

Economic Effects on Food and Agriculture Sector of BRICS + 2 : A CGE Model Simulation Analysis

L. S. Sharma*

Abstract

This paper examines the economic impacts and welfare implications of Brazil, Russia, India, China and South Africa (BRICS) at inter-regional level. The study also evaluates of food and agricultural trade liberalization of these BRICS countries with two growing nations of South Korea and Mexico to see the economic and welfare impacts. The study is based on the GTAP (Global Trade Analysis Project) Model developed by Purdue University in United States. The study finds that among the BRICS countries China and Brazil are the main gainers from the food and agricultural trade liberalisation (SIM 1). India gains in terms of export of food and agricultural products when liberalisation is carried out by BRICS+2 (SIM 2 and SIM 3) and while importing of food and agricultural products while full liberalisation is of India tariffs are drawn (SIM 2).

Keywords BRICS, GTAP, trade liberalization, tariffs, welfare

Introduction

Also known as the “Big Four”, BRIC is a grouping acronym that refers to Brazil, Russia, India and China. Initially coined by Jim O’Neill in 2001 in a research paper entitled “Building Better Global Economics: BRICs”, the acronym has been popular due to the shift from the developed economies of G7 towards the developing countries. It is estimated that BRIC countries will overtake G7 economies by 2027 as per the report of Goldman Sachs.

Goldman Sachs has opined that the BRIC countries are developing rapidly that by 2050, their combined economies could overshadow the combined economies of the current richest countries of the world. These four countries combined together accounts for more than a quarter of the world’s land area and more than 40 percent of the world’s population. There has been some indications that the BRIC countries are seeking some form of alliance and thereby converting their growing economic power into a greater geopolitical clout (Mortished, 2008). In 2009, the leaders of the BRIC countries held their first summit in Yekaterinburg and issued a declaration calling for the establishment of an equitable, democratic and multipolar world order (Halpin, 2009). Since then, in 2010 at Brasillia, in 2011 in Sanya and in 2012 in New Delhi summits has been held. Although, the core members were Brazil, Russia, India and China, then South Africa joined in 2011, forming henceforth BRICS. There were some opinions about South Africa joining BRICS as its economy is a quarter of the size of Russia’s economy joining BRICS.

BRICS was never intended to be an investment thesis. It was primarily a political move and in Goldman Sach’s opinion it was not organized as an economic block or a trading association. Our study assumes that there is going to be a free trade or trade liberalization within these countries of BRICS. The study also includes Mexico and South Korea as the emerging countries who are the world’s 13th and 15th largest by nominal GDP just behind the BRICS and G7 economies. Goldman Sachs proposes to add Mexico and South Korea to the current BRICS.

Research Questions

Trade in agriculture sector has been gaining attention in the recent years. It also has been

* Associate Ptofessor, Department of Management, Mizoram University, Aizawl. e-mail : lsksharma@yahoo.co.in

viewed as an engine for growth and development. With the development and expansion of markets with the removal of distortions caused by high level of protections in agriculture, global trade helps to improve competition and growth. India's economy with its high prevalence of rural poverty and hunger, can improve by liberalized trade policy. Liberalised trade policy can reduce poverty and food insecurity as in the case of Latin American countries. Although BRICS are the largest developing countries, researchers seem to agree that trade openness will lead to a positive effect on economic growth. Trade liberalization leads to efficient use of resources.

Economics does not favour for the export subsidies. Apart from causing economic inefficiencies and higher cost to the consumers and tax payers in the subsidizing country itself, subsidies can inflict negative effects to the trading partners. Although many countries are trying to protect their food and agricultural industries, they also argue that trade in food and agricultural products are linked to food security which cannot be left alone to the market forces. Is trade liberalization welfare enhancing? This study has been proposed to answer this question.

GTAP and Analyzing Welfare Effects of BRICS

Simulation analysis based on a Computable General Equilibrium (CGE) model is typically used to estimate the economic effects of Free Trade Agreements (FTA) and/or economic integration. In CGE models, certain assumptions are made on behaviours of producers, consumers and governments. For example, producers are assumed to maximize profits while consumers to maximize utility. As for government spending, many models assume that government collects revenues from various types of taxes including direct and indirect taxes and import tariffs and allocates its expenditure among different products according to pre-fixed sectoral shares. Most CGE models assume perfect competition in product/service markets as well as in markets for the factors of production including labor and capital. The Armington assumption,

Table 1. Basic Statistics of Economics

Countries	GDP(US \$ million)	(Share of BRICS + 2)	Per capita GDP (US \$ million)	Population (millions)	(Share of BRICS +2)	Exports (US \$ million)	(Share of BRICS + 2)	Imports (US \$ million)	(Share of BRICS + 2)
India	477342.20	13.23	462.48	1032.13	36.71	60562.53	6.12	67355.54	6.12
Brazil	502502.80	13.93	2916.61	172.29	6.13	68408.63	6.91	78989.23	7.18
Russia	309947.90	8.59	2127.15	145.71	5.18	99489.05	10.05	113180.90	10.29
China	1159031.00	32.13	912.69	1269.91	45.16	379467.80	38.32	429584.20	39.06
South Africa	113273.10	3.14	2611.78	43.37	1.54	39911.32	4.03	44308.67	4.03
Mexico	617819.90	17.13	6121.88	100.92	3.59	165602.10	16.72	170946.60	15.54
South Korea	427646.10	11.85	8987.94	47.58	1.69	176913.60	17.86	195341.90	17.76
Total	3607563.00		24140.54	2811.91		990355.03		1099707.04	

Source: GTAP Ver.6

in which products are differentiated according to their production sites, is applied to the structure of consumption and production in goods and services. Moreover, in virtually all the CGE models, factors of production, labor and capital, are assumed to be mobile among sectors within a country but immobile across borders. Furthermore, since most models are static in the sense that no time dimension is explicitly considered, a comparative static simulation analysis is employed. This section analyzes the economic effects of BRICS using a CGE model with the characteristics described. The study employs the Global Trade Analysis Project (GTAP) model, the most pervasively utilized CGE model, and the GTAP 6 database ver.6 that corresponds to the global economy in the year 2001.

The GTAP ver.6 database comprises of 87 regions and 57 sectors. In our analysis, 87 regions are aggregated into 7 regions (Table A.1 in the Appendix), and 20 sectors are aggregated into 1 sector (Table A.2). Table 1 presents basic economic data extracted from the GTAP database for 7 countries/regions. From this table, we can observe that income levels considerably vary among the 7 BRICS+2 economies. India's economy account for 13.22 percent of the total BRICS+2 GDP. Exports and imports, just China accounts for 38.32 percent and 39.03 percent of the region's exports and imports respectively. Table 2 shows bilateral import-weighted average tariffs, calculated by using bilateral import values at domestic prices and world prices. In scenarios of full trade liberalization in food and agricultural sector, all tariffs in Table 2 are removed. More specifically, when trade is fully liberalized among India, Brazil, and Russia with a significant amount of trade, tariffs are removed such as India's tariffs of 12.13 percent on imports from Brazil, Brazil's tariffs of 38.23 percent on imports from India, India's tariffs of 7.94 percent on imports from Russia, and so on.

Table 2: Bilateral Average Tariffs by Trading Partners

Countries	India	Brazil	Russia	China	South Africa	Mexico	South Korea
India	-	12.13	7.94	13.91	3.03	14.34	44.66
Brazil	38.23	-	29.24	93.30	12.57	19.56	240.24
Russia	30.38	10.95	-	18.09	6.25	6.99	11.18
China	23.84	9.03	13.62	-	11.34	12.69	156.00
South Africa	37.98	11.61	9.18	19.85	-	10.45	31.03
Mexico	36.82	15.91	31.24	9.28	5.89	-	23.13
South Korea	27.43	13.72	16.82	20.39	8.04	18.51	-

Source: GTAP Ver.6

Simulation methodology

The key research question of the paper is to find answers on the effects of tariffs on food and agriculture sector on the trade among the BRICS countries including South Africa and Mexico. The research focuses on the reduction or elimination of food and agricultural trade barriers within the region is of course important in establishing a BRICS+2 FTA. Considering that inter-regional trade has already grown dramatically in the world, our analysis investigates the effects of elimination (or reduction) of trade barriers in food and agriculture.

In order to evaluate the significance of the BRICS+2 framework, this study basically focuses on the impacts of FTA among the regions and compares their effects. For trade liberalization, the effects of elimination and/or reduction of trade barriers to both exports and imports are investigated. The study examines the scenarios not only of trade liberalization in food and agricultural sector by all countries but also food and agricultural trade liberalization by India only as well as of food and agricultural trade liberalization by BRICS+2 countries excluding India.

The scenarios with a combination of food and agricultural trade liberalization, various facilitation measures, and technical assistance in our simulations are as follows:

SIM 1: Full trade liberalization in food and agricultural sector of all regions (BRICS)

SIM 2: Full trade liberalization in food and agricultural sector of BRICS regions (without India)

SIM 3: Full trade liberalization in food and agricultural sector by India only

Based on the results of these simulations, we discuss the significance of the BRICS framework, focusing on the effects of trade liberalization, various welfare measures such as gross domestic product, exports, imports and value of the output in the region in the next section.

Results of the simulation analysis

Table 3: GDP of the BRICS+2

Countries	Before Simulation	SIM1	Percent change	SIM2	Percent change	SIM3	Percent change
India	477342.2	477059.0	-0.06	476847.1	-0.10	477554.1	-0.04
Brazil	502502.8	508497.5	1.19	508505.4	1.19	502494.9	0.00
Russia	309947.9	309827.0	-0.04	309832.2	-0.04	309942.8	0.00
China	1159031.0	1162387.0	0.29	1162405.0	0.29	1159013.0	0.00
South Africa	113273.1	113216.9	-0.05	113217.9	-0.05	113272.1	0.00
Mexico	617819.9	617725.6	-0.02	617730.3	-0.01	617815.3	0.00
South Korea	427646.1	432368.2	1.10	432434.0	1.12	427580.2	0.02

*Source: GTAP Ver.6

**Amount in Million \$

Table 3-6 display the estimates of the effects on GDP, exports, imports and value of output under three different simulations. These simulations provide interesting insights to the trade of the service sectors. Full trade liberalization in food and agriculture sector among all regions brings positive changes to all countries except for India, Russia and South Africa (SIM 1). Liberalization by BRICS+2 countries except India (SIM 2) brings positive changes to all countries except for India, Russia, South Africa and Mexico. Simulation 3 shows that a positive change is observed for South Africa except for the rest of the countries of BRICS+2 which is again reflected that India's food and agricultural sector liberalization does not have an impact on other countries.

Table 4: Food and Agriculture Exports of the BRICS+2

Countries	Before Simulation	SIM1	Percent change	SIM2	Percent change	SIM3	Percent change
India	6892.75	6802.19	-1.31	6677.60	1.81	7017.34	1.81
Brazil	16222.07	19634.46	21.04	19637.16	-0.02	16219.36	-0.02
Russia	3962.52	3758.56	-5.15	3759.83	-0.03	3961.25	-0.03
China	15810.01	20710.13	30.99	20720.73	-0.07	15799.41	-0.07
South Africa	3938.91	3867.06	-1.82	3867.74	-0.02	3938.24	-0.02
Mexico	8019.08	7972.31	-0.58	7972.41	0.00	8018.98	0.00
South Korea	2565.85	3509.41	36.77	3502.94	0.25	2572.32	0.25

*Source: GTAP Ver.6

**Amount in Million \$

In terms of food and agricultural exports and imports components which are displayed in table 4 and 5, observations shows that India gains in simulation 2 and 3 for export and loses more in imports of simulations 2 and 3, while rest of the countries losses in terms of imports and exports. Among the BRICS countries China is the main gainer interms of simulation 1 for export and South Korea loses the highest in terms of simulation1 for export (37.56 percent).

Table 5: Food and Agriculture Imports of the BRICS+2

Countries	Before Simulation	SIM1	Percent change	SIM2	Percent change	SIM3	Percent change
India	7498.37	7398.89	-1.33	7262.73	12.60	8443.35	12.60
Brazil	17409.81	21027.80	20.78	21030.70	24.18	21620.24	24.18
Russia	4199.50	3982.75	-5.16	3984.09	6.96	4491.68	6.96
China	17110.67	22374.00	30.76	22385.36	27.15	21756.83	27.15
South Africa	4419.70	4341.08	-1.78	4341.82	15.10	5087.01	15.10
Mexico	8724.08	8673.95	-0.57	8674.05	4.93	9153.94	4.93
South Korea	2772.16	3813.32	37.56	3806.16	14.60	3176.76	14.60

*Source: GTAP Ver.6

**Amount in Million \$

Table 6: Value of sales of Food and Agriculture outputs of the BRICS+2

Countries	Before Simulation	SIM1	Percent change	SIM2	Percent change	SIM3	Percent change
India	188748.30	188103.60	-0.34	187833.90	-0.48	188748.30	0.00
Brazil	105433.80	111460.40	5.72	111466.30	5.72	105433.80	0.00
Russia	60938.38	60627.81	-0.51	60634.35	-0.50	60938.38	0.00
China	453826.20	459691.60	1.29	459727.50	1.30	453826.20	0.00
South Africa	24778.63	24658.78	-0.48	24660.02	-0.48	24778.63	0.00
Mexico	139175.90	139058.50	-0.08	139062.30	-0.08	139175.90	0.00
South Korea	70367.02	56918.83	-19.11	57013.77	-18.98	70367.02	0.00

*Source: GTAP Ver.6

**Amount in Million \$

Table 6 displays the value of output of the food and agricultural sector under the conditions of the three simulations. It has been observed that the percentage gain is positive for China and Brazil. The output shows that simulations brings in an improvement for Brazil in the value of production for consumption within the country itself. The value of output in terms of food and agriculture is the lowest for South Korea as the focus may shift to manufacturing sector.

As the results of SIM 1 to SIM 3 suggest, full trade liberalization in food and agricultural sector does yield a certain degree of economic effects. It is also observed that a comprehensive FTA covering not only food and agricultural liberalization is not feasible alone but also other sectors of manufacturing and other services such as facilitation measures and technical collaboration etc. are likely to have much greater impact. The analyzed scenarios are of full trade liberalization in food and agricultural sectors by all countries (SIM 1), full trade liberalization in the food and agricultural sector by BRICS+2 without India (SIM 2), and full trade liberalization in food and agricultural sector by India only (SIM 3). Regardless of whether GDP, economic welfare, or trade, positive economic effects are greater in scenarios of full liberalization of food and agricultural sector are beneficial for the countries Brazil and China.

