सामयिक निबन्ध - 48

Occasional Paper - 48

वित्तीय समावेशन -विहगावलोकन

FINANCIAL INCLUSION -AN OVERVIEW

निरुपम मेहरोत्रा Nirupam Mehrotra

डॉ. वी. पुहझेंदी Dr. V. Puhazhendhi

गोपाकुमारन नायर जी Gopakumaran Nair G

डॉ. बी. बी. साहू Dr. B. B. Sahoo

आर्थिक विश्लेषण और अनुसंधान विभाग

Department of Economic Analysis and Research

राष्ट्रीय कृषि और ग्रामीण विकास बैंक

National Bank for Agriculture and Rural Development

मुंबई

Mumbai

2009

सामयिक निबन्ध - 48
Occasional Paper - 48

वित्तीय समावेशन -विहगावलोकन
FINANCIAL INCLUSION -AN OVERVIEW

निरुपम मेहरोत्रा	Nirupam Mehrotra
डॉ. वी. पुहझेंदी	Dr. V. Puhazhendhi
गोपाकुमारन नायर जी	Gopakumaran Nair G
डॉ. बी. बी. साहू	Dr. B. B. Sahoo

आर्थिक विश्लेषण और अनुसंधान विभाग
Department of Economic Analysis and Research
राष्ट्रीय कृषि और ग्रामीण विकास बैंक
National Bank for Agriculture and Rural Development
मुंबई
Mumbai

2009

लेखक

निरुपम मेहरोत्रा
सहायक महाप्रबंधक

डॉ. वी. पुहझेंदी
महाप्रबंधक (सेवानिवृत्त)

गोपाकुमारन नायर जी
सहायक महाप्रबंधक

डॉ. बी. बी. साहू
सहायक महाप्रबंधक

Authors

Nirupam Mehrotra
Assistant General Manager

Dr. V. Puhazhendhi
General Manager (Retd.)

Gopakumaran Nair G
Assistant General Manager

Dr. B. B. Sahoo
Assistant General Manager

पेपर में दिए गए तथ्यों और व्यक्त किए गए विचारों के लिए राष्ट्रीय बैंक उत्तरदायी नहीं है.
The usual disclaimer about the responsibility of the National Bank as to the facts cited and views expressed in the paper is implied.

राष्ट्रीय कृषि और ग्रामिण विकास बैंक
आर्थिक विश्लेषण और अनुसंधान विभाग,
चौथी मंजिल, 'सी' विंग, प्लॉट नं. सी-24
'जी' ब्लॉक पो. बॉक्स नं.8121
बांद्रा-कुर्ला कॉम्पलेक्स, बांद्रा (पूर्व),
मुंबई - 400 051

National Bank for Agriculture and Rural Development
Department of Economic Analysis and Research
4th Floor, 'C' Wing, Plot No. C-24,
G-Block, PB No. 8121,
Bandra-Kurla Complex, Bandra (East)
Mumbai - 400 051

राष्ट्रीय कृषि और ग्रामिण विकास बैंक, आर्थिक विश्लेषण और अनुसंधान विभाग, चौथी मंजिल, 'सी' विंग, प्लॉट नं. सी-24 'जी' ब्लॉक पो. बॉक्स नं.8121 बांद्रा-कुर्ला कॉम्पलेक्स, बांद्रा (पूर्व), मुंबई - 400 051 द्वारा प्रकाशित.

Published by the National Bank for Agriculture and Rural Development Department of Economic Analysis and Research 4th Floor, 'C' Wing, Plot No. C-24, G-Block, PB No. 8121, Bandra-Kurla Complex, Bandra (East) Mumbai - 400 051

कर्नाटक ओरियोन प्रेस, फोर्ट, मुंबई - 400 001 द्वारा मुद्रित.
Printed at Karnatak Orion Press, Fort, Mumbai-400 001.
Tel.: 22048843 / 22044578 Mobile : 9833239403

CONTENTS

	Title	Page No.
	Acknowledgement	v
	Abbreviations	vii
	List of Tables	viii
	Executive Summary	ix
Section I.	Introduction	1
Section II	Linkages between Finance and Economic Development - Theoretical Perspective	3
Section III	Definition of Financial Inclusion	14
Section IV	Status of Financial Inclusion - Evidence	16
Section V	Recent Initiatives	27
Section VI	International Experiences in Promoting Financial Inclusion	38
Section VII	Economics of Financial Inclusion	41
Section VIII	Financial Inclusion Index	48
Section IX	Role of Technology in Financial Inclusion	52
Section X	Determinants of Financial Inclusion	60
Section XI	Issues and Concerns	64
Section XII	Future Strategies	72
	References	76
	Annexure I	78
	Annexure II	84

Acknowledgements

The present report would not have seen the light of the day had not Shri. S.K.Mitra, Executive Director, NABARD suggested in an official note that a Theme Paper on 'Financial Inclusion' be attempted by the Department of Economic Analysis and Research (DEAR) and appended to the Annual Report. This suggestion met with approval from both Dr. K.G. Karmakar, Managing Director, NABARD and Shri. Umesh Chandra Sarangi, Chairman, NABARD. Although the paper could not be published alongwith the Annual Report, Chairman, NABARD kindly approved our proposal to publish it as part of a series of Occasional Papers. We express our deep sense of gratitude to all of them for the support provided at different stages of this assignment.

Dr. A.K. Bandyopadhyay, Chief General Manager, DEAR, NABARD made valuable contributions and extended constant encouragement right from the conceptualization stage till the publication of this report. Discussions with him were always thought provoking and intellectually stimulating. We would like to thank Dr. A.K. Bandyopadhyay for his efforts.

The section titled 'Economics of Financial Inclusion' has been written by Shri G. Gopakumaran Nair, whereas the one titled 'Determinants of Financial Inclusion' has been authored by Dr. B. B. Sahoo. All the other sections resulted from the collective efforts of Shri. Nirupam Mehrotra and Dr. V. Puhazhendhi.

The comments and suggestions provided by Shri B.Jayaraman, Dr. S.L. Kumbhare, General Managers, DEAR, NABARD, contributed to enhancing the quality of this Occasional Paper, for which the authors are thankful to them.

Dr. K.J.S Satyasai, and Dr. Shalini Yadav, Assistant General Managers, DEAR, NABARD, also made valuable suggestions and the same is gratefully acknowledged. Sincere thanks to Ms. Madhurima Sen, Assistant Manager, DEAR for offering insightful comments as well as for editing the draft. Many thanks to Smt. Shobha. S. Panicker and Ms. Sunita Mistry for the patient typing and carrying out the corrections in the many drafts.

The views expressed in this report are those of the authors alone and not of the institution they are affiliated to.

Authors

Abbreviations

AIDIS	:	All India Debt and Investment Survey
ARDBs	:	Agricultural Rural Development Banks
ATM	:	Automated Teller Machine
BC / BF	:	Business Correspondents / Business Facilitators
BSR	:	Banking Statistical Returns
DEAR	:	Department of Economic Analysis and Research
EPW	:	Economic and Political Weekly
FI	:	Financial Inclusion
FII	:	Financial Inclusion Index
FITF	:	Financial Inclusion Technology Fund
GDP	:	Gross Domestic Product
GOI	:	Government of India
IDBRT	:	Institute of Development and Research in Banking & Technology
IGIDR	:	Indira Gandhi Institute of Development Research
JLGs	:	Joint Liability Groups
KCC	:	Kisan Credit Card
KYC	:	Know Your Customer
MEDP	:	Micro Enterprise Development Programme
MFI	:	Micro Finance Institution
NABARD	:	National Bank for Agriculture and Rural Development
NAIS	:	National Agricultural Insurance Scheme
NCAER	:	National Council for Applied Economic Research
NEP	:	New Economic Policy
NGO	:	Non Governmental Organisation
NREGS	:	National Rural Employment Guarantee Scheme
NSSO	:	National Sample Survey Organisation
PACS	:	Primary Agricultural Credit Society
PIN	:	Personal Identification Number
POS	:	Point of Sale
RBI	:	Reserve Bank of India
RFAS	:	Rural Financial Access Survey
RRBs	:	Regional Rural Banks
SAP	:	Structural Adjustment Process
SAS	:	Situation Assessment Survey
SCC	:	Swarozgar Credit Card
SHG	:	Self Help Group/s
SLBC	:	State Level Bankers Committee
UK	:	United Kingdom
URN	:	Unique Reference Number
USA	:	United States of America

LIST OF TABLES

No.	Title	Page No.
Table 1	: Indicators of barriers in accessing banking services (select countries)	11
Table 2	: Geographic and Demographic Penetration of Banking Services	16
Table 3	: Deposit and Loan accounts in Rural and Urban India	18
Table 4	: Distribution of Financial Services – Regional Distribution	20
Table 5	: Share of Debt of Cultivator Households from Different Sources	24
Table 6	: Distribution of Debt by Sources across Major States: 2003	25
Table 7	: Incidence, Amount and Source of Indebtedness by Size Class of Holding: 2003	26
Table 8	: Growth in SHG Bank Linkage	35
Table 9	: Estimation of the Target Population for Financial Inclusion	42
Table 10	: Total Cost and Benefits accruing from Financial Inclusion	43
Table 11	: Net Benefit of Financial Inclusion	43
Table 12	: Projected loan account and amount for financial inclusion	46
Table 13	: Trends in CD Ratio in Rural area	47
Table 14	: Dimensions of Financial Inclusion	49
Table 15	: Grades of Financial Inclusion	50
Table 16	: Financial Inclusion Index- Values	50
Table 17	: State-wise Financial Inclusion Index- Values	51
Table 18	: Main benefits derived from using mobile phones to banks' strategic drivers	55
Table 19	: Three mobile banking scenarios	56
Table 20	: Estimated zero-order correlation matrixes for the selected variables	61
Table 21	: Results of Regression Analysis	63
Table A1	: Estimation of rural households in India	78
Table A2	: Details of bank account	78
Table A3	: Estimation of loan amount required for full financial inclusion in India	79
Table A4	: Cost of opening loan accounts to borrowers	80
Table A5	: Costs of financial inclusion	81
Table A6	: Reduction in interest rate due to financial inclusion	82
Table A7	: Net income from investment on account of financial inclusion	83

EXECUTIVE SUMMARY

- The process of economic growth, especially when it is on high growth trajectory, must strive to encompass participation from all sections of society. Lack of access to finance for small/ marginal farmers and weaker sections of the society has been recognized as a serious threat to economic progress especially in developing countries. Moreover, prolonged and persistent deprivation of banking services to a large segment of the population leads to a decline in investment and has the potential to fuel social tensions causing social exclusion.

- Compared to the earlier trend of a rising share of institutional credit in total credit, results from the latest NSSO Report (Report 498, 2003) point to the re-emergence of moneylenders in the rural credit scenario in India.

- Theoretical knowledge and empirical observation acknowledge that access to financial services allows the poor to save money outside the house safely, prevents concentration of economic power with a few individuals and helps in mitigating the risks that poor face as a result of economic shocks. Hence, providing access to financial services is increasingly becoming an area of concern for the policymakers for the obvious reason that it has far reaching economic and social implications. There is a need to perceive 'financial inclusion' as a 'quasi public good'.

- The Committee on Financial Inclusion set up by Government of India headed by Dr. C. Rangarajan has provided a working definition for "Financial Inclusion" emphasizing on accessibility of credit at an affordable cost to the disadvantaged sections of society.

- The outreach of the banking sector is indicated by 'Geographic' and 'Demographic' penetration. Geographic penetration can be measured in terms of number of bank branches per 1000 sq km and number of ATMs per 1000 sq km. India fares better in terms of demographic penetration than geographic penetration in terms of access.

- The All-India Debt and Investment Survey (AIDIS) and the Situation Assessment Survey of Farmers (SAS), both conducted by the NSSO during January-December 2003 in its 59th Round,

provide insights into varied dimensions of farmers' indebtedness in India. Indebtedness to formal sources of credit is an indicator of access to credit. Compared to earlier periods, access to formal credit declined for cultivator households during the period 1991-2002. Considerable increase took place in the share of institutional sources in cultivators' debt in the years following bank nationalisation, from about 32 per cent in 1971 to 66 per cent in 1991. However, the trend saw a reversal during the 1990s and the share declined to 61 per cent in 2002. Among the institutional sources, the share of commercial banks increased sizeably since 1971. The cooperative sector's share increased from 22 per cent in 1971 to about 30 per cent by 1981 and stagnated since then. In the 1990s, while cooperatives sustained their, albeit low, share at 30 per cent, the share of commercial banks slipped from 35 per cent in 1991 to 26 per cent in 2002. The decline in the share of institutional agencies in the 1990s could be attributed to the decline in the share of commercial banks. Apart from other factors, possibly the withdrawal of the branch licensing policy of RBI since 1995 may have also contributed towards this.

- With respect to the economics of financial inclusion, cost benefit analysis estimates that in monetary terms the total net benefit that accrues following a financial inclusion policy stance is around Rs. 54715 crore per annum. The progress made in the path of financial inclusion can be captured by devising an Index Number based on select parameters. In our case a similar attempt reveals that the estimated values of Financial Inclusion Index (FII) showed that there has been a relative improvement in the status of financial inclusion between the period 2002 and 2006. In 2002, 378 districts (72 per cent) were in the lowest grade, however, in the year 2006, 330 districts figured in the lowest grade. Most of these districts have moved to the next grade where the FII ranges between 0.20 and 0.40.

- The financial structure in a country is influenced and shaped by non-financial developments. Changes in the field of tele-communications, computers, non-financial sector policies, and economic growth itself influence the structure of the financial system. Technological improvements lower transaction costs and affect financial arrangements.

- Banks in India have been able to achieve a substantial level of computerization in their operations, however, tremendous scope still exists for them to learn from mobile operators to optimize back-end technologies and leverage volume to significantly reduce the back-end costs.

- Mobile phones present an ideal platform to increase outreach of financial services to the rural population as their penetration is already large and growing. For a bank to reach its customers as well as to widen its customer base without investments in physical infrastructure like branches, ATMs, mobile banking present a fantastic opportunity to undertake branchless banking. Thus, from the perspective of facilitating financial inclusion, 'mobile banking' offers immense opportunities for banks. Mobile phones have been successful in providing retail and other services in rural areas.

- Despite the laudable achievements in the field of rural banking, issues such as slow progress in increasing the share of institutional credit, high dependence of small and marginal farmers on non-institutional sources, skewed nature of access to credit between developed regions and less developed regions loom larger than ever before. Therefore, the key issue now is to ensure that rural credit from institutional sources achieves wider coverage and expands financial inclusion. For achieving the current policy stance of "inclusive growth" the focus on financial inclusion is not only essential but a pre-requisite. And for achieving comprehensive financial inclusion, the first step is to achieve credit inclusion for the disadvantaged and vulnerable sections of our society.

- The state has to play an important role in financial markets. The role itself is necessitated due to pervasive market failures which in the current globalised scenario are not an rare occurrence. In developing countries, both market and government as institutions have their limitations, but it is necessary to design government policies that are attentive to those limitations. Financial Inclusion is one such intervention that seeks to overcome the friction that hinders the functioning of the market mechanism and operate it in favour of the poor and underprivileged. Thus, financial inclusion is an explicit strategy for accelerated economic growth and is critical for achieving inclusive growth in the country.

Section I : Introduction

The process of economic growth, especially when it is on high growth trajectory, must strive to encompass participation from all sections of society. Lack of access to finance for small/ marginal farmers and weaker sections of the society has been recognized as a serious threat to economic progress especially in developing countries. Moreover, prolonged and persistent deprivation of banking services to a large segment of the population leads to a decline in investment and has the potential to fuel social tensions causing social exclusion.

The Indian Economy was in a crisis in 1991. Foreign exchange reserves dipped to an all time low by June 1991, inflation peaked at 16.7 per cent in August 1991 and GDP growth dropped sharply to 1 per cent. In order to overcome this crisis, substantial reforms were undertaken which resulted in a shift in the development paradigm of the country. The New Economic Policy (NEP), launched during this time had two broad elements (i) stabilisation and (ii) Structural Adjustment Policy (SAP). While the stabilisation policies were short / medium term designed to deal with inflation and balance of payments deficits, the SAP aimed to enhance the economy's productivity in the long run and set it on a higher growth path. An important outcome of the NEP was deregulation of the financial sector in order to facilitate the development of the capital and money markets.

Post 1991, the Narsimham Committee Report-I, set the framework for reforms in the financial sector (especially banking sector). The committee emphasized moving towards "a vibrant and competitive financial system to sustain the ongoing reforms in the structural aspects of the real economy". It argued for a phased reduction of directed credit lending programmes, revoking branch licensing policy and deregulating the interest rate regime. Future branch expansion was to depend on need, business potential and financial viability of location'. Adoption of international prudential and capital adequacy norms by banks in India was considered essential for competing globally. In a nutshell, the committee called for a new institutional structure that was market driven and based on profitability. This approach was relatively new compared to the 'social banking' approach followed till the end of eighties.

The nineties witnessed the Indian economy achieving GDP growth rates above 7 to 8 per cent prompting many to believe that the the period of 'Hindu rate of growth' had been left behind. However, by the beginning of the new millennium, concerns were raised about the 'inclusiveness' of the growth process. The majority of the

population depends on agriculture for their livelihood. The growth rate of agriculture, both in terms of gross product and output, had visibly decelerated during the post-reform period vis-à-vis the eighties. Further, as against the earlier trends of increasing share of institutional credit in total credit the latest NSSO (NSSO Report 498, 2003) Report points to the re-emergence of moneylenders in the rural credit scenario. For all farmer households taken together, at the all India level, institutional sources were responsible for providing only 57.5 per cent of the total credit, a downward trend compared to the situation prevalent (66.3%) during 1991-92 as reported by the All India Debt and Investment Survey.

Given the above trends the focus has shifted to financial inclusion which means providing access to basic financial services at affordable *prices,* a pre-requisite for ushering in inclusive growth. Recognizing this, the Eleventh Five Year Plan has explicitly stated 'inclusive growth' as its objective. Growth needs to be sufficiently inclusive if its benefits have to be shared among all or else the growth process itself shall be jeopardized and derailed. In order to achieve 'inclusive growth', both State based interventions and Market based instruments are required. However, an important limitation of 'market' as an institution is that it is '*not wealth neutral'* and given this perspective, the concept of 'Financial Inclusion' fits in. Financial Inclusion needs to be seen as an instrument that would move the wealth effect towards a neutral domain. Thus, as an concept Financial Inclusion has the potential to contribute substantially towards 'inclusive growth'.

This paper attempts to present an overview of financial inclusion in India especially in rural areas. The paper has been broadly structured into three parts. Each part is further sub-divided into various sub-sections. Part I discusses briefly the theoretical perspective in which the debate on financial inclusion can be placed and touches upon the linkage between finance and economic development. Part II presents and discusses the status of financial inclusion in India and is based on evidence from various reports and NSSO surveys. This part also discusses the recent initiatives taken by various institutions in India to further financial inclusion and presents the initiatives taken in various countries with regard to financial inclusion. In Part III an attempt has been made to measure financial inclusion and also present the economics of financial inclusion. A monitorable Financial Inclusion Index (FII) has been prepared. A cost and benefit analysis of financial inclusion from the banks' perspective has also been attempted. This part also elucidates and discusses issues and concerns relating to financial inclusion in India. Finally, the paper ends with a section on future strategies to enable financial inclusion in a more meaningful manner.

Section II : Linkages between Finance and Economic Development - Theoretical Perspective

Contrary to popular perception, economists hold divergent views regarding the importance of the financial system for economic growth. Walter Bagehot (1873) and John Hicks (1969) argue that it played a crucial role in ushering in industrialization in England by facilitating mobilization of capital. Schumpeter (1912) contended that well-functioning banks spur technological innovation by identifying and funding potential entrepreneurs. Economists like Joan Robinson (1952) opined that, "where enterprise leads, finance follows", thereby taking a position that economic development creates demand for particular types of financial arrangements and the financial system responds automatically to these demands. But economists such as Robert Lucas (1988) do not believe that the finance-growth relationship is important and assert that economists "badly over-stress" the role of financial factors in economic growth. The literature has categorized the relationship between finance and growth into five links v*iz* causal relation, demand following, supply leading, negative causal link from finance to growth and interdependence[1].

