case of urban households, the coefficient of the number of adult members in a household is statistically significant at 1% level. If there is one more member in a rural household, the number of bank accounts held by the household is expected to increase by 0.34. The number of adult members in a household is found to have a positive impact on financial inclusion for rural households. This means that with an increase in the number of adult members in the household, financial inclusion would be higher. The impact of the number of adult members in a household on financial inclusion is found to be stronger in urban areas vis-à-vis rural areas. This could be attributable to the fact that individuals in urban areas are more educated and are more likely to be employed as compared to their rural counterparts. It follows that adult members in urban households would have bank accounts.

The coefficient of the age of the household head is found to be statistically significant at 5% level. If the household head grows older by a year, the number of bank accounts held by a household is expected to increase by 0.02.The age of the household head has a positive impact on financial inclusion for rural households implying that as the age of the household head increases, financial inclusion would be higher for rural households. The age of the household head is found to have a stronger impact on financial inclusion in rural areas vis-à-vis urban areas. This could be explained in terms of the household size. It is expected that as the head of the household grows older, he would generally have older children as well. The family structure is

significantly different in rural areas as compared to urban areas. In rural areas, there are more joint families whereas in urban areas there are more nuclear families. This is evident from the fact that in the urban areas, 33.33% of the households had a family size of more than four members whereas in the rural areas, 44.59% of the households had a family size of more than four members. Thus, as the household head gets older, this is more likely to have a significant impact on financial inclusion of rural households vis-à-vis urban households.

In the model pertaining to rural households, four of the explanatory variables, namely, age of the household head, educational attainment of the household head, monthly household income and the number of adult members in the household, are found to be statistically significant in influencing financial inclusion. In the model pertaining to urban households, three of the explanatory variables, namely, age of the household head, monthly household income and the number of adult members in the household, are found to be statistically significant in influencing financial inclusion. In both rural and urban areas, two of the explanatory variables, namely, the number of employed members in a household and household members being beneficiaries of government schemes are not found to be statistically significant.

The models have been corrected for heteroskedasticity and robust standard errors have been reported. As far as the goodness of fit is concerned, the adjusted R squared is 0.467 in the model pertaining to rural households as compared to 0.378 in the model pertaining to urban households. In the former case, 46.7% of the variation in the dependent variable is explained by the explanatory variables whereas in the latter case, 37.8%of the variation in the dependent variable is explained by the explanatory variables. This implies that the model pertaining to rural households shows a better goodness of fit as compared to the model pertaining to urban households.

In the model pertaining to rural households, the F-value is 23.14 and the p-value of obtaining an F-value of 23.14 or greater is practically zero. This reveals that all independent variables jointly determine the dependent variable and the model is very good. We can reject the null hypothesis that the explanatory variables together have no effect on financial inclusion. To conclude, both models have been found to be good. However, the explanatory power of the model pertaining to rural households is stronger than that of the model pertaining to urban households.

5.7 WHO ARE THE FINANCIALLY EXCLUDED?

Research and experience shows us which groups in our society are most likely to experience financial exclusion. Studies have shown that income, location, ethnicity, social status and household characteristics can all affect financial exclusion levels. The term 'financial exclusion' is used in different ways, but is most often defined as a broad concept describing a lack of access to, and use of, a range of financial services. Financially excluded people typically exhibit one or more of the following characteristics, namely, a lack of a bank account and the financial services that come with it, reliance on alternative forms of credit such as moneylenders and a lack of other key financial products such as insurance, savings products and pensions. Those who are unable to access basic financial services pay more to manage their money, find it difficult to plan for the future and are more likely to become over-indebted.

The most widely recognised manifestation of financial exclusion is not having a bank account. In the present analysis, the financially excluded individuals are defined as those who do not have a bank account and are involuntarily excluded from the banking system.

The study reveals that 42.33% of the respondents had two or more bank accounts (Table 5.6). Thus, it is evident that not every adult member had a bank account. It was found that out of the total adult population of 1377 in the 400 sample households, 322 adults did not have a bank account. This implies that 23.38% of the adult population was financially excluded. The adult population is defined as individuals who are 18 years of age or above. It is interesting to note that while 253 of the financially excluded individuals were females, only 69 of them were males.

Table 5.11 shows the extent of financial exclusion at the individual level. As far as location is concerned, it can be seen that 20.93% of the adult members in urban households and 26.77% of them in rural households were financially excluded. Though the degree of financial exclusion is greater in rural households, there is not a significantly large difference between rural and urban households. This is because, in contrast to other states in the country, rural areas in Goa are reasonably developed in terms of infrastructure and banking facilities. Moreover, the villages that have been covered in this study are not very far from towns and cities. Hence, people residing in rural households are not really at a disadvantage as compared to their counterparts residing in urban areas.

The monthly household income is an important indicator of financial exclusion. The study reveals that the percentage of financially excluded adults was 36.05% in households earning less than Rs. 10000/-, 19.78% in households earning between Rs. 10000/- and Rs. 50000/- and14.77% in households earning Rs. 50000/- or more. This clearly indicates that as income levels rise, the degree of financial exclusion becomes less.

Table 5.11 Extent of Financial Exclusion at the Individual Level

Sr. No.	Socio-economic characteristics of HHs		Total no. of individuals*	Financially excluded individuals**
1	Location	Urban	798	167
			(57.95)	(20.93)
		Rural	579	155
			(42.05)	(26.77)
2	Monthly HH Income	Less than Rs 10000	405	146
			(29.41)	(36.05)
		Rs10000 to Rs 30000	427	89
			(31.01)	(20.84)
		Rs30000 to Rs 50000	220	39
			(15.98)	(17.73)
		Rs50000 to Rs 70000	173	29
			(12.56)	(16.76)
		Rs70000 to Rs 90000	42	6
			(3.05)	(14.28)
		Rs90000 & above	110	13
			(7.99)	(11.82)
3	Poverty line status	APL	1232	268
			(89.47)	(21.75)
		BPL	145	54
			(10.53)	(37.24)
4	Caste	General	952	180
			(69.13)	(18.91)
		SC	37	15
			(2.69)	(40.54)
		ST	202	73
			(14.67)	(36.14)
		OBC	186	54
			(13.51)	(29.03)
5	Religion	Hindu	1072	266
			(77.85)	(24.81)
		Muslim	121	23
			(8.79)	(19.01)
		Christian	184	33
			(13.36)	(17.93)

Source: Primary Data from Field Survey
Note: Individuals refer to adults who are 18 years of age or above*
***Individuals (adults) who do not have bank accounts across all households*

As far as poverty line status is concerned, it can be observed that 37.24% of adult members in BPL households and 21.75% of them in APL households were financially excluded. Thus there is a reasonable disparity in the degree of financial exclusion between APL and BPL households.

The study reveals that 72.25% of the households belonged to the general caste category and the remaining 27.75% of them were either from the scheduled caste (SC), scheduled tribe (ST) or other backward class (OBC) category (Table 5.2). It can be observed that 40.54% of adult members in SC households, 36.14% of them in ST households, 29.03% of them in OBC households and only 18.91% of adults in households belonging to the general caste category were financially excluded. It is, thus, evident that financial exclusion is much more prominent in the backward communities.

A large proportion of the sample (77.5%) comprised of Hindus and the remaining 22.5% were either Christians or Muslims (Table 5.2).It can be seen 24.81% of the Hindus, 19.01% of the Muslims and 17.93% of the Christians were financially excluded. Thus, it is evident that there is not much difference in the extent of financial exclusion among households and individuals on the basis of religion.

The above analysis indicates that if the number of adult members in a household not having a bank account is considered as an indicator of financial exclusion, it is evident that financial exclusion is prevalent across households in Goa, though in differing degrees.

5.8 CHAPTER SUMMARY

The study reveals that 385 respondents, that is, 96.25% of them were holding at least one bank account. Among the respondents who had bank accounts, 92.99% of them had only savings accounts and 7.01% of them had both savings and current accounts. A large percentage of respondents, namely, 62.08% of them, claimed that they opened bank accounts for the purpose of savings.

Several factors play an important role in determining whether an individual would have a bank account or not. The estimation results of the binomial logistic regression model show that the individual's educational attainment, his/her age and he/she being a beneficiary of some government scheme have a positive impact on his/her holding a bank account. Thus, if an individual is more educated, older and a beneficiary of some government scheme, he/she is more likely to have a bank account. An analysis of marginal effects at different levels of education reveals thatan individual with primary school education is relatively more likely to have a bank account if he/she is a beneficiary of some government scheme, as he/she grows older by a year and with every additional year of education, as compared to an individual with secondary school education or graduation.

It is evident from the study that in every household there was at least one bank account. The number of bank accounts held by a household ranged between 1 and 19. In order to examine the extent of financial inclusion at the household level, the number of bank accounts held by a household is taken as an indicator of financial inclusion. A multiple regression model is estimated to identify the factors determining financial inclusion which is indicated by the number of bank accounts held by a household.

The findings reveal that monthly household income, number of adult members in a household, age of the household head, the poverty line status of the household, the number of employed members in a household and the educational attainment of the household head have a positive impact on financial inclusion.

Two separate regression models are estimated for urban and rural households so as to find out any differences in the impact of the factors on financial inclusion of rural and urban households respectively. The study reveals thatage of the household head,

educational attainment of the household head, monthly household income and the number of adult members in the household have a positive impact on financial inclusion of rural households. On the other hand, the age of the household head, monthly household income and the number of adult members in the household have a positive impact on financial inclusion of urban households. In both rural and urban areas, the number of employed members in a household and household members being beneficiaries of government schemes are found to be have a significant impact on households being financially included. Thoughboth models have been found to be good, the explanatory power of the model pertaining to rural households is stronger than that of the model pertaining to urban households. In all the multiple regression models, it is found that all independent variables jointly determine the dependent variable and the models are thus statistically significant.

An analysis of the extent of financial exclusion at the individual level reveals that if the number of adult members in a household not having a bank account is considered as an indicator of financial exclusion, it is evident that financial exclusion is prevalent across households in Goa. There are wide disparities in the extent of financial exclusion among individuals when factors such as caste, poverty line status and household income levels are considered. In other words, financial exclusion is most closely associated with individuals belonging to backward castes, living below poverty line and earning low incomes.

CHAPTER VI

FACTORS DETERMINING USAGE OF BANKING SERVICES BY HOUSEHOLDS

6.1 INTRODUCTION

In today's world, it is as important to have access to a basic bank account as it is to have access to electricity or water supply. Bringing the unbanked into the financial mainstream is important because one's banking status has profound implications for long-term family self sufficiency. However, mere access to a bank account is not sufficient. The extent of usage of a bank account is of utmost importance. Access to a bank account does not always lead to usage of banking services. In Goa,banks have put in a lot of efforts in implementing the financial inclusion drive, as can be seen from the fact that every household in Goa has at least one bank account. The real success of the financial inclusion drive, however, can be measured by the actual usage of bank accounts and other banking services.

In chapter IV, financial inclusion at the taluka-level is measured in terms of access to and usage of banking services. The use of banking services is measured in terms of total deposits mobilized and total credit advanced. However, data on credit and deposit do not completely depict the usage of the banking system. The use of other services of the banking system, such as remittances and money transfers, insurance, pension, shares and mutual funds must also be considered. The main aim of this chapter is to examine the factors influencing the usage of all these banking services by households

in Goa. The chapter begins by examining the usage of bank accounts by respondents in terms of deposits and withdrawals. This is followed by identifying the factors determining the use of each of the banking services.

6.2 EXTENT OF USAGE OF BANK ACCOUNTS BY RESPONDENTS

The study reveals that 385 respondents had at least one bank account. However, not all of them were found to be regularly using their account. Table 6.1 indicates the frequency of deposits and withdrawals from bank accounts by respondents. It can be observed that 3.12% of the respondents did not deposit any money in their bank accounts since their savings were nil. They claimed that they could not deposit any money into their account in the whole year due to their extremely low and unstable incomes. They preferred to keep cash at home so as to meet any unexpected emergencies. It can be seen that20.78% of the respondents claimed that they did not regularly deposit money into their bank accounts, but did so only as and when they could. It is found that a large proportion, namely, 67.79% of the respondents regularly deposited money into their bank account on a monthly basis. Only 5.71% of them deposited money into their bank account on a daily, weekly or fortnightly basis.

It is observed from the study that 11.43% of the respondents faced problems with accessing their bank accounts. Many of the respondents residing in Parra, one of the rural areas in Bardez taluka, had problems with accessing their bank account as they had to travel a long distance to the bank. All the respondents residing in Consua, one of the rural areas in Mormugao taluka, stated that there was no commercial bank in the village and they had to travel a long distance to go to their bank. Since the savings of these households were small, it would not be cost effective for them to commute to the bank for using their accounts.

Table 6.1 Frequency of Deposits and Withdrawals

Sr. No.	Frequency of deposits and withdrawals		No. of respondents	Percentage
1.	Frequency of deposits	Never	12	3.12
		As & when I can	80	20.78
		Daily	7	1.82
		Weekly	10	2.60
		Fortnightly	5	1.29
		Monthly	261	67.79
		Bi-monthly	10	2.60
2.	Frequency of withdrawals	Never	10	2.60
		Whenever the need arises	145	37.66
		Weekly	49	12.73
		Fortnightly	43	11.17
		Monthly	114	29.61
		Bi-monthly	24	6.23

Source: Primary data from field survey

The study reveals that 29.61% of the respondents withdrew money from their bank account every month. About 50% of these respondents stated that money was being credited to their accounts every month under various government schemes. They withdrew this amount as soon as it was credited into their account. This meant that they were not in a position to increase their savings and their bank balances were very low. It is observed that 23.90% of them withdrew money from their bank account either weekly or fortnightly and 6.23% of the respondents withdrew money from their account on a bi-monthly basis. The remaining 40.26% claimed that they either never withdrew money from their bank accounts or only withdrew money as and when they needed to do so, as they intended to increase their savings.

The study reveals that some respondents used debit cards to withdraw money from their bank accounts. It is observed that while 62.75% of the respondents had a debit card, only 12.25% of them had credit cards.

Several studies have revealed that educational attainment, income, employment status and location are some of the factors determining whether individuals are banked or unbanked (Martinez, 2006;Solo and Manroth, 2006; Kibua, 2007;Beck et al., 2007b; Bebczuk, 2008; Beck and Brown, 2011). Cull and Scott (2011) found that household size, age of the household head and higher education levels are significantly positively linked to being banked, whereas rural location, female headship, the share of dependents and the share of self-employed workers are negatively linked to being banked. According to Seluhinga (2013), age, sex, years of schooling, occupation, income and distance to a bank positively affect the sustainability of individual level access to formal financial services. Shukla (2010) found that as the chief earner gets older, the percentage share of savings that is kept at home as cash declines, whereas bank deposits increase.