The effects of foreign direct investments have not been taken into consideration in these simulations. There has been an increase in FDI contributing towards expansion of capital accumulation particularly in developing countries, however, the economic impacts of the BRICS+2 FTA would be even greater than those indicated in our simulations. Implementing various facilitation measures in addition to trade liberalization should further stimulate foreign direct investment which would be beneficial to the member countries.

Conclusions

This study examined economic impacts of BRICS+2 by using a simulation analysis based on a GTAP CGE model to assess the effects of food and agricultural sector liberalization focusing on the effects of trade liberalization. Our results of three scenarios, including those with only trade liberalization demonstrates that free trade in food and agricultural sector are likely to have significant economic impacts on its 2 big member countries. It is also concluded that export and import of food and agricultural sector does not have positive impact on all member countries except for Brazil and China and to extent India. In terms of simulation 1 viz., full trade liberalization in food and agricultural sector by all countries in the BRICS+2 benefitted by Brazil, China and South Korea, while rest of the countries of the group indicates a decline.

Although trade liberalization such as elimination/reduction of tariffs is important, implementing trade and investment facilitation measures and technical assistance in addition to trade liberalization, however, are even more beneficial to the member countries. As for trade liberalization, we investigated only scenarios of full trade liberalization in food and agricultural sectors only. Our results clearly demonstrated that positive economic effects are greater in scenarios of full liberalization of trade in the food and agricultural sector among the member countries. In terms of exports and imports of services India gains in comparison to rest of the member countries but in terms of GDP growth India loses.

Another area of further research could be considered by taking into consideration of other sectors in these simulations. With the growth of manufacturing and service sectors contributing to the expansion of capital accumulation in developing countries, the impact of economic welfare could be investigated.

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Appendix-1

A.1 GTAP ver.6 database

Regional sectors

Codes	Description
Ind	India
Bra	Brazil
Rus	Russia
Chn	China
Zaf	South Africa
Mex	Mexico
Kor	South Korea

A.2 Food and Agriculture Sector grouping

Code	Description
pdr	Paddy rice
wht	Wheat
gro	Cereal grains <i>nec</i>
v_f	Vegetables, fruit, nuts
osd	Oil seeds
c_b	Sugar cane, sugar beet
pfb	Plant-based fibers
ocr	Crops <i>nec</i>
ctl	Cattle, sheep, goats, horses
oap	Animal products <i>nec</i>
rmk	Raw milk
wol	Wool, silk-worm cocoons
cmt	Meat: cattle, sheep, goats, horse
omt	Meat products <i>nec</i>
vol	Vegetable oils and fats
mil	Dairy products

pcr	Processed rice
sgr	Sugar
ofd	Food products nec
b_t	Beverages and tobacco products

Impact of Micro-Credit on Economic Empowerment of Women in Aizawl District

Lianzela*

K.AngelaLalhmingangi**

Abstract

Microcredit is a financial innovation that is generally considered to have originated with the Grameen Bank in Bangladesh. The strength of microcredit lies in its ability to organize idle women into a productive workforce with their proven creditworthiness. Microcredit enables the poor to undertake income-generating or self-employment activities, 90% of micro-credit beneficiaries are believed to be women. Microcredit has not only made women more productive, it has also empowered them. In this connection, micro credit with Self-Help Groups(SHG) plays an effective role for promoting women socio-economic empowerment. This paper attempts to present the status of SHG-Bank Linkages Programme in the State of Mizoram and study the impact of microcredit in the context of Self - Help Groups (SHGs) on economic empowerment of women in Aizawl district.

Keywords Micro-Credit, Self –Help Groups , Economic Empowerment of women

Introduction

Microcredit is the extension of very small loans to those in poverty designed to spur entrepreneurship. These individuals lack collateral, steady employment and a verifiable credit history and therefore cannot meet even the most minimal qualifications to gain access to traditional credit. Microcredit is a part of microfinance, which is the provision of a wider range of financial services to the very poor. Microcredit is a financial innovation that is generally considered to have originated with the Grameen Bank in Bangladesh. Professor Yunus, Managing Director of Grameen Bank, promoted it in 1974 in Jobra, a village in Chittagong of Bangladesh, and it has spread all over the world. In that country, it has successfully enabled extremely impoverished people to engage in self-employment projects that allow them to generate an income and, in many cases, begin to build wealth and exit poverty. The strength of microcredit lies in its ability to organize idle women into a productive workforce with their proven creditworthiness. It is believed that 25 million people worldwide are now using microcredit to undertake income-generating or self-employment activities; of these, 90% are women. Microcredit has not only made women more productive, it has also empowered them. As a result women are now integrated into socio-economic activities, contributing to family income and decision making and exercising more control over their fertility, which allows them to take better care of their children.

The concept of women empowerment is defined as the process by which women take control and ownership of their choices. Women “empowerment” has increasingly become a policy goal, both as an end to itself and as a means to achieving other development goals. In this connection, micro credit with SHGs plays an effective role for promoting women socio-economic empowerment. Before 1990’s, credit schemes for rural women were almost negligible. The concept of women’s credit was born on the insistence by women oriented studies that highlighted the discrimination and struggle of women in having the access of credit. SHG-BLP aimed at providing a cost effective mechanism for providing

* Professor, Department of Economics, Mizoram University, Aizawl.

**Research Scholar, Department of Economics, Mizoram University, Aizawl. Email: barefoot02@rediffmail.com

financial services to the ‘unreached poor’ especially women. Based on the philosophy of peer pressure and group-savings as collateral substitute, the SHG programme has been successful in not only meeting peculiar needs of the rural poor, but also in strengthening collective self- help capacities of the poor especially women, leading to their empowerment.

Major studies about the impact of Microcredit programme concluded that, women have clearly benefitted from microcredit programmes. Participation in microcredit programmes has enhanced women’s productive means by increasing their access to cash income generation from market oriented activities and by increasing their ownership of non-land assets. These improvements enhance women’s empowerment within the households, influencing their own and their children’s consumption and other measures of welfare. (Dr.A.Jasmine ,2010;Henriques and Dr. Gaonkar ,2010; Rajagopalan, 2005;Bindal, 2006)

Genesis of Micro-credit programme in the context of Self-Help Groups in India

The year 1992 to 2002 mark a decade of SHG – Bank linkage Programme in India. It was in 1992 that NABARD had circulated guidelines to banks for financing SHGs under a project aimed at financing 500 SHGs across the country through the banking system which was successful. This encourage the Reserve Bank of India (RBI) in 1996 to include financing the SHGs as a mainstream activity to Banks under their priority sector lending. The banking system comprising Public and Private sector, commercial banks, Regional Rural Banks (RRBs) and cooperative banks has join hands with several organizations in the formal and informal sectors. The GOI had launched a programme, Swarnajanathi Gram SwarozgarYojana on 1st April,1999 by merging many programmes like IRDP and Millions Wells Scheme. The ideas of Mohammed Yunus, popularly known as the “Father of Micro Credit System”, were given shape in this programme. The most successful region in this regard is the Southern part of India especially Andhra Pradesh and has become example for other states. The SHG-bank Linkage programme has witnessed spectacular progress over a period of last 19 years and it has emerged as the largest micro-credit programme in the world in terms of outreach. As on 31 march 2010, there were more than 69.53 lakh credit linked SHGs , enabling about 9.7 crore poor households to have access to banking services.

Status in the State

As compared with other States in the North East Region, the performance of the programme in the State is rather poor. However,SHG-Bank Linkage Programme is slowly picking up in the state. Mizoram made its maiden entry into SHG-Bank credit linkage in August 2003 by linking its first ever SHG in Champhai district.

Trend in progress of SHG – Bank linkages in the State

Table 1: Trend in progress of SHG – bank linkages in the state

		<i>(In lakh)</i>				
Sl. No	Particulars	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
1	No. of SHGs savings linked	1067	3,780	5375	3497	2854
2	No. of SHGs credit linked	921	2,856	3590	2149	3462
3	Amt. of bank loan disbursed	705.59	2,127.07	2726.17	1649.24	3402.16

Source: State Focus Paper, 2008-2009 to 20011-2012

The total number of SHGs SB linked increased from 1348 as on 31.3.2006 to 2451 as on 31.3.2007 due to the concerted effort by all the bankers coupled with Mizoram ROs follow up action such as conducting training programmes, meetings, arranging for printing of booklets on SHGs etc. However, the total SHGs credit linked was only 1895 with a bank loan of Rs.1314.39 lakh and the refinance availed from NABARD was to the tune of Rs.1050.24 lakh as on march 2007.

The total numbers of SHGs linked have been increased from 2451 as on 31.3.2007 to 3657 as on 30.9.2008. The cumulative position of bank loan disbursed upto 30.9.2008 was in the order of Rs. 2042.99 lakh and the refinance availed from NABARD was to the tune of Rs.1083.59 lakh as on 31.3.2008. The number of Bank- SHGs linked made quantum jump and there has been corresponding impact in the credit linkage of these SHGs and availment of refinance from NABARD.

The total number of SHGs linked have been increased to 3590 as on 31.3.2009. the cumulative position of bank loan disbursed as on 31.3.2009 was to the tune of Rs.2726.17 lakh and the refinance availed from NABARD was to the tune of Rs.1083.59 lakh as on 31.3.2009. both the number of SB linked SHGs and credit linked SHGs have gone up. But there has not been corresponding impact in the credit linkages of these SHGs and availment of refinance from NABARD.

The total number of SHGs credit linked have been increased to 3385 as on 31.3.2010 .the cumulative position of bank loan disbursed as on 31.3.2010 was to the tune of Rs.3792.46 lakh. The number of credit linked SHGs (3385) is much lower than the number of SHGs savings linked (3747) especially in the case of CBs and MCAB.

The total number of SHGs credit linked has increased to 3462 as on 31.3.2011. The cumulative position of bank loan disbursed as on 31.3.2011 was to the tune of Rs.3402.16 lakh. For the present, focus is on upscaling SHG-Bank linkage programme as the concept is becoming popular in the state. The performance in SHG- bank linkage in different districts is indicated below:

Table 2: Performance in SHG- bank linkage in different districts

Year	2007 -2008	Cumulative as on 31.03.2008	2008 -2009	Cumulative as on 31.03.2009	2009 -2010	Cumulative as on 31.03.2010
No. of State	2230	4681	694	5375	1944	7319
SHGs Aizawl	995	1900	291	4162	331	4493
formed Lunglei	79	171	72	243	452	695
Mamit	46	162	50	212	-	-
Serchhip	50	95	54	149	34	183
Lawngtlai	-	-	-	-	131	-
Saiha	-	-	-	-	82	-
Kolasib	45	272	170	442	33	475
Champhai	20	274	53	327	72	399

Source: Potential Linked Credit Plan, Mizoram(2011-12)

The spread of SHG-bank linkage programme in the State is highly skewed as shown in table 2. More than 60% of the SHG-BLP is confined in Aizawl District alone. The table shows the programme has not reached the district of Mamit ,Lawngtlai and Saiha . The coverage of the programme in the district of

Lunglei, Serchhip, Kolasib and Champhai are 9.5%, 2.5%, 6.5% and 5.4% respectively showing the uneven growth of the programme in the State.

Status of Non Government Organisations(NGOs)

One of the main problems in the State is absence of a good number of NGOs who can take up this innovation and useful concept. Two major NGOs like Young Mizo Association and the Mizo Hmechhia Insuihkhawm Pawl which have branches/ representatives throughout the state can play a major role in promoting SHGs. However, they are involved in church and other social activities and their participation in promoting income generating and developmental activities is limited. The same goes for other NGOs in the State where the major concern is confined to social activities rather than economic activities. NABARD had identified a few NGOs viz. Cod Nerc, Ferrendo Integrated Women Development Centre (FIWDC), Mizoram Mahila Sangathan, Zonu Welfare Society, Goodwill Foundation, Upliftment of Human Resource Society, Centre for Peace and Development, Zoram Entu Pawl, Open doors etc. which are keen to promote SHGs. Many awareness and training programmes have been held in the state by these NGOs sponsored by NABARD for rural people and SHG members.

The projected number of SHGs for formation and credit linkage for the year 2011-12 and 2012-13 is 1500 SHGs.

Table 3: Participants in SHG Bank linkages in the State (2006-2010)

Period	Particulars	Participants			Total	
		SBI	CBs	MRB MCAB		
2006-07	No. of SHGs savings linked	509	-	440	118	1,067
	No. of SHGs credit linked	509	-	403	9	921
	Amt. of bank loan disbursed	331	-	368.20	6.15	705.59
2007-08	No. of SHGs savings linked	2,690	57	612	421	3,780
	No. of SHGs credit linked	1,029	3	1,784	40	2,856
	Amt. of bank loan disbursed	909	4.47	1,189.19	24.41	2,127.07
2008-09	No. of SHGs savings linked	-	2,814	1,974	560	5375
	No. of SHGs credit linked	-	1,067	2472	49	3590
	Amt. of bank loan disbursed	-	998.79	1,693.37	34.01	2,726.17
2009-10	No. of SHGs savings linked	-	340	2,655	502	3,497
	No. of SHGs credit linked	-	211	1,898	40	2,149
	Amt. of bank loan disbursed	-	565.99	1,060.88	22.37	1,649.24
2010-11	No. of SHGs savings linked	-	283	2,035	536	2,854
	No. of SHGs credit linked	-	222	3,139	101	3,462
	Amt. of bank loan disbursed	-	531.13	2,844.76	26.27	3402.16

Source: State Focus Paper (2007-2012)

The table shows that MRB is the most active participant in the SHG-bank linkages programme in the State. Participation of commercial banks in this programme came only after 2007 in the state. MCAB has also been a constant participant in the SHG-bank linkage programme in the state although its coverage is minimal.

SHG Orientation/Sensitisation Programmes

Orientation and sensitization is an important tool to propagate the SHG concept among the stakeholder particularly bankers, NGOs and SHG members. Accordingly during 2006-07 and 2007-08, NABARD took initiatives by calling meetings with the CEOs of bankers and NGOs and as per their request conducted the SHG sensitization programmes and also sanctioned grant assistance to the NGOs for conducting SHG orientation programmes for SHG members.