The costs of acquiring information and undertaking transactions create incentives for the emergence of financial markets and institutions. In an effort to ameliorate transaction and information costs, financial systems serve one primary function, i.e, facilitate allocation of resources, across space and time, in an uncertain environment. The primary function performed by financial systems can be classified into five basic functions:

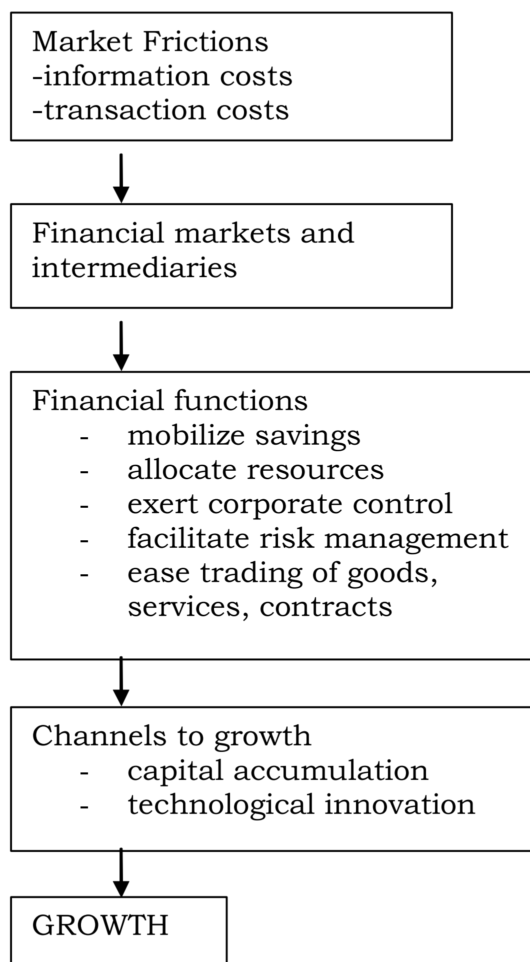
- Facilitate trading, hedging, diversifying, and pooling of risks
- Allocate resources
- Monitor managers and exert corporate control,
- Mobilize savings and
- Facilitate exchange of goods and services.

---

1 The article titled, ' Financial Development and Economic Growth: Views and Agenda' (June 1997), Journal of Economic Literature, Vol. XXXV by Ross Levine provides a good survey of the various issues in this area.

The flow chart given below shows the linkages and the transmission mechanism through which finance and economic growth are linked.

Fig : Theoretical Approach to Finance and Growth



Source: Fig 1 in Levine (1997)

Empirically, in the Indian context, Bell and Rousseau (2001) have shown how financial intermediaries in India have played a leading role in influencing its economic performance. The financial sector, among other things, not only led to promoting aggregate investment and output but also in attaining finance-led industrialisation. Studies by Burgess and Pande (2003) and Burgess, Pande and Wong (2004) have shown that rural branch expansion in India was associated with non-agricultural growth and has helped in reducing rural poverty. This has been termed by some as supply-leading strategy.

Credit Markets versus other Markets

The nature of credit markets is different from standard markets for commodities. First, standard markets involve a number of agents buying and selling a homogenous commodity. Second, in standard markets, the delivery of a commodity by a seller and payment for the commodity by a buyer occur simultaneously. In contrast, credit (in money or goods) received in the present by an individual or firm is exchanged for a promise of repayment (in money or goods) in the future. But one person's promise is not as good as another – promises are frequently broken – and there may be no objective way to determine the likelihood that the promise will be kept.

The 'promise' aspect lends peculiarity to credit from other standard markets. For example, if the demand for a commodity exceeds its supply, then price for that commodity will rise until demand and supply are equated and new equilibrium established. If this price is too high, all will not be able to use it but those who are able to pay the price shall use it. Thus, if prices are able to perform their equilibrating role, then there shall be no access problem. But the same model is not totally appropriate for the promises market. If credit markets were like standard markets, then interest rates would be the "prices" that equate the demand and supply for credit. However, by experience we all know that an excess demand for credit is common (applications for credit are mostly not satisfied). As a result, the demand for credit may exceed the supply at the market interest rate. Credit markets deviate from the standard model because the interest rate indicates only what the individual promises to repay, not what he will actually repay (which implies that the interest rate is not the only dimension of a credit contract). Differences between promised and actual repayments on loans are the result of uncertainty concerning the borrowers ability or willingness to make the repayments when they are due. This creates the risk of borrowers' default. In a paper, Stiglitz and Weiss[2] (1981) show that adverse selection and moral hazard effects are most evident in the case of credit rationing, where borrowers are denied credit even though they are willing to pay the market interest rate (or more), while apparently similar borrowers do obtain credit. This aspect has been further elaborated in the section on access to credit.

---

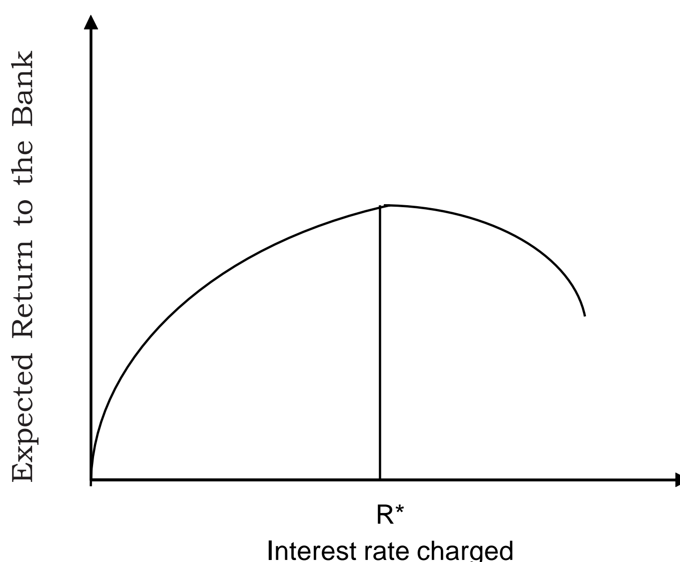
2 In their path breaking work titled 'Credit Rationing in Markets with Imperfect Information', (June 1981), American Economic Review, the authors have discussed credit rationing and its impact in detail.

The issue of allocation of credit has profound implications at both the micro and macro levels. At the micro level, in the absence of a credit market, those with resources would have to invest the resources themselves, possibly receiving a lower return than could be obtained by others. When credit is allocated poorly, poor investment projects are undertaken, and the nation's resources are wasted. Credit markets, of course, do exist, but they may not function well – or at least they may not function as a standard market would – in allocating credit. At the macro level, changes in credit allocations are one likely source of fluctuations that have marked capitalist economies over the past two centuries.

Access to Credit - Price and non-price barriers

In standard markets price acts as the equilibrating mechanism for markets to clear. However, in the case of credit markets, unlike standard markets, the interest rate does not act as the equilibrating price that equates the demand and supply for credit.

Fig A

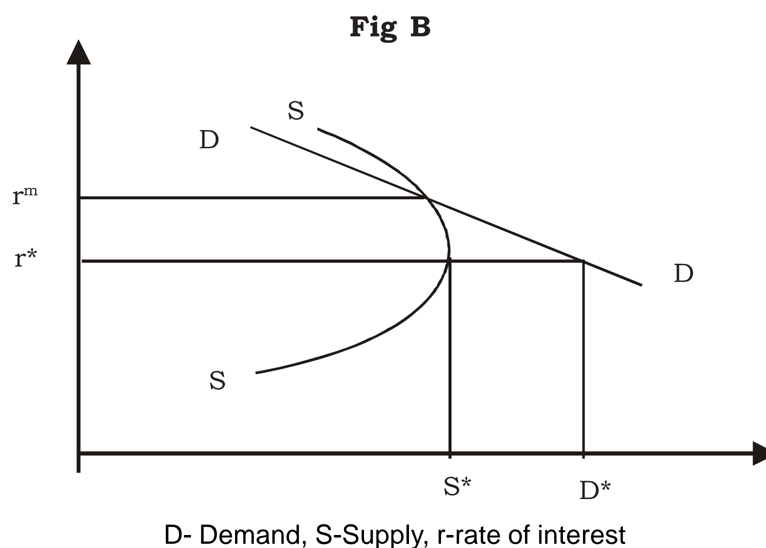


Since the interest rate indicates only what the individual promises to repay, not what one will actually repay (which means that the interest rate is not the only dimension of a credit contract) as a result, the demand for credit may exceed the supply at the market interest rate. Since, the *expected return* to the bank depends on the probability of repayment, so from the bank's perspective it would like to identify

borrowers who are more likely to repay. For identifying the good borrowers, banks use a variety of screening devices, including the interest rate. Those who are willing to pay high interest rate may, on an average, be more riskier. They are willing to take higher risks to gain higher returns if successful, but such high returns are generally associated with a higher probability of failure, making it less likely that the loans will be repaid. As the interest rate rises, the average riskiness of those who borrow increases, as well as the possibility of reducing the banks' profits.

With information being imperfect and costly, the banks may face adverse selection and moral hazard problems. Thus, the expected rate of return to the bank will increase less rapidly than the interest rate and, beyond a point, may actually decrease, as shown in figure A. The expected return to the bank is maximised at R* and the bank may not be willing to raise the interest rate beyond R* even though demand may still exceed the funds available for lending. This suggests that the supply of loans will be backward-bending, at interest rate beyond r* (Fig B).

Fig B



D- Demand, S-Supply, r-rate of interest

For example, to start with, say at interest rate r*, the demand for funds (D*) exceeds the supply of funds (S*) as shown in figure B. In the absence of rationing, with excess demand for loans, unsatisfied borrowers would offer to pay a higher interest rate to the bank, bidding up the interest rate until demand equals supply at r^m. Although supply does not equal demand at rate r*, it is the equilibrium interest rate.

As it is not profitable to raise the interest rate when the bank faces excess demand for credit, the bank will deny loans to borrowers who are observationally indistinguishable from those who receive loans. The rejected applicants would not receive a loan even if they offered to pay a higher rate. They are denied access. Thus, and through it, the market acts as a barrier for accessing credit.

Even with financial services, such as deposit or payment services, which do not suffer from information problems, access problem may arise due to nonprice barriers. For example, some individual will have no access to financial services because there are no financial institutions in their area, as is the case of remote rural areas or the small transactions the poor demand may involve high fixed transaction costs, which makes them too costly to be offered. The situation may further get exacerbated if the banks insist on stringent documentation for opening an account, such as having a formal address / formal sector employment, thus leading to exclusion. In India around ninety per cent of the workforce is employed in the unorganized sector and a majority of them may not have any formal address. Thus, credit markets can also suffer from such non-price barriers, leading to an access problem.

Sometimes, access may be a problem even if non-price barriers are overcome. Such a situation arises if the equilibrium price is very high, making credit unaffordable for a large proportion of the population. For example, if for accessing ATM the fee charged is high then a large section of the population (both in urban and rural areas) may not be able to access it even though it is available and there is no rationing. Such a situation represents a policy problem because the high price often reflects lack of competition or underdeveloped physical / institutional infrastructures, leading to financial exclusion. The remedy is to intervene through public policy so as to increase competition among providers and build relevant institutional and physical infrastructures, leading to a shift in the supply curve to the right, reducing prices, and making financial services affordable to a larger section of the population.

In the light of the above discussion, we can assert that denying (or dwindling) access to credit represents particularly high barriers to the ability of the poor to exploit investment opportunities. These barriers, being binding on the poor only, lead to higher income inequalities in

economies with higher credit constraints[3]. Empirical evidence suggests that improved access to finance is not only pro-growth but also pro-poor, reducing income inequality and poverty. A broad cross country sample study[4] observed that the income of the poorest quintile grows faster than the average per capita GDP in countries with better developed financial intermediaries. Cross-country experience also points to the higher influence of financial intermediaries on growth (measured in terms of private credit to GDP per capita[5] and productivity per capita) growth. Hence, financial development that includes small firms and the poor disproportionately benefits those groups. For poor households, credit is not the only, or in many cases the priority, financial service they need. Good savings and payment (domestic as well as international) services and insurance may rank higher[6]. There are several barriers to banking services that exclude a sizeable share of the population, especially of the lower strata from using banking services.

---

3 Galor, Oded and Zeira, J. (1993): Income Distribution and Macroeconomics. Review of Economic Studies 60, 35-52; Banerjee, Abhijit and Newman, Andrew (1993): Occupational Choice and the Process of Development, Journal of Political Economy 101, 274-98; Aghion, Philippe and Bolton, Patrick (1997): A Trickle-Down Theory of Growth and Development with Debt Overhang, Review of Economic Studies 64, 151-72.

4 Covering 52 developing and developed countries (including Argentina, Australia, Bangladesh, Brazil, Canada, Egypt, India, Indonesia, Malaysia, Pakistan, Sri Lanka, United States, United Kingdom, etc.) with data over the period 1960 to 1999 also observed positive effect of financial development in reducing infant mortality rate and in proving primary school enrolment rates; Finance, Inequality and Poverty: Cross-Country Evidence Thorsten Beck, Asli Demirgüç-Kunt, and Ross Levine, World Bank Policy Research Working Paper 3338, June 2004) & (Clarke, George, L. Colin Xu, and Heng-fu Zou (2006) "Finance and Income Inequality: What Do the Data Tell Us?" Southern Economic Journal 72 (3) : 578–96

5 Equals the value of credit by financial intermediaries to the private sector divided by GDP(excludes credit by central bank and development banks, credit to public sector and cross claims of one group of intermediaries on another); Levine, Ross, Loayza, Norman, Beck, Thorsten (2000): Financial Intermediation and Growth: Causality and Causes. Journal of Monetary Economics 46, 31-77

6 Finance for All Policies and Pitfalls in Expanding Access, A World Bank Policy Research Report (2008), World Bank, Washington DC.

A World Bank study[7] observed substantial cross-country variation in the barriers to access to banking services (Table1). The study observed that the indicators of access barriers were inversely correlated with actual use of financial services, confirming that these barriers can exclude individuals from using bank services. Barriers such as locations (bank head office, branch, other offices), minimum balance required to open account, fees associated with payments, documentation requirements, and processing times are found to vary significantly both across banks and across countries. Barriers, particularly minimum balance to open account, fee to maintain them, documentation required to open account, days to process loan application and fee for using ATMs, are inversely and significantly correlated with per capita GDP and financial development measured in terms of private credit to GDP.

A cross country survey and analysis revealed wide variations in the share of population using financial services across nations[8]. While there are 3 deposit accounts per person in Australia and 1 account per person in Greece, there are only 4 accounts for 1000 persons in Albania. The ratio of loans and deposits increase with income but varies significantly among the countries. In Bolivia, average loan amount is 28 times the per capita GDP, while it is one-third of per capita GDP in Poland. In Madagascar average deposit outstanding was 9 times per capita GDP while it was just 4 per cent in Iran.

Basic theoretical understanding of economic theory points that by increasing the supply of credit will alleviate credit constraints and reduce the interest rate for the poor borrowers. But new work in this area shows that increasing the supply of credit may do more than just increase available capital; it may also change the dynamics of the market in unintended ways, possibly raising interest rates and ultimately hurting the poor. This implies that when local markets are imperfectly competitive and information is costly to acquire then prediction is not so simple. Hoff and Stiglitz (1998) argue that the entry

7 Using information from 193 banks in 58 countries the study has analysed indicators of physical access, affordability and eligibility barriers to deposit, loan and payment services.

8 Beck, Thorsten, Asli Demirgüç-Kunt, and Maria Soledad Martinez Peria 2007b. "Reaching Out: Access to and Use of Banking Services across Countries." Journal of Financial Economics 85 (1): 234–66.

Table 1 : Indicators of barrier in accessing banking services(select countries)

(as % to GDP per capita)

Country	Private credit to GDP (%) (2004)	GDP per capita (US$)	Savings account (deposit services)				Loans Services(SME)			Cost of transfer funds Interna-tionally (% of $ 250)	Amount of fee for using ATM cards (% of $ 100)
			min. amt to open (% of GDP Per Capita)	min. amt. to be (main-tained) (% of GDP Per Capita)	Annual fee (% of GDP Per Capita)	Docu-ments require d (Nos)	Phy-sical access#	fee (% of min. loan)	days to process (Nos)		
Australia	100.9	22083	00	00	0.10	3.00	5.00	16.7	7.2	8.05	00
Bangladesh	27.4	402	0.89	0.79	00	4.57	2.12	0.15	43.3	1.93	n.a
Brazil	33.9	3564	0.10	00	.03	2.16	4.85	2.94	3.63	14.85	0.11
Denmark	154.0	30735	00	00	00	1.32	5.00	1.73	1.00	4.09	00
India	**32.8**	**538**	**5.02**	**5.02**	**0.17**	**2.55**	**2.44**	**0.93**	**10.8**	**6.49**	**00**
Indonesia	21	906	3.03	0.65	0.66	2.66	3.10	n.a.	9.7	2.83	00
Pakistan	25.8	566	1.59	0.71	00	2.43	3.09	n.a	33.6	n.a	0.6
Philippines	33.5	1085	11.88	11.88	00	2.20	2.36	n.a	33.3	n.a.	00
Sri Lanka	28.5	962	3.54	0.84	00	1.00	2.90	n.a	10.4	n.a.	n.a.
Minimum*	-	-	00	00	00	00	1.77	00	1.0	0.12	00
Average*	**-**	**-**	**8.14**	**6.15**	**0.38**	**2.09**	**3.26**	**2.55**	**10.5**	**6.54**	**010**
Maximum*	-	-	68.26	64.75	3.63	4.57	5.00	29.32	43.3	20.0	0.6

* of 58 countries covered under the study

out of 5 and in terms of number of location to submit loan application(like Bank head quarter, braches, other offices, phone, internet, etc)

Source : Beck, Thorsten, Aslý Demirgüç-Kunt, and Maria Soledad Martinez Peria. 2007a. "Banking Services for Everyone? Barriers to Bank Access and Use around the World." Policy Research Working Paper 4079, World Bank, Washington, DC.

of a subsidized program worsens the terms and availability of loans offered by the informal sector (moneylenders). They argue that the negative impacts occur because the subsidized funds can change borrower's incentives, reduce optimal scale for moneylenders, and siphon off the best borrowers, leaving moneylenders with a riskier pool of clients and higher enforcement costs than before. This means raising of the interest costs for the ultimate borrower. The authors conclude that the new entry increases excess capacity among moneylenders and raises unit costs. In such circumstances the subsidy is not passed onto the small farmer. Instead, the subsidy is swallowed up by the reduce efficiency of the informal sector. Similar findings have been found by Bose(1998) in his study. Thus, from the perspective of " financial inclusion" the issue of access and use of credit should not per se be seen in a simplistic manner as one of only increasing the supply of credit. It is much more complex and has inter-linkages with the informal sector rural credit markets.

In the Indian context, both supply-side and demand side barriers have both been recognized as responsible for low level of access to financial services. Supply side constraints like poor banking infrastructure, low resource base of credit purveying institutions, security based lending procedures, lengthy and cumbersome formalities, low level of financial literacy, etc., are still dominant in the sector. Scores of demand side factors such as inadequate human capital, skewed distribution of land including lack of proper land reforms, presence of large section of landless labourers, poor state of physical infrastructure (road, bridges, irrigation structures, marketyards, cold storages), underdeveloped social capital (gram panchayat, local administration, commodity cooperatives, etc), low productivity leading to low level of profitability, poor linkages, poor risk mitigation mechanism, etc., in the country have adverse effects on the expansion of coverage of institutional credit[9].

In short, access to financial services allows the poor to save money outside the house safely, prevents concentration of economic power with a few individuals and helps in mitigating the risks that the poor face as a result of economic shocks. Thus, providing access to financial services is increasingly becoming an area of concern for the policymakers for the obvious reason that it has far reaching economic and social implications.

9 Government of India, Report of the Committee on Financial Inclusion, (2008), Chairman C. Rangarajan.

Financial Inclusion- Need

It is now widely acknowledged that financial exclusion leads to non-accessibility, non-affordability and non-availability of financial products. Limited access to funds in an underdeveloped financial system restricts the availability of their own funds to individuals and also leads to high cost credit from informal sources such as moneylenders. Due to lack of access to a bank account and remittance facilities, the individual pays higher charges for basic financial transactions. Absence of bank account also leads to security threat and loss of interest by holding cash. All these impose real costs on individuals. Prolonged and persistent deprivation of banking services to a large segment of the population leads to a decline in investment and has the potential to fuel social tensions causing social exclusion. Thus, financial inclusion is an explicit strategy for accelerated economic growth and is considered to be critical for achieving inclusive growth in the country.