In order to identify the factors determining whether an individual has regular deposits in his/her bank account or not, a binomial logistic regression model is estimated. The dependent variable, DEPOSITS, is a dummy variable which takes the value of 1 if an individual has regular deposits in his/her bank account and 0 otherwise. Deposits in an account are considered as regular deposits if they are made on a daily, weekly, fortnightly, monthly or bi-monthly basis. The factors considered to be affecting regular deposits are age of the respondent (AGE), educational attainment of the respondent (EDU), the respondent's employment status (EMP), the respondent's monthly income (INC), the respondent being a beneficiary of a government scheme (GOVTBEN) and location of the bank (BANKLOC).

The logistic model is expressed as follows:

$$L: \Pr(DEPOSITS=1) = \beta_0 + \beta_1 AGE + \beta_2 EDU + \beta_3 EMP + \beta_4 INC + \beta_5 GOVTBEN + \beta_6 BANKLOC + u \quad (6.1)$$

It is expected that as an individual gets older, he/she is likely to make regular bank deposits. An older individual is more likely to be employed and hence would be earning an income, part of which would be kept as savings in the bank. A retired individual who receives pension would ensure that he saves regularly for the future. Thus, it is more likely that an older individual would regularly deposit money into his/her bank account.

An individual who is more educated, is expected to make regular deposits money into his/her bank account. A more educated person is likely to be be an earning member of the family. He/she would understand the importance of saving and would try his/her best to save a reasonable proportion of his/her monthly income. This would imply regular bank deposits.

It is expected that an individual who is employed is more likely to make regular bank deposits. An employed person, whether self-employed or working for the private or public sector, would generally save a part of his/her income. The employment status of an individual, thus, ought to have a positive impact on the regularity of bank deposits. The proportion of income saved would largely depend on savings motives of individuals and monthly income earned. Nevertheless, saving on a regular basis would imply regular deposits. Thus, both the employment status of the individual and his/her income level are expected to result in regular deposits by an individual.

It is hypothesized that if an individual is a beneficiary of some government scheme, then it is more likely that he/she would have regular deposits in his/her bank account. This is because a beneficiary of any government scheme wouldreceive payments through direct transfer into his/her bank account. The proximity of the bank to a person’s residence or workplace is expected to have a positive impact on regular

deposits. The study reveals that a large proportion (79.25%) of the respondents claimed that the bank was in close proximity to their residence or workplace. As 41.55% of the respondents were either self-employed or daily wage earners, the proximity of the bank is expected to be an important factor determining whether they would make regular bank deposits or not. However, this premise may not be a significant one for individuals whose incomes are directly credited into their bank account.

Table 6.2 presents the results of the estimated binomial logistic regression model.The respondent's educational attainment is found to be statistically significant at 1% level. The respondent's educational attainment has a positive impact on him/her making regular deposits in his/her bank account. Thus, with every additional year of education, an individual is, on an average, 0.99% more likely to have regular deposits in his/her bank account, holding all other variables constant.

The respondent's employment status is found to be statistically significant at 5% level. It can be observed that the respondent's employment status has a positive impact on him/her regularly depositing money into his/her bank account. This implies that if the respondent is employed, on an average, it increases the probability of him/her regularly depositing money into his/her bank account by 3.97%, holding all other variables constant.

The location of the bank is found to be statistically significant at 10% level. It can be observed that if the bank is located close to one's residence or workplace, this will have a positive impact on regular deposits. The proximity of the bank to one's residence or workplace, on an average, increases the probability of an individual

regularly depositing money into his/her bank account by 3.59%, holding other variables constant.

Table 6.2 Determinants of Regular Deposits in Bank Account

Dependent Variable: DEPOSITS (Dummy=1 if a respondent regularly deposits money into bank account, =0 otherwise)	
Variable	**Marginal Effects**[#]
Constant[##]	-8.9888 (1.9219)***
AGE	0.0004 (0.0006)
EDU	0.0099 (0.0031)***
EMP	0.0397 (0.0205)**
INC	0.0000002 (0.0000)
BANKLOC	0.0359 (0.0191)*
GOVTBEN	0.0413 (0.0785)
No. of observations	385
LR $chi^2(6)$	31.85
Prob>chi^2	0.000
Pseudo- R^2	0.151
No. of cases correctly predicted	355 (92.21%)

Note: [#] *The marginal effects (dy/dx) are reported at the mean*
[##] *The coefficient is reported for the constant*
Standard errors are in parentheses
**Significant at 0.10 level*
***Significant at 0.05 level*
****Significant at 0.01 level*

In the model, the pseudo-R^2 is 0.151. The likelihood ratio chi-square test, LR chi^2 (6), has a value of 31.85.The value of the prob>chi^2 is 0.0000. This implies that the effect of at least one of the independent variables likely differs from zero. This shows that

the model fits significantly well. Moreover, 355 cases, that is, 92.21% of the cases have been correctly predicted. Thus, the overall model is statistically significant.

The individual's educational attainment and monthly income are considered to be important factors determining whether he/she would have regular deposits in his/her bank account or not. Therefore, an attempt is made to examine the impact of the explanatory variables on the likelihood of an individual having regular deposits in his/her bank account at different levels of education and income. For this purpose, marginal effects are calculated at low, medium and high levels of income and education, that is, at an income level of Rs 5000/- and primary education level, at an income level of Rs. 25000/- and secondary school level, and at an income level of Rs. 75000/- and graduation.

Table 6.3 shows the marginal effects at low, medium and high levels of income and education. It can be observed that the marginal effects of the individual's educational attainment, his/her employment status and the location of the bank are much stronger at higher levels of income and education. Moreover, an individual's employment status and the location of the bank are not significant factors for individuals with primary education and earning low incomes. This implies that individuals who are less educated and belonging to lower income groups are relatively less likely to have regular deposits in their bank accounts if they are employed, if the bank is located close to their residence or workplace and if they attain one more year of education, as compared to wealthier and more educated individuals. Individuals who are less educated and belonging to lower income groups have lower levels of savings and hence irregular deposits. Thus, the level of education seems to play an important role in inducing people to save.

Table 6.3 Determinants of Regular Deposits in Bank Account: Marginal Effects at Different Levels of Income and Education

Variable	Marginal Effects		
	At INC= Rs 5000 & EDU= 4 years[#]	At INC= Rs 25000 & EDU= 10 years[#]	At INC= Rs 75000 & EDU= 15 years[#]
AGE	0.0001 (0.0001)	0.0003 (0.0004)	0.0012 (0.0016)
EDU	0.0013 (0.0008)*	0.0071 (0.0020)***	0.0292 (0.0140)**
EMP	0.0052 (0.0050)	0.0285 (0.0158)*	0.1181 (0.0544)**
INC	0.00000001 (0.0000)	0.0000001 (0.0000)	0.0000005 (0.0000)
GOVTBEN	0.0057 (0.0108)	0.0300 (0.0568)	0.1127 (0.2054)
BANKLOC	0.0047 (0.0048)	0.0257 (0.0158)*	0.1089 (0.0645)*

Note :[#]Marginal effects are reported at the mean for other variables
Standard errors are in parentheses
**Significant at 0.10 level*
***Significant at 0.05 level*
****Significant at 0.01 level*

6.3 FACTORS DETERMINING USAGE OF BANKING SERVICES

This section analyzes the impact of household characteristics on the usage of banking services by households in Goa. The banking services that are considered are loans, insurance, remittances and/or money transfers, pension and shares and/or mutual funds. In order to identify the factors determining the usage of banking services by households, binomial logistic regression models are estimated for each of the banking services.

The educational attainment of the household head and monthly household income are considered to be important factors determining the usage of banking services by households. Therefore, an attempt is made to examine the impact of the explanatory variableson the likelihood of households using banking services at different levels of

household income and educational attainment of the household head. For this purpose, marginal effects are calculated at low, medium and high levels of income and education, that is, at a monthly household income level of Rs 5000/- and the household head attaining primary school education, at a monthly household income level of Rs. 25000/- and the household head attaining secondary school education, and at a monthly household income level of Rs. 75000/- and the household head being a graduate.

6.3.1 LOANS

The availing of loans is an important aspect of usage of banking services. The study reveals that 70.50% of the households had availed of loans. The remaining households never availed of a loan, the most important reason cited by them for not doing so being their poor repayment capacity. A very large proportion, namely, 80.85% of the households availed of loans for the purposes of purchasing a house or land, house repair or construction and purchasing a vehicle. The remaining households borrowed for the purposes of meeting medical expenses, expenses incurred for marriage or education or they availed of personal loans.

The details relating to loans availed of by households are presented in table 6.3. Access to formal credit is particularly a problem for the poor when trying to meet unforeseen expenditure. Difficulty in accessing formal finance has resulted in a heavy reliance among these poor households on informal sources of finance such as moneylenders, chit funds, friends and relatives.

Table 6.4 Details of Loans Availed by Households

Sr. No.	Details of loans		No. of households	Percentage
1	Whether availed of loan	Yes	282	70.50
		No	118	29.50
2	Reason for not availing of a loan	No need for a loan	43	36.44
		Need a loan but worried about repayment capacity	73	61.87
		Need a loan but interest rates are too high	2	1.69
3	Purpose of loan	Purchase of house/land	84	29.79
		House repair/construction	36	12.76
		Marriage	7	2.48
		Education	4	1.42
		Purchase of vehicle	75	26.59
		Purchase of consumer durables	0	0.00
		Medical expenses	1	0.35
		Religious ceremonies	0	0.00
		Settlement of previous debt	0	0.00
		Purchase of house/land and vehicle	20	7.09
		House repair/construction and marriage	7	2.48
		House repair/construction and education	5	1.77
		House repair/construction and purchase of vehicle	13	4.62
		Any other reason	30	10.65
4	Source of loan	Bank	211	74.82
		Moneylender	0	0.00
		SHGs	4	1.43
		Cooperative Society	20	7.09
		Friends/Relatives	7	2.48
		Chit Funds	3	1.06
		Employer	6	2.13
		Bank and Moneylender	5	1.77
		Bank and Cooperative Society	6	2.13
		Bank and Friends/Relatives	11	3.90
		Bank and Employer	6	2.13
		Others	3	1.06

Table 6.4(Continued)

Sr. No.	Details of loans		No. of households	Percentage
5	Reasons for borrowing from other sources	Application rejected	0	0.00
		Interest rates too high	7	9.86
		Anticipated delay in sanctioning of loan	3	4.22
		Expected sanction of lesser amount than applied for	0	0.00
		Procedures/Formalities too complicated	59	83.10
		Branch too far	0	0.00
		Bank staff not friendly/ courteous	0	0.00
		High interest rates & complicated procedures	2	2.82
6	Problems faced during loan application	Yes	24	8.51
		No	258	91.49
7	Nature of problem faced	Documentation	11	45.83
		Delay in processing loan	7	29.17
		Both documentation and delay in processing loan	6	25.00

Source: Primary data from field survey

The study reveals that74.82% of the households availed of loans only from banks. The remaining respondents either did not approach banks at all for loans or resorted to borrowing from banks and other sources as well. The most deterring factors responsible for this, as revealed by 83.10% of these respondents, was the cumbersome process of availing bank loans which involved several formalities. Moreover, these respondents were of the opinion that timely credit is not provided by banks as compared to non-formal sources of lending. The study reveals that most of the poorer households residing in rural areas resorted to borrowing from informal sources such as chit funds and moneylenders.

It was observed that 2.48% of the households borrowed from friends or relatives as these were interest-free loans. These households opined that the interest rate charged by banks was too high for them. They also felt that bank loans had to be settled within a time frame and were thus apprehensive about approaching banks. Only 8.51% of the

households claimed that they faced problems while applying for a loan. The problems that these households faced related to documentation and delays in the processing of the loan.

Researchers have studied the relationship between household characteristics and the probability of demand for credit or loans. Kliza and Pederson (2002) found that age of the household head is significantly related to the demand for loans. There appears to be a life-cycle effect for demand for loans. This implies that with increase in age, household heads require more credit as their experience with financial matters increases, their economic activities are more developed and their family responsibility is greater. They also found that increased household size makes it significantly more likely that it would demand loans. Barslund and Tarp (2008) concluded that education, age, number of dependents, assets, credit history and secure land rights significantly affect the demand for formal and informal loans. Further, they found that an extra adult in the household increases the probability of demanding credit.

Gockel (2008) pointed out that individuals who had borrowed in the past were more willing to borrow again as compared to those who had never availed of loans. Further, he found thatin Vietnam the primary determinants of willingness to borrow were gender, village location, commune and the amount of agricultural land. According to Shukla (2010), several factors, such as education, occupation levels, location and land ownership, determine whether or not a household is likely to have an outstanding loan. Al-Hussainy et al. (2008) found that education and location of the household in urban areas are positively and significantly linked to the probability of a household availing of a loan. Further, larger families, households with an employed head and households having an account with a formal financial institution are more likely to have a loan.

Bendig et al. (2009) confirmed earlier findings that poorer households are less likely to participate in the formal financial sector.

A binomial logistic regression model is estimated so as to identify the factors determining whether or not a household would avail of a loan. The dependent variable, HHLOAN, is a dummy variable taking the value of 1 if any household member has availed of a loan and 0 otherwise. The factors that are considered to have an influence on whether or not a household has availed of a loan are as follows: educational attainment of the household head (HEDU), poverty line status of the household (HHAPL), monthly household income (HHINC), number of bank accounts held by the household (HHACCOUNTS), ownership of the house (HHOWN), number of employed members in a household (HHEMP) and location of the household (HHLOC).

The logistic model is expressed as follows:

$$L: \Pr(HHLOAN=1) = \beta_0 + \beta_1 HEDU + \beta_2 HHAPL + \beta_3 HHINC + \beta_4 HHACCOUNTS + \beta_5 HHOWN + \beta_6 HHEMP + \beta_7 HHLOC + u \quad (6.2)$$

In line with earlier research, it is expected that a household headed by a more educated individual will more likely avail of a loan. The formation of human capital plays an important role in the process of financial inclusion. The educational attainment of the household head is hypothesized to be positively associated with the use of banking services. If the household head is more educated, he is likely to be more aware of financial products. Higher education levels are associated with more productive jobs and higher incomes, which, in turn, can be expected to increase the access to credit.

The poverty line status of the household is expected to increase the likelihood of the household availing of a loan. Earlier studies have shown that the economic status of the household is positively and significantly correlated with the degree of financial inclusion (Pal and Pal, 2012). An APL household would be earning higher incomes as compared to a BPL household and hence is likely to have more demand for credit. So also, if a household earns higher monthly income, it is more likely that such a household will avail of a loan. This is because it would have a higher repayment capacity. Hence, households with higher income levels would have easier access to credit and are more likely to avail of loans.

The number of bank accounts held by a household is expected to increase the probability of the household availing of a loan. The fact that a household has more bank accounts implies that such a household would generally also have more access to credit. This premise may not be a significant one in situations where one individual has multiple accounts or several individuals may have one bank account each with minimum balance in their accounts. Generally speaking, however, the larger the number of bank accounts held by a household, the higher would be the banking activity and the greater would be the extent of financial inclusion.

It is expected that home owners are more likely to avail of loans. Households who reside in their own premises are more likely to have a bank account and hence would have greater access to credit. Households very often take loans for purchasing land, house or for the purpose of constructing their house. It is thus expected that households living in their own homes are more likely to have availed of loans.