The following table shows the efforts made by NABARD during 2005-06, 2006-07 and 2007-08 in capacity building:

Table 4: Efforts in capacity building by NABARD

Year	Programme	Participants	No. of prog.	No. of participants
2006-07	SHG Sensitisation	Commercial banks/Co-op banks/RRB-officers & staff	4	55
2006-07	SHG Sensitisation	Commercial banks/Co-op banks/RRB-officers & staff	4	55
2006-07	SHG Sensitisation	Field functionaries of NGOs	2	51
2006-07	SHG Orientation	SHG members	26	819
2007-08	SHG Sensitisation	Field functionaries of NGOs	3	77
2007-08	SHG Sensitisation	SHG members	25	873

Source: State Focus Paper, 2009-10

R.O also sponsored two training programmes on 'SHG for financial inclusion' arranged at IIBM, Guwahati for bankers and NGOs operating in the state. Such efforts have resulted in making the only RRB in the state as SHPI under NABARD scheme along with a number of NGOs as SHPI.

Status of Women in the State

- As per the 2001 census, total population of the state is 8.91 lakh out of which women population is 4.31 lakh i.e 48.37%. The sex ratio of the state is 938 against all India average of 933.
- The State's literacy rate is 88.8% against all India average at 65.38%. female literacy rate of Mizoram is the highest in the country at 86.13% against all India average of 56.16%.
- Total women workers in the state are 2.05 lakh. In term of percentage, women workers are 47.56% of total women population.
- In agriculture, female workers are almost equal to male workers at 49.11%. Women agricultural labourers exceed males in number at 52.68% of total agricultural labourers.
- In Mizo society, women play a very important role in earning, maintaining and running their homes.

Coverage of women by bank credit

As per RBI guidelines credit to women should be at least 5% of total advances. Banks in Mizoram have provided credit above minimum stipulation, which can be seen from the following table.

Table 5 : Coverage of women by bank credit(*In lakhs*)

Particulars	31.3.2007	31.3.2008
Credit to women	161.73	259.45
Total advances	760.24	987.66
% of credit to women to total advances	21.27	26.27

Source: Potential Linked Credit Plan, 2009-10

Potential areas of bank credit to women

Credit Packages for Women

- As per the prescription of RBI, a minimum of 5% of the Net Bank Credit (NBC) is required to be provided to women.
- NABARD extends refinance support under two schemes exclusively meant for women viz. Assistance to Rural Women in Non-Farm Development (ARWIND), Assistance for Marketing of Non-Farm Products of Rural Women (MAHIMA) and Development of Women through Area Programme(DEWTA)

Success of any commercial activity lies in the price realization. It is observed that most of the time, the producers in the unorganized sector, (more so if they are women) are not able to realize the optimum prices due to lack of negotiation power, small production base which is not as per the market requirements and inability to display the products at appropriate location in the showroom. NABARD supports gender Sensitisation meets/workshops conducted by the bankers so that outreach of the banking system to women clients can be improved.

Scope and methodology of the study

This work attempts to analyse the impact of microcredit in the context of Self - Help Groups (SHGs) on economic empowerment of women in Aizawl district. Survey was conducted in all the five Rural Development blocks of Aizawl district viz. Aibawk, Darlawn, Phullen, Thingsulhiah and Tlangnuam block. Multi-stage simple random sampling was employed wherein structured questionnaire were distributed to the women SHGs members. The study depended heavily on the primary data collected through questionnaires and extensive interviews. The sample size is decided at 10% of the total universe (4493) which is the total number of SHGs in Aizawl district as recorded by National Bank for Agriculture and Rural Development (NABARD) as on 31.03.2010.

Objective of the study Empirical Analysis

The objective of the study is to examine the impact of microcredit in the context of SHGs on Economic Empowerment of women in Aizawl District. The parameters taken for measuring economic empowerment are increase in income, savings and access to resources.

Empirical Analysis

Table 6: Profile of Sample Respondents

Particulars	No. of respondents in percentage
A. Age Distribution	
(i) Below 28 years	4.5%
(ii) 29-39 years	26.5%
(iii) 40-50 years	36.6%
(iv) 51-61 years	24.2%
(v) 62-72 years	7.5%
(vi) 73 and above	0.7%
B. Marital status	
(i) Married (in percentage)	87%
(ii) Unmarried (in percentage)	6.5%
(iii) Widow (in percentage)	6.5%
C. Educational qualification	
(i) No schooling	2.2%
(ii) Primary school	14.4%
(iii) Middle school	21.7%
(iv) High school	33.7%
(v) Matriculate	20.4%
(vi) Hr. Secondary school	5.4%
(vii) Graduate	2.2%
D. Family size	
(i) 1-5 members	48.1%
(ii) 6-10 members	49.1%
(iii) 11-15 members	2.4%
(iv) 16-20 members	0.4%
E. No. of children	
(i) 1-5	92.5%
(ii) 6-10	7.5%
F. Type of Occupation	
(i) Unemployed	5.9%
(ii) Self-employed	8.6%
(iii) Farmer	38.7%
(iv) Poultry and piggery	17%
(v) Petty business	22%
(vi) Govt. employees	5%
(vii) Shopkeeper	2.8%

Source: Survey data, 2011

Table 6 (A) shows that majority of the women in the sample study are between the age 40 to 50 years. Only 4.5 % of the respondents are below 28 years, 26.5% of the respondents are at the age group 29-39 years, 24.2% are at the age group 51-61 years, 7.5% are at the age group 62-72 and 0.7% are at the age above 73 years. This shows that aged women are mostly dependent on microfinance and are actively involved in SHGs.

Table 6 (B) shows that 87% of the respondents are married, 6.5% are unmarried and 6.5% are widowed. This shows majority of the women respondents who are actively involved in SHGs are married. Table 6 (C) shows that 2.2 % of the respondents have no formal education, 14.4% attended primary schooling, 21.7% studied till middle school, 33.7% studied till high school, 20.4% are matriculates, 5.4% attended Hr. secondary school and 2.2% are graduates. This shows that only 2.2% of the respondents are not formally educated. Although 38.3% of the respondents did not cross the high school level education, it is appreciable that majority of the women respondents have formal education . The table also shows that there is lesser participation of women who have higher education in SHGs.

Table 6 (D) shows that 48.1% have a family size of 1 to 5 members, 49.1% have a family size of 6-10 members, 2.4% have a family size of 11 to 15 members and 0.4% have a family size of 16 to 20 members. This shows that majority of the respondents do not live in an extended joint family. Table 6 (E) shows that 92.5% of the respondents have 1 to 5 children and 7.5% of the respondents have 6 to 10 children.

Table 6 (F) shows that 5.9% of the respondent are unemployed, 8.6% are self- employed, 38.7% are farmers, 17% are engaged in poultry and piggery, 22% run petty business, 5 % are government employees and 2.8% are shop keepers. This table reveals that majority of the respondents are engaged in occupations which are low paid, requires no skills and promised them no assured income and stability. Therefore, microfinance has a huge role in enhancing their capacity and ensuring them proper livelihood.

Table 7: Changes in Income and Savings of sample respondents

Particulars	No. of members in percentage (before joining)	No. of members in percentage (after joining)
A. Monthly income		
(i) Rs.1,000-Rs.5,000	53.74%	36.45%
(ii) Rs.6,000-Rs.10,000	35.05%	39.25%
(iii)Rs.11,000- Rs.14,000	7.71%	17.76%
(iv)Rs.15,000 and above	3.50%	6.54%
B. Monthly savings		
(i) Rs.100- Rs.500	63.08%	39.95%
(ii) Rs.600-Rs.1000	24.77%	36.21%
(iii) Rs.1100-Rs.2000	8.41%	14.25%
(iv) Rs.2000 and above	3.74%	9.58%

Source: Survey data, 2011

Table 7(A) shows there are an increase in the monthly income of the respondents after joining SHGs. The lowest income group which is Rs.1000 – Rs.5000 shows a decrease by 17.29% indicating improvement of income, the income group Rs.6000-Rs.10,000 witness an increase by 4.2%, the income group of Rs. 11,000 – Rs.15,000 shows the most increase by 10.05 % and the income group of more than Rs.15,000 shows a modest increase by 3.04%. This shows that the members experienced increase in income after joining the SHG. This indicates micro finance through SHGs has positive impact by increasing income of the members.

Table 7 (B) also reveals an increase in savings among the respondents after joining SHGs. The table shows a decrease in the lowest monthly savings group which is Rs.100- Rs.500 by 23.13% indicating

monthly savings has increase among the group. The table also shows an increase in monthly savings of Rs.600 – Rs.1000 by 11.44%, an increase in monthly savings of Rs.1100 – Rs.2000 by 5.84% and increase in savings of more than Rs.2000 by 5.84%. This shows the positive impact of micro-credit in mobilization of savings.

Table 8: Changes in access to resources(Consumer durables) of the sample respondents

Particulars	Acquired after joining SHG (No. of respondents in percentage)
(i) Cooking Gas	22.2%
(ii) Television	27.3%
(iii) Refrigerator	29.9%
(iv) Mobile phone	48.8%
(v) Two-wheeler	17.5%
(vi) Others	11.2%

Source: Survey Data, 2011

Table 8 shows that there has been an increase in acquisition of consumer durables among the respondents. 22.2% of the respondents acquire cooking gas after joining SHG, 27.3% acquire television after joining SHG, 29.9% of the respondents acquire refrigerator after joining SHG, 48.8% of the respondents acquire mobile phone after joining SHG, 17.5% acquired two-wheeler after joining and 11.2% acquire other assets like water tanky etc. The table indicates there is an increase in access to resources where the acquisition of consumer durables of the sample respondents is taken as an indicator.

Hypotheses Testing

Null Hypothesis (H_0): Micro-credit through SHGs does not leads to increase in income, savings and access to resources of women members.

Alternative Hypothesis (H_a): Micro-credit through SHGs leads to increase in income, savings and access to resources of women members.

To test the hypothesis that microfinance through SHGs leads to increase in income of the sample respondents, chi - square test of independence of attribute have been adopted between income distribution and participation in SHGs. The chi - square value was found to be 36.099 which is significant at all level (i.e 0.000) In line with this, the average income by median has indicated that average income has increased from Rs.4271.70 to Rs. 6487.18. This clearly shows that there is an increase in the income level of the sample respondents after joining the group. The null hypothesis that there is no change is rejected. The alternative hypothesis that participation in SHGs increase the level of income is, therefore, accepted.

To test the hypothesis that microfinance through SHGs leads to increase in savings of the sample respondents, chi - square test of independence of attribute have been adopted between amount of savings and participation in SHGs. The chi - square value was found to be 48.832 which is significant at all level (i.e 0.000) In line with this, the average savings by median has indicated that average savings has increased from Rs.417.04 to Rs. 600.58. This clearly shows that there is an increase in savings of the sample respondents after joining the group. The null hypothesis that there is no change is rejected. The alternative hypothesis that participation in SHGs increase the level of savings is, therefore, accepted.

Table 9: Z- test for acquisition of consumer durables

Particulars	Z statistics
(i) Cooking Gas	8.52*
(ii) Television	6.44*
(iii) Refrigerator	7.02*
(iv) Mobile phone	12.25*
(v) Two-wheeler	0.30
(vi) Others	0.48

*5% level of significance

**1% level of significance

To test the contribution of SHGs in improving access to resources as envisaged in the hypothesis, Z-test for difference of proportion have been adopted. The difference in the proportion of members having the indicators of resources viz. Cooking gas, Television, Refrigerator and Mobile phone before and after joining SHGs are taken into account. It is found that the Z value for acquisition of cooking gas, Television, Refrigerator and mobile phone after participation in SHGs are 8.52, 6.44, 7.02 and 12.25 respectively. They were all found to be significant as they are greater than the tabulated value of 1.96 at 5% level of significance. The inferences, thus drawn from this is that SHGs improves members' access to resources. Ho is rejected and Ha is thus, accepted.

Conclusion

The study shows that micro-credit through SHGs has led to enhanced financial resources and economic security, however the more important question is, can it be a social movement that can change gender and power relations? The successful groups do articulate a belief system of personal power through savings, improving condition, social entrepreneurs who give leadership for improving position, there is a feeling of collective identification and loyalty to the group and has provided an alternative to prevailing gender roles for women at the local level and federations of SHGs can create a movement of women's solidarity. SHGs have the possibility of developing groups of organized, assertive and empowered women at the grassroots level.

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Pass-through of International Oil Price Shocks to WPI Inflation in India: An Empirical Analysis

James L.T. Thanga*

Abstract

The global oil price shock has always been a major concern in market fluctuations. The study of the pass-through effect of international oil price shocks on domestic inflation would facilitate domestic policy to check disruptions to the economy caused by oil price fluctuations. This paper tested the causal relationship between international oil prices and WPI inflation in India using Granger-Causality Test, Co-integration Test and Error Correction Model. The study established significant causal relationship between oil price and WPI inflation in India and both are found to have positive long-term or equilibrium relationship. That is global oil price fluctuation is positively reflected in domestic inflation. The coefficient of the lagged disturbances or error is found to be significant reflecting the pass-through of current month's increase in international oil price to domestic WPI inflation in the next month. Therefore, global oil price shock is quickly and significantly reflected in WPI inflation of India, though the magnitude of the coefficients suggested significantly less than proportional responses by the latter.

Keywords: WPI inflation, Granger-Causality Test, Co-integration Test and Error Correction Model.

Introduction

Global oil prices have undergone multiple dramatic fluctuations. Kilian (2009) classified the source of the widely discussed substantial oil price shocks into supply, such as the 1973 and 1979 Middle East oil crisis and the sudden rise in oil prices after the 1990 Gulf War, and demand, such as the record high oil price spikes between 2003 and 2008 and the rapid increase in oil prices caused by the 2009 global financial crisis that continues even now. Historical data shows global crude oil prices have leapt two to three times their original prices during these periods. Scholars are remained divided over whether oil shocks can single-handedly cause a recession; while most of them agreed that the oscillation of global oil prices contributes to domestic inflation, Hooker (2002), Chen (2009). Meanwhile, Lee et al. (1995) and Hamilton (1996) also indicated that substantial and unforeseen oil price shocks are significantly reflected in domestic inflation.

India, even though it is a price-taker in the international oil market, has followed the administered price system to cushion the international price changes and achieve domestic policy objectives on inflation, growth and equity (Bhanumurthy, et al., 2012); while other oil importing countries, even large ones as India, usually exercise discretion in passing on international price shocks to domestic prices. The administered price system for oil is supported by budgetary expenditures (subsidies), which result in fiscal stress and thereby, have destabilizing effect on the growth of the economy. Parikh (2012) opined that international crude oil prices not only stoke inflation but also substantially raise the risk of a rise in the fiscal deficit, since India subsidizes the bulk of its fuel consumption. Given that the country imports nearly 80 per cent of its crude oil requirement, high oil prices, which constitute a significant part of the import bill, will certainly impact the macro-economy. Consequently, the government of India has, recently (2010), decided that the price of petrol at the refinery gate and retail level be market-determined; while

* Assistant Professor, Department of Economics, Mizoram University, Aizawl. Email: jametea@yahoo.com

price of diesel has also been deregulated to some extent. The decision has been made in the light of the government's budgetary constraint and the growing imperative for fiscal consolidation, and the need for allocating more funds to social sector schemes for the common man.