Financial Inclusion as a Quasi-Public Good

Increasingly, in developing countries, access to finance is positioned as a public good, which is as important and basic as access to safe water or primary education. The pertinent question to ask here is whether 'Financial Inclusion' can be construed a public good? A good is considered a 'public good' if it meets the conditions of non-rivalness in consumption and non-excludability. The degree of 'publicness' in 'financial inclusion' maybe different from the standpoint of a typical public good like say 'defense', but there should be no doubt that financial inclusion meets the above two criteria to a large degree and to that extent is a **"**quasi public good**"**. Another important effect is that one is able to reap the advantages of network externality of financial inclusion and the value of the systems goes up. So once it is agreed that it is a 'quasi public good' we are now in the realm of public policy and hence it is incumbent upon the government to provide it in partnership with other agencies including private agencies.

Section III: Definition of Financial Inclusion

Sometimes, it is easier to define a phenomenon, by stating what it is not, i.e., define financial exclusion (rather than inclusion). A target group can be considered as financially excluded if they do not have access to mainstream formal financial services such as banking accounts, credit cards, insurance, remittances, payment services, etc (Chart 1).

A World Bank[10] report states, "Financial inclusion, or broad access to financial services, is defined as an absence of price or non price barriers in the use of financial services." It recognizes the fact that financial inclusion does not imply that all households and firms should be able to borrow unlimited amounts or transmit funds across the world for some fee. It makes the point that creditworthiness of the customer is critical in providing financial services. The report also stresses the distinction between 'access to' and 'use of' financial services as it has implications for policy makers. *'Access' essentially refers to the supply of services, whereas use is determined by demand as well as supply.* Among the non-users of formal financial services a clear distinction needs to be made between voluntary and involuntary exclusion. The problem of financial inclusion addresses the 'involuntarily excluded' as they are the ones who, despite demanding financial services, do not have access to them[11].

The term financial inclusion needs to be interpreted in a relative dimension. Depending on the stage of development, the degree of financial inclusion differs among countries. For example, in a developed country non payment of utility bills through banks may be considered as a case of financial exclusion, however, the same may not (and need not) be considered as financial exclusion in an under-developed nation as the financial system is not yet developed to provide sophisticated services. Hence, while making any cross country comparisons due care needs to be taken.

In the Indian context, the issue of financial inclusion (or exclusion) along with its various facets was deliberated in detail by the Committee on Financial Inclusion (Chairman : Dr. C. Rangarajan), Government of India, 2008. According to the Committee, "the essence of financial inclusion is in trying to ensure that a range of appropriate

---

10 Finance for All ? Policies and Pitfalls in Expanding Access, World Bank Report, 2008. The report provides a survey of problems, measurement problems and issues in financial inclusion in a cross country framework.

11 The report discusses in detail the categories within the involuntarily excluded and the likely solutions.

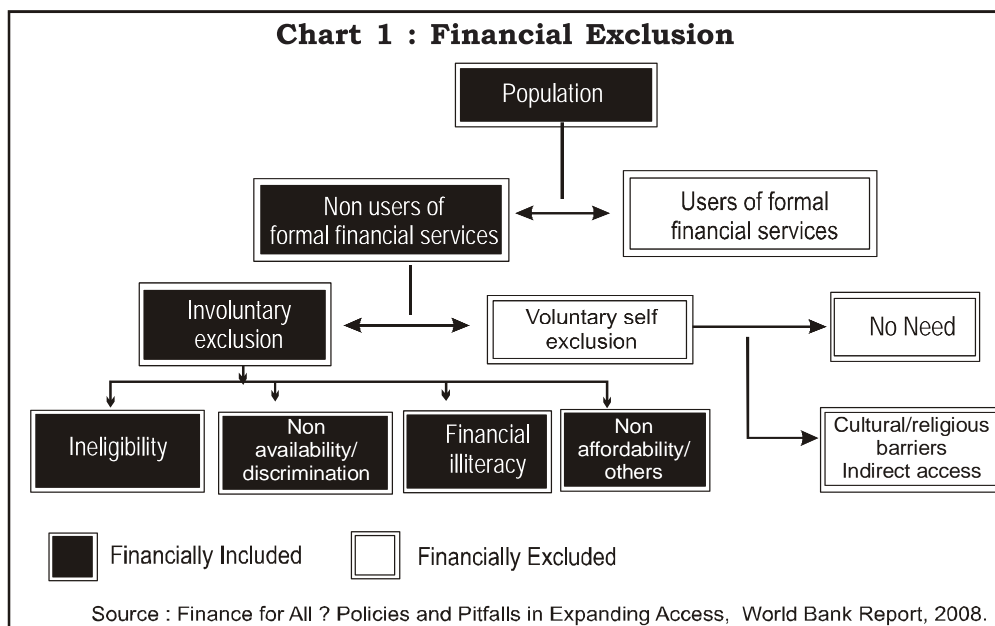


Chart 1 : Financial Exclusion

Source : Finance for All ? Policies and Pitfalls in Expanding Access, World Bank Report, 2008.

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 products suited to the pattern of cash flows of a poor household, money transfer facilities, insurance (life and non-life), etc". Thus, it is clear that the objective of "Comprehensive Financial Inclusion" is to provide a whole gamut of financial services. However, in a restricted sense, financial inclusion can be achieved if some of the financial services, to start with credit, can be offered.

Although, having a bank account may not be a good indicator of financial inclusion, nevertheless, it is a basic formal banking service, which "confers a sense of identity, status and empowerment and provides access to the national payment system[1]". The Committee has also provided a working definition for "Financial Inclusion".

Financial inclusion may be defined 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.

The above definition gives importance to accessibility of credit at an affordable cost to the disadvantaged sections of the society. For the purpose of this paper too, the focus shall be on the credit aspects of inclusion.

---

12 Report of the Committee of Financial Inclusion, Government of India, 2008.

Section IV: Status of Financial Inclusion - Evidence

Notwithstanding the fact that achieving all-encompassing financial inclusion requires access and availability to a whole gamut of financial services; in developing countries like ours, access to a simple bank account, is to start with, the gateway to basic banking services. The bank account as a product incorporates values such as security, convenience, liquidity, confidentiality, and product appropriateness for their needs, friendly service and potential access to loans. Thus, a savings bank account can play an important role in helping poor / vulnerable people save safely and securely. In this section an attempt has been made to present the evidence on access to financial services especially banking services. The first half of the section discusses the evidence based on reports and surveys conducted by various institutions including the World Bank; the second half of the section analyses evidence based on the NSSO Surveys on Indebtedness.

Access to Banking – India vis-à-vis the World

Geographic and demographic penetration indicate the outreach of banking sector. Geographic penetration can be measured in terms of number of bank branches per 1000 sq km and number of ATMs per 1000 sq km. Larger number of branches and ATMs per Sq. kms.

Table 2 : Geographic and Demographic Penetration of Banking Services

Country	Geographic Penetration		Demographic Penetration	
	No of bank branches per 1000 sq km	No of ATMs per 1000 sq km	No of branches per 100,000 people	No of ATMs per 100,000 people
Korea	65.02	436.88	13.40	90.03
U.K.	45.16	104.46	18.35	42.45
India	22.57	#	6.30	-
Indonesia	10.00	5.73	8.44	4.84
USA	9.81	38.43	30.86	120.94
Mexico	4.09	8.91	7.63	16.63
Brazil	3.05	3.72	14.59	17.82
China	1.83	5.25	1.33	3.80
Russia	0.19	0.53	2.24	6.28

Source: Reaching Out: Access to and use of banking services across countries, Thorsten Beck, Asli Demirguc-Kunt and Maria Soledad Martinez Peria, World Bank Policy Research, WPS 3754, World Bank, 2005

- As per Trends and Progress of Banking in India, RBI, 2006-07 (Appendix Table III.35) , end March 2007 there were 27,088 ATMs of Scheduled Commercial Banks in India.

indicate smaller distances to the nearest physical bank outlets and hence easier geographical access.

Bolivia and Namibia have the lowest number of bank branches per area at 0.13 and 0.11 branches per 1000 sq. kms. respectively (both the countries including Russia are in the bottom 5th percentile of the distribution). On the other hand, countries like Italy at 102.35 bank branches and Malta at 375 branches per 1000 sq. kms respectively, have the highest bank branches per area (both belong to the top 5th percentile). The median number of branches per 1000 sq. km. is 4.80, close to the figure of Mexico. Thus, based on the above, in terms of branch access, India does not fare badly compared to other countries. If we analyse ATM access, Nepal ranks at the bottom with less than 0.26 ATMs per 1000 sq. km, whereas Japan and Malta have 397 and 463 respectively. The figure for median number of ATMs is about 10 per sq. km which again is close to Mexico (Table 2).

Demographic penetration can be measured in terms of per capita measure of bank branches and ATMs or in other words the population served by each branch and ATM in a country. The per capita measure reflects the average number of people served by each physical outlet. Thus, a higher value connotes fewer clients per branch or ATM and is an indicator of easier access. In the case of per capita population, Uganda (belongs to the bottom 5th percentile) with 0.53 branches per lakh persons to 96 and 52 branches per lakh person in Spain and Italy respectively (belong to the top 5th percentile). The median figure is 8.5 branches per lakh persons and is close to the figure for Indonesia. For India the figure is 6.30 branches per lakh persons which is less than the median. Thus, though in terms of geographical penetration (branches per 1000 sq. km.) India fares much better than the demographic penetration in terms of access (Table 2).

Another measure of demographic penetration is the number of ATMs per lakh persons. In India, the median is around 17 ATMs per lakh persons, which is close to the figure of Mexico (16.33). Bangladesh ranks the lowest with less than 0.06 ATMs per lakh inhabitants while USA with more than 120 ATMs per lakh persons belongs to the top 5th percentile. (Table 2).

There are however, limitations (of both area and population ratios) as these indicate uniform distribution of outlets, in terms of both area

and population. In many countries, majority of the bank branches and/or ATMs may be located in urban settlements leading to restricted accessibility in surrounding areas. Both geographic and demographic measures cover only the 'outreach' dimension of financial inclusion and does not cover the other important dimension, i.e., 'actual usage'. Indicators like (i) number of loans per 1,000 persons and (ii) number of deposits per 1,000 persons capture the use of access to financial/banking services[13].

Table 3 : Deposit and Loan accounts in Rural and Urban India

(per 1000 persons)

Particulars	Deposit accounts		Credit accounts	
	1996	2006	1996	2006
Rural	322	325	64	62
Urban	699	724	50	115

Source: RBI Basic Statistical Returns and Population Census

It is evident from the above that there exists a rural-urban divide with respect to banking services in terms of 'usage' also. And this divide has widened in the last decade. The number of deposit accounts (per 1000 persons) increased from 322 in 1996 to 325 in 2006 in rural areas, whereas the comparable figures for urban areas was 699 in which increased to 724 in 2006. For credit accounts (per 1000 persons) there was a decline in the number of accounts during the period 1996 to 2006 (Table 3). With 70 per cent of the population living in the rural areas, a decline in the credit accounts and slow pace of increase in the deposit accounts needs to be reversed.

Rural Finance Access Survey' (RFAS) - World Bank-NCAER Study

During 2003, the 'Rural Finance Access Survey' (RFAS), was undertaken by the World Bank and the National Council of Applied Economic Research (NCAER) (see Priya Basu 2005). The RFAS 2003 covered only two Indian states, namely, Andhra Pradesh and Uttar

---

13 The article by Thorsten Beck etc ,cited at Table 2, provides data for some countries with respect to both these indicators. But their survey has not provided figures for India. In general the pattern of loans and deposits suggest that the use of banking services is restricted in poorer countries. Though not proportionate, the usage varies with the level of income category.

Box- 1

Rural Financial Structure - Supply of Outlets in - India

- Commercial Banks(rural & semi-urban branches) - 33,553
- Regional Rural Banks(rural & semi-urban branches) – 13,932
- Primary Cooperatives – 1.09 lakh
- NGO – MFI - 1,000
- MFI registered as Companies- 20
- Self Help Groups(SHGs) - 3.4 million (Credit Linked)

Note: Not included in above is the huge informal agents

Pradesh. The results of RFAS 2003 are not comparable with NSSO surveys (results of which are also discussed in the later paras). However, the results reported provide important pointers on the state of access to institutional finance for the rural areas. According to Priya Basu (2005) the author of the World Bank-NCAER study:

> "Notwithstanding the progress made over the decades, the majority of the rural population still does not appear to have access to finance from a formal source. According to the RFAS 2003, some 59 per cent of rural households do not have a deposit account and 79 per cent of rural households have no access to credit from a formal source. The problem of access is even more severe for poorer households in rural areas. Indeed, bank branches in rural areas appear to serve primarily the needs of richer borrowers: some 66 per cent of large farmers have a deposit account; 44 per cent have access to credit. Meanwhile, 70 per cent of marginal farmers do not have a bank account and 87 per cent have no access to credit from a formal source. Another segment that faces serious problems in accessing formal finance is the commercial household (i.e, micro-enterprise) segment" (*EPW*, September 10, 2005).

Distribution of Financial Services – Regional Distribution

In terms of volume of transactions and branch density significant regional differences exist. The economically weaker regions seem to have disproportionately lower level of financial access.

Table 4 : Distribution of Financial Services – Regional Distribution

Region	Share in all India GDP (%)	Share in population (%)	Regional per capita GDP / national per capita GDP	Share in all India credit (%)	Share in all India deposit (%)	Share in all India branches (%)
Northern	18	13.8	1.28	21.5	22.9	16.1
Northeastern	3	3.7	0.76	1.5	1.6	2.5
Eastern	14	23.6	0.58	9.2	12.9	17.7
Central	17	26.6	0.64	8.9	13.6	20.3
Western	22	15.5	1.39	32.2	26.4	15.6
Southern	28	16.9	1.63	26.6	22.6	27.4
Total	100	100	100	100	100	100

Source: Access to Rural Finance in India: The Evidence, Priya Basu, World bank, 2005
(Author has quoted, RBI, Basic Statistical Returns 2002; RBI, Handbook of Statistics 2003; Census 2001)

According to Basu (2005), " the spread of branches appears to be closely associated with regional shares in population: the eastern and central regions have larger shares in population and therefore, despite their low share in income, occupy the second and third positions in terms of share in branches. However, the presence of branches alone does not ensure access to finance; as expected, income is a key determinant to financial access. Regional differences in the volume of financial services (volume of credit and deposits) are largely explained by regional income differentials. India's lesser developed and low-income regions eastern, central, and north-eastern together account for 54 per cent of the population and 40.5 per cent of total branches, but only 20 per cent of outstanding credit and 29 per cent of deposits (Table 4)".

Indebtedness & Financial Inclusion- Few Issues

Before we present the status of inclusion based on the NSSO surveys, it would be pertinent to draw attention to some issues relating to indebtedness, in particular, which are of importance from the angle of financial inclusion. Of late, the issue of farmer's indebtedness has held center-stage and has been linked to the growing problem of agrarian distress. In some cases, indebtedness and failure to repay

the debt can become one of the important causes of farmers' suicides[14].

What is problematic – Indebtedness or Overindebtedness?

The concept of 'overindebtedness' is necessarily relative. Depending upon the special conditions of a farm and the personal status of the farmer, indebtedness may, in specific cases, be either normal or excessive. A farm which may be normally indebted under agricultural conditions prevailing in an area (region/country) may be overindebted under those prevailing in another. The different cost, price and standards of living facing a farm may in one case be normally and in another excessively indebted. It therefore, becomes difficult to arrive at a standard by which to judge when normal indebtedness translates into overindebtedness. This has to be necessarily resolved empirically. For example, farms may be considered excessively encumbered when (i) the indebtedness exceeds a certain percentage of the assets per hectare or (ii) in some others a fixed percentage of the price per hectare is laid down or (iii) else a percentage of the yield or of the taxable value of the appraisement value / market value of the land. Thus, the problem at hand is a practical one and it may not be possible to theorize on it. However, there are important distinctions which may help in understanding the issue at some length[15].

There is a need to make a distinction between objective and subjective indebtedness. From the standpoint of farm economy, indebtedness exists when the service of a loan invested in the farm does not exceed the net income which can be secured under the mode of farming practiced, with labour available, and at a certain rate of prices and costs. However, the farm is considered to be overindebted, i.e. from an objective standpoint when to meet debts or current or matured repayment quotas, the farmer has to sell at a loss his working equipment and means of production (implements, machinery, livestock etc.) thus endangering the future working of the farm.

---

14 The Government of India set up an Expert Group to look into the problem of farmers indebtedness in all its facets and suggest measures to tackle it. The Expert Group submitted its report in July 2007.

15 'Agricultural Indebtedness and the means for its prevention and control' (1951) , Dr. G. Costanzo, Readings in Agricultural Economics, Indian Society of Agricultural Economics.

Reasons for Overindebtedness

Overindebtedness may arise due to many factors. For example, if there is a mismatch between the amount of borrowed capital, interest and amortization costs on the one hand, and the yields, produce prices, labour cost, input prices and the standard of living of the farmer on the other. The burden of overindebtedness shall vary depending on the intensity of the several factors.

Then there are causes related to the personal situation of the farmer; the amount of his capital, the standard of living of his family, its composition and the age of its members. These are cases of subjective indebtedness. Of course subjective causes enter into the formation of objective overindebtedness. A typical example is the influence which the personal ability of the farmer may have on the volume of yields and on costs. Moreover, the effects of objective overindebtedness may be exacerbated or intensified by subjective overindebtedness. Thus the distinction is of practical importance.

In an economy like ours where the peasant family type of agriculture is prevalent, the management of the family and of the farm forms an indivisible whole and is intertwined. Consequently even though good receipts may be obtained from the farm it may be absorbed by heavy family liabilities or in the other case the losses on the farm may be offset by lowering of expenditure of the family. Thus, a farm objectively overindebted, which is worked exclusively by members of the family, may be able to hold its own if they live on a modest scale and accordingly have a smaller expenditure of cash than would be required for hired labour. On the other hand, if a farmer whose farm is only moderately encumbered has heavy family expenses, he may find himself in difficulties, although the farm itself is not over-indebted.

It takes a long time to recover the capital invested in agriculture and therefore, even if favourable conditions exist, loans can be repaid in small installments. The impossibility of foreseeing (predicting) market conditions for the whole duration of the loan and the uncertainties of the financial market, represent a heavier risk for the farmer as far as long-term indebtedness is concerned compared to short-term indebtedness. In the context of commercialization of agriculture, this may be all the more evident as it is characterized by sudden and often very large decline in the prices of agricultural products. Thus, an unfavourable turn in the prices of farm products may make it impossible even for a farmer who is free from debt to meet out of his

receipts, the normal requirements and costs of the farm. Further, the transition from one form of farming to another (say from traditional to commercial), necessitates investment of large funds, and if during the period of transition, adequate receipts are not generated it shall lead to overindebtedness. The point being that, management of the transition has to be effected in a holistic and coordinated manner and requires the effort of various institutions i.e. banks, extension agencies, agricultural universities, government etc. Have the policy makers in recent years erred on this count?

Indebtedness as an indicator of Inclusion

The All-India Debt and Investment Survey (AIDIS) and the Situation Assessment Survey of Farmers (SAS), both conducted by the NSSO during January-December 2003 in its 59th Round, provide insights into varied dimensions of farmers' indebtedness in India. SAS covered outstanding debt during January-August 2003 of farmer households defined then as those operating some land and engaged in agricultural activities on that land in the past year whereas AIDIS covered outstanding debt at the end of June 2002 for cultivator households operating at least 0.002 hectares of land in the past year. Based on both these reports, paragraphs below discuss indebtedness from the perspective of access to credit.

Cultivator Households

Indebtedness to formal sources of credit is an indicator of access to credit. Compared to earlier periods, access to formal credit declined for cultivator households during 1991-2002 (Table No.5). Post bank nationalization, considerable increase took place in the share of institutional sources in cultivators' debt from about 32 per cent in 1971 to 66 per cent in 1991. However, the trend saw a reversal during the 1990s and the share declined to 61 per cent in 2002 (Table 5). Among the institutional sources, the share of commercial banks increased sizeably since 1971. The co-operative sector's share increased from 22 per cent in 1971 to about 30 per cent by 1981 and stagnated since then. In the 1990s, while cooperatives sustained their, albeit low, share at 30 per cent, the share of commercial banks slipped from 35 per cent in 1991 to 26 per cent in 2002. The decline in the share of institutional agencies in the 1990s can be attributed to the decline in the share of commercial banks. Apart from other factors possibly the withdrawal of the branch licensing policy of RBI since 1995 may have also contributed towards this.