An increase in the number of employed members in a household is expected to increase the likelihood of the household availing of a loan. If there are more employed

members in a household, this would mean that generally household income would be greater and repayment capacity would likewise be more. Individuals who have more stable income are more likely to use financial products such as loans. The reasoning is that stable incomes encourage people to carry out financial planning. People with volatile cash flows find it somewhat difficult to plan their finances.

It is expected that urban households are more likely to avail of loans as compared to rural households. This is because the availability of banking services is greater in urban areas as compared to rural areas.A household's proximity to a bank strongly determines transaction costs. Given the higher population density, urban dwellers have typically closer geographical access to a bank branch. In line with earlier studies, it is assumed that a household's proximity to a bank is crucial to its demand for banking services such as loans.

Table 6.5 presents the results of the binomial logistic regression models. In model 1 (Equation 6.2), the dependent variable is the availing of a loan by any household member (HHLOAN). The poverty line status of a household is found to be statistically significant at 1% level. It can be observed that an APL household is, on an average, 35.17% more likely to avail of a loan as compared to a BPL household, holding all other variables constant. The number of household bank accounts is found to be statistically significant at 1% level. It can be seen that a unit increase in bank accounts held by a household, on an average, increases the probability of the household availing of a loan by 5.56%, holding all other variables constant. The location of a household is found to be statistically significant at 1% level.

Table 6.5 Household Determinants of Usage of Banking Services

Explanatory Variable	**Marginal Effects[#]**				
	Model 1 (Dep. Var. =HHLOAN)	**Model 2 (Dep. Var.=HHINSURE)**	**Model 3 (Dep.Var. =HHREMIT)**	**Model 4 (Dep. Var. =HHPENSION)**	**Model 5 (Dep. Var. =HHMUTUAL FUNDS)**
Constant[##]	-1.7269 (0.6308)***	1.0069 (0.8369)	-2.9069 (0.7647)***	-2.0963 (0.8335)*	-5.8022 (1.2333)***
HAGE		-0.0033 (0.0013)**		0.0095 (0.0028)***	0.0029 (0.0012)**
HEDU	0.0149 (0.0056)***	0.0041 (0.0031)		0.0031 (0.0055)	0.0101 (0.0036)***
HEMP				-0.2740 (0.0666)***	
HHAPL	0.3517 (0.1036)***	0.0735 (0.0613)	0.0904 (0.0531)*		
HHINC	0.0000008 (0.0000)	0.000005 (0.0000)***	0.000001 (0.0000)***		0.000002 (0.0000)***
HHACCOUNTS	0.0556 (0.0178)***				
HHOWN	0.0283 (0.0904)				
HHEMP	-0.0078 (0.0295)				0.0097 (0.0181)
HHLOC	-0.1672 (0.0532)***		0.0009 (0.0399)	-0.1099 (0.0600)*	0.0278 (0.0319)
HHDEP		0.0082 (0.0084)	-0.0029 (0.1065)		
HHSIZE					-0.0209 (0.0105)**
No. of observations	400	400	400	400	360
LR chi^2	66.54	90.94	13.07	75.63	72.97
Prob>chi^2	0.000	0.000	0.010	0.000	0.000
Pseudo- R^2	0.137	0.224	0.037	0.146	0.245
No. of cases correctly predicted	300 (75.00%)	329 (82.25%)	337 (84.25%)	295 (73.75%)	308 (85.56%)

Note: [#] The marginal effects (dy/dx) are reported at the mean
[##] The coefficients are reported for the constant
Standard errors are in parentheses
**Significant at 0.10 level*
***Significant at 0.05 level*
****Significant at 0.01 level*

However, contrary to what is expected, it is observed that an urban household is, on an average, 16.72% less likely to avail of a loan as compared to a rural household, holding all other variables constant. This finding is in line with some earlier studies (Doan et al., 2010) where it was found that in Vietnam, households in rural areas have a higher probability of borrowing from formal sources than urban households. In the present analysis, it is found that urban households are less likely to avail of loans. In this case, we fail to reject the null hypothesis. A possible explanation for this is that rural areas in Goa are reasonably developed in terms of infrastructure and banking facilities. Moreover, most villages are not very far from towns and cities. Hence, people residing in rural areas are not really at a disadvantage as compared to their counterparts residing in urban areas.

The educational attainment of the household head is statistically significant at 1% level. With every additional year of education of the household head, a household is, on an average, 1.49% more likely to avail of a loan, holding all other variables constant. Two of the explanatory variables, namely, monthly household income and ownership of the house by the household, are found not to be statistically significant, although they have the expected signs. The number of employed members in a household does not have the expected sign nor is this factor found to be statistically significant in determining whether or not a household would avail of a loan.

The pseudo-R^2 is 0.137. The likelihood ratio chi-square test, LR chi^2 (7), has a value of 66.54.The value of the prob>chi^2 is 0.0000. This implies that the effect of at least one of the independent variables likely differs from zero. This shows that the model fits significantly well. It is found that 300 cases or 75% of the cases have been correctly predicted. Thus, the overall model is found to be statistically significant.

Table 6.6 shows the marginal effects at low, medium and high levels of income and education. It can be observed that the marginal effects of the educational attainment of the household head, the poverty line status of the household and the number of household bank accounts are stronger at lower levels of income and education. This implies that households headed by less educated individuals and belonging to lower income groups are relatively more likely to avail of loans if the household head attains one more year of education, if the household is in the APL category and if there is one more bank account held by the household, as compared to wealthier households and those headed by more educated individuals.

Table 6.6 Factors Determining Demand for Loans: Marginal Effects at Different Levels of Income and Education

Variable	Marginal Effects		
	At HHINC= Rs 5000 & HEDU= 4 years[#]	At HHINC= Rs 25000 & HEDU= 10 years[#]	At HHINC= Rs 75000 & HEDU= 15 years[#]
HEDU	0.0183 (0.0074)**	0.0148 (0.0053)***	0.0102 (0.0038)***
HHAPL	0.3666 (0.0924)***	0.3506 (0.1037)***	0.2871 (0.1132)**
HHINC	0.000001 (0.0000)	0.0000008 (0.0000)	0.0000006 (0.0000)
HHACCOUNTS	0.0681 (0.0214)***	0.0551 (0.0174)***	0.0381 (0.0159)**
HHOWN	0.0342 (0.1074)	0.0281 (0.0896)	0.0197 (0.0641)
HHEMP	-0.0009 (0.0361)	-0.0077 (0.0292)	-0.0053 (0.0201)
HHLOC	-0.2077 (0.0708)***	-0.1657 (0.0525)***	-0.1138 (0.0371)***

Note :[#]Marginal effects are reported at the mean for other variables
Standard errors are in parentheses
***Significant at 0.05 level*
****Significant at 0.01 level*

The marginal effect of location of the household is also stronger at lower levels of income and education. This implies that wealthier households and those headed by more educated individuals are relatively less likely to avail of loans if they reside in urban areas. In other words, rural households belonging to lower income groups and headed by less educated individuals are more likely to avail of loans. This could be attributed to the fact that as these households earn more income and as the head attains more education, they would be in a better position to repay their loans. These households need to avail of more loans, even if the amounts borrowed are small, generally for their daily needs, marriage, house repair or for unforeseen contingencies. Thus, the educational attainment of the household head and the monthly household income seem to be significant factors determining whether a household would avail of loans or not.

6.3.2 INSURANCE

Investment in insurance is another aspect of usage of banking services. The study reveals that in a large proportion of households (79.50%) there was at least one member who had an insurance policy. All these households had invested in life insurance policies and very few of them had invested in both life insurance and non-life insurance policies. Life insurance is by far the most predominant insurance product available.

Several factors influence a household's decision to invest in insurance. Simply perceiving a need for insurance is not sufficient for making a purchase. Studies have revealed that household size, education level of the household head, age of the household head, income and location have a significant positive influence on the demand for insurance (Truett and Truett, 1990; Schneider and Diop, 2004; Bhat and

Jain, 2006; Wang and Rosenman, 2007; Grignon and Kambla-Chopin, 2009). The coverage of illness, knowledge about insurance, number of children in the family and perception regarding future healthcare expenditure were found to be significant factors affecting health insurance purchase decisions by individuals (Bhat and Jain, 2006). Gaurav et al. (2011) uncover robust evidence in India to conclude that people who are literate in finance and insurance were more likely to adopt rainfall insurance. It was revealed that low financial awareness among small-scale farmers was a formidable barrier to adoption of complex financial products like rainfall insurance.

Kliza and Pederson (2002) found that while rising age will enhance the demand for credit or insurance of a household head initially, because of growing experience regarding the benefits and risk of credit or insurance, an increasing need for financial input for economic activities or increasing responsibility for other household members, this trend will reverse at a certain point in life. The protective motivation for requiring insurance is found to be reduced when younger household members leave the household to start their own families. Education and financial literacy have been found to be significant factors affecting the demand for insurance (Kliza and Pederson, 2002; Bhat and Jain, 2006; Lusardi, 2008;Cole et al., 2010). It has been found that the poor have liquidity constraints and other behavioural constraints that cause them to remain uninsured even when they might be better off with insurance (Schneider, 2004).Lower income households and households headed by somebody without educational qualifications were found to be less likely to be insured (Kempson et al., 2000).

In order to identify the factors that determine the possibility of a household investing in insurance, a binomial logistic regression model is estimated. The dummy dependent variable, HHINSURE, takes the value of 1 if any household member has an insurance

policy and 0 if no household member has an insurance policy. The following factors are considered to have an influence on whether or not a household member would have an insurance policy: age of the household head (HAGE), educational attainment of the household head (HEDU), monthly household income (HHINC), poverty line status of the household (HHAPL) and number of dependents in a household (HHDEP)).

The logistic model is expressed as follows:

$$L: \Pr(HHINSURE=1) = \beta_0 - \beta_1 HAGE + \beta_2 HEDU + \beta_3 HHINC + \beta_4 HHAPL + \beta_5 HHDEP + u \quad (6.3)$$

The age of the household head is expected to have a negative influence on the demand for insurance. As the household head grows older, he would have to bear greater responsibility for other household members and would, therefore, need greater liquidity. A household head would invest in life or health insurance when he is younger. His demand for insurance would tend to decline after a certain age as it would entail payment of higher premiums.

In line with the literature, it is expected that if the household head is educated, this would increase the demand for insurance. This is because less educated people may find the concept behind insurance and the technical procedures attached to it difficult to comprehend. Furthermore, low education levels are often found to be correlated with lower incomes, which in turn would reduce the likelihood of investing in an insurance scheme. If individuals do not have the knowledge of financial products like insurance, they will be uncomfortable in using them. An educated individual is expected to assess risk and understand the way insurance would mitigate it.

The income level of the household is expected to have a positive influence on the demand for insurance. All studies have stressed the positive role of wealth-related

factors in the demand for insurance. Life insurance is generally considered to be a desirable good to protect dependents. The higher the income of the household members who support the family, the greater would be the demand for insurance to protect the household's standard of living. It is also expected that an APL household is more likely to invest in insurance as compared to a BPL household. In line with earlier studies, it is expected that since the poor have limited incomes and liquidity constraints, they are less likely to invest in insurance.

It is expected that an increase the number of dependents in a household will increase the likelihood of the household investing in insurance. It is hypothesized that a higher number of dependents in a household would increase the level of responsibility of the household head and hence offer an incentive for better risk protection which in turn would imply greater demand for insurance.

In model 2 (Equation 6.3), the dependent variable is the investment in insurance by a household (HHINSURE).The age of the household head is found to be statistically significant at 5% level. It can be observed that if the household head grows older by a year, on an average, the household is 0.33% less likely to hold an insurance policy, holding all other variables constant.

The monthly household income is also found to be statistically significantat 1% level. An increase in the monthly household income by Rs 10000/-, on an average, increases the probability of the household holding an insurance policy by 5%, holding all other variables constant. All the other explanatory variables are found not to be statistically significant, although they have the hypothesized signs.

The results of this model (Table 6.5) reveal that the pseudo-R^2 is 0.224 which can be considered to be reasonably good. The likelihood ratio chi-square test, LR chi^2 (5), has

a value of 90.94 with the value of the prob>chi^2 being 0.0000. This implies that the effect of at least one of the independent variables likely differs from zero. This shows that the model fits significantly well. The post-estimation results show that 329 cases or 82.25% of the cases have been correctly predicted indicating that the model is statistically significant.

Table 6.7 shows the marginal effects at low, medium and high levels of income and education. It can be observed that the marginal effect of monthly household income is stronger at lower levels of income and education. This implies that households headed by less educated individuals and belonging to lower income groups are relatively more likely to have an insurance policy if the household income increases by Rs. 10000/-, as compared to wealthier households and those headed by more educated individuals.

Table 6.7 Factors Determining Demand for Insurance: Marginal Effects at Different Levels of Income and Education

Variable	Marginal Effects		
	At HHINC= Rs 5000 & HEDU= 4 years[#]	At HHINC= Rs 25000 & HEDU= 10 years[#]	At HHINC= Rs 75000 & HEDU= 15 years[#]
HAGE	-0.0084 (0.0033)***	-0.0042 (0.0017)**	-0.0003 (0.0002)
HEDU	0.0106 (0.0079)	0.0053 (0.0038)	0.0003 (0.0003)
HHAPL	0.1580 (0.1017)	0.0926 (0.0733)	0.0062 (0.0080)
HHINC	0.00001 (0.0000)***	0.000007 (0.0000)***	0.0000004 (0.0000)*
HHDEP	0.0210 (0.0212)	0.0106 (0.0107)	0.0006 (0.0008)

Note :[#]Marginal effects are reported at the mean for other variables
Standard errors are in parentheses
**Significant at 0.10 level*
***Significant at 0.05 level*
****Significant at 0.01 level*

The marginal effect of the age of the household head is also stronger at lower levels of income and education. This implies that households headed by more educated individuals and belonging to higher income groups are relatively less likely to have an insurance policy if the household head grows older by a year, as compared to poorer households and those headed by less educated individuals. Households belonging to lower income groups are more likely to invest in insurance as the need for security is strongly felt by them. Richer households, on the other hand, are in a better position to diversify their investments and prefer to make investments which bring higher returns to them.

6.3.3 MONEY TRANSFERS AND REMITTANCES

Households can also make use of banking services by way of sending or receiving money transfers and/or remittances. The study reveals that only 63 respondents, constituting 15.75% of the sample, claimed that they have either sent or received money transfers and/or remittances. Almost all these respondents sent or received these amounts by way of demand drafts or simply by bank account transfers. Generally it was observed that remittances were received by those households whose head was working abroad. In some single-member households, remittances were received from children who were married and settled abroad. Households generally sent money transfers to their unmarried children for their higher educational and/or daily expenses.

The receipt of remittances affects the choice of other financial service alternatives. Kliza and Pederson (2002) found that remittances are not only a substitute for insurance, but they are also a source for savings at a formal institution. Studies have shown the impact of several factors on the probability of sending or receiving remittances and money transfers. According to McCoy et al. (2007), income has

statistically significant positive effects on the remittance levels in the sense that as income increases, the probability of remitting low amounts decreases and the probability of remitting larger amounts increases. Adams (2008) finds that the level of poverty in a developing country does not have any significant effect on the level of remittances sent home by migrants. It was also revealed that skilled and educated migrants remit less than unskilled migrants.