Meanwhile, as it was indicated in several studies, Lee et al. (1995) and Hamilton (1996), Hooker (2002), Chen (2009), unforeseen international oil price shocks are significantly reflected in domestic inflation. So, lifting the mechanism of domestic oil price control shall open our economy to the volatile global oil prices, which will further have macroeconomic consequences. High inflation has an adverse impact on growth through a variety of channels. First, high inflation leads to uncertainty which impacts investment and growth. As it is, investment decisions are subject to a lot of uncertainties. High and volatile inflation adds further to these uncertainties. Second, high inflation makes banks deposits less attractive and encourages investment in physical assets and speculative activities, which leads to diversion of savings away from formal financial savings channels such as bank deposits. These developments lead to reduction in financial savings. Thus, high inflation has an adverse impact on both savings and investment. Finally, high inflation has a particular more severe impact on the poor and other vulnerable segments of the society in developing economies like India, with high poverty levels. Thus, low and stable inflation should remain the main objective of the fiscal policy of the country. As it was argued by Bhanumurthy, et al. (2012), the deregulation policy may have adverse impact on the growth as well as on inflation, which will affect economically weaker sections of the society. At this backdrop, it is considered necessary to examine the causal-relationship between international oil prices and domestic inflation.

Literature Review

There are some studies in the literature, which have examined the impact of change in oil prices on inflation. The major implications arising from the findings of these studies is that the oil price hike in the 1970's led to average price spiral and adverse macroeconomic consequences (Perera, 2005). Blanc and Chinn (2004) estimate the effects of oil price changes on inflation for the United States, the United Kingdom, France, Germany and Japan using an augmented Phillips curve framework. They suggested that oil price increases of as much as 10 percentage points will lead to direct inflationary increases of about 0.1-0.8 percentage points in the US and some European countries. It also reveals that inflation in Europe traditionally thought to be more sensitive to oil prices than in the US, does not show any significant difference in sensitivity from that in the US and in fact may be less in some European countries.

Hooker (1999) estimates the effects of oil price changes on US inflation in a Phillips curve framework, allowing for some of the asymmetries, non-linearities and structural breaks that have been found in the literature on the real effects of oil price shocks. The study finds strong evidence of a structural break with oil price changes making a substantial direct contribution to core inflation before 1980 but little or no pass-through since then. It has also been found that oil price effects on overall inflation are not significantly influenced and are consistent with their direct shares in price indices. Hooker (1999) attributes the results to the fact that monetary policy has become less accommodative of oil price shocks.

Chou and Tseng (2011) estimated the short-term and long-term pass-through effects of oil prices on inflation in Taiwan from 1982M1-2010M12, employing the CPI index, core index, and various basic

sub-indices for evaluation. The empirical results showed that international oil prices experience a significant and long-term pass-through effect on inflation in Taiwan, though the short-term pass-through effect was not significant. This study also used rolling regression and recursive regression analyses, and found that even when international oil prices rose sharply, the short-term pass-through effect of international oil prices on inflation in Taiwan did not increase substantially.

Chang, et al. (2011) investigates how oil price fluctuations have influenced the macroeconomic performances of economies in ASEAN, the Asian-Oceanic region and South Asia. The study found that the oil price-GDP relationship appears to be distinct among countries by their economic characteristics. A positive impact of oil prices on the GDP for oil exporting countries; a short-run negative impact of an oil price shock to the GDP for small, open economies and an ambiguous effect of oil on the GDP for fast growing, large economies. There are no clear patterns in the relationships between oil price fluctuations and inflation and unemployment. Interestingly, small and open economies exhibit that economic activity recovers in the long-run after a short-run stint of the initial slowdown in GDP due to an oil price shock. This finding suggests that international trading has worked as a buffer to the oil price shocks for these economies. It also suggests that the small reliance on oil as a source of energy for large and growing economies made these economies relatively immune to oil price fluctuations. This study also observed a causality running from oil price to GDP that strengthens the perspective of the existing studies that stable oil prices are the key to robust macroeconomic performances in most economies.

Bhanumurthy, et al. (2012) analyses the impact of transmission of international oil prices and domestic oil price pass-through policy on major macroeconomic variables in India with the help of a macroeconomic policy simulation model. Three major channels of transmission viz. import channel, price channel and fiscal channel are explored with the help of a comparative static macroeconomic general equilibrium framework. They have analyzed the policy options of deregulation of domestic oil prices in the scenario of occurrence of a one-time shock in international oil prices as well as no oil price shock situation through its impact on growth, inflation, fiscal balances and external balances. The simulation results indicate that the deregulation policy as such would have adverse impact on the growth as well as on the inflation.

Methodology

This paper tries to examine the causal relationship between international crude oil prices and domestic inflation in India. Due to easy availability of monthly wholesale price index (WPI), rather than consumer price index (CPI), from the official website of the Office of the Economic Adviser to the Government of India, Ministry of Commerce (<http://eaindstry.nic.in/>), it has been decided that WPI inflation be taken as domestic inflation. The monthly international crude oil prices have been obtained from the World Bank (<http://data.worldbank.org/>). As there was difficulty in getting a complete set of monthly oil price data and monthly rate of inflation for a longer period, our empirical analysis will cover only the period of 1995 to 2012, though annual trends of the same are presented from 1958 till 2012. In order to examine the nature and causality of our time series data the following parametric tests, namely, unit root test, Granger Causality Test and Johansen Cointegration test have been applied. In addition to these, Error Correction Model (ECM) has been used for the estimation of the short-run and long-run relationships between oil price and inflation. The essences of these tests are briefly discussed below:

Unit Root Test

A data series is said to be stationary if its means and variance are constant over time and the value of covariance between two time periods depends only on the distance or lag between the two time periods and not on the actual time at which the covariance is computed. The time series Y_t is said to be a random walk if

$$Y_t = \rho Y_{t-1} + u_t ; \quad (1)$$

where u_t is white noise error term. Random walk model, Eq.(1), is said to have unit root if $\rho = 1$, and in this case we say the series is non-stationary. But, the first difference of unit root random walk model is always stationary, by the usual assumptions of classical linear regression model. The unit root test checks whether the series is stationary or not. Stationary condition has been tested using Augmented Dickey-Fuller (ADF) test (Dickey and Fuller, 1979, 1981; and Gujarati and Sangeetha, 2007). The ADF test has been developed to correct Dickey-Fuller Test for higher order correction by assuming that the series follows AR(p) process. The ADF test has the following model specification:

(2)

To test for stationarity, the null hypothesis is:

$$H_0 : \rho = 0$$

Against the alternative hypothesis of

$$\frac{\partial Y_t}{\partial X_t} = \alpha_0$$

Granger-causality Test

The statistical properties of empirical detection of causality between two stochastic variables may be framed in three different ways: regression approach, examining the cross-correlations between two stationary series and looking at cross-spectra between the two series. In this study we use the procedure of causality detections as developed by Granger (1969, 1988) using the regression approach. This test examines the dynamic linkage between the two series. A time series X_t Granger-causes another time series Y_t if series Y_t can be predicted with better accuracy by using past values of X_t rather than by not doing so, other information remains same. The Granger-causality test is conducted only when the series are stationary. The empirical analysis of the causality between international oil price and inflation is conducted using a bivariate vector autoregression (VAR) model of the following kind:

(3)

$$Y_t = \alpha_0 + \sum_{j=1}^k \gamma_j X_{t-j} + \sum_{j=1}^k \beta_j Y_{t-j} + u_{yt} \quad (4)$$

where k is a suitably chosen positive integer; γ_j and β_j , $j = 0, 1, \dots, k$ are parameters and constants;

and u 's are disturbance terms with zero means and finite variance. The null hypothesis that Y_t does not Granger-cause X_t is not accepted if the α_j 's $j>0$ in equation (3) are jointly significantly different from zero using a standard joint test. Similarly, X_t Granger-causes Y_t if the β_j 's $j>0$ coefficients in Equation (4) are jointly different from zero.

Co-integration Test

The purpose of co-integration test is to determine whether a group of non-stationary series are cointegrated or not. Two non-stationary variables are said to be cointegrated if they have a long-term, or equilibrium, relationship between them. The test for the presence of co-integration is performed when all the variables are non-stationary and integrated to the same order. The assumption is that a pair of non-stationary variables may actually be co-integrated and possess a long-term relationship despite the variables' tendency to drift extensively over time. In the present study the method proposed by Johansen (1991) is used. This method can be illustrated by considering the following general autoregressive representation for the vector Y .

(5)

Where Y_t is $n \times 1$ vector of non-stationary I(1) variables, A_0 is a $n \times 1$ vector of constants, p is the number of lags, A_j is a $(n \times n)$ matrix of coefficients and ϵ_t is assumed to be a $(n \times 1)$ vector of error terms. In order to use Johansen's test, the above vector autoregressive process can be reparametrized and turned into a vector error correction model of the form:

$$Y_t = A_0 + \sum_{j=1}^p A_j Y_{t-j} + \epsilon_t + \Gamma(Y_t - Y_{t-p}) + \epsilon_t \tag{6}$$

where $\Gamma_j = -\sum_{i=j+1}^p A_i$ and Δ is the difference operator, and I is an $(n \times n)$ identity matrix.

The test for co-integration between the Y 's is calculated by looking at the rank of the Γ matrix via eigenvalues. If the rank of Γ equals 0, the matrix is null and equation (6) becomes the usual VAR model in first difference. If the rank of Γ is r where $r < n$, then there exist r co-integrating relationships in the above model.

Error Correction Model

If the two non-stationary time series are co-integrated, we can estimate the short-run and long-run behavioral relationships using error correction mechanism (ECM). To do this, we have to estimate the following two regressions:

(7)

(8)

where ϵ_t and η_t is random error term. If the two variables are cointegrated, the parameters of Eq(7) will reflect the long-term behavioral parameter; while parameters of Eq(8) will give us a short-run relationships.

General Trends

Figure 1 presents the long-term trends of rate of international oil price changes and domestic WPI inflation. As seen in this figure, the trends can be characterized as follows: (1) Global oil prices have shown more or less stable trends until the oil crisis in the 1970's (Chou and Tseng, 2011); while WPI of India have shown high degree fluctuations. This trend reflects the protectionist and controlled economy upon which international oil price shocks did not have significant pass-through effect on domestic inflation, even when the domestic inflation still persisted. (2) Ever since the 1970's oil crisis, oil prices have shown greater rate of fluctuation than domestic inflation. Though it shows lesser degree of fluctuation, WPI trend have reflected persistent increasing prices; while international oil prices have shown more or less ups and downs trend. (3) A closer look at the monthly trends (as shown in Figure 2) revealed that there is more and more concomitant movements between the international crude oil prices and WPI inflation in India after 2000.

Figure 1: Trends in the changes in Global Crude Oil Prices (top) and Wholesale Prices Index (bottom) between 1958 and 2012.

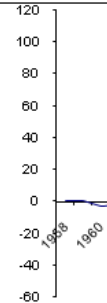
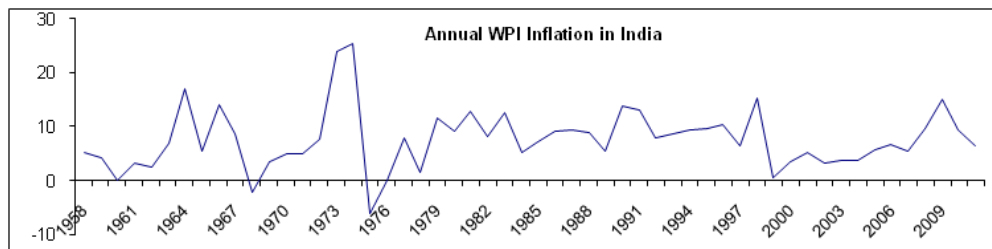
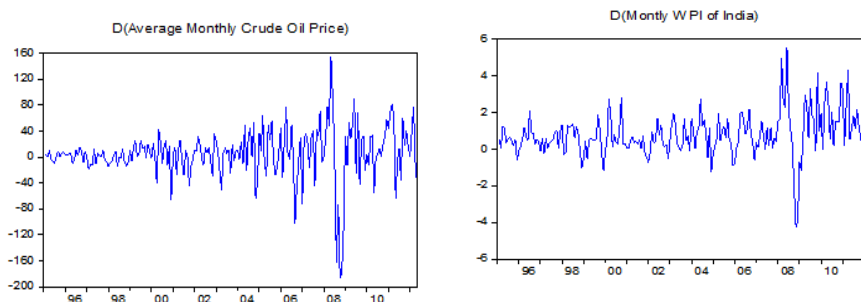


Figure 2: Trends in the Monthly International Crude Oil Prices and WPI of India since 1995



Empirical Analysis

Unit Root Test

The first step in examining the empirical causality, Granger-causality, is to identify the nature of the time series data. Stochastic process having unit root is said to be non-stationary; and called stationary process otherwise. The theoretical condition for the successful application of Granger-causality test is that the series should be stationary. As our objective is to examine the causal relationship between international oil prices and inflation, we first test the stationarity (or unit root) of the two time series data using Augmented Dickey-Fuller (ADF) test. The result of the ADF test is presented in Table 1.

Table 1: Augmented Dickey-Fuller Unit Root Test on International Crude Oil Price and WPI Inflation
Lag Length: 1 (Automatic based on SIC, MAXLAG=14)

Null Hypothesis	t-Statistic	Prob.+
Oil Price has a unit root	-0.529740	0.8815
D(oil price has a unit root)	-9.894231*	0.0000
WPI has a unit root	2.601872	1.0000
D(WPI has a unit root)	-8.536661*	0.0000
Test critical values:	1% level	-3.461938

+MacKinnon (1996) one-sided p-values. *significant at 1% level of significance.

The ADF tests have shown that the null hypothesis of both oil prices has a unit root and WPI has a unit root could not be rejected. So, the two variables are said to be non-stationary series. As it is theoretically expected, the first differences series of these variables are found to be stationary. Therefore, based on unit root test, one may conclude that international oil price and WPI inflation exhibit random walk, whose value could not be efficiently forecasted.