Table 5 : Share of Debt# of Cultivator Households from Different Sources

(%)

Sources of Credit	1951	1961	1971	1981	1991	2002
Institutional	**7.3**	**18.7**	**31.7**	**63.2**	**66.3**	**61.1**
Cooperative Societies/Banks, etc	3.3	2.6	22.0	29.8	30.0	30.2
Commercial Banks	0.9	0.6	2.4	28.8	35.2	26.3
Non-Institutional	**92.7**	**81.3**	**66.3**	**36.8**	**30.6**	**38.9**
Moneylenders	69.7	49.2	36.1	16.1	17.5	26.8
Unspecified	-	-	-	-	3.1	-
Total	100.0	100.0	100.0	100.0	100.0	100.0

Debt refers to outstanding cash dues.
Source: Reserve Bank of India (RBI), *All-India Rural Credit Survey, 1951-52*; RBI, *All India Rural Debt and Investment Survey, 1961-62* and NSSO, *All India Debt and Investment Surveys, 1971-72, 1981-82, 1991-92* and *2003*.

The Situation Assessment Survey of Farmers, 2003 (NSSO) throws light on the distribution of debt between institutional and non-institutional sources. It is interesting to note that in a majority of states, the outstanding debt of the farmers was financed more by the institutional agencies than by non-institutional agencies (Table 6). However, in a few states such as Andhra Pradesh, Rajasthan, Assam, Bihar and Punjab the financing of the debt was more by non-institutional sources. At the all-India level the share of cooperatives in the total outstanding debt of farmers was only 19.6 per cent. In the five states of Maharashtra, Gujarat, Kerala, Haryana and Tamil Nadu, cooperative credit societies were an important source of credit (had shares in the range of 23-49 per cent). The share of moneylenders in the farmers' outstanding debt was higher in Andhra Pradesh (53 per cent), Tamil Nadu (40 per cent), Rajasthan (37 per cent), Punjab (36 per cent) and Bihar (33 per cent). In all these states, except Bihar, the share of moneylenders in farmers' outstanding debt was higher than that of commercial banks. (Table 6).

Table 6 : Distribution of Debt by Sources across Major States: 2003

(%)

	Institutional				Non-Institutional				Total
State	Govt.	Cooperatives	Bank	All	Money Lenders	Traders	Others	All	
Maharashtra	1.2	48.5	34.1	83.8	6.8	0.8	8.6	16.2	100.0
Kerala	4.9	28.3	49.1	82.3	7.4	1.7	8.5	17.6	100.0
Uttaranchal	31.5	4.8	39.8	76.1	5.9	1.7	16.3	23.9	100.0
Orissa	13.0	18.1	43.7	74.8	14.8	0.8	9.5	25.1	100.0
Chhattisgarh	1.3	20.6	50.5	72.4	13.0	4.2	10.5	27.7	100.0
Gujarat	0.5	41.8	27.2	69.5	6.5	4.4	19.6	30.5	100.0
Karnataka	1.9	16.9	50.1	68.9	20.0	1.9	9.3	31.2	100.0
Haryana	1.1	23.9	42.6	67.6	24.1	3.1	5.3	32.5	100.0
Jammu & Kashmir	13.1	0.2	54.3	67.6	1.1	15.5	15.7	32.3	100.0
Himachal Pradesh	6.1	11.6	47.6	65.3	7.2	5.5	22.0	34.7	100.0
Jharkhand	3.9	4.5	55.7	64.1	19.0	1.7	15.2	35.9	100.0
Uttar Pradesh	2.4	6.7	51.2	60.3	19.1	2.9	17.7	39.7	100.0
West Bengal	10.3	19.2	28.5	58.0	13.0	10.7	18.4	42.1	100.0
Madhya Pradesh	1.9	16.9	38.1	56.9	22.6	9.0	11.4	43.0	100.0
Tamil Nadu	2.0	23.3	28.1	53.4	39.7	0.4	6.4	46.5	100.0
Punjab	1.9	17.6	28.4	47.9	36.3	8.2	7.6	52.1	100.0
Bihar	2.2	2.5	37.0	41.7	32.8	1.1	24.6	58.5	100.0
Assam	7.0	2.7	27.8	37.5	15.5	12.0	35.1	62.6	100.0
Rajasthan	1.3	5.9	27.0	34.2	36.5	19.2	10.1	65.8	100.0
Andhra Pradesh.	1.0	10.4	20.0	31.4	53.4	4.8	10.4	68.6	100.0
All India	2.5	19.6	35.6	57.7	25.7	5.2	11.5	42.4	100.0

Source: NSSO: *Situation Assessment Survey of Farmers, 2003*. Quoted in the Report Of the Expert Group on Agricultural Indebtedness, 2007

At the all-India level, both the share of institutional agencies in the debt and incidence of indebtedness increased with the size of land holding. To illustrate, the incidence of indebtedness increased from 46 per cent for marginal and small farmer households to 66 per cent for large farmers and the share of institutional agencies in the debt increased from 51 to 68 per cent. Another telling statistic is that small and marginal farmers still depend more on non-institutional agencies than large farmers. Though 80 per cent of indebted farmer households

were those of small and marginal farmers, institutional agencies accounted for only half of their debt. On the other hand, three fourths of the debt of large farmers were from institutional sources. Thus, as far as access to formal credit is concerned, it does not favour the small and marginal farmer households.

Table 7 : Incidence, Amount and Source of Indebtedness by Size Class of Holding : 2003

Size Class of Land Possessed (Hectares)	Total Households (%)	Total Indebted Households (%)	Incidence of Indebtedness (%)	Amount Outstanding per Farmer Household (Rupees)	Loans from	
					Institutional Agencies (%)	Non Institutional Agencies (%)
< 0.01	1.4	1.3	45.3	6121	22.6	77.4
0.01 – 0.40	32.8	30.0	44.4	6545	43.3	56.7
0.41 – 1.00	31.7	29.8	45.6	8623	52.8	47.2
1.01 – 2.00	18.0	18.9	51.0	13762	57.6	42.3
Up to 2.00	**83.9**	**79.9**	**46.3**	**8870**	**51.3**	**49.7**
2.01 – 4.00	10.5	12.5	58.2	23456	65.1	35.0
4.01 – 10.00	4.8	6.4	65.1	42532	68.8	31.1
10.00 +	0.9	1.2	66.4	76232	67.6	32.4
All Sizes	100.0	100.0	48.6	12595	57.7	42.4

Source: NSSO, *Situation Assessment Survey of Farmers, 2003*. Quoted in the Report Of the Expert Group on Agricultural Indebtedness, 2007

To summarise, it is evident that the problem of financial inclusion is acute and has accentuated in the post- liberalization period. This trend needs to be reversed. In the next section we discuss some of the recent initiatives taken by the Government of India, RBI, NABARD and commercial banks in this regard.

Section V: Recent Initiatives

Government of India

The Government of India(GOI) announced a credit package in June 2004 for doubling of agricultural credit over a period of three years. During the period 2004-07, the growth of agricultural credit has been impressive and, as against the targeted CAGR of 26 per cent, a CAGR of 33 per cent was achieved (NABARD Annual Report, 2006-07). The package was able to bring into the institutional credit fold new farmers thereby widening the ambit of formal financial system.

GoI constituted a committee for studying Financial Inclusion in June 2006 under the chairmanship of Dr. C. Rangarajan. Based on the Report, two separate funds, namely the Financial Inclusion Fund with corpus of Rs.500 crore for meeting the cost of developmental and promotional interventions and a Financial Inclusion Technology Fund with corpus of Rs.500 crore to meet the cost of technology adoption has been created with NABARD. The initial amount for these funds is to be contributed by Gol, RBI and NABARD. Further, at least 250 rural household accounts are to be added every year by commercial banks and RRBs in rural and semi- urban branches and individuals like retired bank officers, ex-servicemen, etc, to be appointed as business facilitators or credit counselors. (Box 2).

Based on the some of the cross country experiences indicated above, GOI has implemented measures to facilitate financial inclusion in India.

Box 2 : Financial Inclusion Funds: Salient Features

- The GOI in June 2006 constituted a 'Committee on Financial Inclusion' under the chairmanship of Dr. C. Rangarajan to look into the problem of exclusion of rural poor from access to financial services. Based on recommendations of the Committee and announcement made in the Union Budget 2007-08, two funds (the Financial Inclusion (Promotion and Development) Fund (FIF) and the Financial Inclusion Technology Fund (FITF)) were set up with NABARD. The Funds are meant for meeting the cost of developmental and promotional interventions, and costs of technology adoption, respectively, for facilitating the mandated levels of inclusion. The Funds will have an initial corpus of Rs.500 crore with initial funding of Rs.250 crore each, to be contributed equally by GoI/RBI/NABARD, with annual accretions thereto. Banks will be eligible for support from the Funds on a matching contribution of 50% from the Fund for non-tribal districts and 75% for tribal districts identified under the Tribal Sub-Plan.

- Funding from FIF would be available for various promotional and developmental initiatives to facilitate better credit absorption capacity among the poor and vulnerable sections, *viz.*, (i) creation of and support to Farmers' Service Centres (FSCs) to provide advisory services to the new/hitherto excluded segments; (ii) promoting entrepreneurship/skill development among farmers/rural entrepreneurs for effectively managing the assets financed; (iii) promotion, nurturing and credit linking of SHGs especially in the central, eastern and northeastern regions; (iv) training of personnel of commercial banks/RRBs to positively orient them towards lending to the poor and hitherto excluded; (v) support for setting-up Resource Centres to enable mature SHGs to micro-entreprises and voluntary establishment of federations together/or from MFDEF; and (vi) prioritised support for capacity building of BFs/BCs.

- Support from the FITF would be extended to enable application of low-cost technology solutions and for rolling out IT-based inclusive financial sector plan on the scale as envisaged in the NRFIP.

Box 3 : Recommendations of the Committee on Financial Inclusion: Highlights

- The **National Rural Financial Inclusion Plan (NRFIP)** aims to provide comprehensive financial services to 50% (55.77 million) of the excluded rural cultivator/non-cultivator households by 2012 through rural/semi-urban branches of commercial banks and RRBs. The remaining households are to be covered by 2015. Rural/semi-urban branches of commercial banks & RRBs to set themselves a target of covering 250 new cultivator/non-cultivator households per branch p.a., emphasising on MF/tenant cultivators/poor non-cultivators. The national targets to be disaggregated state-wise/district-wise at the SLBC and DLCC levels. GoI to constitute a National Mission on Financial Inclusion (NaMFI) comprising representatives of all stakeholders and responsible for deciding on policy issues, supporting stakeholders in the public/private/NGO sectors and monitoring the implementation of NRFIP.

- To provide for the cost of offering credit plus services and technology applications **Financial Inclusion (Promotion and Development) Fund (FIF) and the Financial Inclusion Technology Fund (FITF)** will be set up with NABARD, for meeting the cost of developmental and promotional interventions and costs of technology adoption, respectively. The Funds will have an initial corpus of Rs.500 crore with initial funding of Rs.250 crore each, to be contributed equally by GoI/RBI/ NABARD.

- **Commercial banks** may undertake targeted branch expansion in the excluded districts. The banks to bring out innovative products, *viz.*, (i) utilising SHGs for tapping small savings by providing them incentives and suitable back-end technology support, (ii) developing a savings-linked financing model based on repayment behaviour and (iii) undertaking distribution of suitable micro-insurance products. Existing staff in rural branches to be incentivised based on an index of measurable performance parameters. Commercial banks may actively promote JLGs for purveying credit and other facilities to SF/MF/ tenant farmers/share croppers/oral lessees.

- To broad base the BF/BC model, locally settled retired postmasters, schoolteachers, headmasters, ex-servicemen, ex-bankers, etc., would function as **business facilitators/business**

Box : 3 (Contd.)

correspondents (BFs/BCs). Banks to be given the discretion to choose their BCs after exercising due diligence and endeavour towards having a BC touch-point in each of the 6 lakh villages. Incentives for BCs may be linked to the number of accounts/ volume of transactions handled. Commensurate financial responsibilities to be placed on BCs over a period of time with increasing turnover. SLBCs may discuss with state governments for routing government payments through BCs.

- **RRBs** to extend branch outreach to unbanked areas and set exclusive targets for MF & financial inclusion. While no further amalgamation of RRBs may be committed upon, recapitalisation of RRBs with negative net worth, widening of network/coverage, preparation and implementation of NRFIP, up-scaling of MF programme, pilot testing & grounding of BF/BC model will necessitate funding & technological support.
- RBI may allow new **LABs** to operate in districts/regions with high levels of exclusion without compromising on regulatory prescriptions.
- Strengthen the **co-operative banks** by ensuring early implementation of the revival package for STCCS. Facilitate enabling legislation to admit SHGs as members of PACS, use of PACS & other primary co-operatives as BF/BC of commercial banks/RRBs, etc.
- To strengthen the **SHG-bank linkage** programme, SHGs to be encouraged in excluded areas, support capacity building of government functionaries, opening of dedicated project offices by NABARD in priority states, incentivising NGOS to diversify into backward areas, etc. Also necessary to (i) maintain the participatory character of SHGs, (ii) provide them a simplified legal status, (iii) ensure transparency in maintenance of records, (iv) evolve norms for distribution of surplus, (v) synergising the positive features of SGSY & SHG groups, (vi) rationalising interest rate subsidy administered by some states, (vi) development of Resource Centres to aid SHGs graduate to micro-enterprises, (vii) support voluntary emergence of SHG federations to provide value-added services to member SHGs, etc.
- **MFIs:** Need to recognise separate category of MF-NBFC without relaxation on start-up capital and subject to regulatory prescriptions, with 80% of their assets in micro-credit form. Such MF-NBFCs may act as BCs to banks. Relaxation in (i) FIPB

Box : 3 (Contd.)

guidelines stipulating minimum foreign equity investment of US$100,000; (ii) SEBI Venture Capital guidelines to permit venture capital funds to invest in MF-NBFCs; (iii) NABARD may extend equity support to MF-NBFCs operating in regions with high exclusion levels; (iv) tax concession upto 40% of their profits by including them under Section 36(1)(viii)of the IT Act; (v) IRDA Micro-insurance Guidelines,2005, permitting MF-NBFCs to act as agents of regulated life and non-life insurance companies. A mutual code of conduct covering aspects of governance, transparency, interest rates, handling of customer grievances, staff conduct, recovery practices, etc., may be made mandatory. Appropriate accounting and disclosure norms to be enforced as also exercise lender's discipline regarding reasonable rates of interest and acceptable modes of recovery. While Section 25 Companies could be covered by the Micro Financial Sector (Development and Regulation) Bill, 2007, co-operatives can be excluded from it. Further, supervision of MF-NBFCs could be delegated to NABARD.

- **Micro-Insurance:** To economise on costs, increase outreach to the poor and leverage on the existing network, the partner-agent model for delivery where the insurer underwrites the risk and an existing intermediary handles the distribution, may be adopted. To bring down the inherent risk cost of lending, micro-insurance be linked to micro-credit and NABARD's active involvement to leverage on its experience in this field. Need to create a cadre of full-time/part-time staff for insurance marketing and servicing; develop appropriate systems for tracking client information, collecting market intelligence, building database, consumer education/marketing/ grievance handling, product innovation; setting-up of a technology platform in the long run & stimulating demand, etc.
- **Remittance Needs of Poor:** A low value card linked to a bank account, encashable at 3 lakh PoS and 1.5 lakh post offices and allows transfer of small amounts from one card to another, designing an electronic product, offering such services through the BCs of banks would help in alleviating remittance problems of the poor.
- **Demand Side Perspectives:** Demand side issues like access to land and tilling, access to employment, productivity enhancement, value addition & market linkages, risk mitigation & aggregating mechanics at production/marketing levels could be allowed.

Based on the recommendations of the Task Force (Chairman Prof. A. Vaidyanathan) to bring about reforms in the Short- Term Rural Co-operative Credit Structure, GoI has introduced a revival package of an estimated outlay of Rs. 13596 crore to be implemented by NABARD. A similar Task Force has also submitted its report to the GoI for the revival of Long-Term Co-operative Credit Structure. Both the Task Forces aim at increasing the access and effectiveness of the co-operative structure in providing financial services (especially credit) in the rural areas. Without the involvement of the co-operatives it becomes extremely difficult to make a dent in rural areas.

In order to increase the resource base and enhance the refinance operations to short term co-operative credit institutions, a fund of Rs.5000 crore is to be created with NABARD. Similarly, two funds of Rs. 2,000 crore and Rs. 1,200 crore are to be created with SIDBI and NHB respectively to enhance their refinance operations to MSME and rural housing sector, respectively.

Since kharif 2006-07, short-term crop loans are to be disbursed at 7 per cent per annum with upper limit of Rs. 3 lakh on the principal amount. A provision of Rs. 1600 crore has been provided for interest subvention during 2008-09.

'Micro-Finance Development and Equity Fund', was established at NABARD with a corpus of Rs.200 crore. Capital support is provided in the form of soft loan at 3.5% interest rate to Micro Finance Organisations and MFI- NBFCs

Government of India has launched various programmes to raise the level of investment in agriculture. Some of the important programmes include Rashtriya Krishi Vikas Yojana, Accelerated Irrigation Benefit Programme, Rainfed Area Development Programme, National Horticulture Mission, etc. RRBs to take up branch expansion programme with at least one branch in 80 uncovered districts since 2007-08.

Reserve Bank of India Initiatives

The Reserve Bank of India(RBI) has initiated a number of measures in recent years to improve the credit delivery mechanism and bring about maximum financial inclusion of the poorer sections of the society.

Banks have been urged to make available a basic banking 'no frills'

account either with 'nil' or very low minimum balance and charges with a view to make such accounts accessible to vast sections of the population. As a result of the measures taken for financial inclusion, between end-March 2007 and end-March 2008, more than 9 million new 'no frills' bank accounts were opened by Schedule Commercial Banks in India (the total number of 'no frills' accounts stood at 15,788,919 as end-March 2008)[16]. Regional Rural Banks have been advised to allow limited overdraft facilities in 'no frills' accounts, without any collateral. Provision of such overdraft facility becomes a ready source of funding to the account holder, thereby inducing them to open such accounts. The 'Know Your Customer' (KYC) procedure for opening accounts has been simplified so that people from low income groups do not face problems in opening new accounts.

Banks have been asked to consider introducing a General Purpose Credit Card (GCC) facility in the nature of revolving credit up to Rs.25,000 without insisting on security or purpose at deregulated interest rates at their rural and semi-urban branches. Fifty percent of the GCC loans are treated as part of the banks' priority sector lending. All State Level Bankers' Committee (SLBC) convener banks have been advised to initiate action for identifying at least one district in their State / Union Territory for cent per cent financial inclusion. So far, 104 districts have been identified and cent percent financial inclusion has been achieved in the Union Territory of Puducherry and in 24 districts in Andhra Pradesh, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala and Punjab. All districts of Himachal Pradesh have achieved financial inclusion (RBI Annual Report, 2006-07).

A special drive has been initiated for cent per cent financial inclusion in the districts with maximum concentration of Scheduled Castes/ Scheduled Tribes and minorities. RBI has so far identified eight such districts (4 in Maharashtra, 3 in Tamil Nadu and 1 in Haryana) for cent per cent financial inclusion. Convenor banks of the SLBC/ UTLBCs were advised in May 2007 to set up, on a pilot basis, a financial literacy-cum-counseling centre in any one district in the State / Union Territory falling under their jurisdiction. Banks have been advised to enhance their outreach by utilising business facilitators and business correspondents' models. Banks are also entering into agreements with Indian Postal authority for using the wide network of post offices as business correspondents.

---

16 Report on Trend and progress of Banking in India, 2007-08.

Banks are encouraged to make use of Information and Communication Technology (ICT) using bio-metric smart cards and mobile hand electronic devices for receipts and disbursement of cash by their agents such as business facilitators /correspondents. Banks are required to make available all printed material used by retail customers in the concerned regional language. A multilingual website in 13 languages on all matters concerning banking was launched by the Reserve Bank on June 18, 2007. 'Project Financial Literacy' has been initiated by RBI with the objective of disseminating information regarding the central bank and general banking concepts to various target groups including school and college going children, women, rural and urban poor, defence personnel and senior citizens.

Three recommendations of the Working Group constituted by the Reserve Bank, viz.,

(i) dispensing with no dues certificate (NDC) for small loans upto Rs.50000,

(ii) considering opening of counseling centres and

(iii) extending credit to the landless labourers, share-croppers and oral lessees based on the certificates provided by local administration / Panchayati Raj Institutions,

were accepted and banks have been advised accordingly.