Durand et al. (1996) found that the propensity to remit is highest when migrants are married and middle-aged. A study by Naufal (2007) reveals that male migrants are less likely to remit and that migrants are more likely to remit if they are the spouse or the parent of the household head back home. Samson (2011) observed that the older the household head, the more educated he/she is and smaller the income, the household is more likely to receive remittances from a migrant member. According to Kuru (2010), the location of the household, gender and age of the recipient and the level of social capital that an individual has, are important determinants of remittances. In their study, Johnson and Meka (2010) found that only 3.68% of the rural households in Andhra Pradesh received money from a household member living outside the household. Households which received remittances reported that bank transfers and cash were used as methods of delivering funds.

Owuour (2010) found that the decline in remitting money was being felt by low and very low income households in Nakuru, Kenya. He also found that even though urban households send money to their families in rural areas, there are indications that some urban households also receive money, albeit sporadically, from their families in rural areas. Orozco (2006) found that all migrants who send remittances do so in response to

the needs of their transnational family and their perceived duties as members of that family. Further, it was observed that men send more money than women.

A survey by Godoy et al. (2012) revealed that while recipients of remittances comprised of the affluent and poor as well as residents of rural and urban areas in nearly equal ratios, senders tended to be affluent, highly educated, working in formal employment, and living in cities or suburbs. It was also found that large city dwellers were not only more likely to send domestic remittances than the rural population but were also slightly more likely to have received these payments indicating substantial urban-urban flows. Clark and Drinkwater (2001) found that higher income households are much more likely to remit and the propensity to remit declines significantly with the total number of children in the household.

An attempt is made to identify the factors determining whether or not a household would send or receive money transfers and/or remittances with the help of a binomial logistic regression model. The dummy dependent variable, HHREMIT, takes the value of 1 if any household member has sent or received money transfers and/or remittances and 0 otherwise. The following factors are expected to have an influence on whether or not a household would send or receive money transfers and/or remittances: monthly household income (HHINC), location of the household (HHLOC), poverty line status of the household (HHAPL) and number of dependents in a household (HHDEP). The logistic model is expressed as follows:

$$L: \Pr(HHREMIT=1) = \beta_0 + \beta_1 HHINC + \beta_2 HHLOC + \beta_3 HHAPL - \beta_4 HHDEP + u \quad (6.4)$$

It is hypothesized that households with higher monthly incomes are more likely to send money transfers. This is because higher incomes would generally be associated

with more savings and disposable income which would increase the propensity to remit. A higher monthly household income also increases the probability of the household receiving money transfers and/or remittances. This is because, in the present analysis, if the household head is working abroad, he is considered as part of the household as he is contributing to the household income. Similarly, if unmarried children are contributing to household income, or if children are dependents who are studying elsewhere, they too are considered as part of the household. Thus, in the present context, the higher the income of the household, the greater the likelihood of the household sending or receiving money transfers.

It is expected that urban households are not only more likely to send money transfers but also to receive remittances or transfers as compared to their counterparts residing in rural areas. Urban households are likely to have higher earnings and therefore would be able to afford to send money to family members living elsewhere.

APL households would have higher incomes and thus would be able to save more thereby making it possible for them to send money to family members living in other states. As mentioned earlier, those individuals living in other states or countries who contribute to household income are considered to be part of the household. It is thus expected that APL households are more likely to send as well as receive remittances as compared to BPL households. It is hypothesized that an increase in the number of dependents in a household will decrease the likelihood of the household either sending or receiving money transfers. A household having more dependents would have less disposable income. Hence, the propensity to remit is expected to decline with an increase in the number of dependents in the household.

In model 3 (Equation 6.4), the dummy dependent variable is the sending or receiving of money transfers and/or remittances by any household member (HHREMIT).The estimation results (Table 6.5) show that the monthly household income is statistically significant at 1% level. An increase in the monthly household income by Rs 10000/-, on an average, increases the probability of the household sending or receiving transfers by 1%, holding all other variables constant. The poverty line status of the household is found to be statistically significant at 10% level. An APL household is, on an average, 9.04% more likely to send or receive transfers, holding all other variables constant. All the other explanatory variables are found not to be statistically significant, although they have the hypothesized signs.

The pseudo-$R^2$for this model is only 0.037. The likelihood ratio chi-square test, LR chi^2 (4), has a value of 13.07 and the value of the prob>chi^2 is 0.010, implying that the effect of at least one of the independent variables likely differs from zero. This shows that the model fits significantly well. Though the pseudo-R^2 is rather low, the post-estimation results show that 337 cases or 84.25% of the cases have been correctly predicted. Thus, the model is found to be statistically significant.

Table 6.8 shows the marginal effects at low, medium and high levels of income. The marginal effect of the poverty line status of the household is the strongest for households at low levels of income. This implies that APL households belonging to low income groups are much more likely to send or receive money transfers and/or remittances as compared to households in the middle-income and high-income groups.

Table 6.8.Factors Determining Demand for Money Transfers/Remittances: Marginal Effects at different levels of income

Variable	Marginal Effects		
	At HHINC= Rs 5000[#]	At HHINC= Rs 25000[#]	At HHINC= Rs 75000[#]
HHAPL	0.7160 (0.0429)*	0.0856 (0.0504)*	0.1279 (0.0766)*
HHINC	0.000001 (0.0000)***	0.000001 (0.0000)***	0.000002 (0.0000)**
HHLOC	0.0008 (0.0321)	0.0009 (0.0379)	0.0013 (0.0543)
HHDEP	-0.0023 (0.0086)	-0.0028 (0.0101)	-0.0040 (0.0145)

Note: [#]The marginal effects (dy/dx) are reported at the mean for other variables
Standard errors are in parentheses
**Significant at 0.10 level*
***Significant at 0.05 level*
****Significant at 0.01 level*

However, the marginal effect does not follow any regular pattern when computed at different levels of income. The marginal effect of monthly household income is more or less the same for households at all levels of income.

6.3.4 PENSION

If there is a pensioner in a household, there is bound to be usage of banking services. Individuals receive pension on a regular monthly basis. Hence, pension is a source of income and it enables individuals to save as well. The study reveals that in 140 households, constituting 35% of the sample, there was at least one member who was receiving pension. These individuals had either retired from government service, were freedom fighters in the past or were receiving pension under the Dayanand Social Security Scheme (DSSS) of the Government of Goa. The pension so received was directly credited into their bank account.

According to United Nations Population Division, the world's life expectancy is expected to reach 75 years by 2050. Better health and sanitation conditions in India have increased the life span. As a result of this, the number of post-retirement years would increase. Thus rising cost of living, inflation and life expectancy make retirement planning an essential part of today's life. To provide social security to more citizens the Government of India had launched the National Pension System on 1st January, 2004 with the objective of providing retirement income to all the citizens. The Reserve Bank of India oversees disbursement of pension by its agency banks in respect of all Central Government Departments and some State Governments. Pension plans provide financial security and stability during old age when people do not have a regular source of income. Retirement plan ensures that people live without compromising on their standard of living as they grow older. The pension scheme gives an opportunity to invest and accumulate savings and get a lump-sum amount as regular income through annuity plan on retirement. The Government of Goa provides a monthly pension to senior citizens, single women and disabled persons under the DSSS.

Increasingly, individuals are in charge of their own financial security and are confronted with even more complex financial instruments. Studies have shown that the failure to plan for retirement can be linked to ignorance of basic financial concepts (Lusardi, 2008). A study by Dunmann (2007) shows that occupational pensions in Germany depend not only on supply-side factors, but also on demand-side factors such as individual socio-demographic attributes and people’s savings motives. According to the NCAER (2011) survey, pension plans are preferred by households with higher levels of education.

In order to examine the factors that determine the possibility of a household having a pensioner, a binomial logistic regression model is estimated. The dependent variable, HHPENSION, is a dummy variable which takes the value of 1 if any household member is a pensioner and 0 if no household member is a pensioner. The factors that are considered to have an influence on whether or not a household member is a pensioner are as follows: age of the household head (HAGE), education status of the household head (HEDU), employment status of the household head (HEMP) and location of the household (HHLOC).The logistic model is expressed as follows:

$$L: \Pr(HHPENSION=1) = \beta_0 + \beta_1 HAGE + \beta_2 HEDU - \beta_3 HEMP + \beta_4 HHLOC + u \quad (6.5)$$

It is hypothesized that as the household head grows older, it is more likely that he/she will be a pensioner. This is because he/she would either get pension on retirement or would avail of pension under the DSSS of the Government of Goa. It is expected that a household headed by an educated individual is more likely to receive pension. An individual who is educated is more likely to be employed in the public sector and would receive pension on retirement. Furthermore, an educated person is more aware of the schemes offered by the government. Educated individuals would be in a better position to plan for their retirement since they are expected to be familiar with basic financial concepts.

If the household head is employed, it is less likely that he/she would be receiving pension. The fact that he/she is employed implies that he/she is in the working age group. He/she would not be eligible to receive pension under the DSSS as a senior citizen until he/she has attained 60 years of age. In certain cases, however, women who are widowed at an early age would be eligible to avail of pensionary benefits from the Government of Goa.

It is expected that individuals residing in urban areas are more likely to be pensioners as compared to those residing in rural areas. This is because individuals residing in urban areas are not only more likely to be educated but also more likely to be employed in the public sector. Thus, they are more likely to receive pension on retirement. Along with education, financial literacy plays an important role in financial decision-making. Individuals residing in urban areas are expected to attain higher levels of financial literacy as they are exposed to a variety of complex financial products.

In model 4 (Equation 6.5),the dependent variable is the household having a pensioner (HHPENSION). The estimation results (Table 6.5) show that the age of the household head is found to be statistically significant at 1% level. If the household head grows older by a year, on an average, the household is 0.95% more likely to have a pensioner, holding all other variables constant. The employment status of the household head is found to be statistically significant at 1% level. If the household head is employed, on an average, the household is 27.40% less likely to have a pensioner, holding all other variables constant.

The location of a household is found to be statistically significant at 10% level. However, contrary to what is expected, it is observed that if a household resides in an urban area, on an average, it is 10.99% less likely to have a pensioner, holding all other variables constant. In the present analysis, it is found that urban households are less likely to have a pensioner. In this case, we fail to reject the null hypothesis. A possible explanation for this is that individuals residing in rural areas in Goa are provided with elementary education facilities. They may have to travel to nearby towns or cities for pursuing higher education. The rural areas are not really at a disadvantage as far as

infrastructure and banking facilities are concerned. Moreover, many household members residing in rural areas have availed of the monthly pension under the DSSS of the Government of Goa. The educational attainment of the household head is not found to be statistically significant, although it has the hypothesized sign.

In this model, the likelihood ratio chi-square test, LR chi^2 (4), has a value of 75.63 and the value of the prob>chi^2 is 0.0000. This means that the explanatory variables jointly determine the likelihood of the household having a pensioner. The value of the pseudo-R^2 is 0.146 which may be considered to be satisfactory. Moreover, 295 cases or 73.75% of the cases have been correctly predicted. These results show the goodness-of-fit of the model.

Table 6.9 Factors Determining Demand for Pension: Marginal Effects at different levels of education

Variable	Marginal Effects		
	At HEDU=4 years#	At HEDU=10 years#	At HEDU=15 years#
HAGE	0.0092 (0.0028)***	0.0095 (0.0029)***	0.0098 (0.0030)***
HEDU	0.0030 (0.0052)	0.0031 (0.0055)	0.0032 (0.0058)
HEMP	-0.2686 (0.0639)***	-0.2745 (0.0669)***	-0.2789 (0.0697)***
HHLOC	-0.1071 (0.0566)*	-0.1102 (0.0604)*	-0.1126 (0.0634)*

Note: #The marginal effects (dy/dx) are reported at the mean for other variables
Standard errors are in parentheses
**Significant at 0.10 level*
****Significant at 0.01 level*

Table 6.9 shows the marginal effects at low, medium and high levels of education. It can be observed that the marginal effect of age of the household head shows a slight increase at higher levels of education. This implies that households headed by a more educated individual are relatively more likely to have a pensioner if the household

head grows older by a year. Further, the marginal effects of the employment status of the household head and location of the household also show a slight increase at higher levels of education. This implies that urban households headed by a less educated individual and by one who is employed are relatively less likely to have a pensioner. Thus, the educational attainment of the household head seems to have an influence on the likelihood of a household having a pensioner.

6.3.5 SHARES AND MUTUAL FUNDS

Individuals also invest in shares and/or mutual funds. This is an important aspect of the usage of banking services. An individual may invest in stocks and shares of companies with the prospect of earning higher returns. As an investor, he/she would like to get maximum returns on investments, but may not have the time to continuously study the stock market to keep track of them. Moreover, speculation in the stock market may be risky. Hence, mutual funds are preferred to shares as they offer a variety of schemes that will suit an individual's needs over a lifetime and enable the individual to diversify his/her investments. The study reveals that in 52 households, constituting 14.44% of the sample of APL households, individuals had invested in shares or mutual funds. Those individuals who had invested in shares had dematerialized or "Demat" accounts either with banks or depositories. Most of them preferred investing in mutual funds rather than in shares.

Researchers have analyzed the factors influencing the decision to invest in shares and mutual funds. Alexander et al. (1998) found that in the United States, the typical mutual fund investor surveyed is older, wealthier, and better educated than the average American. Calvet et al. (2006) have shown that predictors of financial sophistication, such as wealth, income, and education, predict higher levels of participation and higher

volatility in risky portfolios. Richer and more sophisticated households invest more efficiently, but they also take more risk so they bear higher costs from portfolio inefficiency. According to Lusardi (2008), ignorance about basic financial concepts can be linked to lack of participation in the stock market.

According to the NCAER (2011) survey, 20% of the households surveyed in urban areas were investors as compared to only 6% in rural areas in India. Further, it was found that the strong preference of investors is towards mutual funds and secondary markets. The findings reveal that a significant source of retardation in the rate of participation by Indian households in financial markets is due to information asymmetry and poor quality of information. Kanthi and Kumar (2013) studied the holding behaviour of individual investors in Coimbatore district and found that individual investors prefer low risk investments such as small savings, deposits and insurance and avoid investing in high risk investments such as mutual funds and corporate securities. They attributed this to factors such as lack of awareness, poor investment climate, lack of confidence, deficiencies in the institutional infrastructure, lack of knowledge on financial instruments and regulations which are updated time to time.

In the binomial logistic regression model, the dummy dependent variable, HHMUTUALFUNDS, takes the value of 1 if any household member has invested in shares and/or mutual funds and 0 otherwise. The following factors are considered to have an influence on whether or not a household member has invested in shares and/or mutual funds: age of the household head (HAGE), educational attainment of the household head (HEDU), monthly household income (HHINC), location of the

household (HHLOC), number of employed members in a household (HHEMP) and household size (HHSIZE).