Granger-causality Test

The time series data of international crude oil prices and WPI inflation of India have been, in previous section, established to be non-stationary; and at the same time, the first differences are found

to be stationary. As Granger-Causality test can be applied for only stationary series, the first difference of the two time series data have been taken into account to test causal effects. The results of the causality tests up to 4 lags are presented in Table 2. It is clearly shown that oil prices Granger-causes WPI as the null hypothesis of the 'Oil prices does not Granger Cause WPI' is rejected at all level of significance. At the same time, the hypothesis of 'WPI does not Granger-Cause Oil Prices' has to be accepted or insignificant. One may conclude that changes in international oil prices led to the changes in domestic WPI in India, .i.e. Oil Prices \rightarrow WPI; while the reverse is not true. Therefore, there is causal relationship between international oil prices and domestic inflation, the former being the explanatory variable as the latter being dependent variable.

Table 2: Pair wise Granger Causality Tests between Differences WPI and Crude Oil Prices
Sample: 1995M01 2012M05

Null Hypothesis	Lags	Obs.	F-Statistic	Prob.
D(WPI) does not Granger Cause D(Oil Prices)	1	207	0.03595	0.8498
D(Oil Prices) does not Granger Cause D(WPI)	1	207	64.6759*	0.0000
D(WPI) does not Granger Cause D(Oil prices)	2	206	0.16029	0.8520
D(Oil Prices) does not Granger Cause D(WPI)	2	206	33.4962*	0.0000
D(WPI) does not Granger Cause D(Oil Prices)	3	205	0.55482	0.6455
D(Oil Prices) does not Granger Cause D(WPI)	3	205	24.6993*	0.0000
D(WPI) does not Granger Cause D(Oil Prices)	4	204	1.95416	0.1031
D(Oil Prices) does not Granger Cause D(WPI)	4	204	17.4389*	0.0000

*significant at 1% level of significance.

Co-integration Test

The nature of causality between the two variables of interest has been established in the previous section that international oil price is the cause. With the interdependence of the variables having been established another empirical interest is to examine their relationship. As there exist causal relationship in the series of first differences there should be a long-run or equilibrium relationships at levels, though they are non-stationary. In this case, co-integration test have been applied to examine the long-run relationship between the two non-stationary time series data. The co-integration test can facilitate the estimation of the long-term equilibrium relationship between time series. To check the long-term relationship, we applied the Johansen co-integration test between oil prices and WPI inflation for a period of 1995 to 2012 (Monthly). As it is indicated in Table 3, the hypothesis of no co-integration should be rejected in each of the cases. That is there is clear evidence of co-integration at 5 percent between the two time series data. Therefore, the result of Johansen co-integration test suggests there is long-term relationship between international oil prices and inflation in India. The result may also be taken as enhancement of the causality established in the previous section.

Table 3: Johansen Co-integration Test

Unrestricted Co-integration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.082417	27.87590	15.49471	0.0004
At most 1 *	0.049374	10.32936	3.841466	0.0013

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Error Correction Model

We have established the causal relationship between international oil prices and inflation by Granger-Causality test and Co-integration test in the previous sections. These tests have identified the former to be the cause, while the latter is the effects. That is there is significant pass-through of international oil prices on domestic inflation in India. Changes in international crude oil prices shall have pass-through effect on domestic inflation, affecting the poor section of the society as well as fiscal stability of the country. So, establishing functional relationship between the two variables is a focal point for the successful implementation of monetary policy of the country. An attempt has been made to estimate functional relationship between WPI inflation and international oil prices using Error Correction Model (ECM). In fact, there can be a number of ways to establish the functional relationship between the two variables; but no universally acceptable form is found in the literature. ECM comprises in fitting two simple regressions: (1) WPI on oil price, and (2) WPI on oil prices as well as lagged values of random disturbances (u) which have been obtained from the simple regression of WPI on oil prices. The two equations are presented in Table 4 & 5.

Table 4: Estimated Equation of WPI on International Oil Prices

Dependent Variable: WPI				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	105.2982	1.722613	61.12701	0.0000
Oil Price	0.145095	0.003428	42.32171	0.0000
R-squared		0.896403	Mean dependent var	164.3721
Adjusted R-squared		0.895903	S.D. dependent var	45.23263
S.E. of regression		14.59392	Akaike info criterion	8.208610
Sum squared resid		44087.36	Schwarz criterion	8.240594
Log likelihood		-855.7997	Hannan-Quinn criter.	8.221541
F-statistic		1791.128	Durbin-Watson stat	0.138576
Prob(F-statistic)		0.000000		

Table 5: Estimated Error Correction Model

Dependent Variable: D(WPI)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.757277	0.076919	9.845111	0.0000
D(Oil Price)	0.012113	0.001951	6.207686	0.0000
Disturbances(-1)	-0.014926	0.005310	-2.810698	0.0054
R-squared	0.169619		Mean dependent var	0.818606
Adjusted R-squared	0.161518		S.D. dependent var	1.201410
S.E. of regression	1.100115		Akaike info criterion	3.043025
Sum squared resid	248.1020		Schwarz criterion	3.091163
Log likelihood	-313.4746		Hannan-Quinn criter.	3.062490
F-statistic	20.93729		Durbin-Watson stat	1.399145
Prob(F-statistic)	0.000000			

Even though the two series are non-stationary, they are found to be cointegrated of degree one (since their first differences are stationary). Therefore, the estimated equation presented in Table 4 may

be considered as the equation which describes the long-term or equilibrium relationship between the two variables. The coefficients of this equation are highly significant, with an estimated R-square of 0.896. The estimated slope coefficient (i.e. 0.145) reveals that in the long-run, international oil price increase is positively, but less than proportionately, responded to by domestic inflation. That is any unit increase in oil price will pass-through to WPI inflation by 0.145 percent. Other things remaining the same, hundred percent (or double) rises in international oil prices will lead to 14.5 percent inflation in India.

It is found in table 5 that lagged values of random disturbances (errors) terms do play a significant impact on inflation as the estimated coefficients is negatively significant. Table 5 reveals an improvement in model specification with some indicators, AIC and SC criteria, having been improved in moving from the long-term model (Table 4) to short-term model (Table 5), though there is significant reduction in case of R-square. The result presented in Table 5 may be taken as short-term (monthly) relationship between the variables. In the short-term, one unit rise in oil price will be accompanied by 0.012 percent increases in WPI inflation. The coefficient of lagged disturbance term is negative, -0.015, and this may be taken to mean the speed of adjustment of short-run disequilibrium towards the path of long-term relationship. If the rate of inflation in the previous month is too high to be in equilibrium, disturbance term (u) will be positive, and the difference over and above equilibrium path in the previous month will get adjusted (reduced) at the speed of 0.015 percent per unit. On the other hand, if the change in oil price is higher than WPI change in the previous month, error term (u) will be positive, and hence it will pull up present WPI inflation at the rate of 0.015 percent per unit increase in oil price in the previous period. That is, 100 percent increase in international oil price in current period will pass-on to WPI inflation in the next period by 1.5 percent to adjust itself to the long-term relationship of 14.5 percent.

Conclusion

The global oil price shock has always been a major concern in market fluctuations. The discussion of the pass-through effect of international oil price changes on domestic inflation rates facilitate domestic policy decision to palliate disruptions to the economy caused by oil price fluctuations. The study adopted Granger-Causality Test and Co-integration Test to test if international oil price shocks have pass-through effect in the WPI inflation in India. ADF test has been applied to examine whether the time series data are stationary or not, which is the necessary condition for the test of causality. This study established causal relationship between oil price and WPI inflation in India and both are found to have positive long-term or equilibrium relationship. That is global oil price fluctuation is positively reflected in domestic inflation. Meanwhile, the short-term relationship is also found to be positive. The coefficient of the lagged disturbances or error is found to be significant reflecting the pass-through of current month's increase in international oil price to domestic WPI inflation in the next month. Therefore, global oil price shock is quickly and significantly reflected in WPI inflation of India, even though the magnitude of the coefficients suggested significantly less than proportional responses by the latter.

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Tribal Women Entrepreneurs and Microfinance: A study of Mayurbhanj District of Odisha

Navin Kumar Rajpal*

A.K. Agarwal**

Abstract

Women empowerment attracted the attention of economist and policy makers as the only measure in removing the major bottlenecks of Human capital formation like poverty, unemployment, malnutrition, social evils, child labour and low living standard. The low performance of several poverty alleviation and women development programme give rise to new dimension of development through collective participation known as Self Help Groups. It is a community participation programme design to meet the credit requirements of poor especially women by engaging themselves in certain economic activity to gain income. The study examines the socio-economic status and characteristics of the SHGs sample households, activity undertaken and the constraints encounter in operation of their microenterprises.

Keywords: Entrepreneur, SHGs, Bank linkages, Public distribution system

Introduction

Women are regarded as backbone of family, society as well as of nation. Housewives are known as best manager in managing household activities. They fulfill the demand of family with limited resources. Nowadays women's are not confined within four walls of house as many of them have broken the barriers and prefer to do jobs to be independent and extend economic support to uplift the family status. Many of them have started their own ventures. But this picture of women empowerment reflects only one side of coin concentrating in metropolitan cities, urban and semi-urban areas while the other side i.e. rural area shows the same naked picture of backwardness, malnutrition highly affected by social customs and taboos. Rural women's are mostly confined to their household activities. Even though some women's are who are engaged in any small family businesses but have no freedom to move outside their village or home.

The World Bank Report (1991) has observed that "women are success of central to poverty alleviation effort in the short and medium as in the long run." In order to overcome these constraints the government of India has taken several initiatives through several policies and strategies which either miserably failed or have not shown any significant contribution bringing improvement in the lives of rural people especially women. These problems are not matter of concern only to India but also for other developing countries. Prof. Mohammad Yunus of Chittagong University of Bangladesh started an experiment by lending loans to 42 women poor of Jobra village by advancing US \$27 who were affected by famine of 1979. This was done to improve their living condition by raising the extra earning through the skill they possess. This small help have changed the lives of those women's as they cleared the loans of money lenders and this was the beginning of simple journey of Microfinance and Yunus Grameen Bank in Bangladesh.

* Research Scholar, Department of Economics, Mizoram University, Aizawl.

** Professor, Department of Economics, Mizoram University, Aizawl.

The major components which are required for women empowerment are economic independence, knowledge and awareness, participation, self image and autonomy. Moreover, women access to credit in rural areas is restricted due to problems like collateral, cultural distance between house and Banks, inflexibility in quantum and purpose of credit, high transaction cost, Banking hours, exploitation by intermediaries and denial of credit to women due to defaults made by male member of family. In order to overcome these difficulties NABARD in 1992 initiated SHG- Bank linkage programme with the help of several Banks and NGOs to serve credit to poor households. With the moving years, the SHG-bank linkage programme shown remarkable achievement bringing women empowerment in general and poor women in particular through improvement in various dimensions like family welfare, access to money and knowledge, awareness against discriminations, participation in decision making, and control over both physical and human resources.

Microfinance is defined as a provision of broad range of financial services such as deposits, loan, payment services, money transfer, and insurance to poor, low income households, and their microenterprises. Further it is a process of lending micro or small sums of money to rural and urban poor households, with emphasis on women borrower provision of finance for asset creation. The CGAP-World Bank defines "Microfinance as an instrument which offers poor people to access basic financial services such as loans, savings, money transfer services and micro insurance."

In India microfinance basically works under Self Help Group model. Self Help Group is a homogeneous group of poor, women, and users etc, which are voluntary and are formed for the common interest of their development. It generally consists of 10 to 20 members who meet together for addressing their common problems and makes voluntary thrift on regular basis. This thrift amount is deposited with bank in the name of group and in case of need of certain member this deposited amount is lend to them at certain rate of interest. After getting in position to handle financial matter the group approaches the Bank for further assistance which generally takes 6-9 months after formation of group. These women engaged themselves in certain economic activities either individually or jointly which empowers them economically, socially and politically.

Literature review

Manimaran (2004) made a study on topic "self help group and rural women entrepreneurship" and stated several ways through which women's are suffering like economic status, credit, social importance, freedom and moreover self interdependence. He advocated that the only solution to poverty reduction and empowerment of women. It can be effectively achieved through community participation of poor women's. His analysis on 5 SHGs operating in Bodinayaknaur city of TamilNadu found that self help group are organized to manage their economic activity better and gaining empowerment in directions, which are appropriate to their needs, interest and constraints. They gained confidence from increase in their financial interdependence, security, literacy skills, decision making, and communications skills. It has been further observed that the rural women really empowered socially and economically after becoming the member of SHGs.

Pandian and Eswaran (2004) made a study on "Microenterprises and Rural Women" and defines micro credit programme as extent of small loans to poor people for self employment projects that generate income allowing them to care for themselves and their families. They made study of 350 women's from 10 blocks of Madurai district in Tamil Nadu and found 52 percent women's have undertaken petty business

units and rest are distributed among processing, production and service units. Further they found 72 percent enterprises run by women's holding certain level of literacy while higher percentage of illiterate women's are engaged in petty businesses as compared to literate women's. Microfinance helps them to start up microenterprises which in turn support in creation of self employment and earning livelihood and hence the upliftment of family living standard.

Mohamed and Prakash (2004) made on "constraints on rural women entrepreneurs- an experiment through microcredit" and highlights several constraints such as peer pressure for timely repayment which tend to loan recycling increases debt liability, aggressive family tension, credit already used to meet immediate consumption need and high interest rate. Further, cash flow problems, unequal power relation, illiteracy, lower wages, cuts in developmental spending and anti-poor macroeconomic policies disproportionately affect the women. In addition competition from the big and transactional corporation's products retards their further growth. Thus access to market information, technology, management and marketing skills are required for their development.

Parvin (2009) made study on "Self Help Groups and Women Empowerment- a conceptual perspective" and defined empowerment as a process whereby the powerless gain a greater share of control of resources and decision making. Power is exercised in social, economic and political relations between individual and groups and women in general the poor women in particular are powerless because of no control over resources as well as decision making.

Kaur (2009) defines Microfinance as an offshoot of Microcredit which includes support services along with loan components. The author made a study on origin and growth of Microfinance in India making comparison between growth of SHG in different regions of India and uneven distribution. Microfinance is regarded as the better mechanism to reduce poverty and bringing improvement in social and economic status of poor. She highlights the activities undertaken by women's after joining SHG in southern regions such as soap making, book binding, running canteen, catering units, vegetable selling, tea stall, fancy stores, floor mill, beverages selling, snack and fruit stalls etc. while in northern regions women's are involved in stitching, embroidery work, phulkari, making sewian, poultry, dairy farming, making hand fan etc. For further empowerment of women she emphasized implementation of proper policies, rules, and regulations for better utilization of loans, regulated rate of interest, and repayment pattern.