NABARD Initiatives

SHG-Bank Linkage programme

The SHG-Bank Linkage programme launched by NABARD in 1992 is an important strategy in promoting financial inclusion and inclusive growth. The programme started as a pilot project to finance 500 SHGs across the country has resulted in 34.77 lakh SHGs being credit linked by March 2008. Further, the programme has enabled an estimated 409.5 lakh poor households to gain access to micro finance from the formal banking system as on 31 March 2007. Studies conducted by various experts show that the programme has indeed helped in the social and economic empowerment of rural folk, especially women, causing significant up-scaling of social capital while at the same time delivering crucial financial services. Thus, it has proved to be a successful model wherein the outreach has expanded substantially leading to many advantages like micro savings, timely repayment of

loans, reduction in transaction costs to SHG members and banks, etc.

Over the last 15 years, the Micro-Finance initiative of NABARD has passed through various stages like pilot testing (1992-95), mainstreaming (1996-98) and expansion (1998 onwards) and has assumed the shape of a micro finance movement in the country by linking around 29.24 lakh SHGs and 409.5 lakh poor households with the formal banking system by March 2007. Table 8 indicates the growth in the number of SHGs credit linked during 2001-02 to 2006-07.

Table 8 : Growth in SHG Bank Linkage

(lakh)

Years	No. of SHGs Credit linked	% growth over the previous year	Cumulative No. of SHGs Credit linked
2001-02	1.98	-	4.61
2002-03	2.56	29	7.17
2003-04	3.62	41	10.79
2004-05	5.39	49	16.18
2005-06	6.20	15	22.38
2006-07	6.86	10	29.24

Source: NABARD Annual Reports

Thus, the SHG-Bank Linkage programme launched by NABARD has an important role in promoting financial inclusion and inclusive growth. It has proved to be a successful model wherein the outreach has expanded substantially leading to many advantages like micro savings, timely repayment of loans, reduction in transaction costs to SHG members and banks, etc.

Though initially the progress of SHG bank linkage programme was concentrated and limited in the southern region, with the initiatives of NABARD, the regional outreach, has increased in other regions also. The cumulative share of non- southern regions has increased from 29 per cent as in March 2001 to 48 per cent as in March 2007.

Micro Enterprise Development

There is a challenge to induce mature groups to graduate into enterprises for enhancing their economic status. NABARD has launched the Micro Enterprise Development Programme (MEDP)

during 2005-06 for development of sustainable livelihoods of the SHGs. Cumulatively 2,759 micro-enterprises were established under the project involving bank credit of Rs. 237.72 lakh as on 31 March 2008.

Capacity building is vital for the groups to be sustainable. NABARD has been a facilitator in arranging and conducting 3,494 awareness creation and capacity building programmes for 2,01,854 SHG members in association with NGOs, 70 exposure visits to banks / institutions undertaking micro finance initiatives, 137 sensitisation programmes for government officials, etc by extending support of Rs. 11.07 crore during 2006-07.

Farmers' Club Programme started by NABARD, to organise farmers to enable them have access to credit, technology and extension services. As on March 2008, there are 28,226 clubs covering 61,789 villages in 555 districts

Credit Card Arrangements

The Kisan Credit Card (KCC) Scheme, introduced in 1998 for timely and hassle-free short term loans has been extended to borrowers for term credit and consumption loans as well. As on 31st March 2008, 714.68 lakh KCCs had been issued by the banking system. Of the total 714.68 lakh cards, the co-operative banks accounted for the largest share of 49 per cent followed by commercial banks (37 %) and Regional Rural Banks (14%). Joint studies conducted by NABARD and the financing banks on implementation of the KCC Scheme have confirmed that the Scheme was well received both by farmers and bankers and the flexibility in operations has resulted in improved loan recoveries.

The Swarozgar Credit Card (SCC) scheme was introduced by NABARD in 2003 for facilitating hassle free credit for meeting investment and working capital requirements of small borrowers and rural micro-entrepreneurs like small artisans, handloom weavers, fishermen, self employed persons, rickshaw owners, SHGs, service sector, etc. As on 31 March 2008, the banking system had issued 8.34 lakh cards involving credit limits of Rs.3,739 crore.

Rythu Mitra Groups

An approach similar to TFGs or JLGs was also adopted in Andhra Pradesh, with the initiative of the State Government. The programme

called Rythu Mitra Groups, which envisages bringing about holistic development in the lives of small/marginal/land less farmers through collective action. RMGs are expected to serve as a conduit for technology transfer, facilitate access to market information and markets, assist in carrying out activities like soil testing, training, health camps, assess input requirements, etc., for its members. NABARD provides resource and grant assistance for conducting training and capacity building initiatives to different stakeholders. During 2007, 4437 RMGs were financed by 18 commercial banks, 9 RRBs and 9 DCCBs involving ground level credit flow of Rs. 28.11 crore. About 62,000 farmers have been assisted under the project.

Initiatives of Scheduled Commercial Banks and Private Sector Banks

Scheduled Commercial Banks had initiated several innovative measures for improving outreach and promoting financial inclusion through dissemination of information and financial counseling. Increased manpower for marketing of loan products, technical assistance, recovery of loans was one of the major strategies of SCBs during the last few years. Focus on issuing more GCCs, formation of JLGs, Farmers Clubs, Rythu Mirta groups and increase in credit outreach through these initiatives were given priority for effective financial inclusion, especially for the rural poor.

ICICI Bank has introduced a pilot project involving e-enabled banking correspondent (BC) model whereby the transaction infrastructure combines a smart-chip enabled e-passbook card which can display and store the customer KYC information along with the account details and the transaction in each account. Each customer is identified by a 16 digit unique reference number (URN) displayed in the e-passbook. The e-passbook can hold upto 16 different accounts and provide a single point access to all the records for the customer. It also has a feature of biometric authentication by way of fingerprinting thus mitigating the risks relating to PIN (Personal Identification Number) in a rural scenario. It also ensures that the person holding the account can only access the account. The entire process relating to transactions would be off-line.

Section VI : International Experiences in Promoting Financial Inclusion

The problem of financial exclusion is not exclusive to the developing world. The developed countries too have been affected by it and many poor and disadvantaged people in the world still lack access to financial services. However, the type, degree and magnitude differ between the two worlds. Therefore, emphasis has been on empowerment of the disadvantaged groups for access to public goods and services including banking services in the developed countries. The UN General Assembly had designated the year 2005 as the "International Year of Microcredit" stating that the year will be an important opportunity to give impetus to microFinance programmes throughout the world. Thus, the "International Year of Microcredit 2005" aimed at "Building Inclusive Financial Sectors to Achieve the Millennium Development Goals." Some notable measures taken in the developed countries are bulleted in Box 4. Further, a brief account of the experiences in promoting financial inclusion in few select countries is also discussed in the paragraphs below.

In **UK**, the Financial Inclusion Task Force has identified three priority areas for the purpose of financial inclusion, viz., access to banking, access to affordable credit and access to free face-to-face money advice. A Financial Inclusion Fund has been established to promote financial inclusion and assign responsibility to banks and credit unions in removing financial exclusion. Basic no frills accounts have been introduced. A Post Office Current Account (POCA) has been created for those who are unable or unwilling to access a basic bank account. The concept of a Savings Gateway has been introduced for those on low income employment. This offers £1 to those on low-income employment from the state for every £1 they invest, up to a maximum of £25 per month.

In **USA**, 9.5 to 20 per cent of the households lack a bank account and 22 per cent of low income families earning less than US$ 25000 per annum do not have either a current or savings account. The government has taken various measures to deal with the problem of financial exclusion. The Community Development Financial Institutions (CDFIs) have been servicing the financial needs of the unorganised sector in USA, with the mission of "promoting access to capital and local economic growth by directly investing in and supporting CDFIs and expanding financial service organisations' lending, investment and services within under-served markets. The CDFI Fund is a wholly owned Government Corporation, within the US Treasury Department. Further, a civil rights law, viz., Community Reinvestment Act (CRA) in the US prohibits discrimination by banks

against low and moderate-income neighborhoods. The CRA imposes an affirmative and continuing obligation on banks to serve the needs for credit and banking services of all the communities in which they are chartered. Apart from the CRA experiment, the State of New York Banking Department, with the objective of making available the low cost banking services to consumers, made mandatory that each banking institution shall offer *basic banking account* and in case of credit unions the *basic share draft account,* which is in the nature of low cost account with minimum facilities.

In 2002, the Treasury has established an Office of Financial Education to coordinate the efforts of other federal bodies in financial education. The Federal Deposit Insurance Corporation (FDIC) has contributed towards financial education programme by forming alliances with financial institutions, bank trade associations, non profit organizations and community and consumer groups. Such alliances are a part of Money Smart Alliance, which among other things, is determined to enlist at least 1000 members as a part of this Alliance and deliver copies of money smart curricula to reach 1 million adults all across USA. This curriculum is designed to help adults build financial knowledge and use financial services efficiently.

In **Canada**, a legislation entitled 'Access to Basic Banking Services Regulations' was enacted in 2003 whereby all banks/ financial institutions are required to open personal bank accounts and encash Government cheques at no charge for any citizen who meets the basic requirements. The Canadian Bankers Association, the representative of all chartered banks in Canada is promoting financial education. The Canadian Foundation for Economic Education (CFEE) is an autonomous body set up by CBA to deliver financial education. Financial literacy extends beyond credit counseling and involves increasing the awareness of the people about macro economic environment.

In **Brazil,** banking correspondents are allowed to provide all financial services, with the formally licensed banks taking full responsibility for the conduct of the correspondents linked to them.

TERA Bank in **South Africa** uses wireless connections at grocery shops and provides debit cards to its members for accessing banking services. These shops are located around mines and other under-privileged areas and are connected to more than 10,000 ATMs using the Saswitch network. It uses satellite connectivity between its branches for real time transaction processing.

In **Bangladesh,** Grameen Bank, ASA (Association for Social Development) and BARC (Bangladesh Rural Advancement Committee)

Box-4

Combating Financial Exclusion- International Experience

- Setting up of a Financial Inclusion Task Force to monitor the progress of financial inclusion. (UK)
- Access to financial counseling and free face to face money advice (UK)
- Post Office current Account for those who are unable or unwilling to access a basic bank account (UK)
- Concept of savings gateway for low income employment groups (UK)
- Low cost banking services like basic banking account to be made available (USA)
- Financial education programme to build financial knowledge, use financial services efficiently and increase the awareness of the people about macro economic environment (USA, Canada)
- Legislations like Community Reinvestment Act, which does not discriminate between low and moderate-income groups (USA), legislation on Access to Basic Banking Services Regulations to open personal bank accounts (Canada), Bank Act to have a bank account (France)
- Free encashment of government cheques even for non customers (Canada)

are the three largest MFIs serving around 4 million customers each. The Grameen Bank is the only formal financial institution and the others are registered as NGOs. The micro credit approach has diversified into wider range of financial services. From vanilla credit products, they moved towards product differentiation by end use and target segments.

In **Indonesia,** there are several types of MFIs like commercial banks including Bank Rakyat Indonesia (BRI) owned by Government with a large 'Unit Desa' network operating at sub- district level, privately owned rural BPRs (Bank Perkreditan Rakyat), credit cooperatives, etc. After the financial reforms of 1983, BRI transformed its Unit Desa network from loss making agents to commercial micro finance intermediaries.

It may be observed that even in the developed countries, the State has accepted financial inclusion as an important measure for the empowerment of poor and disadvantaged sections of the society.

Section VII: Economics of Financial Inclusion

In this section, an attempt has been made to quantify the cost and benefits arising out of following the policy of financial inclusion.

Benefits and Costs of following a Financial Inclusion Policy Stance

The process of financial inclusion should benefit both the users and providers. Efforts to improve inclusion should also make business sense, and translate into profits for the providers of these services. Only then can it have a lasting effect. As the process involves costs and benefits to both the providers/suppliers and beneficiaries, economics calculations have been attempted from both the providers as well as beneficiaries perspective. This section deals with the economics of financial inclusion by making an effort to delineate various costs involved in financial inclusion and enumerating benefits emering out of it.

Approach / Methodology for estimating costs and benefits

Economics of financial inclusion has been reckoned as the net benefit to both borrowers and banks on account of expansion of number of loan accounts to the rural population (those above 18 years of age). At individual level, cost of opening loan accounts and interest for loan amount constituted cost stream. Benefits from financial inclusion to various strata of population are different as per their inclusion status. For analysis sake, benefits for those indebted to informal sources have been considered as the difference between the interest paying to the informal sector and existing in the formal sector. Benefits of the section of population who are not indebted to any sources but willing to avail credit are deemed at par with the average return from investment in rural area. Those population groups who are ineligible to get loan due to default and also likely not indebted on account of religious, social, personal, structural reasons were not included in the analysis. In case of banking institutions, net benefit has been calculated as the improvement in the net margin on account of enhanced business due to inclusion.

Before embarking on identifying and estimating the likely costs and benefits it is imperative to identify the target population (Table 9) for which the costs and benefits are being estimated. Based on data

collected from documents published by various agencies (Census General of India, RBI, NSSO, GoI, NABARD) the analysis has been attempted. Reference year of the exercise is 2005-06.

Table 9 : Estimation of the Target Population for Financial Inclusion

Sr. No	Particulars	Unit	Figures
1	Total No of households(hh) in rural areas(estimated)	lakh	1623.00
2	No. of rural hh having operational loan accounts in formal institutions	lakh	217.48
3	No. of rural hh **not covered by** loan accounts with formal institutions (Sl.No 1 *minus* Sl.No 2)	lakh	1405.52
4	Estimated No. of loan accounts to be opened with formal institutions for achieving FI (see table 3 of annexure)	lakh	1243.22
5	Average loan amount per account in rural areas(see table 3 of annexure)	Rs	36650
6	Additional loan amount required to cover all hh with loan accounts i.e achieve FI (Sl.No 4 x Sl.No 5)	crore	**455640**

It is observable from the above table that for achieving full financial inclusion around 1243.22 lakh accounts have to be opened and the total additional loan requirements for these accounts would be to the tune of Rs. 4,56,540 crore.

Benefits and Cost accruing due to Financial Inclusion

Table 10 attempts to estimate the total cost and total benefits accruing from the borrowers perspective at the individual level, which have been aggregated.

Table 10: Total Cost and Benefits accruing from Financial Inclusion

Sr.No	Particulars	Unit	Figures
	Cost of Financial Inclusion - borrower perspective		
1	Total loan liability of borrowers if total financial inclusion is achieved (see Table A5 of Annexure I for details)	crore	455640
2	Total interest liability of borrowers if total financial inclusion is achieved (see Table A5 of Annexure I for details)	crore	56226
3	Other costs if total financial inclusion is achieved (see Table A5 of Annexure I for details)	crore	2588
4	**Total cost (Sl No 1+2+3)**	**crore**	**58814**
	Benefits of Financial Inclusion at borrower level		
5	No of hh who would switchover from non-institutional source to institutional source for availing credit if full FI is achieved (see Table A6 of Annexure I for details)	lakh	251.56
6	Saving in interest amount on account of shifting of borrowing from non-institutional to institutional (if Sr.No. 6 is effected)	crore	18126
7	Net Incremental income due to new investments taken up by hitherto new borrowers (see Table A7 of Annexure I for details)	crore	95403
8	**Total Benefits (Sl No 6+7)**	**crore**	**113529**

Net Benefit of Financial Inclusion

With the total benefit of Rs. 1,13,529 crore per annum to the potential borrowers, and total cost of Rs.58,814 crore, net benefit to the borrowers on account of full financial inclusion is Rs.54,715 crore per annum(Table 11). It is also estimated that each of newly inducted borrower in rural area by either replacing non institutional sources or entirely new borrowers will get an average benefit to the tune of Rs.4400 per year.

Table 11 : Net Benefit of Financial Inclusion

(Rs. crore)

Sr. No.	Particulars	Amount
1	Total benefit of FI	113529
2	Total cost of FI	58814
3	Net benefit of FI	54715

Thus, it is clear from the above that in monetary terms the total net benefit accruing from following a financial inclusion policy stance is estimated at Rs. 54,715 crore per annum.

Impact of Financial Inclusion on banks with respect to Profitability and Employment

The following positive and negative factors are likely to impact the profitability and employment generation in the banking sector on account of financial inclusion :

Positive Factors	Negative Factors
More access to institutional credit at low rate of interest will boost up net income and thereby recovery of loan	Coverage of less credit worthy investor may lead to increased default rate
Increased monetisation will reduce society's transaction cost of financing investment(higher rate of interest charged by the private money lenders)	Procedures and security stipulations in the institutional sectors will be a hindrance for getting adequate loan from institutional sources and sourcing loan from outside agency at higher rate may adversely affect the recovery of loan from institutional sources.
Financial inclusion will facilitate the adoption of improved technology in banking sector and enjoy advantages of the economies of scale.	With the increased investment in rural area, investors have to select investment at risk / with low IRR threatening the level of net income and repayment.
Access to institutional credit will enhance the social status	Moral hazards in view of loan waiver declaration

Profitability

Increased loan disbursement will naturally have repercussion on the net margin of the financial institutions. One recognizes the fact, transaction costs rise with increase in the number of accounts, especially in branches with no excess capacity to handle extra accounts. However, the cost impact on this count can be minimized if technological aid is taken.

In the country, net profit as a percentage to loans issued during 2005-06 was worked out to 3.58 per cent in case of scheduled commercial banks, 0.25 per cent in case of DCCBs and 0.0185 per cent in case ARDBs during 2005-06. Weighted average of net profit as share to loans advanced by the institutional sources works out to 2.636 per

cent. Expected net profit in loan operation of additional Rs. 455640 crore, would be Rs.12,010 crore. As net profit as a ratio of operation has already been taken into account, provisioning for NPA, risk involved in the operation is taken care off in the profit calculation. This profit estimation in the banking sector is based on the assumption of constant proportional operational cost of the banking agencies. However, with the increased intensity of operation, there is possibility of reduction in the operational cost of per rupee of loans especially on account of adoption of better technology in business operations. Thus there is ample scope for the banks to improve their profitability with financial inclusion.

Employment

The process of financial inclusion will warrant more manpower in the banking sector to function with. As of date, for the business operation of Rs. 3,09,709 crore in rural areas, about 4,39,000[17] employees are involved with an overall per capita operation of almost Rs.70.55 lakh per year. Going by the same efficiency in operation by the employee, additional requirement of manpower in the sector at full inclusion stage would be around 6,46,000 persons. However, on account of adoption of improved technology, there could be a reduction in the expected creation of employment opportunity in the institutional banking sector.

Non-quantifiable benefits

Access to institutional credit provides an array of un-quantifiable benefits to the borrowers. Improvement in the status of the borrower in the society, relief from the unscrupulous recovery practices of the private money lenders, secured and assured loans, etc., are a few to mention. Further, fixed term for repayment stipulated for institutional loans facilitate long term investment enabling capital formation and thereby enhancing productivity of agriculture and other sectors in rural areas.

Demand Projection

Removal of barriers to full financial inclusion can be achieved only in a phased manner. As compared to the level of financial inclusion

17 calculated by taking 33.4 5 of the total staff in Scheduled commercial Banks(by considering their share in number of account in rural area(Hand book of Statistical on Indian Economy,2006-07, RBI) and the total staff in cooperative Banks(NABARD and Rural Credit, 2003).

as estimated in the analysis 1,243.22 lakh households are to be given loan accounts. Assuming the time limit for full FI by the end of Eleventh FYP(i.e. 2011-2012), target for the major banking agencies are worked out. With 30,610 rural branches of scheduled commercial banks (including RRBs) in the country and a share of 34.38 per cent of loan accounts, 1396 new households are to be covered by each of their rural branches. Similarly, with 1.1 lakh PACS and ARDB branches in the co-operative sector, and considering their share in GLC during the period 2001-02 to 2006-07 (72.26 %), each of the banking units have to cover a total of 742 new households.

Considering the period 2006-2012, available for financial inclusion, the target achievement require the annual coverage of new loan account to the tune of 233 account /per year/per branch by the scheduled commercial bank branches in rural areas and 124 account /per year/per branch new loan account by co-operative bank units. Taking into consideration the present average loan amount (in the agencies), the agency wise cumulative number of new loan account and new loan amount requirement since 2006-07 for scheduled commercial bank branches and cooperative banks have been worked out and presented in Table 12.

As compared to the 2005-06 the estimation for commercial banks is 24.4 per cent increase and in case of co-operative banks is 24.5 per cent increase in the number of account during first year and at a lower rate during the subsequent years.

Table 12 : Projected loan account and amout for financial inclusion

Particulars		2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Loan a/cs (lakh)	SCB	71	142	213	284	355	426
	Coop	136	272	409	545	681	817
	Total	207	414	622	829	1036	1243
Loan amount (Rs.crore)	SCB	48734	97469	146403	195338	244272	293221
	Coop	27070	54140	81209	108279	135349	162419
	Total	75804	151608	227612	303617	379621	455640

The additional disbursement of loans are to be met from mostly own sources like deposits. Credit Deposit Ratio of SCB in the rural area is very low as compared to overall CDR(Table 13). As may be seen deposits in co-operative banks since 1998 has grown at an average rate of 11.4 per cent per annum. Since co-operative are to increase by 24.5 per cent, their dependence on borrowings need to be stepped up. However there is substantial gap in the deposit to credit. Since 2003, the difference between deposits and credit in rural area is more than Rs.1,00,000 crore.