The logistic model is expressed as follows:

$$L: \Pr(HHMUTUALFUNDS=1) = \beta_0 + \beta_1 HAGE + \beta_2 HEDU + \beta_3 HHINC + \beta_4 HHLOC + \beta_5 HHEMP + \beta_6 HSIZE + u \quad (6.6)$$

It is expected that a household headed by an older individual is more likely to invest in shares and/or mutual funds. The older the household head, the more likely he/she would be employed. He/she would have more work experience to his/her credit and would generally be in a position to save more. An older household head would also generally be married and have older children who, if educated and employed, would also prefer to make such investments.

In line with earlier research, it is hypothesized that if the household head is more educated, the household is more likely to invest in shares and/or mutual funds. An educated individual would be more familiar with basic financial concepts. The awareness of various investment options and knowledge of financial instruments would give an educated person an edge over the uneducated people and hence he/she would prefer to diversify his/her investments beyond bank deposits.

The income of the household is also expected to have a positive impact on a household investing in shares and/or mutual funds. The wealthier the household, the greater will be the probability of saving and investing more by the household. An increase in household income is expected to enable the household to widen its investment portfolio. Poorer households are more risk averse as compared to richer households.

Hence, richer households would be more willing to diversify their investments and thus would purchase shares and mutual funds as well.

It is expected that urban households are more likely to invest in shares and/or mutual funds as compared to rural households. People residing in urban areas are generally more educated and financially literate. They are more aware of the complex financial instruments and investment options available to them. Their income levels are generally higher than those residing in rural areas, implying that they would be able to attain higher levels of savings and investment. It is for these reasons that they are more likely to invest in shares and mutual funds.

An increase in the number of employed members in a household is expected to increase the likelihood of the household investing in shares and/or mutual funds. An increase in the number of employed members in a household would generally imply higher income levels and thus more savings and investment. With an increase in income, a household would be more likely to diversify investments and would thus not only have bank deposits and insurance policies, but also investment in shares and mutual funds.

A larger household size is expected to negatively impact household investments in shares and mutual funds. Firstly, if the household grows in size, that is, if there are more children in a household, the household head would have to bear greater responsibility. The monthly household expenditure is bound to increase resulting in lesser disposable income. In such a situation, the household would not be able to increase savings and therefore investment. This would decrease the likelihood of the household investing in shares and/or mutual funds.

In model 5 (Equation 6.6), the dependent variable is the investment in shares and mutual funds (HHMUTUALFUNDS) by any household member. It can be observed that only the APL households, that is, 360 households have been considered here. The BPL households have extremely low levels of income and can barely make ends meet. They cannot afford to save let alone invest. The monthly household income is found to be statistically significant at 1% level. A household, on an average, is 2.0% more likely to invest in shares and/or mutual funds if its income increases by Rs 10000/- holding all other variables constant.

The educational attainment of the household head is found to be statistically significant at 1% level. With every additional year of education of the household head, the household, on an average, is 1.01% more likely to invest in shares and mutual funds, holding all other variables constant. The age of the household head is found to be statistically significant at 5% level. If the household head grows older by a year, the household, on an average, is 0.29% more likely to invest in shares and/or mutual funds, holding all other variables constant.

The household size is found to be statistically significant at 5% level. If there is one more member in a household, on an average, the household is 2.09% less likely to invest in shares and/or mutual funds, holding all other variables constant. The location of the household and number of employed members in a household are found not to be statistically significant, although they have the hypothesized signs.

In this model, the likelihood ratio chi-square test, LR chi^2 (6), has a value of 72.97 and the value of the prob>chi^2 is 0.0000. This means that the explanatory variables jointly determine the likelihood of the household investing in shares and/or mutual funds. The value of the pseudo-R^2 is 0.245 which may be considered to be satisfactory. Moreover,

308 cases or 85.56% of the cases have been correctly predicted. These results show the goodness-of-fit of the model.

Table 6.10 shows the marginal effects at low, medium and high levels of income and education. It can be observed that the marginal effects of age of the household head, his/her educational attainment, monthly household income and household size are stronger at higher levels of income and education. This implies that households headed by more educated individuals and belonging to higher income groups are relatively more likely to invest in shares and/or mutual funds if the household head grows older by a year, if the household head attains one more year of education and if the monthly household income increases by Rs. 10000/- as compared to poorer households and those headed by less educated individuals.

Table 6.10 Factors Determining Demand for Shares and/or Mutual Funds: Marginal Effects at Different Levels of Income and Education

Variable	Marginal Effects		
	At HHINC= Rs 5000 & HEDU= 4 years[#]	At HHINC= Rs 25000 &HEDU= 10 years[#]	At HHINC= Rs 75000 & HEDU= 15 years[#]
HAGE	0.0007 (0.0004)*	0.0024 (0.0010)**	0.0079 (0.0033)**
HEDU	0.0026 (0.0008)***	0.0082 (0.0031)***	0.0278 (0.0118)**
HHINC	0.0000004 (0.0000)**	0.000001 (0.0000)***	0.000005 (0.0000)***
HHEMP	0.0025 (0.0049)	0.0079 (0.0149)	0.0267 (0.0489)
HHLOC	0.0071 (0.0090)	0.0227 (0.0259)	0.0781 (0.0898)
HHSIZE	-0.0054 (0.0035)	-0.0171 (0.0087)**	-0.0574 (0.0283)**

Note: [#]The marginal effects (dy/dx) are reported at the mean for other variables
Standard errors are in parentheses
**Significant at 0.10 level*
***Significant at 0.05 level*
****Significant at 0.01 level*

Households belonging to lower income groups and headed by a less educated individual are relatively less likely to invest in shares and/or mutual funds if there is an addition of one more member in the household. Lower income households and households headed by less educated individuals are more risk-averse and less informed about such investments and would, thus, hesitate to invest in shares and/or mutual funds. Thus, it can be seen that monthly household income and educational attainment of the household head play an important role in inducing people to invest in shares and/or mutual funds.

6.4 CHAPTER SUMMARY

The study reveals that 385 respondents had at least one bank account. However, in all sample households, there was at least one household member who had a bank account. Among the respondents who had a bank account, while 76.10% of them claimed to have made regular bank deposits, 59.74% of them claimed to have made regular withdrawals on a weekly, fortnightly, monthly or bi-monthly basis.

An attempt is made to determine the household characteristics which influence the usage of banking services by households. The findings show that the proximity of the bank to an individual's residence or workplace increases the probability of an individual having regular deposits in his/her bank account. If an individual is more educated and employed, and if the bank is located near his/her residence or workplace, he/she is more likely to have regular deposits in his/her bank account. It was also found that individuals who are less educated and belonging to lower income groups are relatively less likely to have regular deposits in their bank accounts if they are employed, if the bank is located close to their residence or workplace and if they attain one more year of education, as compared to wealthier and more educated individuals.

The study reveals that 70.50% of the households had availed of loans. The main reasons for availing of loans were purchasing a house or land, house repair or construction and purchasing a vehicle. Approximately 75% of them had availed of loans from banks. The results show that APL households are more likely to avail of loans as compared to BPL households. An increase in the number of bank accounts held by a household increases the likelihood of the household taking a loan. Households headed by a more educated individual are more likely to take loans. Contrary to expectations, urban households are less likely to avail of loans as compared to rural households. The study also reveals that households headed by less educated individuals and belonging to lower income groups are relatively more likely to avail of loans if the household head attains one more year of education, if the household is in the APL category and if there is one more bank account held by the household, as compared to wealthier households and those headed by more educated individuals.

The study reveals that 79.50% of the households had invested in insurance. As far as investment in insurance is concerned, it is found that if the household head is older and if the household earns higher income, that household is more likely to invest in insurance. It was also found that households headed by less educated individuals and belonging to lower income groups are relatively more likely to have an insurance policy if the household income increases, as compared to wealthier households and those headed by more educated individuals. However, households headed by more educated individuals and belonging to higher income groups are relatively less likely to have an insurance policy if the household head grows older by a year

Another finding was that only 15.75% of the households claimed that they have sent or received money transfers and/or remittances, the mode of transfer generally being bank

drafts or bank transfers. An increase in the monthly household income is found to increase the likelihood of the household sending or receiving money transfers. An APL household is more likely to send or receive money transfers and/or remittances as compared to a BPL household. It was also found that APL households belonging to low income groups are much more likely to send or receive money transfers and/or remittances as compared to households in the middle-income and high-income groups.

The study reveals that 35% of the households had at least one member who was receiving pension. These individuals were retired government servants, freedom fighters or beneficiaries of the Dayanand Social Security Scheme (DSSS) of the Government of Goa. It was found that if the household head gets older, the household is more likely to receive pension. However, if the household head is currently employed, the household is less likely to receive pension. Contrary to what is expected, rural households are more likely to receive pension as compared to urban households. A possible reason for this is that many rural households are beneficiaries of the DSSS of the Government of Goa and are receiving monthly pension which is directly credited into their bank account. The study also reveals that households headed by a more educated individual are relatively more likely to have a pensioner if the household head grows older by a year. However, urban households headed by a less educated individual and by one who is employed are relatively less likely to have a pensioner.

As far as investment in shares and mutual funds is concerned, the study reveals that only 14.44% of the APL households have made such investments. The findings show that a household headed by an older and more educated individual and a household earning higher income is more likely to invest in shares and/or mutual funds. A larger household, on the other hand, is less likely to invest in shares and/or mutual funds. It

was also found that households headed by more educated individuals and belonging to higher income groups are relatively more likely to invest in shares and/or mutual funds with an increase in the age of the household head, attainment of more education by the household head and increase in the monthly household income, as compared to poorer households and those headed by less educated individuals.

The above analysis shows that the usage of banking services depends on an array of household characteristics. Generally speaking, it may be stated that the older and more educated the household head, and the larger and the wealthier the household, the greater will be the likelihood of the household using banking services such as deposits, loans, insurance, pension, money transfers and remittances, shares and mutual funds.

CHAPTER VII

MAJOR FINDINGS AND CONCLUSIONS

7.1 INTRODUCTION

The importance of an inclusive financial system has been widely recognized in recent years all across the globe. Access to finance by the poor and vulnerable groups is a pre-requisite for poverty alleviation. However, there are still large sections of the world population that are excluded from the financial market. In India, a large proportion of the poor are financially excluded from the country's mainstream of banking sector. Poverty is not merely insufficient income, but rather the absence of wide range of capabilities, including security and ability to participate in economic and political systems. The large numbers from rural and semi-urban areas are required to be provided with much needed financial assistance in order to uplift them from their poor economic conditions.

Access to finance is a pre-requisite for employment, economic growth, poverty reduction and social cohesion. Banks play a pivotal role in this regard by providing such people an opportunity to have a bank account, to save and invest, to insure their homes or to partake of credit, thereby unshackling them from the chains of poverty. Thus, there is no doubt that improving access to finance is very crucial for promoting economic growth, reducing income inequalities and alleviating poverty. An economy may exhibit strong financial depth, but may have limited financial breadth. It is

financial sector breadth which is a matter of great concern especially for developing countries.

Studies on the extent of financial inclusion across nations and within nations have been undertaken at different points of time. Researchers have shown that there are vast disparities in the access and usage of financial services among developed countries as also between developed and developing countries. A number of household surveys have revealed that banked individuals and households are those who are more educated, earn higher incomes and reside in urban areas. The poor households have generally been found to be unbanked and they resort to informal forms of saving and borrowing. Studies on the extent of financial inclusion in India reveal that a vast majority of the rural poor does not have access to formal finance despite the efforts made by the government to improve access to finance.

This chapter highlights the major findings and conclusions of the study. This is followed by the implications of the study and the scope for future research.

7.2 SUMMARY OF MAJOR FINDINGS

This study on financial inclusion in Goa is an attempt to measure and analyse the extent of financial inclusion at both the taluka-level and household-level. An index of financial inclusion (IFI) is used to measure financial inclusion across the talukas in Goa in terms of access and use of banking services. The study aims to examine the levels of financial inclusion across talukas and to establish the relationship between financial inclusion and development by empirically identifying the factors that are linked with the level of financial inclusion. At the household-level, the number of bank accounts held by the household is used as an indicator of financial inclusion. In order

to have a deeper understanding of the degree of financial inclusion, the study aims at analyzing the factors associated with the usage of banking services by households.

The basic research problem, importance of the study, its objectives and limitations are explained in Chapter I. The review of literature on the significance of financial inclusion and the extent of financial inclusion across nations, within nations and within India in particular, is presented in Chapter II. The methodology employed in the study is explained in detail in Chapter III.

Chapter IV analyzes the extent of financial inclusion across all talukas in Goa with the help of the IFI for the period 1994-95 to 2011-12. Two dimensions of financial inclusion have been considered for this purpose, namely, access dimension and usage dimension. Geographic and demographic bank penetration are the indicators of the access dimension and total deposits mobilized and total credit advanced are the indicators of the usage dimension. The changes in financial inclusion across the talukas are examined. This is followed by an analysis of the impact of certain socio-economic factors on financial inclusion.

Chapters V and VI examine financial inclusion at the household-level in Goa. The analysis is based on a survey of 400 households across four talukas, namely, Ponda and Bardez in North Goa District and Mormugao and Canacona in South Goa District. An attempt is made to determine the factors influencing financial inclusion. The number of bank accounts held by a household is considered as an indicator of financial inclusion. The study also attempts to examine the factors which determine whether or not an individual is banked or unbanked. An attempt is also made to identify the financially excluded individuals. Merely having a bank account is not sufficient. It is imperative that individuals should make use of their bank accounts as also other

banking services. The study attempts to identify the factors determining the use of banking services such as deposits, loans, insurance, remittances and money transfers, pension, shares and mutual funds.

The major findings that result from the study are summarized as follows:

The study reveals that there has been a phenomenal growth of banking facilities in Goa. The number of bank branches has shown a manifold increase from a mere 5 in 1962 to 643 in 2012. It is evident from the study that bank branches are not evenly distributed across the state of Goa. The access to banking services is measured in terms of geographic and demographic penetration. As far as geographic penetration is concerned, the highest ranking talukas have been Tiswadi, Bardez, Mormugao and Salcete and the lowest ranking talukas have been Sanguem, Sattari and Canacona over the period 1994-95 to 2011-12. As far as demographic penetration is concerned, the highest ranking talukas have been Bardez, Tiswadi, Salcete and Mormugao and the lowest ranking talukas have been Sattari, Pernem and Quepem over the same period. The highest ranking talukas remain the same for both geographic and demographic penetration.. However, the lowest ranking talukas differ for geographic and demographic penetration during the period of study.

The usage of banking services is measured in terms of total deposits mobilized and total credit advanced. During the period of study it has been observed that deposits have been larger and have been growing at a faster rate than credit, thereby resulting in a low credit-deposit ratio. The low credit-deposit ratio in the state is attributable to the low demand for credit in the State and the high level of deposits with banks is due to the large inflow of foreign remittances. During the period 1994-95 to 2011-12, the talukas of Salcete, Tiswadi and Bardez accounted for around 87.43% of the total

deposits mobilized in the state. At the other end, the aggregate deposits mobilized in the six talukas of Sattari, Canacona, Quepem, Sanguem, Pernem and Bicholim accounted for about 7.63% of the total deposits. As far as credits are concerned, approximately 84% of the credits were accounted for by the talukas of Tiswadi, Salcete, Mormugao and Bardez. The lowest advances were in Pernem, Canacona and Sattari.