Kumar S (2012) made study on "capacity building through women group" and defined capacity building as the assistance that is provided to entities, usually societies in developing countries, which have a need to develop certain skill or competence, or for general upgrading of performance ability. Capacity building not only enhances the ability and skills at individual level but also help to realize their full potential. He made study of Kudumbashree – a state level poverty eradication mission in Kerala which views Microenterprise development as an opportunity for providing gainful employment to the people below poverty line and thereby improving their income and living standard. This three tiered hierarchial system of organization helps in capacity building for the benefits of its members by developing skills and knowledge. Further from the study of 60 respondents from Aikkaranadu gram panchayat of Ernakulum District, above moderate effectiveness of financial, legal, account keeping, and entrepreneur development literacy training have been observed, which reflects the strong indication that these training programmes achieved their objective to greater extent.

Objectives of study:

- (i). To examine the socio-economic status of SHGs member households.
- (ii). To study the economic activities undertaken by the members and problems encountered while operation.
- (iii). To suggest appropriate remedies to overcome the constraints and improvement in socio-economic status of members

Area of Study:

Mayurbhanj district is located in the north eastern part of Odisha. The district of Mayurbhanj comprises of 4 sub-divisions, 9 tehsils, 26 community development blocks, 4 towns, 1 municipality, 3 NACs, 382 gram panchayat's and 3945 villages with the head quarter at Baripada. The district is called Mayurbhanj after the name of the ex-state which on its merger with Orissa in 1st January 1949 constituted the entire district. The district is bounded on the north by West Bengal and Jharkhand, on the west by Keonjhar District and on the east by Baleswar District of Odisha. It covers an area of 10418 sq. kms which constitute 6.69 percent of state territory. This is considered as one of the backward district of Odisha constituting 2223456 persons, out of which 93 percent of population live in rural area and their main occupation is agriculture and animal husbandry. Mayurbhanj is regarded as tribal dominated district consisting of 170835 scheduled caste and 1258459 scheduled tribes population i.e. 56.67 percent of total population of District. Though the district shares only 6 percent of state total population, the tribal population share comes to 15.42 percent of total scheduled tribes of the state. Further the literacy rate is 51.91 percent which means nearly half of the population of district is illiterate. It is needless to say that tribals of this district are poor and malnourished due to lack of education, sanitation, regular occurrence of flood, poor connectivity etc. so the economy of Mayurbhanj district is reflecting the same naked picture of backwardness.

Methodology

The study has adopted Multi-stage sampling method. In the first stage, all the blocks of the district has been divided into two sections i.e. Most Literate Blocks and Less Literate Blocks on the basis of Average literacy rate of District. In the second Stage 5 Blocks has been selected from each section on the basis of Simple random sampling method. In the third stage, from each block 1 Panchayat has been selected randomly and from each panchayat 10 sample households. Therefore the study is spread over 10 Blocks of Mayurbhanj district comprising 100 sample households.

Analysis and Interpretation**1. Socio-economic characteristic of Sample Households**

In the study area the Self Help Groups are either promoted by Government agencies like Integrated Child Development Schemes (ICDS), District Rural Development Agency (DRDA), Banks including Commercial, RRBs and Co-operatives, Mission Shakti etc. or by private agencies like several NGOs and MFIs. These supporting organizations are further as the promoting agencies as they are liable for organization, formation, making awareness, imparting training, knowledge about book keeping and supporting for getting bank linkage. Moreover these promoting agencies keep close watch over the

SHGs members regarding their problems, credit facility, group saving, timely repayment and other social and economic issues.

Table 1: Promoting Agencies

Promoting Agencies	Most Literate Blocks	Less Literate Blocks	Total
1. Government Agencies	12	5	17
2. NGOs	--	--	--
Total	12	5	17

The study of selected sample households has been collected from 17 SHGs spread over 10 blocks of the study area. Table 1 shows that, out of 17 SHGs, 12 SHGs are belong to Most Literate Blocks and 5 SHGs belongs to Less Literate Blocks. Moreover all SHGs are promoted by Government Agencies which reveals that Government agencies dominate over NGOs and other promoting Institutions in formation and nourishing the SHGs in study area.

Table 2 : Age wise distribution of Sample Households

Age Group	Most Literate Blocks	Less Literate Blocks	Total Total
1. Lower Age Group (upto 20)	1	--	1
2. Middle Age Group (21- 50)	44	41	85
3. Upper Age Group (51 and above)	5	9	14
Total	50	50	100

As the Age wise distribution of total sample households in the study area concern majority of the sample households i.e. 85 percent belongs to Middle Age Group (21-50) followed by Old Age Group (14 percent) and Lower Age Group (1 percent). The same picture is observed in both Most Literate and Less Literate Blocks.

As per the Caste wise distribution of membership concern table 3 reveals that 31 percent of total sample households belong to Other Backward Caste Category followed by Scheduled Tribes (30 percent), General (27 percent) and Scheduled Caste (12 percent). The most literate blocks 42 percent samples households belongs to OBC category followed by ST (40 percent) and general (18 percent). But in case of Less literate blocks majority of the samples belongs to general category (36 percent) followed by SC (24 percent), ST (20 percent) and OBC (10 percent).

Table: 3 : Caste wise Distribution of Sample Households

Caste	Most Literate Blocks	Less Literate Blocks	Total
1. Secheduled Caste	--	12	12
2. Scheduled Tribes	20	10	30
3. Other Backward Castes	21	10	31
4. General	9	18	27
Total	50	50	100

Further the study reveals that OBCs and ST share is high in Most Literate Blocks while in Less Literate Blocks the General and SC hold major share.

The marital status of Total Sample Households shows 87 percent are Married followed by Single (7 percent) and Widow (6 percent). Further both Most Literate and Less Literate Blocks shows the same picture of higher membership of Married members followed by Single and Widow. Further no divorce membership has been found.

Table 4 : Marital Status of Sample Households

Marital Status	Most Literate Blocks	Less Literate Blocks	Total
1. Single	3	4	7
2. Married	44	43	87
3. Widow	3	3	6
4. Divorced	-	-	-
Total	50	50	100

Literacy is considered as one of the important contributing factor in economic and social upliftment of both individual and society. As the literacy level of total sample households concern 35 percent of members are illiterate. Moreover 30 percent of samples having literacy 7-10 standard and 26 percent have studied upto class 6 only.

Table 5 : Literacy Status of Sample Households

Promoting Agencies	Most Literate Blocks	Less Literate Blocks	Total
1. Illiterate	16	19	35
2. Upto 6th	18	8	26
3. 7th – 10th	13	17	30
4. 11th – 12th	3	5	8
5. Graduation and Above	-	1	1
Total	50	50	100

Only 8 percent of Total sample households have studied 11-12 followed by 1 percent sample having qualification graduation and above.

As per the block wise literacy level concern Less Literate Blocks holds majority of illiterate sample households (38 percent) followed by sample households having literacy 7 – 10 (34 percent). While in case of Most Literate Blocks 36 percent of sample households have studied upto 6 standard followed by illiterate sample households (32 percent) and sample households having literacy 7 – 10 (26 percent). Moreover only 1 percent of sample households having literacy Graduation and above which is from Less Literate Blocks.

Moving to the economic status of the sample households 73 percent of total sample households belongs to BPL category. The Less Literate Blocks holds less number of BPL sample households (64 percent) as compared to Most Literate Blocks (82 percent). Therefore the study shows higher concentration of BPL sample households in study area.

Table 6 : Economic Status of Sample Households

Economic Status	Most Literate Blocks	Less Literate Blocks	Total
1.BPL	41	32	73
2.APL	9	18	27
Total	50	50	100

In Indian family the head of the family plays a pivotal role not only in taking important decisions like expenditure, use of resources, asset, financial matters, education and marriage but also in improving quality of life of all family members. In the study attempt has been made to extent to extend women participation in acting as head of family. The study found 91 percent of total sample households are headed by male member and only 9 percent are headed by female.

Table 7 : Types of Sample Households

Promoting Agencies	Most Literate Blocks	Less Literate Blocks	Total
1. Male Headed Households	46	45	91
2. Female Headed Households	4	5	9
Total	50	50	100

Moreover as the Blocks wise distribution concern Less Literate Blocks having 10 percent sample households headed by female member while in Most Literate Blocks only 8 percent of sample households are headed by female.

2. Bank Linkage and Use of Credit

The Bank linkage plays an important role in development of individual as well as of group. It facilitates the members to access credit at a lower interest rate as compared to informal sector. The bank Linkage is divided into two sections i.e. saving linkages and credit linkages. The SHGs members first open a saving account in the name of group and the thrift amount of each and every member is deposited. While the Credit linkage is provided to the SHGs on the basis of their regularity in saving deposit every month. Various studies shows the credit amount to SHGs usually varies 3 – 4 times of their total group saving. The Bank linkage position of sample households is 100 percent. Moreover 78 percent of total sample households have been provided credit linkage facility and remaining 22 percent has been provided only saving linkage. The Less Literate Blocks situation is worst as 40 percent of sample households have not been provided any credit support while in Most Literate Blocks 96 percent sample households has been provided credit facility. Saving is regarded as central theme of Micro financial services. The saving is the contribution made by group members usually once in a month with the Group. This saved amount is allotted to the member in need at stipulated rate of interest.

Table 8 : Bank Linkage Position of Sample Households

Linkages	Most Literate Blocks	Less Literate Blocks	Total
1. No Bank linkages	-	-	-
2. Saving linkages	2	20	22
3. Credit linkages	48	30	78
Total	50	50	100

The study shows that the yearly average saving of Per group is Rs. 7102.50 and yearly average saving per member is Rs. 607.65. Moreover the yearly average saving per member is higher in Most Literate Blocks (Rs. 620.62) as compared to the Less Literate Blocks (Rs. 580). Further the yearly group saving is also higher in most Literate Blocks as shown in table 9.

Table 9 : Average Saving of Sample Households (Yearly)

Saving	Most Literate Blocks (In Rs.)	Less Literate Blocks (In Rs.)	Total (In Rs.)
1. Average saving per member	620.62	580.0	607.65
2. Average saving per Group	7221.81	6960	7102.5

Credit is the most important part of human life as it is needed by every person in order to carry on their life as well as businesses. The average loan disbursed to the total sample households in the study area is Rs. 12082.20. Out of which the Most Literate Blocks enjoys the larger amount of Bank credit i.e.

13890 per member as compared to Less Literate Blocks i.e. 10274.40 per member. Moreover as the average repayment ratio is concerned the Most Literate Blocks shows better position than the Less Literate Blocks. The average repayment ratio of total sample households is 40.34 percent till the day of survey.

Table 10 : Loan Details

Details Blocks	Average loan amount (in Rs.)	Average amount repaid (in Rs.)	Repayment Ratio (in Rs.)
1. Most Literate Blocks	13890	5706.1	41.08
2. Less Literate Blocks	10274.4	4043.8	39.35
Total	12082.20	4874.95	40.34

As the matter of Bank linkage facility concern the Bank of India acts as a Lead Bank which is having highest number of branches in the district. Moreover the Commercial Banks plays a greater role (90 percent) in providing banking facility to SHGs sample households. The same picture is observed in Blockwise distribution of total sample households. Moreover only 10 percent of total sample households is supported by RRB (Baitarini Gramya Bank).

Table: 11 : Source Wise Bank Linkages

Banks	Most Literate Blocks	Less Literate Blocks	Total
1. Commercial Banks	50	40	90
2. RRBs	-	10	10
3. Co-operatives Banks	-	-	-
Total	50	50	100

Every SHGs member undertakes certain income generating activity for social and economic upliftment of self and family. The activity undertaken by the member varies in accordance with demand, availability of resources, time, credit, infrastructure, inputs and most important profit. Table 12 shows the various activities undertaken by the Total sample households as their source of livelihood. The Sal leaf plates and cups making business which includes leaf collection and stitching also is the main occupation holding 22 percent of total sample households. The Sabai grass rope making occupies second place constituting 17 percent followed by others (14 percent), Public Distribution System (10 percent), animal husbandry (9 percent), Mid Day Meal (7 percent), and farming (7 percent). Moreover 8 percent of total sample households have not undertaken any work.

Table 13 shows that as the blocks wise distribution of activities concern most literate blocks shows better position as only 2 percent of sample households have not undertaken any work as compared to less literate blocks where 14 percent of sample households are not working. Moreover both the blocks differs in activities undertaken as in the most literate blocks the major activity is Sabai grass rope making (34 percent) followed by cooking at Mid Day Meal schemes at schools (14 percent), animal husbandry (12 percent). Whereas in less literate blocks the majority of sample households are engaged in Leaf plates and Cups making including leaf collection and stitching (38 percent) followed by PDS (20 percent) of wheat, rice, cooking oil and kerosene to BPL families. Further, 18 percent of sample households have undertaken other activities and no sample households are involved in sabai grass rope making in Less literate blocks.

Table 12 : Activities Undertaken by Sample Households

Activities undertaken	Most Literate Blocks	Less Literate Blocks	Total
1. Mid Day Meal	7 (14)	- (0)	7 (7)
2. Animal Husbandry	6 (12)	3 (6)	9 (9)
3. Sabai Grass rope making	17 (34)	- (0)	17 (17)
4. Leaf plates and cups making#	3 (6)	19 (38)	22 (44)
5. Farming	5 (10)	2 (4)	7 (7)
6. PDS	- (0)	10 (20)	10 (10)
7. Rice Business	6 (12)	- (0)	6 (6)
8. Others*	5 (10)	9 (18)	14 (14)
9. No work	1 (2)	7 (14)	8 (8)
Total	50 (100)	50 (100)	100 (100)

* Others include leased and own farming, well boring, poultry, puffed rice and petty shops.

includes leaf collection and stitching

The economic activity undertaken by the sample households faces certain problems in smooth operation and growth of their enterprise. These problems have been classified under different aspects as stated in table 13. The majority total sample households have stated availability of inputs as their basic problems which are due to seasonal businesses as the sal leaf are not available during autumn season, etc. Further, finance still acts as a major problem to 20 percent of total sample households as many sample households have not been provided credit facility and even average credit amount is lower to cover the operational expenses. Moreover 16 percent of samples have stated marketing of their products as their major constraints followed by infrastructure facilities (15 percent) like transportation, storage etc. Further 9 percent of total samples households have reported diseases as their major problem as this is basically found with the sample households undertaken animal husbandry and poultry as their major occupation.