Table 13: Trend in CD Ratio in Rural area

(Rs. crore)

Year				Rural		
	Deposits	Growth	**C/D ratio overall**	**Deposits**	**Credit**	**C/D ratio**
1998	65632	-	55.3	86706	37598	43.4
1999	78822	20.1	54.8	102697	42091	41.0
2000	96368	22.3	56.0	120539	48753	40.4
2001	108616	12.7	56.7	139431	54431	39.0
2002	120654	11.1	58.4	159423	66682	41.8
2003	133182	10.4	59.2	176502	77153	43.7
2004	141649	6.4	58.2	195082	85021	43.6
2005	146235	3.2	66.0	213104	109976	51.6
2006	153391	4.9	72.4	226061	126078	55.8

Source(i) Basic Statistical Returns (Various Issues), RBI

(ii)Annual Report of NABARD. Various issues

Section VIII: Financial Inclusion Index*

With a view to compare the status and progress of financial inclusion across the states/ districts, an attempt has been made in this section to construct a Financial Inclusion Index (FII) that can capture all dimensions of financial inclusion including “access” and “use” of financial services.

The methodology for the proposed FII is similar to the one adopted by UNDP for constructing the Human Development Index(HDI). Firstly, a dimension index of the indicators used to capture financial inclusion is constructed and then the FII is computed as a weighted average of the dimensions.

The form of the dimension index (Z) and the FII is given as under:

$$\text{Dimension Index } (Zi) = \frac{Ai - mi}{Mi - mi}$$

Where

Zi = Dimension Index

Ai = Actual value of ith dimension

mi = minimum value of ith dimension

Mi = maximum value of ith dimension

Applying weights to the above Dimension Index, we have:

$$FII = \sum_{i=1}^{n} w_i Z_i$$

Where:

w_i = weight of the ith dimension

Z_i = Dimension Index

n = number of dimensions

---

* Thanks are due to Dr. S. Chandrasekhar of IGIDR, Mumbai for the many interesting discussions which contributed to developing this section. The usual disclaimers apply

The Financial Inclusion Index(FII) is the weighted average of the dimension indexes, where the weights assigned are equal. If we consider all the dimensions (which have been incorporated) to be equally important, then the FII reduces to an equally weighted index.

$$\text{Financial Inclusion Index (FII)} = 1/n \sum_{i=1}^{n} Z_i$$

Where:

Z_i = Dimension Index

n = number of dimensions

The indicators selected for computing FII seek to cover various dimensions of financial inclusion are presented in Table 14.

Table 14: Dimensions of Financial Inclusion

Dimensions	Indicator of
Number of Rural Offices	Coverage
Number of Rural Deposit Accounts	Access and Availability
Volume of Rural Deposits	Input of the Banking System
Volume of Rural Credit	Use/Output of the Banking System

The four dimensions have been converted (i.e. normalized) into ratios i.e. per office number of accounts, per office deposit amount, per account deposit amount, per office credit amount. The ratios have been calculated for rural areas.

The Banking Statistical Returns (BSR) Statement, published by RBI which provides population-based breakup in terms of rural, semi-urban, urban and metropolitan branch wise classification of various parameters[18] was the basis for the analysis. The (lowest) unit level for which data is available is the district. The Index has been calculated at the district level. Aggregating the district level index gives us the state figure. The analysis was confined to scheduled commercial banks and does not include co-operatives (which can be considered as a limitation of this analysis).

18 Based on population, RBI classifies branches into 4 categories. A branch is classified as rural if the population at the center is < 10, 000, between 10,000 and 1 lakh is semi-urban, between 1 and 10 lakh is urban and any population center having more than 10 lakh population is considered Metropolitan. The census classification is different from RBI's for classifying rural and urban area.

The proposed Index theoretically takes values between zero*(0)* and *one (1)* . The value 0 can be interpreted as indicating 'no financial inclusion' and the value 1 indicating 'complete financial inclusion. For analytical purposes we have divided the range between the values 0 to 1 into four grades depicting different grades of financial inclusion (Table 15). The proposed FII can be used for ranking districts and adding the district wise FII values also provide the state FII values. The FII can be best interpreted if district ranks change over time.

Table 15 : Grades of Financial Inclusion

Financial Inclusion Index (value)	Financial Inclusion Grade
0 to 0.20	Very low
0.20 to 0.40	Low
0.40 to 0.60	Medium
0.60 to 1	High

Interpretation of FII

The FII has been calculated for various districts in the country and based on FII values have been classified into various grades (of financial inclusion) for different periods of time (year 2002 and 2006) and the estimates are presented in Table 16.

Table 16 : Financial Inclusion Index- Values

FII Value (Grade)	Year: 2002		Year: 2006	
	No of districts	% to total	No of districts	% to total
0 to 0.20 (Very Low)	378	72	330	64.71
0.20 to 0.40 (Low)	134	25.5	168	32.94
0.40 to 0.60 (Medium)	09	1.7	09	1.76
0.60 to 1 (High)	03	0.8	03	0.59
Total	524	100	510	100

Note: For the year 2002 the FII calculated is for 524 districts and for 2006 it is for 510 districts.

The estimated values of FII show that there has been a relative improvement in the status of financial inclusion between the period 2002 and 2006. In 2002, 378 districts (72 per cent) were in the lowest grade, however, in the year 2006, 330 districts figured in the lowest grade. Most of these districts have moved to the next grade where the FII ranges between 0.20 and 0.40.

State wise Financial Inclusion Index

Ranking of state wise estimated FII for different periods of time revealed the growth and progress of financial inclusion in different states (Table 17).

Table 17: State-wise Financial Inclusion Index- Values

State	Rank		FII Value	
	2002	2006	2002	2006
Punjab	1	2	0.305	0.314
Kerala	2	1	0.295	0.318
Haryana	3	3	0.258	0.280
Jammu & Kashmir	4	5	0.252	0.252
Himachal Pradesh	5	4	0.251	0.262
Uttar Pradesh	6	8	0.217	0.216
Uttaranchal	7	6	0.216	0.226
Tamil Nadu	8	7	0.201	0.223
Andhra Pradesh	9	9	0.193	0.214
Gujarat	10	11	0.181	0.194
West Bengal	11	10	0.177	0.195
Jharkhand	12	12	0.168	0.183
Karnataka	13	13	0.154	0.173
Assam	14	14	0.151	0.162
Chattisgarh	15	16	0.137	0.151
Orissa	16	15	0.135	0.152
Bihar	17	18	0.127	0.140
Madhya Pradesh	18	19	0.122	0.138
Rajasthan	19	17	0.122	0.140
Maharashtra#	20	20	0.116	0.134

The cooperative structure is well established in terms of coverage compared to other states and since the BSR data does not include co-operatives the index value in the case of Maharashtra need to be interpreted accordingly.

All states except Jammu & Kashmir and Uttar Pradesh for which the FII was constructed have improved in terms of the FII values between the periods 2002 to 2006. The doubling of agriculture credit programme may have also influenced this improvement. In terms of rank improvement Rajasthan has improved its rank by moving up by two ranks.Uttar Pradesh has moved down by two places although it has improved its FII values. At the top Punjab and Kerala have interchanged their positions. We suggest that a simple monitorable financial inclusion index should be put in place to monitor the progress made or otherwise in Financial Inclusion in India.

Section IX : Role of Technology in Financial Inclusion

The financial structure in a country is influenced and shaped by non-financial developments. Changes in the field of telecommunications, computers, non-financial sector policies, and economic growth itself influence the structure of the financial system. Technological improvements lower transaction costs and affect financial arrangements (Financial Innovation and Economic Performance, Robert C Merton,1992). Many of the standard arguments which are advocated in the case of "public goods" also can be extended to technology and hence the emphasis on technology.

For banks, technology has a critical role to play in reducing transaction and operation cost component for the banks in providing financial services to its poorest customers. Reducing these costs shall lead to a reduction in lending costs, which would definitely help in improving the viability of rural businesses. For addressing the problem of long distances and poor transport linkages in rural areas, communications technology could play an important role by bridging the last mile between the customer and the provider and thus facilitating transactions[1].

Banks in India have been able to achieve a substantial level of computerization in their operations, however, tremendous scope still exists for them to learn from mobile operators to optimize back-end technologies and leverage volume to significantly reduce the back-end costs. For example, the back-end costs for banks vary from Rs.1 to 2 per transaction whereas for Indian mobile companies similar operations cost between 1 and 2 paise per transaction.

Post-liberalization, the use of ATMs has helped to reduce front-end costs, which continue to be the dominant costs for banks. Banks need to promote low cost indigenous ATM technologies, especially for rural areas. Given the fact that more than 80 percent of India's financial transactions are processed in physical cash, front-end costs

---

19 A recent Boston Consulting Group report estimates that the cost of funds today is 9%, provision for bad debts is 10% and cost of consumer acquisition and transaction and operation costs are 13% for the poorest customers, leading to banking for the poor becoming unprofitable (Sinha, J. and A. Subramanium (2007) "The Next Billion Customers: A Road Map for Expanding Financial Inclusion in India". Boston Consulting Group)

can be reduced substantially by replacing cash transactions with electronic transactions. No doubt internet banking transactions have zero front-end costs for the banks but still efforts have to be made to make this a preferred mode of transaction for large corporations. The Committee for Financial Sector Reforms (CFSR) headed by Raghuram Rajan and set up by the Planning Commission has pointed out that the extension of internet banking to SMEs may have much larger impact. Further, the establishment and increased use of rural internet kiosks can also aid in propagating such a mode of transaction by rural businesses.

Mobile Banking – Potent instrument for increasing outreach

Mobile phones present an ideal platform to increase outreach of financial services to the rural population as their penetration is already large and growing. For a bank to reach its customers as well as to widen its customer base without investments in physical infrastructure like branches and ATMs, mobile banking presents a fantastic opportunity to undertake branchless banking.

Mobile Banking is the ability of a person to conduct most transactions that one would normally perform, like cash withdrawals, paying utility bills etc through a mobile phone rather than through bank's ATM or branch. A branchless banking channel using mobile phones is far more preferable to poor people than the available options of traveling to and queuing at distant branches or saving in cash and physical assets. The likelihood of customers taking up mobile banking services in rural areas is dependent on whether they are able to get cash wherever they need it. For this to materialise, banks need to find a way to provide liquidity through a network of cash in/cash out agents. The network of agents of mobile phone operators can be roped in and in this context banks can tie-up with the mobile operator. However for mobile phones to ensure greater financial access for poor people, banks and MFI's need adequate back office and transaction switching capability and sufficient controls.

In many other countries, mobile payment systems are in operation. For example, *'Smart Money'* and *'GCash'* services were launched in 2003 and 2004, respectively in Philippines, *'WIZZIT'* was launched in 2005 in South Africa and *'M-PESA'* was launched in Kenya in the year 2007. There are differences in terms of the technology platform they adopt, kinds of accounts offered, account opening requirements

and services offered, electronic transfer of money etc. It would be interesting to compare these various services and adapt good features of each as per our requirements and the ground realities in our country.

Mobile Banking – Likely benefits to Banks

From the standpoint of banks, mobile banking presents a good opportunity for the banks to increase their clientele base. Some important dimensions in this context are discussed in the paragraphs below and presented in a tabular form (Table 18)[20].

Increase market penetration - Mobile banking can help in reducing the cost of deploying customer touch points into lower income or more remotely located population segments (also termed as "deployed base" view). In this respect mobiles can act as:

- Mobile as-ATMs can enable traders and merchants to become cash-in/cash-out-points
- Mobile-as-POS (Point of Sale) can serve to substitute cash and electronically capture transactions at the store/shop.
- Mobile-as-internet machines can allow customers to transact remotely (sending remittances, paying bills) without having to physically access a service point.

Sell more services to existing customers – Banks can develop new products that target unmet needs of existing customers. These new services could exploit the new functionality available through a mobile phone (e.g. location awareness, under the "new functionality" view) or its value as a personal technology (the "new way to interact" view). The mobile phone acts as a service "presentation" and delivery channel, its main utility no different than an Internet machine.

Retention of most valuable customers – Mobile banking allows the banks to offer their customers quality and breadth of service. Usually, it is difficult for banks to provide personalized individual services but with mobile banking this is relatively easier, they can provide unique

20 This section draws from a Focus Note (No 48, June 2008) prepared by Ignico and Kumar for the World Bank.

customer experience even if the nature of the service offered is non-unique. Banks also can fully exploit immediately the mobile environment to extend the benefits of control and choice, and hence convenience, across the entire product range (the “new way to interact” view). Thus, adopting mobile banking by banks can act as a strategy for retaining the existing customer base.

Table 18 : Main benefits derived from using mobile phones to banks’ strategic drivers

		Strategic drivers for banks			
Use of mobile phones		**Increase market penetration**	**Sell more services to existing customers**	**Retention of most valuable customers**	**Reduce cost of service provision**
	Deployed Internet terminal	Remote transactions for underserved populations	Alternate channel for customers	Unique customer experience	Use in place of PC and broadband Internet connection
	Deployed POS/ virtual card	Reach underserved populations with agents			Use in place of card and POS device
	Personal device		Unique customer experience	Immediate action and sense of control experience	
	New inherent functionality	Use SIM functionality for “virtual” card	Use location awareness for realtime products		

Source: Banking on mobiles: Why, How, for Whom?, (2008), Mas and Kumar, World Bank

Based on the type of mobile banking strategy that a bank would like to adopt, Mas & Kumar(2008), have classified three mobile scenarios, to be looked upon as prototypes of “ three extreme cases that , in combination, span the range of strategies a bank might pursue”. (Table 19; source: as cited in Table 18)

Given the priorities and stage of development a country can choose to adopt one of the above strategies or a combination of the three scenarios (Table 19).

Table 19 : Three mobile banking scenarios

	Cool value add	Easy bank	Virtual bank
Strategic objectives for the provider	Retain and grow value from existing customers	Increase market share (take customers from the competition)	Increase penetration (target new-to-banking or underserved people)
Role of mobile channel	Mobile is complementary, with most customers using it only for specific purposes	Mobile and other channels co-exist, but are targeted(perhaps not exclusively) at different segments	Mobile is likely the only channel for most (if not all) customers
Value proposition for customers for use of the mobile channel	Service enhancements: ▪ Enhanced customer control over own finances (e.g. alerts and notifications) ▪ Greater targeting of messages and services from the bank (e.g.using location awareness) • 24 hour availability of services	Convenience: ▪ Less but more relevant services ▪ Ubiquity of service ▪ Simple, easy to use • Low cost	Reduced barriers to access: ▪ Very low transactional costs ▪ Availability of service in areas not traditionally covered by banks • Use of retail outlets rather than branches (where they may not feel welcome)

Source: same as cited in Table 19

Apart from technological issues, security concerns, the type of relationship envisaged between banks and mobile operators etc there are also important regulatory factors that need to be considered with regard to implementation of mobile banking. Some of these are listed below :

Regulatory Issues

Cash in/cash out - An important element that would determine the adoption and success of mobile banking is whether or not the mobile banking system adopted provides for a cash withdrawal or deposit (termed as cash in/cash out) facility. There is a need to have clear cut regulatory restrictions on banks to outsource cash-in/cash-out functions to third party retail establishments. Restrictions may relate to who can become a banking agent (e.g., in India it has to be a not-for-profit organization), agents' licensing requirements (e.g., in Brazil agents engaging in deposits and withdrawals must be individually approved by the Central Bank), and the nature of the contract between the bank and the agent. There is need for more clarity on this issue.

Know-Your-Customer (KYC) norms - Under KYC norms banks have to maintain transaction records to fulfill regulatory obligations. In the case of banks adopting mobile banking under a "virtual bank" approach[21] or as part of outreach campaigns, KYC rules may impose a heavy burden on customer enrolment precisely because under this mode they lack the physical infrastructure and personnel to undertake customer interviews. This is an area where such banks need to work with regulators to find practical yet sufficiently rigorous solutions based on the risks involved.

E-banking - There is a need for regulatory clarity on aspects relating to the use of electronic retail transactional channels, minimum data security levels, preservation of customer privacy, customer claims and redressal mechanisms. Regulatory clarity may provide assurance to banks that the systems they build will not need to be constantly readjusted as new rules come into place and to help banks assess more precisely the legal risks involved in providing mobile banking services. On the other hand, in the initial stages of market development, banks may prefer the regulator not to be overly

---

21 In this approach the main driver for the bank is to seek significant outreach and growth of customers. By using mobile banking as the main customer touch point, the bank seeks growth without investing as much in physical infrastructure.

prescriptive while they are becoming familiar with the practical issues involved.

Thus, from the perspective of facilitating financial inclusion 'mobile banking' offers immense opportunities for the banks. Mobile phones have been successful in providing retail and other services in rural areas. Hence, given the simplicity of their operations, it has the potential to be a preferred interface of choice in rural areas. The telecom and the banking industry along with RBI has recently constituted a Mobile Payment Forum of India (MPFI) to examine technological, regulatory and business constraints related to the scaling up of mobile banking in India. However, if the full potential of mobile banking is to be realised then further development of real time inter-bank transactions would be essential. For making mobile banking profitable, the costs of this system need to be very low. Apart from the fact that RBI in consultation with IDRBT can initiate a common payments platform, private initiative in this area needs to be encouraged to foster innovation and drive down costs.

For grounding technology based banking solutions, the CFSR (Rajan committee) has suggested the need to create common payments systems with participation by multiple banks. This would reduce transaction costs and substantially increase the deployment and utilization of POS terminals. The advantage of technology based interfaces is that it they are essentially cash-less and minimize fraud and the costs related to cash handling.

The Committee has rightly pointed out that "the role of public policy is to enable the adoption and scale up of appropriate technologies while mitigating risks of their misuse. Public policy can play an important role in the establishment of a unique identification number and the promotion of biometric authentication, which would facilitate the development of credit bureaus". The Rs.500 crore Financial Inclusion Technology Fund, established with NABARD can be used to promote the use of technology among the poorest clients and small financial service providers - *creation of common technology platforms or back office services for small financial services providers and promotion of mobile payments amongst the poor.*

Another important breakthrough in achieving technology supported financial inclusion is to make payments for NREGS (and other such programs) on electronic mode on the lines of the Andhra Pradesh model in the whole country. For this, the Committee has strongly advocated the setting up of nationwide electronic financial inclusion

system (NEFIS) that would link these bank accounts and allow funds to be transferred into them electronically. The estimated fixed cost of the POS / mobile devices, computer servers and incremental communication networks to service about 50 crore un-served citizens would be around Rs.1000 crore. If smart cards are used, the variable cost per user would be less than Rs.40, while putting biometric capability on a user's cell phone would cost less. If this system is in place then the cost per transaction of NEFIS could drop to a few paise, as millions of outlets accept e-payments. However, for cash-in/cash-out transactions, requiring a human/ machine interface, the cost per transaction could be higher.

In summary, technology and its increased use can be critical in building up a reliable credit information system and database on customers, reducing transaction costs and facilitating better pricing of risk, improving the efficiency of the financial system, and thereby increasing the access of un-banked rural people in an efficient manner.

Section X: Determinants of Financial Inclusion

The determinants of financial inclusion can be studied from different dimensions like widening (savings/credit), deepening (credit) and the number of financial services/products offered. On the supply side, nearness of bank office, right kind of products, easy accessibility etc., and on demand side, financial capability, financial education of consumers etc, are expected to influence financial inclusion. As a variety of linked factors in social, economic and political sphere facilitate the lower income consumers to gain access to financial services; it is difficult to find out independent factors influencing financial inclusion. However, the relative importance of such factors, which influence financial inclusion, can be established. Accordingly, an attempt has been made in this section to identify the causative factors that influence financial inclusion by using secondary data from different sources such as National Sample Survey (NSS), Centre for Monitoring Indian Economy (CMIE), Economic Survey, Census Report and various reports published by Reserve Bank of India (RBI) and National Bank for Agriculture and Rural Development (NABARD).