The index value for the access dimension was the highest for Tiswadi (0.59) followed by Bardez (0.58), Salcete (0.41) and Mormugao (0.35) in 2011-12. The ranking remained more or less the same throughout the period. The lowest ranking talukas were Sattari, Pernem, Bicholim and Quepem in 2011-12. The index value for Sattari taluka has been noticeably very low and was zero or close to zero thereby making Sattari the lowest ranking taluka in terms of access throughout except in 1998-99 when Canacona ranked the lowest and 2008-09 when Sanguem ranked the lowest.

As far as the usage dimension is concerned, the index value was the highest for Tiswadi (0.40) followed by Salcete (0.25), Bardez (0.18) and Mormugao (0.16) in 2011-12. The ranking has remained the same throughout the period. The lowest ranking talukas were Sattari, Pernem, Canacona and Quepem in 1994-95 and in 2011-12. Sattari has been the lowest ranking taluka for the usage dimension for all years except 1996 to 1998.

Tiswadi, Bardez and Salcete talukas have had consistently high IFI values of above 0.6 throughout this period and are categorized as talukas with high financial inclusion. Mormugao has been in the range of medium financial inclusion throughout, the value of the IFI being between 0.5 and 0.6. Ponda, on the other hand, has moved from being a low IFI taluka to being a medium IFI taluka in 2008-09 All the remaining six talukas

are categorized in the category of low level of financial inclusion, the IFI values ranging between 0 and 0.3. Within this category, Sattari has had the lowest IFI values almost throughout the period of study. The talukas of Sanguem, Quepem and Pernem have also had low values of IFI, generally below 0.1 throughout the period.

A pooled regression model is estimated so as to identify the factors influencing financial inclusion across the talukas in Goa.The estimation results of the multiple regression model show that student enrolment which is a proxy for the education level, urbanization and tourist arrivals have a positive impact on financial inclusion. All three explanatory variables are found to be individually and collectively statistically significant as determinants of financial inclusion.

An attempt has been made to identify the factors determining whether or not an individual would hold a bank account. The study reveals that 96.25% of the respondents who were interviewed have at least one bank account. The estimation results of the binomial logistic regression model show that the individual's educational attainment, his/her age and he/she being a beneficiary of a government scheme have a positive impact on him/her holding a bank account. The study also reveals that an individual with primary school education is relatively more likely to have a bank account if he/she is a beneficiary of some government scheme, as he/she grows older by a year and with every additional year of education, as compared to an individual with secondary school education or graduation.

In this study, the number of bank accounts held by a household is used as an indicator of financial inclusion at the household level. It is based on the assumption that, higher the average number of accounts, higher will be the banking activity and hence greater will be the extent of financial inclusion. In the present study, all the sample households

have at least one bank account. An attempt has been made to examine the factors affecting financial inclusion at the household level. The estimation results of the multiple regression model show that household income, the number of adult members in a household, the age of the household head, the number of employed members in a household, the educational attainment of the household head and the poverty line status of a household have a positive impact on financial inclusion.

An analysis of factors determining financial inclusion in urban households reveals that monthly income of the household, number of adult members in a household and the age of the household head have a positive impact on financial inclusion in urban households. An analysis of factors determining financial inclusion in rural households reveals that the educational status of the household head, monthly household income, the number of adult members in a household and theage of the household head have a positive impact on financial inclusion in rural households.

An analysis of the nature and extent of financial exclusion reveals that out of the total adult population of 1377 in the 400 sample households, 322 did not have a bank account. This implies that 23.38% of the adult population was financially excluded. It is interesting to note that while 253 of the financially excluded individuals were females, only 69 of them were males. The analysis indicates that if the number of adult members in a household not having a bank account is considered as an indicator of financial exclusion, it is evident that financial exclusion is prevalent across households in Goa, though in differing degrees.

The services of an inclusive banking system should be easily available to its users. The factors influencing the usage of banking services such as deposits, loans, insurance, money transfers and remittances, pension, shares and mutual funds by households in

Goa have been examined. The study reveals that among the respondents who had a bank account, 76.10% of them claimed to have regular deposits in their accounts. The findings show that the proximity of the bank to an individual's residence or workplace increases the probability of an individual having regular deposits in his/her bank account. If an individual is more educated and if he/she is employed, he/she is more likely to have regular deposits in his/her bank account. The study reveals that individuals who are less educated and belonging to lower income groups are relatively less likely to have regular deposits in their bank accounts if they are employed, if the bank is located close to their residence or workplace and if they attain one more year of education, as compared to wealthier and more educated individuals.

The study reveals that 70.50% of the households had availed of loans.An analysis of the factors determining whether or not a household would avail of a loan reveals that the poverty line status of a household, the educational attainment of the household head and the number of bank accounts held by a household increase the likelihood of a household taking a loan. Contrary to expectations, the location of the household in urban areas has a negative impact on the availing of loans by households. It was also found that households headed by less educated individuals and belonging to lower income groups are relatively more likely to avail of loans if the household head attains one more year of education, if the household is in the APL category and if there is one more bank account held by the household, as compared to wealthier households and those headed by more educated individuals.

The study reveals that 79.50% of the households had invested in insurance. As far as investment in insurance is concerned, it is found that if the household head is older and if the household earns higher income, that household is more likely to invest in insurance. It was also found that households headed by less educated individuals and

belonging to lower income groups are relatively more likely to have an insurance policy if the household income increases, as compared to wealthier households and those headed by more educated individuals. Further, households headed by more educated individuals and belonging to higher income groups are relatively less likely to have an insurance policy if the household head grows older by a year

Another finding of the study was that only 15.75% of the households reported to have sent or received money transfers and/or remittances. The mode of transfer was generally bank drafts or bank transfers. The monthly household income is found to increase the likelihood of the household sending or receiving money transfers. An increase in the number of dependents in a household is found to decrease the likelihood of the household sending or receiving of money transfers and/or remittances. It was also found that APL households belonging to low income groups are much more likely to send or receive money transfers and/or remittances as compared to households in the middle-income and high-income groups.

The study reveals that in 35% of the households surveyed, there was at least one member who was receiving pension. It was found that if the household head gets older, the household is more likely to receive pension. However, if the household head is currently employed, the household is less likely to receive pension. Contrary to what is expected, rural households are more likely to receive pension as compared to urban households. The survey revealed that many rural households are beneficiaries of the DSSS of the Government of Goa. These households receive monthly pension which is directly credited into their bank account. The study also reveals that households headed by a more educated individual are relatively more likely to have a pensioner if the household head grows older by a year. Further, urban households whose head is less educated, but employed, are relatively less likely to have a pensioner.

As far as investment in shares and mutual funds is concerned, the study reveals that only 14.44% of the APL households have made such investments. An increase in the monthly household income, an increase in age of the household head and an improvement in the educational level of the household head increase the likelihood of households investing in shares and/or mutual funds. An increase in the household size, on the other hand, decreases the likelihood of households investing in shares and/or mutual funds. It is also found that households headed by more educated individuals and belonging to higher income groups are relatively more likely to invest in shares and/or mutual funds if the household head grows older by a year, if the household head attains one more year of education and if the monthly household income increases, as compared to poorer households and those headed by less educated individuals.

7.3 CONCLUSIONS

The following are the major conclusions arrived at from the study:

1. As far as the extent of financial inclusion in the state of Goa is concerned, it is evident from the study that there has been a phenomenal growth of banking facilities. However, financial inclusion in the context of access and usage has not been satisfactory. The talukas of Tiswadi, Bardez, Salcete and Mormugao, comprising the main commercial centers of Goa, have been dominating the banking scenario. The IFI values clearly indicate that the level of financial inclusion is significantly lower in large parts of the state of Goa. The talukas of Tiswadi, Bardez and Salcete have had consistently high IFI values, whereas Mormugao has been in the category of medium financial inclusion during the period of study. All the other talukas have had low levels of financial inclusion, with the exception of Ponda, which moved from low levels to medium levels in 2008-09.

It can be concluded that there are wide disparities in financial inclusion across the talukas. The talukas of Tiswadi, Bardez, Salcete and Mormugao have been the highest ranking talukas in terms of both access and usage of banking services. Sattari has been the lowest ranking taluka in terms of both these dimensions. The study shows that even though a region performs better in terms of access, it does not necessarily perform better in terms of the usage. It can also be concluded from the study that although there has been an improvement in reaching out to the less privileged masses by the banking sector, it is not adequate in all the talukas.

2. The study reveals that financial inclusion is influenced by three variables, namely, student enrolment, urbanization and tourist arrivals. Student enrolment, which is a proxy for education level, has a positive impact on financial inclusion. In other words, the larger the number of student enrolments, implying higher education levels in a region, the higher will be the level of financial inclusion. Urbanization also has a positive impact on financial inclusion. This means that an increase in the proportion of urban population to the total population will lead to an improvement in the level of financial inclusion. Tourist arrivals positively impact financial inclusion. Thus, an increase in tourist arrivals in a region will lead to greater financial inclusion. That leads to the conclusion that regions characterized by low levels of education, lower degree of urbanization and lower levels of tourist arrivals seem to be less financially inclusive. In other words, regions that are less developed are also less financially inclusive.

3. It can be concluded from the household-level analysis of financial inclusion that in all households there is at least one member in the household who has a bank account. It can be concluded that a household earning higher income, belonging to the APL

category, having more adult members and more members who are employed will have a greater degree of financial inclusion. Further, if the household head is older and more educated, it will have greater financial inclusion. An analysis of financial inclusion of rural households vis-à-vis urban households leads to the conclusion that the educational attainment of the household head is a very significant factor in determining the extent of financial inclusion of rural households only. The impact of the monthly income of the household and age of the household head on financial inclusion in rural households is stronger than in urban households. However, the impact of the number of adult members in a household on financial inclusion is stronger in urban households compared to rural households.

An analysis of the extent of financial exclusion at the individual level reveals that if the number of adult members in a household not having a bank account is considered as an indicator of financial exclusion, it is evident that financial exclusion is prevalent across households in Goa. There are wide disparities in the extent of financial exclusion among individuals when factors such as caste, poverty line status and household income levels are considered. In other words, financial exclusion is most closely associated with individuals belonging to backward castes, living below poverty line and earning low incomes.

4. Several factors have been identified as determinants of usage of banking services by households in Goa. The regularity of deposits is largely influenced by proximity of the bank to the household's residence or workplace, the educational attainment of an individual and his/her employment status. The usage of banking services depends on several household characteristics which include education, income, household size,

etc.. The older and more educated the household head, and the larger and wealthier the household, the more likely will the household make use of banking services.

7.4 IMPLICATIONS OF THE STUDY

This is the first study, to the researcher's knowledge, that has been undertaken to examine the extent of financial inclusion in terms of the index of financial inclusion (IFI) across talukas in Goa. As inclusive growth is a desired objective, the study provides an insight into the extent of financial inclusion across the regions of the state. The policy makers would be able to make use of the findings of this study for initiating measures that would enhance the levels of financial inclusion in all regions, especially the less developed ones.

The study reveals that the level of development has a direct correlation with the degree of financial inclusion and concerted efforts need to be made to bring about the development of the backward and less developed regions. The government has to initiate steps to attain more balanced regional development to make financial inclusion more meaningful. Each region has its own peculiar characteristics and therefore it is imperative to adopt region-specific measures. Government policy to improve levels of education and urban facilities, and also to promote tourism, will have a positive impact on the status of financial inclusion in Goa.

The micro-level study of financial inclusion among households in Goa highlights the demand-side factors that need to be considered so as to achieve higher levels of financial inclusion. A major implication of the study is that given the banking facility, states with higher per capita income, like Goa, can achieve higher levels of financial inclusion.

Another implication of the study is that merely opening bank branches does not guarantee financial inclusion. Individuals may have access to a bank account but may not be using the account for various reasons.Merely opening a bank account without ensuring its usage may just result in additional financial burden on the banks without any benefits accruing to the community. Expanding financial inclusion requires a paradigm shift that goes beyond opening bank accounts and facilitating direct cash transfers to the financially excluded. The policy makers need to address this problem by taking positive steps in this direction.

An important implication of the study is that financial literacy plays a crucial role in financial inclusion. Banks need to communicate with the rural masses about the various products provided by them such as housing loans, personal loans, etc. Concurrently the government should develop a sustainable model for imparting financial literacy among rural population. The habit of saving by the rural population, even if the saving happens to be meager, is a pre-requisite to savings with the banks. It is, therefore, extremely important to educate the people on the importance of saving. The banks also need to initiate steps to increase this awareness and to show their credibility with the poor and illiterate individuals. These steps will go a long way in achieving a more meaningful financial inclusion. Today's financial world is both complex as well as dynamic. It is, therefore, necessary that while providing financial literacy, the focus should be on building the confidence and assertiveness among the consumers of financial services. The providers of such strategies must realize the need to work within the culture and context of the individuals or groups so as to be effective.

The study reveals that financial exclusion is far more prevalent among individuals belonging to backward communities and BPL households. Individuals belonging to the

socially and economically backward classes, particularly those living on low incomes, cannot access the mainstream financial products. In order to achieve comprehensive financial inclusion, the first step is to achieve inclusion of the disadvantaged and vulnerable sections of the society. However, it must be noted that financial inclusion is not an end in itself, but rather a means to an end. This means that a mere improvement of financial inclusion will not help the poor and underprivileged sections of the society to overcome poverty, unless there is a breakthrough in their income levels. Such progress can be achieved only through an acceleration of economic growth and employment generation. The rural poor suffer from financial impediments due to their seasonal income and irregularity of work. Income levels and affordability are among the main contributory factors to the current levels of financial exclusion. Consumers on lower incomes may simply not be able to afford financial services. In the light of such issues, there is a dire need to build a financial ecosystem that would meet the requirements of the poor thereby enabling them to enhance their living standards.

7.5 SCOPE FOR FUTURE RESEARCH

The study does not consider all dimensions of financial inclusion while analyzing the extent of financial inclusion across the state of Goa. It is based only on the aspects of accessibility and usage and does not take into account other dimensions such as the cost and ease of banking transactions. One of the major handicaps in carrying out the study has been the non-availability of data and related information at the taluka-level. The study provides ample scope for further research.

Intra-state studies on financial inclusion could be undertaken by using a more comprehensive index. This will of course depend on the availability of relevant data.

Studies on financial inclusion across regions in a state or across states could incorporate the rural-urban divide and gender-related aspects. To determine comparative financial inclusion across all the states in India, a multi-dimensional study has to be conducted. The inter-state study of financial inclusion has to be taken over a longer time-frame.

In order to identify the barriers to financial inclusion, a comparative study needs to be done in developed as well as backward states. Such a study will provide a useful insight on this subject. In the ultimate analysis, estimating the proportion of the population that has access to and uses financial services, identifying the obstacles to access, and designing policies to overcome these obstacles and expand access would require a combination of various data compilation efforts and methodological approaches.