Table 13 : Problems and Issues of Sample Households

Constraints	Most Literate Blocks	Less Literate Blocks	Total
1. Inputs	8 (16)	21 (42)	29 (29)
2. Infrastructure	8 (16)	7 (14)	15 (15)
3. Diseases	8 (16)	1 (2)	9 (9)
4. Marketing	7 (14)	9 (18)	15 (16)
5. Finance	10 (20)	10 (20)	20 (20)
6. Others*	4 (8)	1 (2)	5 (5)
7. No problem	5 (10)	1 (2)	6 (6)
Total	50 (100)	50 (100)	100 (100)

*Others include political interference, product and quality etc.

Moving on to blocks wise classification of problems in operation less literate blocks samples have stated Inputs (42 percent) as their major problem while Most literate blocks samples stated finance (20 percent) as their major problem. The problems issues are higher in Less literate blocks as only 2 percent of sample households have stated no problems as compared to Most literate blocks (10 percent).

Income of the households represents a clear picture the living standard of family. Therefore the study has been made to know whether there is any increase in income of the sample households or not after joining SHGs as shown in table 14. The study shows the income of total sample members have increased from Rs. 361.75 during Pre-SHG period to Rs. 1077.30 at Post-SHG period consisting 197.80 percent growth.

Table 14 : Income of sample members

Blocks	Pre SHG (in Rs.)	Post SHG (In Rs.)	Percentage growth
1. Most Literate Blocks	403.70	1250.60	209.78
2. Less Literate Blocks	319.80	904.0	182.67
Total	361.75	1077.30	197.80

As block wise distribution of sample members concern the most literate blocks have observed higher income growth from Rs. 403.70 during Pre-SHG to Rs 1250 at Post-SHG period holding 209.78 percent increase. The Less Literate blocks income also increases but less than most literate blocks.

Major finding of the study

- The majority of total sample households are illiterate (35 percent) and in the Less literate Blocks the illiterate membership is high. Even the most literate blocks 32 percent samples households are illiterate.

- The average membership of BPL sample households is high in the study area, But in the most literate blocks the concentration of BPL sample households is high (82 percent) as compared to less literate blocks (64 percent).
- The credit linkage position of total sample households is 78 percent while 40 percent of sample households from Less literate blocks have not been provided any credit support.
- The average yearly saving of both individual member and Group is higher in most literate blocks as compared to less literate blocks.
- The most literate blocks enjoys higher average loan amount as compared to less literate blocks. Even the most literate blocks have higher repayment ratio.
- Finance is major problem of most literate blocks while inputs act as a major problem of less literate blocks.
- Most literate blocks shows majority of samples households are engaged in sabai grass rope making while major sample households from less literate blocks are engaged in leaf cups and plate making.
- The sample households have stated marketing as their major constraint as because of intermediaters who purchases the products at lower rates and sale those products at higher rate in other markets.
- The study shows the major sample households in the study area are engaged in nature based activities whose inputs are generally not available throughout year. Moreover, the problem is mostly confined to less literate blocks as leaves are not available during autumn.
- The income of sample households of most literate blocks is higher as compared to less literate blocks both in pre and post SHGs period due to overall year availability of inputs.

Conclusion

The study highlights several economic and nature related constraints face by women entrepreneurs in the study area. The nature based employment and financial constraint forces them to stay again behind below poverty line. In order to improve their socio-economic condition it is necessary to remove the constraints in operation of their microenterprises. In this regard it will be suggested that the promoting agencies should come forward and made study behind financial exclusion of sample households and try to make uninterrupted credit availability. Moreover, instead of seasonal activities, multi economic activities should be undertaken as it reduces the risk of loss as well as serve as a solution to seasonal based employment. As the problem of marketing concern, several Government and Non-government Organizations should help the SHGs sample households to display and sell their products at various exhibitions, fairs, and co-operative stores etc.

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Factors Affecting Priority Sector Lending by Banks: An Empirical Detection From Indian Banking Sector

Jaynal Ud-din Ahmed*

Abstract

The priority sector lending was extended to ensure credit facilities to neglected sectors of the economy particularly in the rural areas. The involvement of commercial banks in priority sector lending has grown considerably with special emphasis on opening branches in un-banked areas. The diversification of a large fraction of bank credit from the traditional sector to the priority sector is a remarkable feature of credit deployment in the post nationalization era. Since seventies, Reserve Bank of India and government of India have stipulated some guidelines viz, financing in the priority sector on an increasing scale ie, 40 per cent of total bank credit, more deployment of credit to backward regions, preparation and implementation of district credit plan etc. However, although commercial banks are able to reach the prescribed target of lending to priority sector, the small entrepreneurs and clients are continued to be both credit constraints. Thus, it can be observed that the demand for funds for priority sector viz., small entrepreneurs and agricultural sector is enormous. With this backdrop, the present study is an attempt to identify the factors affecting priority sector lending by banks in the area under consideration in the context of national scenario.

Keywords: Priority sector lending, Bank credit, Lending, Compound ground rate.

Introduction

The concept of priority sector was evolved in the late sixties in order to ensure adequate credit facilities to certain neglected sectors of the economy particularly in the rural areas. The involvement of banks in priority sector lending (PSL) has grown considerably with special emphasis on opening branches in un-banked areas. The diversification of a large fraction of bank credit from the traditional sector to the priority sector is a remarkable feature of credit deployment in the post nationalization era. The PSL is mainly intended to ensure that assistance from the banking system in an increasing manner to those sectors of the economy which has not received adequate support of institutional finance. Since seventies, Reserve bank of India (RBI) and government of India have stipulated some guidelines viz, financing in the priority sector on an increasing scale 40 per cent of total bank credit, more deployment of credit to backward regions, preparation and implementation of district credit plan (DCP) and measures for enhancing productivity, employment and economic growth with social justice (Narasimham, 1994) .

The commercial banks, without maintaining adequate security, have supplied advances to priority and other neglected sections of the society at a concession rate of interest. The banking statistics revealed that, this designated priority sector as well as neglected sections received about 15 per cent of the total bank credit at the time of bank nationalization (weblink, 2010) . On the later period, proportion of advances to the priority sector has increased from 15.0 per cent to 33.3 per cent in 1974 and further to 40.0 per cent in 1980. The commercial banks have achieved the target and even surpassed it in quantitative terms. But in qualitative terms, there is an apprehension among the bankers that the advances to priority sector resulted in a loss of interest income due to highly subsidized lending rates. As a result, the profitability of banks has adversely affected besides maintaining additional manpower requirements for

* Professor, Department of Management, North Eastern Hill University, Tura Campus, Tura, Meghalaya.
Email: jaynaluahmed@yahoo.co.in

supervision of small loans, mounting over dues, poor recovery of advances and raising volume of non performing assets (NPAs) (Niranjana and Anbumani, 2002) .

The Narasimham Committee (1991) on financial sector reform drawn attention to the problem of low and declining profitability and stated that ‘there is need for gradual phasing out of the directed credit programme, i.e. the stipulations that 40 per cent of all credit should go to the priority sector should be scrapped. The priority sector should be redefined and the proportion shall be fixed at 10 per cent of the aggregate credit’. The committee (1998) indicated that timely and adequate availability of credit rather than its costs is very indispensable for intended beneficiaries. The impact of Narasimham committee recommendations with regard to lending to priority sector has not been encouraging (Majumdar, 2001). It emerges that there is a growing anxiety that the process of financial sector reforms has by-passed the priority sector. In this respect, Y. V. Reddy (February 3, 2001) , Deputy Governor of RBI, remarked that the flow of credit to priority sector/ rural areas has not been up to the mark owing to accumulation of losses in public sector banks on account of mounting NPAs. The internal working group was set up by RBI under the chairmanship of C.S. Murthy to examine the need of continuance of PSL prescriptions. On the basis of the recommendations of the working group, the guideline for PSL were revised on April 30, 2007 and overall PSL target was fixed at 40 per cent for domestic banks and 32 per cent for foreign banks (RBI, 2009).

The banks are not able to reach the prescribed target of lending to priority sector. The small entrepreneurs and farmers are continued to be both credit and demand constraints. The bankers have the excuse that the constraints facing by them with regard to deployment of credit to priority sector are lack of viable credit products, implying lack of demand for credit etc (Shete, 2002) . On the other hand, there exists an informal sector which provides credit to priority sector particularly agricultural credit at higher rates of interest, which indicates that there are no demand constraints. Thus, it can be observed that the demand for funds for priority sector viz., small entrepreneurs and agricultural sector is enormous. The present paper is an attempt to diagnose empirically the factors affecting priority sector advances by banks in the area under consideration in the context of national scenario.

Review of Literature

There have been many researches and studies on PSL by banks in India and abroad. A brief review of these studies is highlighted in the following paragraphs to highlight the significance of the present study.

Radelet and Sachs, (1998) found that the Asian crisis was caused by a boom in international lending followed by a sudden withdrawal of funds. At the core of the Asian crisis were large-scale foreign capital inflows into financial systems that became vulnerable to panic. The recessions cause banking crisis which resulted recycling problems of banks studied by Hardy and Pazarbasioglu (1999) and Kaminsky and Reinhert (1999) . Salas and Saurina (2002) established the significant role of economic slump in increasing loan problem in Spanish banks. Meyer and Yeager (2001) found that the loan quality of local banks in U.S. is affected by local economic slowdowns. Gambera (2000) used a bivariate VAR technique and found that firm income and annual product have significant influence on bank loan quality and deployment of bank credit in US. Recently some studies investigated the feedback effect from the banks to the real economy. Marcucci and Quagliariello (2005) validated the cyclicity of write-offs to total loans for Italian banks. Hoggarth, Sorensen and Zicchino (2005) observed cyclicity of

aggregate write-offs in UK banks. Baboucek and Jancar (2005) found no corroboration of the cyclicity of NPAs in priority sector but conform pro-cyclicality for banks in Czech economy. Rikta (2006) in a policy note on institutional lending and financing policy for small sector in Bangladesh examined the effectiveness of financial, fiscal, and related policies for financing the small sector. The study suggested that the financial institutions need to have the financial capacity to accept the lending risks along with access to appropriate funding which fulfill the clients' requirements. The bank's lending program in support of private sector development consists of the SME to the National Bank of Egypt as observed in the progress report (2009) of Egypt. The mid term review on portfolio performance has underscored the main problems as programme implementation were delays in lapse of time between approval, effectiveness and first disbursement; non-adherence to bank procurement and disbursement procedures; non-compliance with reporting requirements; weak capacity etc. The banking sector in Egypt remained less affected by the global financial crisis as the Central Bank of Egypt was successful in reforming the sector since 2004 by consolidating the small banks into larger banks; strengthening bank supervision; and cleaning up NPAs.

In Indian scene, Joshi (1972) proposed the RBI to give clear and specific definition of different component of priority sector as some of the bankers are not clear about the precise scope of agricultural lendings. Chawala (1979) examined the dimension of credit flow to the priority sector during seventies and observed that the purpose of PSL by banks is not available for which it is meant for. Angadi (1983) observed the concentration of PSL in general and agricultural advances in particular in some state because of rapid branch expansion, deposit mobilization, privileged cropped area, adoption of high yielding variety etc. Joshi (1986) in his study identified weak fund management capacity of banks due to statutory liquidity ratio (SLR), cash reserve ratio (CRR) and PSL. He found that the low yield rate and rising cost contributed a lot to the declining trend in profitability of banks. Singh (1987) identified many exogenous and endogenous factors for the strains and stresses of banking system. The major of them being continuous increase in the SLR, CRR, persistent emphasis on social goals, growing incidence of industrial sickness, rapid branch expansion in the under banked areas, unfavorable change of deposit mix and growing incidence of financial disintermediation.

Muhammed Yunus (1988) strongly underlined that credit without discipline is nothing but charity and charity in the name of credit will only destroy the poor, instead of helping them. He, however, stressed on the loan recovery mechanism rather than blaming the defaulters. Rangarajan (1991) pointed out that improving the quality of loan assets is the true test of improved efficiency of banking system. The Narasimham Committee (1991) has stated the need for gradual phasing out of the directed credit programme. Krishnaswamy (1992) criticized the recommendations of the committee on financial system. He pointed out the committee's report considered only the interest of industrialist and it essentially concerned with reducing govt. regulations and improving profitability. Rajagopal (1994) studied on the consequences of PSL in Indian banking and remarked that concessional credit should be restricted only to the poorest of the poor and to the under privileged sections of the society. Commercial rate of interest should be charged from those who can afford it. Patel (1996) in his paper realised that the traditional banking ethics were not compatible with the needs of economic development and that the balanced development was not possible without strengthening the hold of commercial banks in the backward and neglected areas. With a view to bring the down-trodden, hitherto neglected sector households to the mainstream, fundamental changes in the traditional banking norms were called for to move away from security based credit towards programme oriented credit.

The Narasimham committee (1998) pointed out that the sufficient credit to priority sector is very indispensable for intended beneficiaries. Kohli (1997) observed the existence of significant linkages between bank credit and investment in both agriculture and industries in India. He suggested that although directed credit programme for PSL is effective in India, affirmative support to small-scale units is required. Ajit (1997) examined the issue of para banking activities and suggested that bank should be allowed to undertake these activities, particularly use of capital as risk, from the experience of other countries like USA. Department of Banking Supervision (1999) studied the impact of priority sector advances on NPAs and found that the incidence of NPAs in priority sector is much higher in view of the fact that priority sector advances constitute 30-32 per cent of the gross bank credit. Vyas committee (2001) also observed that commercial banks seem to have shied in extending rural credit as they are dealing vast number of small accounts. Niranjana and Anbumani (2002) observed that there is anxiety among the bankers that the advances to priority sector resulted in a loss of interest income due to highly subsidized lending rates.

The World Bank (2004) in its report, 'Sustaining India's Service Revolution' highlighted that government ownership of banks in India stifles competition and raises the cost of lending to the public. The World Bank has blamed RBI's stiff PSL norms for foreign and domestic banks are responsible for the weak financial health of commercial banks. The report has indicated that largest government ownership in the banking sector led to insufficient competition in the Indian banking system and hence, led to increased cost of intermediation, lowering capital allocation efficiency and under-lending to the private sector. RBI (2005) draft technical paper of internal working group identified the issues relating to necessity of PSL. The working group recommended the need for PSL prescriptions, the composition of priority sector which includes agriculture, small industries, small road and water transport operators, small business, professional and self-employed persons, education, housing etc. The existing system of computation of priority sector obligations in relation to NBC is based on the outstanding advances of banks. Linking the priority sector obligations to outstanding advances has its shortcomings as outstanding tend to decline as a result of better recovery, write-offs, etc. Ahmed (2005) in a diagnosis observed that commercial banks together have gradually increased the quantum of advances to small industries but the proportion in which total bank credit in priority sector has expanded, the relative share of small sector has not grown in the same ratio during the reform regime. The industrial campaign, awareness programmes and industrial training to the prospective entrepreneurs from the appropriate authority may be the remedy in this respect.