Model Specification

While increasing the number of credit accounts in favour of low income and other disadvantaged sections is defined as 'credit widening', increasing the volume of credit per account is defined as 'credit deepening'. Data used for the analysis pertains to the year 2004-05. Two sets of regression equations have been fitted to understand the influence of selected variables. In the analysis of 'credit widening', the number of credit accounts has been taken as the dependent variable and in the analysis of 'credit deepening', the amount of credit has been taken as the dependent variable. The scope of the analysis is limited to rural areas only. The following six independent variables are then selected to understand their influence over financial inclusion:

- X_1 = Irrigated area as a percent of gross sown area (%)
- X_2 = Persons employed to total population (%)
- X_3 = Persons above secondary level education as a percent of total population (%)
- X_4 = Number of Self-Help Groups (SHGs) for every 100 persons (No.)

- X_5 = Number of scheduled commercial bank offices (commercial banks and regional rural banks only) for every 100 persons (No.)
- X_6 = Amount of savings deposit with scheduled commercial banks (commercial banks and regional rural banks only) for every 100 persons (Rs.lakh)

'Population' means ' the size of population of age between 15 & 59 years'.

The details of the data used for the analysis has been presented in Annexure II. While running the zero-order correlation matrix to test the multicollinearity among the selected variables, a high correlation between X_5 and X_6 is observed. So, variable X_6, which has the least influence, has been eliminated from the analysis and the correlation matrix was re-run with the remaining variables, the result of which is presented in Table 20.

Table 20 : Estimated zero-order correlation matrixes for the selected variables

Variables	X_1	X_2	X_3	X_4	X_5
Irrigated area as % of gross sown area (X1)	1.00				
% of people usually employed (X2)	0.05	1.00			
% of people with education above secondary level (X3)	0.23	0.22	1.00		
No.of SHGs for every 100 persons (X4)	-0.17	-0.43	0.03	1.00	
No.of bank offices for every 1 lakh persons(X5)	0.21	0.59	0.31	-0.04	1.00

Thereafter, to explain the impact of the selected variables, the following linear regression equations are adopted:

$$FI_w = \acute{a} + \hat{a}_1 X_1 + \hat{a}_2 X_2 + \hat{a}_3 X_3 + \hat{a}_4 X_4 + \hat{a}_4 X_5 + u$$
$$FI_d = \acute{a} + \hat{a}_1 X_1 + \hat{a}_2 X_2 + \hat{a}_3 X_3 + \hat{a}_4 X_4 + \hat{a}_4 X_5 + u$$

Where,

- FI_w = Number of credit accounts for every 100 persons (No.)
- FI_d = Amount of credit for every 100 persons (Rs.lakh)
- á, the Intercept
- $\hat{a}_1, \hat{a}_2, \hat{a}_3,$ etc., are the coefficients
- u' , the error term

Results & Discussions

Credit widening

Out of the five selected variables, three variables, i.e., irrigated area (X_1), number of SHGs (X_4) and number of bank offices (X_5), are found to be significant at 1 percent level. Although an inverse relationship has been observed between FI_w and X_2 and between FI_w and X_3, they are found to be insignificant. Therefore, it may be concluded that these two explanatory variables do not influence the size of financial inclusion. The estimated values of elasticity for different variables with respect to FI_w suggest that keeping other variables constant, a one percent increase in X_4 brings in 0.39 percent increase in the size of financial inclusion. Similarly, in response to one percent increase in X_5, the FI_w increases by 0.3 percent and a one percent increase in X_1 brings a 0.16 percent increase in FI_w. Among the variables, the number of SHGs followed by number of bank offices has dominant influence on the size of financial inclusion. Collectively these five variables explain 92 percent of the variation in the size of financial inclusion. The F test is also found to be significant at one percent level, which suggests that there exists a strong association between the size of financial inclusion and the selected set of independent variables.

Credit deepening

The analysis presents a close association between financial inclusion and the selected independent variables. Out of the five selected variables, three variables, i.e., irrigated area (X_1), higher education (X_3) and bank offices (X_5) are found to be significant. While X_1 and X_5 are found to be significant at 10 percent level, X_3 is significant at 5 percent level. The estimated elasticity of FI_d suggest that keeping other variables constant, with one percent increase in X_1, X_3 and X_5, the FI_d increases by 0.33 percent, 0.56 percent and 0.58 percent respectively. The R^2 value at 71 percent indicates that collectively these four variables explain 71 percent of the variations in financial inclusion. Similarly, the F test is found to be significant at one percent level. Table 21 presents the results of the regression analysis.

Table 21: Results of Regression Analysis

Variable	Credit widening		Credit deepening	
	Coefficients	Standard errors	Coefficients	Standard errors
Intercept	2.31		-4.66	
X1	0.029*	0.010	0.03***	0.01
X2	-0.021	0.048	0.07	0.07
X3	-0.026	0.048	0.14**	0.07
X4	7.326*	0.722	0.07	0.98
X5	0.230*	0.068	0.18***	0.09
R2	0.92		0.71	
F-value	F_c(34.22)> F_t(4.69) at 1% level		F_c (7.002)> F_t (4.69) at 1% level	

** Significant at 1% and ** significant at 5% and *** significant at 10% level*

Summing Up- Regression Analysis

The regression analysis revealed that inducing the rural households through formation and nurturing self-help groups, giving higher education and providing adequate infrastructure especially bank branches/offices and irrigation facilities would positively influence financial inclusion both from deepening and widening perspectives.

Section XI: Issues and Concerns

This section attempts to discuss some of the pressing issues that act as obstacles in moving towards financial inclusion, especially credit inclusion. The section has been is sub-divided into two parts- the first part discusses the problems in the realm of the financial sector itself while the second part deals with the issues influencing financial inclusion which are largely in the domain of the real sector.

Financial Sector

Physical Accessibility- Decline in rural bank branches

In recent years technology (internet banking, mobile banking) is being used increasingly by banks to provide access to banking services in developing countries. However, mere physical accessibility to formal financial institutions can act as a deterrent to unscrupulous growth of informal financial institutions. Thus, in a country like ours, where literacy levels are low and large parts of the rural hinterland may have inadequate communication penetration, the importance of a physical rural branch should not be discounted. During the post liberalization period, though the total number of bank branches of the scheduled commercial banks in the country increased from 60,220 branches in 1991 to 69,471 branches in 2006 (at an annual rate of 0.96 %) there has been a decline in the rural bank branches. The number of branches in rural areas had declined from 35,206 branches in 1991 to 30,579 branches in 2006. But does this decline matter? The 'Invest India Incomes and Savings Survey' (IISS, 2007) conducted for the Committee on Financial Sector Reforms, revealed that 76 per cent of the respondents with cash savings reported keeping their savings in bank savings account *(life insurance and postal savings instruments are other popular instruments)*. In fact, in the lowest income quartile, the most preferred savings instrument was bank savings accounts, though only 50 per cent of those with cash savings had bank accounts. The survey also pointed out that even among the groups, which had choices in deployment of their savings, the most popular medium was bank savings.

Some argue that the reduction in rural bank branches may not have had an adverse effect on the rural areas from the angle of accessibility as the period was accompanied with growth in the SHG-Bank linkage programme, which provided credit to very poor people, especially rural

women. Further, technological developments in the banking sector also must have offset the negative impact of the reduction in rural bank branches. However, the data put forward by NSSO, All-India Debt and Investment Survey (AIDIS, 2002) point out that the share of non-institutional sources in cultivators' debt was 30.6 per cent in 1991 which rose to 38.9 per cent in 2002. This indicates that the reduction in rural bank branches in the nineties did have an influence on the accessibility issue in the rural areas. Thus, the influence of the declining trend of the bank branches in rural areas had been felt in marginalisation of the disadvantaged sections from accessing institutional credit, especially in the underdeveloped regions of the country.

Declining flow of credit for agriculture sector

Between 1991-92 and 2005-06 impressive growth in both production and investment credit to agriculture sector has been observed. The pace of growth had definitely been accelerated during the operation of the scheme of 'Doubling of Agriculture Credit'. Production credit, which was 60.7 per cent of the total credit flow of Rs.13,915 crore (real terms) in 1991-92, had declined to 58.5 per cent of the total credit flow of Rs.92,125 crore (real term) in 2005-06. However, although co-operative banks are in close proximity to the rural people, the share of cooperative banks in the total credit flow for agriculture sector had declined from 53.7 per cent in 1991-92 to 21.9 per cent in 2005-06. Further, the share of the regional rural banks in the total credit flow had increased from 5.1 per cent in 1991-92 to only 8.5 per cent in 2005-06, when with the existing branch network of over 14,494 branches, they could meet 25 per cent of the credit needs of the rural areas.

Slow down of credit flow to rural areas

The ratio of rural lending to total lending has been steadily declining during the 1990s. The total credit of the scheduled commercial banks, in nominal terms, had increased from Rs.1,21,865 crore in 1991 to Rs.15,13,842 crore in 2006. However, the share of rural areas in the total deposits and credit of the scheduled commercial banks, at 15.5 and 15 per cent, respectively, in 1991, decreased to 10.8 and 8.3 per cent respectively, in 2006, reflecting perhaps the inability of rural areas to absorb funds for developmental purposes or the reluctance on part of the credit agencies to provide credit in such areas.

Growing Skewness in credit flow - Neglect of small and marginal farmers

Total credit outstanding for scheduled commercial banks to all sizes of farmers in 1991-92 was Rs. 13,346 crore which increased to Rs. 78,476 crore in 2004-05. But over the years for the marginal and small farmers the distribution of credit by land size has not improved in the last decade. The share of marginal farmers (land size less than 2.5 acres) increased from 28 per cent in 1981-82 to 29 per cent by 1991-92 but declined to 26 per cent in 2004-05. The share of small farmers (land size 2.5 to 5 acres) increased from 21 per cent in 1981-82 to 25 per cent in 1991-92, and thereafter marginally increased to 26 per cent in 2004-05. The share of cultivators above five acres fell from 52 per cent in 1981-82 to 46 per cent in 1990-91 and rose again to 48 per cent in 2003-04. Additionally, in terms of the share in number of accounts between 1991 and 2004-05, the share of marginal farmers declined from 45.42 to 39.56 per cent whereas the share of the small farmers remained stagnant at 31 per cent during the same period. The farmers having land 5 acres or above increased their share to 28.59 per cent in 2004-05 from 23.15 per cent in 1991-92. Thus, over time, while credit deepening has taken place, credit widening has yet to be effectively addressed. The decline in the share of credit of marginal farmers calls for urgent steps to strengthen their absorptive capacity along with an increased credit flow. There is also a need to expand the share of small farmers in total credit *(Report of the Expert Group on Agricultural Indebtedness, Government of India, July 2007)*

Insurance needs of the poor- low penetration

After bank savings deposits, life insurance is the second most preferred instrument. However, the participation of low-income groups in life insurance is limited. The IISS, 2007 survey, undertaken for the Committee on Financial Sector Reforms, has pointed out that only 14 per cent of people in the lowest income quartile and 26 per cent in the second quartile have life insurance as against 69 per cent in the highest income quartile. With regard to non-life insurance products the status is quite alarming as only one per cent of the population appears to have medical insurance.

Another area, which needs focus is agricultural insurance, as success here is very limited. The National Agricultural Insurance Scheme (NAIS) for farmers has found very limited success in its operations, which is reflected in the fact that for the past 6 years the payout from

the scheme has been in excess of the premia received (CFSR, Planning Commission, 2007). There is an urgent need to devise agri-insurance products suited to ground level conditions and which are financially viable for private players to enter the field. Since the poor are exposed to high levels of risks, it becomes difficult for them to obtain *insurance at affordable rates.* Thus, it becomes imperative to bring down levels of risks through physical methods- soil and water conservation for reducing drought risk in the case of crop insurance, preventive health care and safe drinking water and sanitation in case of health insurance, herd vaccination in the case of livestock insurance (CFSR, Planning Commission, 2007). Thus, investments in these sectors shall have the effect of reducing the intrinsic risk, which in turn would reduce the premia and minimize the need for subsidies.

Microfinance

The sector has grown at a fast pace and the predominant model, the SHG- Bank Linkage program has gone on to become one of the largest microfinance interventions in the world. Evidence exists that microfinance has helped in reducing poverty in developing countries apart from having wider positive impact on socio-cultural issues, such as women's empowerment, nutrition, etc[22].

The IISS survey revealed that lending by microfinance institutions acts as a competitor to moneylenders and other informal lending institutions and hence to that extent acts an additional source of borrowing for people of the lower income segment. The survey also points out that not all credit needs are fulfilled by the SHGs thereby indicating the potential for the growth of microfinance institutions. Even though the positive externalities associated with the growth of microfinance are well recognized, it still remains a "non institutional" channel for financial inclusion. In the Indian context, during the nineties microfinance was able to fill the vacuum created by the mainstream banks which under the influence of "liberalization" started finding the poor non-bankable and non-credit worthy. But the moot question to ask is, can microfinance become a substitute for "institutional credit"?. Another issue of importance is to establish a proper regulatory environment for the sector, which at present does not exist.

22 Microfinance for Rural People – An Impact Study, (2001), Puhazhendhi, V and K J S Satyasai, NABARD.

Issues relating to the real sector influencing Financial Inclusion

As indicated in earlier sections the link between financial development and economic growth is well recognized in literature[23]. In fact, the complementarity between the two sectors (real and financial) is crucial for the engine of growth. Studies based on cross -section data, have also observed that more developed financial systems are associated with lower inequality and lower financial exclusion[24].

The widening and deepening of financial system, especially the banking network, links development of real sector through opening of branches in relatively less banked or un-banked areas and transferring of funds from net savers to net borrowers and thereby facilitating capital formation. Further, physical access to growth centres through development of a rural road network unleashes the productive capacity of the people living in rural areas and generates positive externalities[25]. Rural roads, by themselves, can be considered a powerful instrument of financial inclusion. Moreover, analysis of State level data has confirmed that increased banking network and per capita income enhanced savings as well as credit inclusion[26]. However, it needs to be recognized that the link between the real and the financial sector becomes tenuous if there emerge constraints/ obstacles in the real sector that hinder the flow of finance. Prudent policy measures are called for to remove the obstacles rather than directing credit into the sector, as such a move may prove counter productive jeopardizing the linkage. It would be in place to mention briefly some of the real sector issues that are an obstacle to further financial inclusion in the Indian context.

Large multiplier effects can be reaped by the small and marginal farmers if the working of the land and water markets in India are freed

---

23 The refered article provides a good survey of the links as well as the issues- Levine R.(1997), "Financial Development and Economic Growth", Journal of Economic Literature

24 World Bank (2007), 'Finance for All:Policy and Pitfalls in Expanding Access", Policy Research Report, http//go World Bank.org/

25 Based on primary level data, NABARD has conducted studies which have shown the positive net benefits accruing at the village and household level emanating from rural roads.

26 Sangwan, S.S. (2008), "Financial Inclusion and Self Help Groups", A Paper prepared for Conference on Financial Inclusion at IGIDR, Mumbai

from the infirmities hindering their smooth functioning. There is a need to develop both these markets simultaneously so that resources flow into both thus lending to an increase in credit demand.

Land Market- access to land

In many ways, for marginal farmers, access to land also determines access to other resources. In the past, ceiling legislations were enacted with the objective of sequestering land from large holdings and distributing the same to landless labourers or marginal farmers. But this policy met with very limited success. There is a need to have in place a market friendly land reforms policy wherein, (a) small farmers should be encouraged and enabled to expand their holding by purchasing/leasing–in land and (b) large farmers should be encouraged to sell/lease out land and be offered opportunities to take up/start non-farm rural enterprises.

The large farmers as a group have resources, access to institutional support and a better risk bearing capacity hence it is advisable that as a group they be encouraged to take up non-farm activities like agro-processing and rural industries involving higher ticket loans and banks would be more than willing to finance these as it reduces their transaction cost. Alongside if steps are taken to create a well functioning and vibrant lease markets it shall enable small farms to increase their operational areas. For achieving the objective of 'free lease markets' urgent efforts are required for having proper record of rights; clear enunciation of the rights and obligations of the landowner and the tenant; effective IT enabled machinery for monitoring and adjudication; and computerisation of land records

On their own, small farmers may find it difficult to negotiate land purchase deals. Is it possible for some state agency to undertake this role by purchasing land at market prices from the large farmers and selling it to the small farmers? Credit agencies can be made partners in this arrangement by offering financial support to small farmers to expand their holdings.

Water Markets

Water User's Associations (WUAs) were created (in many states) as the primary organisational units of irrigation water users with the primary objective of maintaining the physical infrastructure and

resolving conflicts over water distribution, etc. The initial cost of setting-up the WUAs by holding elections and training is usually borne by the government thereby reducing the transaction cost for the new institution (in this case WUAs) to operate effectively. The results in this case have been mixed. Some studies have observed that they were successful in carrying out maintenance and repair works which led to an increase in irrigated area in the initial years. However, their ability to collect water cess and prevent illegal withdrawals of water is yet to be established. They have not yet been able to evolve rules of water sharing and influence access to water. At times this has been attributed to the domination of the local elite in the leadership structure. So what are the implications for Financial Inclusion? These WUAs were the new institutions created with the assistance of the state governments with the hope that they would in due course of time become an economic agent (entity) and shall be able to deal, interact and transact business with other economic agents (like banks) in the area which shall be beneficial for both. But this has not happened. The functioning of WUAs is crucial for creation and penetration of viable water markets in rural areas. Credit through the banking system shall only then flow in.

The experience in eastern India with respect to ground water also provides adequate signals and important lessons for developing the water market. Eastern India has over one-fourth of the country's usable groundwater resources and less than one-fifth of it is developed. The policy makers took several initiatives to correct the situation. By the 1990's there were 30,000 large PTWs (public tubewells) constructed with World Bank support. However, this programme ran into problems and huge losses were being made by the mid 1990's. Since then the changing institutional scenario led to the emergence of the private pump-irrigation market. The number of private tubewells increased rapidly once the World Bank-PTW command covered an area. Private water sellers made inroads into the command of community tubewells and the PTWs. The study by Shah (2001) observes "that though the pump-irrigation markets have played havoc with the public and collective irrigation institutions which were focused on securing access for the poor, ironically it was the poor water buyers who disowned PTWs and community tubewells to turn to private water markets because of their superior and more reliable- even if costlier-irrigation service."

Risk Management Measures in Agriculture

There is a need to look at risk mitigation measures as measures that would aid financial inclusion. Post liberalisation after the introduction of international capital adequacy and prudential norms the perceptions of bankers towards agriculture did undergo a change. The public sector bankers started perceiving agriculture as a 'high risk' business – much of this was due to the high NPA levels. This perception was reflected in bankers shying away from agriculture lending. Such a policy stance may have done more harm to the banking system/bankers, as in a developing economy like India it should be the medium term objective of monetary and credit policies, to try and change the risk profile of the agricultural sector itself. Credit, whether short term and long term, should be viewed as both growth-enhancing and risk reducing instrument. A typical example is investment in irrigation.

The farmers in general are exposed to risks arising from various sources, e.g., credit uncertainty, rainfall variability, market price fluctuations, and that arising from adoption of new technology. The diversities in the sources of risks require a variety of instruments for protecting the farmers. In India, these include insurance covers for crop, rainfall, farm income and a calamity relief fund. Except for crop insurance, the others are in experimental stages *(Report of the Expert Group on Agricultural Indebtedness, GOI, July 2007)*. In this aspect, presently there exists hardly any mechanism whereby the small farmers can access the commodity markets and benefit directly from it. If this happens then the link between commodity production and commodity markets not only sets strengthened but also reduces the risk facing the farmers. In this regard, RBI should allow banks to take positions in the commodity markets and hedge on behalf of the farmers / farmers' organisations.

Section XII: Future Strategies

Based on the various issues discussed in the paper, an attempt has been made in this section to list out strategies that will aid in furthering financial inclusion, especially credit inclusion.

Demand side Factors

Grass root Level Organizations: Involvement of grass root level organizations like farmers' club and NGOs would lead to inclusion of the disadvantaged as they ensure local participation and help farmers in gaining access to credit and technology. A vibrant extension machinery would enhance farm productivity and hence, greater demand for banking activities in rural areas. For example, NABARD has 28,226 Farmers' Club (as on 31 March 2008) spread over various villages in the country. These clubs need to be envisaged as touch points by the banks and can be utilized in the task of financial inclusion. The main advantage in involving such grass root organization is the large multiplier effects they generate along with the positive 'demonstration effects' among the target groups.

Rural Infrastructure: Infrastructure development is an essential prerequisite for attaining greater inclusive growth. Adequate rural infrastructure facilities and improvements in terms of availability of electricity, improved connectivity through provision of rural roads and telecommunications, construction of warehouses and market infrastructure are expected to lead to efficient supply chain management in agriculture and hence greater demand for banking activities in rural areas.