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APPENDIX I
INTERVIEW SCHEDULE I (FOR APL HOUSEHOLDS)

PART A: GENERAL INFORMATION

1. Name of the head of household:

2. Age of head of household:

☐ 18-25 years ☐ 25-35 years ☐ 35-45 years ☐ 45-55 years

☐ 55-65 years ☐ 65 years & above

3. Is the head of household literate?

☐ Yes ☐ No

4. Educational qualification of head of household (years of education):

☐ No formal education ☐ Below primary ☐ Primary ☐ Below SSC

☐ SSC ☐ HSSC(Arts/Science/Commerce/Vocational)

☐ Undergraduate(General/ Vocational/Professional)

☐ Graduate (General/ Vocational/Professional)

☐ Post-graduate (General/ Vocational/Professional)

5. Is the head of household employed?

☐ Yes ☐ No

6. If employed, state the nature of the head of household's job:

☐ Government ☐ Private ☐ Self-employed ☐ Daily wage Earner

7. Head of household's Employment status:

☐ Temporary ☐ On Probation ☐ Contract ☐ Permanent

8. Name of the respondent:

9. Status in the family:

☐ Father ☐ Mother ☐ Son ☐ Daughter ☐ Others (Please specify)

10. Gender:

☐ Male ☐ Female

11. Age:

☐ 18-25 years ☐ 25-35 years ☐ 35-45 years ☐ 45-55 years

☐ 55-65 years ☐ 65 years & above

12. Is the respondent literate?

☐ Yes ☐ No

13. Educational qualification/years of education:

☐ No formal education ☐ Below primary ☐ Primary ☐ Below SSC

☐ SSC ☐ HSSC(Arts/Science/Commerce/Vocational)

☐ Undergraduate(General/ Vocational/Professional)

☐ Graduate (General/ Vocational/Professional)

☐ Post-graduate (General/ Vocational/Professional)

14. Marital Status:

☐ Single ☐ Married ☐ Widowed ☐ Divorced

15. Religion:

☐ Hindu ☐ Muslim ☐ Christian ☐ Others

16. Caste category:

☐ General ☐ SC ☐ ST ☐ OBC ☐ Other(Please Specify)

17. Place of birth:

☐ Goa ☐ Other state

18. Household size:

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ More than 5(Please specify)

19. In the household state the number of
Adults:
Children:
Dependents:

20. Location of residence:

☐ Urban ☐ Rural

21. Home Ownership:

☐ Own ☐ Rented

22. Type of house:

☐ Flat ☐ Bungalow ☐ Pucca house ☐ Semi-pucca house ☐ Kutcha house

23. Location of previous residence:

☐ Goa ☐ Other state (Please specify)

24. Period of stay at present residence:

☐ Less than 5 years ☐ 5-10 years ☐ 10-15 years ☐ 15-20 years

☐ 20-25 years ☐ 25-30 years ☐ 30 years and above

25. Do you or any of your household members own any immovable property?

☐ Yes ☐ No

26. What type of property do you own?

☐ Commercial ☐ Residential ☐ Agricultural land

☐ Non-agricultural land ☐ Commercial & Residential

☐ Residential & Agricultural land ☐ Commercial & agricultural land

☐ Agricultural & Non-agricultural land ☐ Commercial &non-agricultural land

☐ Residential & Non-agricultural land

27. Do you or any of your household members own a vehicle?

☐ Yes ☐ No

28.State the number and type of vehicles owned by the household

Two wheeler		Four wheeler (car)			Other (Specify)
Scooter	Motorcycle	Small	Mid-size	Luxury	

29. Do you or any household member own a mobile phone? If yes, how many mobile phones do you own?

☐ Yes ☐ No

30. State the number and type of mobile phones owned by the household

Standard/Basic mobile	Smartphone

31. Whether employed:

☐ Yes ☐ No

32. If employed, state the nature of your job:

☐ Government ☐ Private ☐ Self-employed ☐ Daily wage earner

33. Employment status:

☐ Temporary ☐ On Probation ☐ Contract ☐ Permanent

34. Work experience:

☐ Less than 5 years ☐ 5-10 years ☐ 10-15 years ☐ 15-20 years

☐ 20-25 years ☐ 25-30 years ☐ 30 years & above

35. Number of household members employed:

☐ None ☐ 1 ☐ 2 ☐ 3 ☐ More than 3

36. Do you or any household member belong to a SHG?

☐ Yes ☐ No

37. Do you or any household member belong to chit funds?

☐ Yes ☐ No

PART B: FINANCIAL INFORMATION

I INCOME AND SAVINGS:

1. Monthly income (salary/wage/profit) earned:

☐ Less than Rs. 10000 ☐ Rs 10000-Rs 20000 ☐ Rs 20000-Rs 30000

☐ Rs 30000-Rs 40000 ☐ Rs 40000-Rs 50000 ☐ Rs 50000–Rs 60000

☐ Rs 60000-Rs 70000 ☐ Rs 70000-Rs 80000 ☐ Rs 80000-Rs 90000

☐ Rs 90000- Rs 100000 ☐ Rs 100000 & above

2. Do you have any other source of income?

☐ Yes ☐ No

3. What are your other sources of income?

☐ Rent ☐ Interest ☐ Capital gains ☐ Dividend

☐ Pension ☐ Any other (Please specify)

4. Total monthly household income:

☐ Less than Rs. 10000 ☐ Rs 10000-Rs 20000 ☐ 20000-Rs 30000

☐ Rs 30000-Rs 40000 ☐ Rs 40000-Rs 50000 ☐ Rs 50000–Rs 60000

☐ 0000-Rs 70000 ☐ 70000-Rs 80000 ☐ s 80000- Rs 90000

☐ Rs 90000- Rs 100000 ☐ Rs 100000 & above

5. Do you save regularly?

☐ Yes ☐ No

6. How regularly do you save?

☐ Monthly ☐ Bi-monthly ☐ Quarterly ☐ Annually

7. Reasons for saving (Rank in order of preference):

☐ For old age/ future ☐ To face uncertainties related to employment ☐ To invest in children's education

☐ To face uncertainties related to health ☐ For investing in land/ house /immovable property ☐ For house repair/ maintenance

☐ For investing in Gold/jewellery ☐ For marriage ☐ For religious ceremonies

☐ For purchasing consumer durables ☐ For daily needs ☐ Any other factor (Please specify)

8. Where do you put your savings?

☐ Commercial banks ☐ Cooperative banks ☐ Post Office ☐ SHG

☐ Keeping money with friends/relatives ☐ Keeping money at home

☐ Commercial & cooperative banks ☐ Others (Please specify)

9. Is any household member a beneficiary of any government scheme?

☐ Yes ☐ No

10. Which of the following government schemes is any household member a beneficiary of?

☐ Indira Awaaz Yojana/ Housing Subsidy ☐ Dayanand Social Security Scheme

☐ Griha Aadhar ☐ Other (Please specify)

11. How did the household receive assistance?

☐ Panchayat office ☐ Bank account transfer ☐ Post office account

☐ SHG ☐ Others (Please specify)

II NATURE OF BANK ACCOUNT& ACCESS TO BANKING SERVICES:

12. Do you have a bank account?

☐ Yes ☐ No

13A) If answer to Q.12 is no, why did you not open a bank account?

☐ Applied but rejected ☐ Save through other means

☐ Did not have the necessary documents ☐ Did not feel the need for an account

☐ Insufficient income for savings ☐ High fees/expenses charged

☐ Did not find banking products appropriate ☐ Procedures too difficult to understand

☐ Bank branch is too far ☐ Have no idea about banks/ Banking products

13B) If answer to Q. 12 is yes,
(i) In which bank do you have an account?

(ii)Why was the account opened?

☐ To receive loans ☐ To receive government benefits

☐ To receive wage/salary ☐ For savings

(iii) What type of account do you have?

☐ Savings ☐ Current ☐ Savings & Current

(iv) Are you aware of the various deposit schemes offered by the bank?

☐ Yes ☐ No

(v) Which of the following deposits do you have?

☐ Recurring deposit ☐ Fixed deposit ☐ Recurring & Fixed Deposit

(vi)Did someone help you open the bank account?

☐ Yes ☐ No

(vii)Who helped you open the bank account?

☐ Bank official member ☐ Village Panchayat ☐ Neighbour/ Friend

☐ Relative/ Family member ☐ NGO member

(viii) Were the procedural formalities and necessary clarifications explained to you by the bank employees?

☐ Yes ☐ No

(ix)Was the process of opening an account at the branch time-consuming and cumbersome?

☐ Yes ☐ No

(x) Have you understood the terms and conditions of opening a bank account properly?

☐ Yes ☐ No

(xi) Is your passbook regularly updated or do you get a regular statement of your account?

☐ Yes ☐ No

(xii)What documents did you have to submit for opening the bank account?

☐ Proof of Identity ☐ Proof of Residence

(xiii) Did you have the necessary documents?

☐ Yes ☐ No

(xiv) If you did not have the necessary documents, were you denied the facility of a bank account?

☐ Yes ☐ No

(xv) For how long have you had this account?

☐ Less than 5 years ☐ 5-10 years ☐ 10-15 years ☐ 15-20 years

☐ 20-25 years ☐ 25-30 years ☐ 30 years & above

(xvi)How many accounts do you have?

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ More than 4(Please specify)

(xvii) Do you have to maintain a minimum balance in your account at all times?

☐ Yes ☐ No

(xviii) What is the minimum balance required to be maintained in your account?

☐ Please specify amount

(xix) Are you aware of the nomination facility?

☐ Yes ☐ No

(xx) Do you face any problems for accessing your bank account?

☐ Yes ☐ No

(xxi) If the answer to Q. (xx) is yes, please specify the problems faced by you

☐ Distance to the bank ☐ Travelling expenses ☐ Time

☐ Apathetic attitude of bank officials ☐ Other (Please specify)

14. Do any of your household members have a bank account?

☐ Yes ☐ No

15. How many accounts does your household have? Please specify the number of accounts per member.

☐ 1 ☐ 2 ☐ 3 ☐ More than 3 (Please specify)

16. How far is the bank branch from your residence?

☐ Less than 1 km ☐ 1-5km ☐ 5-10 km ☐ 10-15 km

☐ 15-20 km ☐ More than 20 km

17. How do you generally reach the branch?

☐ Walking ☐ Cycle ☐ Scooter / motorcycle ☐ Car ☐ Bus

☐ Autorickshaw ☐ Other

18. Is the branch location near your residence/workplace/educational institution?

☐ Yes ☐ No

III USAGE OF BANKING SERVICES:

19. Have you availed of cheque book facility from the bank?

☐ Yes ☐ No

20. Do you regularly deposit money in your bank account?

☐ Yes ☐ No

21. What is the frequency of deposits?

☐ Never ☐ Daily ☐ Weekly ☐ Fortnightly ☐ Monthly

☐ Bi-monthly ☐ As & when I can

22. Do you regularly withdraw money from your account?

☐ Yes ☐ No

23. How often do you withdraw money from your account?

☐ Never ☐ Weekly ☐ Fortnightly ☐ Monthly ☐ Bi-monthly

☐ Whenever the need arises

24. Have you or any household member availed of overdraft facility?

☐ Yes ☐ No

25. What are the reasons for using overdraft facilities?

☐ Investment in business ☐ Routine expenditures

☐ Emergency expenditures ☐ Others (Please Specify)

26. Do you have a credit card?

☐ Yes ☐ No

27. How often do you use the credit card?

☐ Never ☐ Weekly ☐ Fortnightly ☐ Monthly

☐ Bi-monthly ☐ Quarterly ☐ Half-yearly ☐ Annually

28. Why do you most often use your credit card?

☐ For routine expenditures ☐ For non-routine/emergency expenditures

☐ For business inputs or productive assets ☐ Others (Please specify)

29. Do you have an ATM-cum debit card?

☐ Yes ☐ No

30 How often do you use the ATM-cum debit card?

☐ Never ☐ Weekly ☐ Fortnightly ☐ Monthly

☐ Bi-monthly ☐ Quarterly ☐ Half-yearly ☐ Annually

31. Have you or any household member ever availed of a loan?

☐ Yes ☐ No

32. If answer to Q.31 is no, why has the household never availed of a loan?

- ☐ No need for a loan
- ☐ Need a loan but worried about repayment capacity
- ☐ Need a loan but interest rates are too high
- ☐ Other (Please specify)

33. If answer to Q.31 is yes,
(i) For what purpose did you or any household member avail of a loan?

☐ Purchase of house/land ☐ House repair/construction ☐ Marriage

☐ Education ☐ Purchase of vehicle ☐ Daily needs

☐ Settlement of previous debt ☐ Any other reason (Please specify)

(ii) From where was the loan availed of?

☐ Bank ☐ Moneylender ☐ SHGs ☐ Cooperative society

☐ Friends/Relatives ☐ Chit funds ☐ Employer ☐ Others

(iii)Did you or any household member face any problems when you applied for the loan?

☐ Yes ☐ No

(iv)What problems did you or any household member face?

☐ Documentation ☐ Delay in processing loan ☐ Any other (Please specify)

(v) If you or any household member had borrowed from another source, why did they not borrow from the bank in that instance?

☐ Application rejected ☐ Interest rates too high

☐ Anticipated delay in sanctioning of loan ☐ Expected sanction of inadequate/lesser amount than that applied for

☐ Procedures/formalities too complicated ☐ Branch too far

☐ Bank staff not friendly/courteous ☐ Any other (Please specify)

(vi) How was the loan extended to you or any household member?

☐ With collateral ☐ Without collateral

(vii)If the loan was extended to you or any household member against collateral, what was the collateral?

☐ Land ☐ House ☐ Gold ☐ Shares & securities

☐ Any other (Please Specify)

(viii) Was there a guarantor for the loan?

☐ Yes ☐ No

(ix) Who was the guarantor for the loan?

☐ Family member ☐ Relative ☐ Friend

(x) Have you or any household member taken a gold loan?

☐ Yes ☐ No

34. Did you or any household member receive money transfers from family members living outside the household in the past year?