Financial Education: Lack of knowledge is an important reason for financial exclusion. Financial education is required to ensure that large sections of population in urban and rural areas that do not have access to formal banking and financial services are educated of the advantages of coming into the fold of such services. It would help in building informed consumers and would result in a win- win situation for all. Setting-up of credit counseling centre by banks, which would advise public on gaining access to the financial system would help in this regard.

Deceleration in Agricultural Growth: The yield of most of the agricultural commodities is low leading to less demand and supply of credit. For instance, the cultivation of commercial crops requires

more funds due to increased cost of production. Similarly, irrigation also enhances the level of production. Hence, increase in area under commercial crops and increase in irrigated area to gross cropped area is expected to positively determine the supply of credit. Moreover, large investments in infrastructure are required for increased agricultural growth, which will also generate employment for semi skilled workers.

Supply side Factors

Less Outreach: Due to insufficient branch networking in rural areas, banks are unable to reach the rural customers. This declining trend of the bank branches in rural areas has led to marginalisation of the disadvantaged sections from accessing institutional credit, especially in the underdeveloped regions of the country. The relatively high transaction cost in dealing with a number of small accounts and small volumes of loans negatively impacts further expansion. Outreach can be increased through intermediaries like SHGs, MFIs, civil society organizations, etc., through the use of business facilitators and business correspondents. Mobile banks need to be promoted to resolve the problem of access to isolated and remote regions.

Mobile Banking: As elaborated in the section on role of technology, banks need to aggressively adopt mobile banking as a strategy for increasing their outreach in the rural areas. This would offset the decline in number of rural branches of schedule commercial banks, a trend visible post 1995. In our country where the majority of the population lives in rural areas, the mobile phone can be converted into a 'virtual bank'. To operationalise mobile banking, banks need to negotiate with mobile operators and arrive at a mutually agreeable solution (with regard to the technology platform to use, security concerns, etc.). Further, regulatory mechanism to support mobile banking with cash in/ cash out facilities also need to be put in place as early as possible.

Human Resource Constraints: There are human resource constraints also in rural bank branches. The total number of officers in rural branches of scheduled commercial banks including Regional Rural Banks was 59276, which means the ratio of population per officer was 12512 in rural areas while the same was 11120 in urban areas.

Inefficient Financial Sector: Problems in credit access are routed in institutional weaknesses like absence of good credit appraisal, risk management tools in banks, etc. An efficient and organized financial

sector contributes to growth by mobilizing savings for capital formation and investment and optimizes the capital allocation, which results in productive activities in the economy. Technology and computerization can reduce the operational cost in rural areas for public sector banks and customer friendly bank products can be developed with the help of technology. Improvements in credit delivery system by extending timely and adequate credit is also required.

There are lots of challenges in reducing the adverse consequences of exclusion and including large sections of the society. The productivity of the small and marginal farmers, rural non-farm enterprises and other vulnerable groups is required to be sustained with viable economic activities. Rural banking needs to be friendly to small and marginal farmers and other vulnerable groups to make inclusive finance successful. A specific type of organisational ethos, culture and attitude (Rangarajan, 2005) is required. There is also a need for effective coordination among the various agencies (banks, NGOs, MFIs, Govt.) participating in inclusive growth.

Technology: As elaborated earlier, technology is the key to providing low cost financial services in rural areas. It can reduce transaction costs sharply and time taken by banks in processing applications, maintaining accounts and disbursing loans. It has the potential to address the issues of outreach and credit delivery in rural areas, in a cost effective manner. However, from the standpoint of 'inclusive banking', it needs to be realized that technology *per se* is not an end in itself. For it to be effective, it has to aid the reform process, which intends to strengthen the co-operative banks, revitalizing the omnipresent primary co-operative credit society, addressing the problems of RRBs, etc. The point is that technology should not be seen as a panacea for all ailments affecting the banking sector

BC/BF Model: Banks are showing keen interest in pursuing the BC / BF model for attracting new customers. Banks should ensure that the banking awareness created and potential identified by BFs get translated into business propositions by providing suitable banking services in the area. One way of doing this is to provide mobile outlets, which could visit the various locations, as per a schedule programme, so as to purvey banking services to the excluded.

Micro Finance Institutions

The rural Micro Finance Institutions (MFIs), which have emerged as a powerful tool for fighting poverty, may be made a part of the financial

system for effective delivery of rural financial services. The banks need to gear up their rural branches for facilitating bank linkages of SHGs and JLGs where the programmes have not shown satisfactory progress. The Business Correspondence models (MFIs, NGOs, etc.), as recommended by the Internal Group on Micro Finance (Khan Committee), may also be put in place, which will increase banking outreach.

Other Measures

Monitoring Financial Inclusion: For effectively monitoring the progress in achieving financial inclusion an index on the lines suggested in this paper may be constructed and progress monitored. This is essential to enable policy makers to keep a pulse on the situation with respect to financial inclusion.

Conclusion

Despite the laudable achievements in the field of rural banking, issues such as slow progress in increasing the share of institutional credit, high dependence of small and marginal farmers on non-institutional sources, skewed nature of access to credit between developed regions and less developed regions loom larger than ever before. Therefore, the key issue now is to ensure that rural credit from institutional sources achieves wider coverage and expands financial inclusion. For achieving the current policy stance of “inclusive growth” the focus on financial inclusion is not only essential but a pre-requisite. And for achieving comprehensive financial inclusion, the first step is to achieve credit inclusion for the disadvantaged and vulnerable sections of our society.

The state has to play an important role in financial markets. The role itself is necessitated due to pervasive market failures which in the current globalised scenario is not a rare occurrence. In developing countries both market and government as institutions have their limitations, but it is necessary to design government policies that are attentive to those limitations. Financial Inclusion is one such intervention that seeks to overcome the frictions that hinder the functioning of the market mechanism to operate in favour of the poor and underprivileged.

References

Banking on mobiles: Why, How, for Whom?, 2008, Mas and Kumar, World Bank.

Banking for the Poor: Evidence from India, EEA Meetings, 2004, Pande R, G Wong and Burgess, R.

Credit Rationing in Markets with Imperfect Information, June 1981, Stiglitz and Weiss, American Economic Review.

Committee on Financial Sector Reforms (Draft Report), 2008, Planning Commission, Government of India.

Do Rural Banks Reduce Poverty ? Evidence from the Indian Social Banking Experiment, Working Paper Series No 04 / 104, 2003, Burgess, R and Pande, CMPO.

Financial Intermediation and Growth: Causality and Causes, 2000, Levine, Loayza, Norman, Beck, Thorsten, Journal of Monetary Economics 46.

Financial Development and Economic Growth: A Critical View, Background paper for World Economic and Social Survey, 2006, Valpy FitzGerald, Oxford University.

Finance Inequality and Poverty: Cross-Country Evidence, June 2004, Thorsten Beck, Demirguc-Kunt, and Ross Levine, World Bank Policy Research Working Paper 3338.

Finance for All? Policies and Pitfalls in Expanding Access, World Bank Policy Research Report, 2008, World Bank, Washington DC

A Financial System for India's Poor, 2005, Priya Basu, Economic and Political Weekly, No 37.

Financial Development and Economic Growth: Views and Agenda, June 1997, Ross Levine, Journal of Economic Literature, Vol. XXXV.

Improving Access to Finance for India' Rural Poor, 2008, Priya Basu, World Bank.

Index of Financial Inclusion, 2007, Mandira Sarma, ICRIER, New Delhi.

Moneylenders and bankers : Price increasing subsidies in a monopolitically competitive market, 1998, Karla Hoff and Joseph Stiglitz, Journal of Development Economics, Vol 55.

Microfinance for Rural People – An Impact Study, 2001, Puhazhendhi, V and K J S Satyasai, NABARD.

The Economics of Microfinance, 2007, Beatrize, Armendariz and Jonathan Morduch, Prentice Hall of India Pvt. Ltd.

The Next Billion Customers: A Road Map for Expanding Financial Inclusion in India, 2007, Sinha, J. and A. Subramanium, Boston Consulting Group.

Reaching Out: Access to and use of banking services across countries, 2005, Thorsten Beck, Asli Demirguc-Kunt and Maria Soledad Martinez Peria, World Bank Policy Research, WPS 3754, World Bank.

Report of the Committee on Financial Inclusion, 2008, Government of India.

Report Of the Expert Group on Agricultural Indebtedness, 2007, Ministry of Finance, Government of India.

Rural Finance Access Survey (RFAS), 2005, Priya Basu, World Bank and the National Council of Applied Economic Research (NCAER).

Annexure I

Economics of Financial Inclusion- Detailed Results

Additional loan amount

Using the projection of population estimate (Census General, GoI) for rural India and the ratio of population above 18 years of age for March 2006, rural adult population has been estimated at 48.69 crore(Table A1). Assuming 3 adult members per family, number of rural households has been worked out to 16.23 crore(14.79 rural household estimated at NSSO 59th Round for 2003).

Table A1: Estimation of rural household in India

Sr. No.	Particulars	Extent
1	Total population in the country as on March 2006 (Census General of India)	111.77 crore
2	Rural population above 18 years of age[i]	48.69 crore
3	Number of households in rural area[ii]	16.23 crore

i with a share of 61.36 % of population above the age of 18 year(Census General of India) and 71 per cent of total population in rural area

ii assuming 3 adult members/household

Loan amount disbursed by the scheduled commercial banks and co-operative banks (both short-term and long-term) and the number of accounts were used to estimate average loan amount for the analysis. Details of loan disbursed in the country as on 31 March 2006 is given in Table A2. Based on the data contained in Table A2, average loan amount per account in rural area in the country has been arrived at Rs. 36650.

Table A2 : Details of banks account (as on 31 March)

(a/cs in lakh and amount in Rs. crore)

Category		2002		2006	
		Accounts	Amount	Accounts	Amount
Scheduled Com. Banks	Rural	251.02	66681.90	290.54	199422.87
Cooperative banks	DCCBs*	555.00	59283	451.00	79693.00
	ARDBs	*98.92*	*21328.8*	***103.89*	*30593.00*
Total		904.94	147293.7	845.08	309708.87

* Number of credit account refers to borrowing number in PACS & ARDRBs

**in respect of 31 March 2005

Source : (1) BSR, 2006, (2) NABARD

Based on the NSSO estimation[27], 26.5 per cent of the rural households are indebted to any kind of source. For all rural households taken together, at the all India level, 13.4 per cent of the total number of rural households are indebted to institutional sources and 15.5 per cent were indebted from non institutional sources. Though the total number of loan account in the country as at end-March 2002 was 904.94 lakh (Table A1), considering the possibility of multiple/ inoperative accounts/NPA and the share of households having access to institutional credit (observation of the NSSO), it is calculated that the number of household in rural area having loan accounts in formal institutions is 217.48 lakh (Table A3).

With the average loan size of loan amount at Rs.36650 for the year 2006, additional loan amount required to implement full financial inclusion (providing loan account to 90 per cent of the total rural household, assuming 10% of the population belonging to the category who does not want any loan account) is worked out to Rs. 455640 crore.

Table A3 : Estimation of loan amount required for full financial inclusion in India

Sr. No.	Particulars	Extent
1	Total loan a/c as on 31 March 2006	904.94 lakh
2	Estimated households having access to loan a/cs[i]	217.48 lakh
3	Households not covered by loan a/cs (5-6)	1405.52 lakh
4	No. of loan account for full financial inclusion[ii]	1243.22 lakh
5	Average loan amount per a/c in rural area	Rs. 36650
6	Additional loan required to cover all household with loan a/cs[ii]	Rs. 455640 crore

i Assuming the possibility of multiple/inoperative accounts/NPA and the share of households access to institutional credit as per the observation of NSSO.

ii Gross NPA of Scheduled Commercial Banks and cooperative banks(both short and long term) at Rs.84227 crore during 2005-06 which worked out to almost 10 per cent of the total loan amount at full financial inclusion stage. Hencetotal loan requirement for full financial inclusion has been worked out by assuming provision of one loan account to 90 per cent of the estimated households by excluding 10 % ineligible borrowers.

27 GoI (2005) : Household Indebtedness in India as on 30.06.2002 , NSS 59th Round, Report No. 501, NSSO New Delhi.

Costs of Financial Inclusion

i. Costs of opening credit accounts

The financial inclusion (in terms of opening loan account in a formal banking institution) involves several costs to the borrowers- both direct and indirect. While financial cost incurred for opening account like processing fee, documentation fee, payment in obtaining documents (land records, search report, no-due certificate from other banks, identity certificate like ration card, driving license, etc), mortgaging and registration, etc. are considered direct costs, time spend on getting these formalities done is considered indirect costs of opening credit account. Data based on field study conducted by NABARD gives indications of the costs involved in opening a credit account(Table A 4).

Considering the life of Kisan Credit Cards, the major mode of loan disbursement in the country, at three years, the initial cost of opening loan account has been annualized to Rs.67 per annum in case of short term loans. Similarly, assuming average term of five years for term loan, annualized cost of opening account is worked out to Rs.490 per account.

Table A4 : Cost of opening loan accounts to borrowers

(Rs.)

Sr. No.	Particulars	State	Travel cost	Oppot'y cost of time spend	Other cost*	Total
1	KCC	Tamil Nadu	37	15	110	162
		Bihar	45	21	117	183
2	SHG**	Tamil Nadu	32	53	168	253
3	Tern loan	Maharashtra	-	-	-	2450

** Include cost incurred on photograph, certificates and documents, etc*
*** weighted average using the share of each model as weight*
sources : various field study reports, NABARD, Mumbai (unpublished)

Interest rate

Major cost of financial inclusion to the borrowers is the interest on the loan amount. For the scheduled commercial Banks, weighted average of interest rate charged to the borrowers during 2005-06 was 12.22 per cent (*BSR 2006*). For cooperative banks, considering the

range of 11 to 18 per cent (*NABARD and Rural Credit*), and the spread of loan in various slabs, interest rate at 13 per cent in case of PCARDBs and 12 per cent in case of ARDBs to borrowers have been considered as national average. Considering the share of various agencies in the total credit outstanding as on 31 March 2006, average interest rate is worked out to 12.34 per cent. Using the data above, cost of the total financial inclusion is worked out and presented (Table A5).

Table A5 : Costs of financial inclusion

(Rs. crore)

Sr. No.	Particulars	Amount
1	Additional loan for total Financial Inclusion	455640
2	Interest cost	56226
3	Other costs*	2588
4	Total costs	58814

**calculated at a ratio of 66.67 per cent short term loans and 33.33 per cent MT/LT loans*

Total interest burden for the additional loan amount required to cover all the household is worked out to Rs.56226 crore and other costs to Rs. 2588 crore taking total cost of financial inclusion from the borrowers side to Rs.58814 crore.

B. Benefits of Financial Inclusion

With the financial inclusion, it is expected that the barrier of acceptance to institutional credit will be removed and credit facility will be available to all at reduced interest (as compared to outside loans). As such two sets of benefits are perceived :

(i) Reduction in the interest cost on loan on account of shift from non-institutional sources of credit to institutional sources.

(ii) Net income from the investments made by those who avail credit afresh.

Reduction in interest rate: Interest rate charged for outside borrowing has been considered as 32 per cent per annum (calculated from the NSSO[28] Report). With financial inclusion, 15.5 per cent of the rural households will be getting access to the institutional credit and the interest cost will be reduced (Table A6).

Table A6 : Reduction in interest rate due to financial inclusion

(Rs. crore)

Sr. No.	Particulars	Before	After	Difference
1	Total loan from institutional sources	309709	765349	455640
2	% of households indebted to non institutional sources	15.5	0	-15.5
3	Number of households getting institutional credit (lakh)	0	251.56	251.56
4	Loan amount from institutional sources to item (2)	0	92197	92200
5	Interest to loan	29503	11377	18126

Reduction in interest cost on account of shifting of borrowing from non-institutional sources to institutional sources is worked out to Rs.18126 crore per annum.

Benefit from new investments : A substantial share of rural households who are not financially included is likely to avail institutional credit and derive net benefit. For calculation purpose net incremental income from the investment has been reckoned at par with that the average income realized by investment made out bank loan in rural area as observed from the studies conducted by NABARD[29]. Average net incremental income per investment of Rs. 100

---

28 GoI (2005) : Household Indebtedness in India as on 30.06.2002, NSS 59th Round, Report No. 501, NSSO New Delhi.

29 The estimation is based on 102 evaluation studies conducted over a period of two decades. These studies covered 20 states and more than 5200 samples encompassing investments like Minor Irrigation, Land Development, Farm Mechanisation, Plantation and Horticulture, Animal Husbandry, Fisheries and Hi-Tech sectors, etc These studies have been undertaken in respect of closed/ completed projects financed out of banks loans by allowing sufficient time period to ensure that the benefits emanating from investments are stabilized. The incremental income and cost of investment for various investments were calculated by comparing either pre and post investment conditions or with and without investment situations. To arrive at an average incremental income, average share of each sector in GLC flow for last four years has been considered to work out weighted average. The overall incremental income per year for credit-supported activities has been worked out to Rs.26.25 per investment of Rs.100.

has been worked out to Rs.26.25 per annum and incremental capital output ratio of 3.81).

Table A7 : Net income from investment on account of financial inclusion

(Rs. crore)

Sr. No.	Particulars	Amount
1	% of households providing loan to take up investment	61.1
2	Number of households getting institutional credit under item (1) (lakh)	991.63
3	Loan amount from institutional sources to item (2)	363440
4	Net incremental income	95403

Total incremental income from the added investment on account of financial inclusion is worked out to Rs.95,403 crore. Hence, total benefits to borrowers from full financial inclusion is estimated at Rs.1,13,529 per annum.

ANNEXURE II

	No.of a/c*	Amount of credit**	X1	X2	X3	X4	X5	X6
Andhra Pradesh	14.00	0.04	38.66	37.80	10.00	1.48	7.15	3.63
Assam	3.35	0.01	5.45	41.30	9.10	0.23	5.88	2.92
Bihar	5.24	1.28	57.94	33.40	8.00	0.08	7.48	1.18
Chhatisgarh	3.77	1.21	20.66	50.70	6.50	0.18	6.53	3.48
Gujarat	4.67	2.49	32.15	51.50	11.40	0.13	7.77	6.71
Haryana	5.41	3.93	81.39	47.30	16.20	0.04	7.69	6.65
Himachal Pradesh	9.75	6.66	18.82	51.60	20.80	0.54	20.22	22.34
Jammu & Kashmir	7.09	5.34	40.47	62.20	13.00	0.05	19.21	22.65
Jharkhand	6.39	1.66	9.71	41.10	6.30	0.20	8.87	6.55
Karnataka	10.25	4.33	23.60	48.50	10.70	0.76	10.12	5.34
Kerala	5.04	1.67	14.52	41.60	23.00	0.42	2.38	2.38
Madhya Pradesh	4.32	2.08	29.19	45.80	6.20	0.18	7.31	3.17
Maharashtra	4.02	2.84	16.53	46.60	14.50	0.22	6.80	3.03
Orissa	8.90	2.66	19.82	45.90	8.20	0.64	8.24	4.17
Punjab	7.00	8.42	96.99	52.00	17.90	0.03	11.83	16.48
Rajasthan	5.63	2.60	29.51	48.20	6.40	0.26	8.05	3.77
Tamil Nadu	13.44	4.21	46.63	33.00	12.30	1.04	8.07	5.59
Uttar Pradesh	6.90	2.05	40.70	47.50	8.90	0.18	7.27	5.18
Uttaranchal	8.19	3.29	69.08	47.20	14.50	0.42	15.65	13.05
West Bengal	5.71	1.33	51.21	40.70	7.70	0.26	6.32	4.23

* No.of accounts for every 100 persons in rural areas in 2004-05 (No.)

** Amount of credit for every 100 persons in rural areas in 2004-05 (Rs.lakh)

Where,

X1=Irrigated area as % of gross sown area in 2004-05 (% of total)

X2=Persons usually employed in rural areas in 2004-05 (% of total)

X3=Persons with education above secondary level in 2004-05 (% of total)

X4= No.of SHGs for every 100 persons in 2004-05 (No.)

X5=Bank offices for every 1 lakh persons in rural areas in 2004-05 (No.)

X6=Amount of deposit for every 100 persons in rural areas in 2004-05 (Rs.lakh)

Source:

No.of a/c, Amount of credit, X5 & X6 are from Banking Statistical Returns (Reserve Bank of India) for the year 2006-07

X1 is from Centre for Monitoring Indian Economy, 2007

X2 & X3 are from 61st NSS Report on Employment and Unemployment in India, 2004-05 (Report No.515)

X4 from 'Progress of SHG-Bank Linkage in India', 2004-05, NABARD