☐ Yes ☐ No

35. How many times did you receive transfers in the past year?

☐ Once ☐ Twice ☐ Thrice ☐ More than three times (Please specify)

36. Did you or any household member receive any remittances from abroad in the past year?

☐ Yes ☐ No

37. How many times did you receive remittances from abroad in the past year?

☐ Once ☐ Twice ☐ Thrice ☐ More than three times (Please specify)

38. In what form did the household receive money/remittances?

☐ Cash ☐ Cheque ☐ Postal money order ☐ Bank account transfer

☐ Demand draft ☐ Other (Please specify)

39. Have you sent money transfer to family members/relatives living outside the household in the past year?

☐ Yes ☐ No

40. How many times did you send transfers in the past year?

☐ Once ☐ Twice ☐ Thrice ☐ More than three times (Please specify)

41. In what form did the household send money?

☐ Cash ☐ Cheque ☐ Postal money order ☐ Bank account transfer

☐ Demand draft ☐ Other (Please specify)

42. Do you use the ECS facility provided by your bank?

☐ Yes ☐ No

43. If answer to Q. 42 is yes, for what purpose are you using the ECS facility?

☐ Payment of utility bills ☐ Payment of EMIs ☐ Payment of credit card bills

☐ Any other (Please specify)

44. Do you use electronic fund transfer/RTGS facility provided by your bank?

☐ Yes ☐ No

45. How often do you use the electronic fund transfer/RTGS facility provided by your bank?

☐ Daily ☐ Weekly ☐ Fortnightly ☐ Monthly

☐ Bi-monthly ☐ Quarterly ☐ Half-yearly ☐ Annually

46. Do you use the mobile banking facility?

☐ Yes ☐ No

47. How often do you use the mobile banking facility?

☐ Weekly ☐ Fortnightly ☐ Monthly ☐ Bi-monthly

☐ Quarterly ☐ Half-yearly ☐ Annually

48. Do you use the online banking facility?

☐ Yes ☐ No

49. How often do you use the online banking facility?

☐ Weekly ☐ Fortnightly ☐ Monthly ☐ Bi-monthly

☐ Quarterly ☐ Half-yearly ☐ Annually

50. Do you or any household member currently have any kind of insurance ?

☐ Yes ☐ No

51. Are you or any household member a pension holder?

☐ Yes ☐ No

52. Have you or any household member invested in shares/debentures/ mutual funds?

☐ Yes ☐ No

53. Are you satisfied with the facilities offered to you by the bank?

☐ Yes ☐ No

54. Are you satisfied with the attitude/approach of bank officials towards customers?

☐ Yes ☐ No

55. Do you think that there are adequate bank branches in your locality?

☐ Yes ☐ No

APPENDIX II
INTERVIEW SCHEDULE II (FOR BPL HOUSEHOLDS)

PART A: GENERAL INFORMATION

1. Name of the head of household:

2. Age of head of household:

☐ 18-25 years ☐ 25-35 years ☐ 35-45 years ☐ 45-55 years

☐ 55-65 years ☐ 65 years & above

3. Is the head of household literate?

☐ Yes ☐ No

4. Educational qualification of head of household (years of education):

☐ No formal education ☐ Below primary ☐ Primary ☐ Below SSC

☐ SSC ☐ HSSC(Arts/Science/Commerce/Vocational)

☐ Undergraduate(General/ Vocational/Professional)

☐ Graduate (General/ Vocational/Professional)

☐ Post-graduate (General/ Vocational/Professional)

5. Is the head of household employed?

☐ Yes ☐ No

6. If employed, state the nature of the head of household's job:

☐ Private ☐ Self-employed ☐ Daily wage earner ☐ Others (Please specify)

7. Head of household's Employment status:

☐ Temporary ☐ On Probation ☐ Contract ☐ Permanent

8. Name of the respondent:

9. Status in the family:

☐ Father ☐ Mother ☐ Son ☐ Daughter ☐ Others (Please specify)

10. Gender:

☐ Male ☐ Female

11. Age:

☐ 18-25 years ☐ 25-35 years ☐ 35-45 years ☐ 45-55 years

☐ 55-65 years ☐ 65 years & above

12. Is the respondent literate?

☐ Yes ☐ No

13. Educational qualification/years of education:

☐ No formal education ☐ Below primary ☐ Primary ☐ Below SSC

☐ SSC ☐ HSSC(Arts/Science/Commerce/Vocational)

☐ Undergraduate(General/ Vocational/Professional)

☐ Graduate (General/ Vocational/Professional)

☐ Post-graduate (General/ Vocational/Professional)

14. Marital Status:

☐ Single ☐ Married ☐ Widowed ☐ Divorced

15. Religion:

☐ Hindu ☐ Muslim ☐ Christian ☐ Others

16. Caste category:

☐ General ☐ SC ☐ ST ☐ OBC ☐ Other (Please specify)

17. Place of birth:

☐ Goa ☐ Other state

18. Size of household:

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ More than 5(Please specify)

19. In the household state the number of
Adults:
Children:
Dependents:

20. Location of residence:

☐ Urban ☐ Rural

21. Home Ownership:

☐ Own ☐ Rented

22. Type of house:

☐ Kutcha ☐ Semi-pucca ☐ Pucca

23. Location of previous residence:

☐ Goa ☐ Other State (Please specify)

24. Period of stay at present residence:

☐ Less than 5 years ☐ 5-10 years ☐ 10-15 years ☐ 15-20 years

☐ 20-25 years ☐ 25-30 years ☐ 30 years and above

25. Do you or any of your household members own a vehicle?

☐ Yes ☐ No

26. State the number and type of vehicles owned by the household

☐ Motorcycle ☐ Scooter ☐ Any other (Please specify)

27. Do you or any household member own a mobile phone? If yes, how many mobile phones do you own?

☐ Yes ☐ No

28. Whether employed:

☐ Yes ☐ No

29. If employed, state the nature of your job:

☐ Private ☐ Self-employed ☐ Daily wage earner

☐ Others (Please specify)

30. Employment status:

☐ Temporary ☐ On Probation ☐ Contract ☐ Permanent

31. Work experience:

☐ Less than 5 years ☐ 5-10 years ☐ 10-15 years ☐ 15-20 years

☐ 20-25 years ☐ 25-30 years ☐ 30 years & above

32. Number of household members employed:

☐ None ☐ 1 ☐ 2 ☐ 3 ☐ More than 3

33. Are you or any household member employed in the NREGA (100 days work) program?

☐ Yes ☐ No

34. Do you or any household member belong to a SHG?

☐ Yes ☐ No

35. Do you or any household member belong to chit funds?

☐ Yes ☐ No

PART B: FINANCIAL INFORMATION

I INCOME AND SAVINGS:

1. Monthly income (salary/wage) earned:

☐ Less than Rs.500 ☐ Rs 500-Rs 1000 ☐ Rs 1000-Rs 1500

☐ Rs 1500-Rs 2000 ☐ Rs 2000-Rs 2500 ☐ Rs 2500-Rs 3000

☐ Rs 3000-Rs 3500 ☐ Rs 3500-Rs 4000 ☐ Rs 4000 & above

2. Do you have any other source of income?

☐ Yes ☐ No

3. What are your other sources of income?

☐ Agriculture- wage labour ☐ Agriculture-sale of farm produce

☐ NREGA ☐ Pension(Specify type) ☐ Any other economic activity (Please specify)

4. Of all household sources of income, which is the main source for the entire household?

☐ Salaried/wage employment ☐ Agriculture- wage labour

☐ Agriculture-sale of farm produce ☐ NREGA ☐ Pension (Specify type)

☐ Payments from government schemes ☐ Any other economic activity (Please specify)

5. Total monthly household income:

☐ Less than Rs.500 ☐ Rs 500-Rs 1000 ☐ Rs 1000-Rs 1500

☐ Rs 1500-Rs 2000 ☐ Rs 2000-Rs 2500 ☐ Rs 2500-Rs 3000

☐ Rs 3000-Rs 3500 ☐ Rs 3500-Rs 4000 ☐ Rs 4000- Rs 4500

☐ Rs 4500-Rs 5000 ☐ Rs 5000 & above

6. Do you save regularly?

☐ Yes ☐ No

7. How regularly do you save?

☐ Monthly ☐ Bi-monthly ☐ Quarterly ☐ Annually

8. Reasons for saving (Rank in order of preference):

☐ For old age/ future ☐ To face uncertainties related to employment ☐ To invest in children's education

☐ To face uncertainties related to health ☐ For house repair/ maintenance ☐ For marriage

☐ For religious ceremonies ☐ For daily needs ☐ Any other factor (Please specify)

9. Where do you put your savings?

☐ Commercial banks ☐ Cooperative banks ☐ Post Office ☐ SHG

☐ Keeping money with friends/relatives ☐ Keeping money at home ☐ Others (Please specify)

10. Is any household member a beneficiary of any government scheme?

☐ Yes ☐ No

11. Which of the following government schemes is any household member a beneficiary of?

☐ Indira Awaaz Yojana/ Housing Subsidy ☐ Dayanand Social Security Scheme

☐ Griha Aadhar ☐ Other (Please specify)

12. How did the household receive this assistance from the government?

☐ Panchayat office ☐ Bank account transfer ☐ Post office account

☐ SHG ☐ Others (Please specify)

II NATURE OF BANK ACCOUNT& ACCESS TO BANKING SERVICES:

13. Do you have a bank account?

☐ Yes ☐ No

14A) If answer to Q.13 is no, why did you not open a bank account?

☐ Applied but rejected ☐ Save through other means

☐ Did not have the necessary documents ☐ Did not feel the need for an account

☐ Insufficient income for savings ☐ High fees/expenses charged

☐ Did not find banking products appropriate ☐ Procedures too difficult to understand

☐ Bank branch is too far ☐ Have no idea about about banks/ banking products

14B) If answer to Q. 13 is yes,

(i) In which bank do you have an account?

(ii)Why was the account opened?

☐ To receive loans ☐ To receive government benefits

☐ To receive wage/salary ☐ For savings

(iii) What type of account do you have?

☐ Savings ☐ Current

(iv) Are you aware of the various deposit schemes offered by the bank?

☐ Yes ☐ No

(v) Which of the following deposits do you have?

☐ Recurring deposit ☐ Term deposit

(vi)Did someone help you open the bank account?

☐ Yes ☐ No

(vii)Who helped you open the bank account?

☐ Bank official member ☐ Village Panchayat ☐ Neighbour/ Friend

☐ Relative/ family member ☐ NGO member

(viii) Were the procedural formalities and necessary clarifications explained to you by the bank employees?

☐ Yes ☐ No

(ix)Was the process of opening an account at the branch time-consuming and cumbersome?

☐ Yes ☐ No

(x) Have you understood the terms and conditions of opening a bank account properly?

☐ Yes ☐ No

(xi) Is your passbook regularly updated or do you get a regular statement of your account?

☐ Yes ☐ No

(xii)What documents did you have to submit for opening the bank account?

☐ Proof of Identity ☐ Proof of Residence

(xiii) Did you have the necessary documents?

☐ Yes ☐ No

(xiv) If you did not have the necessary documents, were you denied the facility of a bank account?

☐ Yes ☐ No

(xv) For how long have you had this account?

☐ Less than 5 years ☐ 5-10 years ☐ 10-15 years ☐ 15-20 years

☐ 20-25 years ☐ 25-30 years ☐ 30 years & above

(xvi)How many accounts do you have?

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ More than 4(Please specify)

(xvii) Do you have to maintain a minimum balance in your account at all times?

☐ Yes ☐ No

(xviii) What is the minimum balance required to be maintained in your account?

☐ Please specify amount

(xix) Are you aware of the nomination facility?

☐ Yes ☐ No

(xx) Do you face any problems for accessing your bank account?

☐ Yes ☐ No

(xxi) If the answer to Q. (xx) is yes, please specify the problems faced by you

☐ Distance to the bank ☐ Travelling expenses ☐ Time

☐ Apathetic attitude of bank officials ☐ Other (Please specify)

15. Do any of your household members have a bank account?

☐ Yes ☐ No

16. How many accounts does your household have? Please specify the number of accounts per member.

☐ 1 ☐ 2 ☐ 3 ☐ More than 3 (Please specify)

17. How far is the bank branch from your residence?

☐ Less than 1 km ☐ 1-5km ☐ 5-10 km ☐ 10-15 km

☐ 15-20 km ☐ More than 20 km

18. How do you generally reach the branch?

☐ Walking ☐ Cycle ☐ Scooter ☐ Bus ☐ Other (Please specify)

19. Is the branch location near your residence/workplace/educational institution?

☐ Yes ☐ No

III USAGE OF BANKING SERVICES:

20. Have you availed of cheque book facility from the bank?

☐ Yes ☐ No

21. Do you regularly deposit money in your bank account?

☐ Yes ☐ No

22. What is the frequency of deposits?

☐ Never ☐ Daily ☐ Weekly ☐ Fortnightly ☐ Monthly

☐ Bi-monthly ☐ As & when I can

23. Do you regularly withdraw money from your account?

☐ Yes ☐ No

24. How often do you withdraw money from your account?

☐ Never ☐ Weekly ☐ Fortnightly ☐ Monthly ☐ Bi-monthly

☐ Whenever the need arises

25. Do you have an ATM-cum debit card?

☐ Yes ☐ No

26. How often do you use the ATM-cum debit card?

☐ Never ☐ Weekly ☐ Fortnightly ☐ Monthly ☐ Bi-monthly

☐ Quarterly ☐ Half-yearly ☐ Annually

27. Have you or any household member ever availed of a loan?

☐ Yes ☐ No

28. If answer to Q.27 is no, why has the household never availed of a loan?

☐ No need for a loan

☐ Need a loan but worried about repayment capacity

☐ Need a loan but interest rates are too high

☐ Other (Please specify)

29. If answer to Q.27 is yes,
(i) For what purpose was the loan availed of?

☐ Purchase of house/land ☐ House repair/construction ☐ Marriage

☐ Education ☐ Purchase of vehicle ☐ Purchase of consumer durables

☐ Medical expenses ☐ Religious ceremonies ☐ Settlement of previous debt

☐ Any other reason (Please specify)

(ii) From where was the loan availed of?

☐ Bank ☐ Moneylender ☐ SHGs ☐ Cooperative society

☐ Friends/Relatives ☐ Chit funds

(iii)Did you face any problems when you or any household member applied for the loan?

☐ Yes ☐ No

(iv)What problems did you or any household member face?

☐ Documentation ☐ Delay in processing loan ☐ Any other (Please specify)

(v) If you or any household member had borrowed from another source, why did they not borrow from the bank in that instance?

☐ Application rejected ☐ Interest rates too high

☐ Anticipated delay in sanctioning of loan ☐ Expected sanction of inadequate/lesser amount than that applied for

☐ Procedures/formalities too complicated ☐ Branch too far

☐ Bank staff not friendly/courteous ☐ Any other (Please specify)

(vi) How was the loan extended to you or any household member?

☐ With collateral ☐ Without collateral

(vii)If the loan was extended to you or any household member against collateral, what was the collateral?

☐ Land ☐ House ☐ Gold ☐ Shares & securities

☐ Any other (Please Specify)

(viii) Was there a guarantor for the loan?

☐ Yes ☐ No

(ix) Who was the guarantor for the loan?

☐ Family member ☐ Relative ☐ Friend

30. Did you or any household member receive money transfers from family members living outside the household in the past year?

☐ Yes ☐ No

31. How many times did you receive transfers in the past year?

☐ Once ☐ Twice ☐ Thrice ☐ More than three times (Please specify)

32. In what form did the household receive money?

☐ Cash ☐ Cheque ☐ Postal money order ☐ Bank account transfer

☐ Demand draft ☐ Other (Please specify)

33. Do you or any household member currently have any kind of insurance?

☐ Yes ☐ No

34. Are you or any household member a pension holder?

☐ Yes ☐ No

35. Are you satisfied with the facilities offered to you by the bank?

☐ Yes ☐ No

36. Are you satisfied with the attitude/approach of bank officials towards customers?

☐ Yes ☐ No

37. Do you think that there are adequate bank branches in your locality?

☐ Yes ☐ No