Bhati (2006) examined the lending climate for banks in emerging economies like India. The study found that due to the government policies, banks in India undertake many additional risks when they lend. This study recommended social risk evaluation is more appropriate for risk evaluation and reduction by banks in India. An assessment on the causes and consequences of NPAs of commercial banks, by Rajesham and Rajender (2007), concluded that a strong political will only be able to find satisfactory solution to the problem of mounting NPAs. Narasaiah and Naik (2007) observed that although great strides have been made in the last decade to ensure finance for micro enterprises, rare initiative has been taken to help small sector. As a result, small enterprises have been constrained to seek loans for new ventures from commercial banks. Sooden and Kumar (2007) analysed the PSL in the post reform period and suggested for a balanced approach as development agent and sustainability of directed lendings keeping in view the quantum of NPA in priority sector advances. Paramjit and Priyanka (2007) in their comparative study on PSBs and private banks relating to NPA level in PSL during 1997- 2005 found that priority sector had been contributing lion's share of total bank's NPA in India.

In order to review the efficacy of existing framework of money lending a technical group, was constituted under the chairmanship of S.C. Gupta, submitted its report on July 2007 and recommended measures pertaining to the institutional reform, alternative avenues of credit dispensation such as micro finance institutions (RBI, 2007). Roy (2008) observed that the agriculture is one of the so-called priority sectors to which banks are mandated to channel 40 per cent of their net credit. The agricultural lending is highly technical; it has to be crop-specific and time-bound. The under-lending does not serve the purpose, over-lending also invites trouble. The farmer eventually has to return the money. The Economic Survey Report, 2008-09 experimental that the government should allow trading of directed credit obligations among banks and other financial institutions. This will allow and encourage the development of financial institutions that can specialize in and exploit economies of scale and scope in un-banked and low-banked areas and sectors.

RBI (2010) observed that certain scheduled commercial banks are extending short-term loans of tenure ranging from six months to one year to housing finance and classifying the same as PSL. Since housing loans are generally medium to long-term loans taken by the individuals, these loans are considered to be not eligible as PSL. The banks should ensure that the end-use of the funds strictly as per the guidelines on lending to priority sector. Hence, PSL constitutes a loan amount of less than Rs 20 lakhs. RBI in this connection reiterated the guidelines that banks have to lend 40 per cent of their lending to areas like farm sector, small and medium sector, and weaker sections among others, which are collectively called priority sector. Verma and Antony (2010) viewed that the priority sector loan portfolio of banks tradable is likely to be neglected. After consultation with various stakeholders, the internal working group set up by the central bank has said that implementing this proposal could redirect the attention of most banks from actual lending to buying credits from a few banks that more than meet the targets. From the above review of earlier studies it is revealed that not many studies based exclusively on the PSL by banks. Most of the studies relate to the institutional financing, nature and problems of PSL by banks. However, the studies relating to the factors affecting the PSL by commercial banks remained un-researched in the study area.

Priority Sector lending by Commercial Banks: An Overview

The commercial banks have been playing an important responsibility of channelizing the funds with most important sectors to fulfill the pre-determined objectives. There is a rapid expansion in banking network, deposit mobilization and credit development due to which there is change in the scope of banking operations. The banks were especially concerned with financing the priority sector of agriculture, small scale enterprises and small transport operators. In course of time, other priority sectors were also added, such as retail trade, professional and self-employed persons, education, housing loans for weaker sections and consumption loans. The rationale of PSL was one of the causes for nationalization of the top 14 banks in 1969. However, it was the working group on the PSL and the 20 point economic programme which clearly indicated the concept of PSL is mainly intended to ensure that assistance from banking system should flow in an increasing manner to those sectors of the economy which though accounting for a significant proportion of the national product have not received adequate support of institutional finance in the past.

Deployment of Bank Credit to Priority Sector in India

The commercial banks played a significant role among the institutional sources of credit for

priority sector in India. The significance of bank credit in the priority sector can be observed against the backdrop of increasing quantum of such credit to this sector. The deceleration in bank credit growth is reflected the fact of slowdown in real economy as also cautious approach adopted by banks against the backdrop of growing uncertainties. The data suggested that growth rate of bank's lending to small enterprises, and agriculture and allied activities increased substantially during 2000-09. The table -1 presents total bank credit and the deployment of bank credit to priority sector in India during 2000-2009.

Table 1: Deployment of Bank Credit to Priority Sector in India (March 2000 to March 2009)

Sl No	Priority Sectors	March 2000	March 2001	March 2002	March 2003	March 2004	March 2005	March 2006	March 2007	March 2008	March 2009
1	Total bank credit	4,00,818 (100)	4,69,153 (100)	5,36,727 (100)	6,69,534 (100)	7,64,383 (100)	10,40,909 (100)	14,45,837 (100)	18,48,187 (100)	22,47,289 (100)	26,48,501 (100)
2	Agriculture & allied	44381 (11.1)	51922 (11.0)	60761 (11.3)	73,518 (10.9)	90,541 (11.8)	1,25,250 (12.0)	1,72,279 (11.9)	2,30,377 (12.8)	2,75,342 (12.5)	3,38,656 (13.0)
3	Small scale industries	52814 (13.2)	56002 (11.9)	57199 (10.6)	60,394 (9.0)	65,855 (8.6)	74,588 (7.2)	90,239 (6.2)	1,23,987 (8.7)	2,04,892 (9.3)	2,59,998 (10.0)
4	Other priority sector	34632 (8.6)	46490 (9.9)	57299 (10.7)	77,697 (11.6)	1,07,438 (14.0)	1,81,638 (17.4)	2,47,379 (17.1)	1,60,343 (8.9)	1,91,878 (8.7)	2,03,154 (7.8)

Figures in the parentheses indicate percentages to total bank credit deployed.

Source: Reserve Bank of India, Report on Currency and Finance, Various issues

The outstanding bank credit of small scale sector increased from Rs. 52,814 crores in March 2000 to Rs. 2, 59,998 crores in March 2009 recording around 5 fold increases but the percentage share to total bank credit has declined from 13.2 per cent to 10.0 per cent. During the same period, the amount of bank advances to agriculture sector increased from Rs. 44,381 crores to Rs.3, 38,656 crores. There is a sudden jump of bank credit deployed to other priority sector during the period under consideration. The same has recorded an increase from Rs. 34,632 crores in March 2000 to Rs.2, 03,154 crores in March 2009. It can be argued that the growth of advances to other priority sector in absolute figure has gone over the growth of bank credit to small sector although the percentage share has remained lower throughout the period. This signifies that the banking system is doing some appropriate and practical strategies in assisting to those sectors of the economy which has not received adequate support of institutional finance.

Priority Sector Advances: Bank Group-wise Comparisons.

The bank group wise distribution of priority sector advances and percentage share to total bank credit in India are furnished in table-2. It is clear that over the years percentage share of priority sector advances of public sector banks (PSBs) has remained around 43 per cent of total bank advances although in absolute term, the priority sector advances increased from 1,07,200 crores in 1999-00 to 7,20,083 crores in 2008-09. The PSBs achieved the priority sector target of 40 per cent throughout period under study. The private sector banks were also able to meet priority sector lending norms of 40 per cent throughout the period except 2000-01. The 32 per cent target fixed for priority sector lending has been met by foreign banks over the years. Further, the reality is that the PSBs position in lending in priority sector is higher than the foreign banks operating in India.

In order to examine the prospect of priority sector advances of bank groups, an analysis of skewness was undertaken. It is found that the highly positive skewness value 2.605 of private sector banks indicates an asymmetric appendage of priority sector advances encouraging and liquidating more in years to come. The negative skewness value -0.0487 indicates a reverse situation in extending towards additional fund to this sector.

Table 2: Priority Sector Advances by Bank Groups in India

As on March	<i>(Amount Rs in crores)</i>		
	Public Sector Banks	Private Sector Banks	Foreign Banks
1999-00	107200 (43.5)	14155 (41.4)	8270 (37.0)
2000-01	127807 (43.6)	10819 (38.7)	9699 (34.5)
2004-05	307046 (42.8)	69886 (43.6)	23843 (35.3)
2005-06	409748 (40.0)	106586 (42.8)	30439 (34.4)
2006-07	521376 (39.7)	143768 (42.7)	37835 (33.4)
2007-08	610450 (44.7)	164068 (42.5)	50254 (39.5)
2008-09	720083 (42.5)	190207 (46.8)	55483 (34.3)
Skewness	-0.0487	2.605	0.052

Figures in parentheses indicate percentage to total bank credit.

Source: RBI, Statistical tables Relating to Banks in India. IBA Bulletins

Level of NPAs in Priority Sector Advances of Banks:

Any analysis on priority sector will remain incomplete if the issue of sustainability of advances is not considered. This depends upon how efficiently the credit is recycled in the priority sector and the issue is directly linked with the level of priority sector NPAs. The priority sector NPAs of banks are presented in table-3. The sector-wise analysis of NPAs of public sector commercial banks revealed that priority sector added up a large proportion 44.5 per cent of total advances in March 2000 and increased to 63.6 per cent in March 2008. This however declined to 55.2 per cent in March 2009. In the non-priority sector, the same has been decreased to 43.7 per cent in March 2009 from 53.5 per cent in March 2000. The public sector NPAs remained as minimum level throughout the period.

Table 3: NPAs of Priority Sector Vis-A-Vis Other Sector

Year (End March)	<i>(Amount Rs. in crores)</i>						
	Priority Sector		Non-Priority Sector		Public Sector		Total
	Amount	Per cent	Amount	Per cent	Amount	Per cent	
2000	23715	44.5	28524	53.5	1055	2.0	53294
2001	24156	45.4	27307	51.4	1711	3.2	53174
2002	25150	46.2	28405	52.2	903	1.7	54458
2003	24939	47.2	26781	50.7	1087	2.1	52807
2004	23841	47.5	25698	51.2	610	1.2	50149
2005	21926	48.1	23249	51.0	444	1.0	45619
2006	22374	54.1	18664	45.1	341	0.8	41378
2007	22954	59.5	15158	39.3	490	1.3	38602
2008	25287	63.6	14163	35.6	299	0.8	39749
2009	24318	55.2	19251	43.7	474	1.1	44043
Cgr	4.12		9.76		-1.31		7.24

Source: Reserve Bank of India, Trend and Progress of Banking in India, Various issues

The compound growth rate (cgr) of NPAs in non-priority sector is comparatively higher (9.76 per cent). The 'cgr' became negative in the public sector. This exposes that the commercial banks have not considered loan to the public sector due to further NPAs menace over the years. Moreover, the overall 'cgr' of NPAs during 2000-2009 of PSBs was 7.24 per cent while non-priority sectors cgr (9.76 per cent) overweighs the priority sector (4.12 per cent). Thus the non-priority sector is also considerably adding fresh NPAs over the years. On the other hand, the higher NPAs in priority sector advances have pushed

up the overall proportion of NPAs. The reasons of higher proportion of NPAs in priority sector advances at the national level may be attributed to the directed and pre-approval nature of loans sanctioned under sponsored programmes, lack of effective follow up due to large number of small accounts, non-cost effective legal recovery measures, vitiation of the repayment culture consequent to the loan waiver schemes, willful defaulters and so on.

Background of the Study Area:

The Barak valley is the southernmost region of Assam covers an extensive area of 6922 sq. kms in 4 sub-divisions of three districts (Cachar, Karimganj and Hailakandi) of southernmost part of Assam (GoA, 2007). The topography of the valley is heterogeneous composed of high hills, low lands and level plains dotted with low ranges isolated hills. The economy of the valley had been a periphery to the economic mainstream of Bengal during the British rule. The partition of the country in the wake of independence and the consequent emergence of East Pakistan (now Bangladesh) not only had shattered the traditional cheapest and quickest lines of transport and communication but also had snapped the age-old channels of trade, commerce and transactions. The post independence phase did not adequately compensate the valley for all the loss exacted on it by partition.

The valley is characterized by thickly populated area with density of 360 persons per sq. km. About 49 per cent of the geographical area is under agriculture and 36.9 per cent are under forest. As per govt. records, the number of existing small and micro industries in the valley constituted about 10 per cent of the total number of industries of state Assam during the period 2000-2009. The district industries centres (DICs) are imparting training to the rural artisans in trade, leatherwork, tailoring, bamboo work, carpentry etc. Only 4.3 per cent of the workers are engaged in manufacturing, processing etc.

The commercial banks play a very crucial role in the process of economic development and so the availability of banking infrastructure is considered as one of the prerequisites for rapid and balanced development of the country. But unfortunately, the rate of growth of banking infrastructure in the valley has not shown significant rise. The valley has 12.5 per cent of the total bank offices of state Assam (UBI, 2009). At present, 12 PSBs, 1 RRBs and 3 private banks are operating with a net work of 147 branches. As on 31.12.2009 there are 147 numbers of branches of commercial banks operating in the valley. The district Cachar is bestowed with 72 branches (51 PSBs, 19 RRBs and 2 private banks) while the district Karimganj got 52 branches (32 PSBs, 17 RRBs and 3 private banks) and 12 branches (13 PSBs, 8 RRBs and 2 private banks) in the district of Hailakandi are taking the care of banking activities.

The analysis of the aforesaid indicators revealed that the valley is economically and industrially backward. The socio-economic backwardness of the valley is discerned by the symptoms like under and un-utilization of resources, prejudice of agrarian economy, industrial backwardness, weak infrastructure, slow entrepreneurial zeal, peculiar nature of clientele and rising incidence of unemployment. Thus, the economic development of this region is urgently needed in the direction of industrial and agricultural development for overall development of the districts under study.

Objective of the Study:

The foregoing discussions relating to the PSL of banks at the national level revealed that there are a number of serious issues relating to the PSL which became great concern of the policy makers. Now

the doubts relating to the sustainability of PSL may be studied in the backward area particularly to identify the actual factors. In this respect, we have conducted an empirical study over fifteen commercial banks operating in the study area. The RRBs will remain outside the purview of the present study. The major objectives are –

1. To examine the status of PSL by commercial banks in the area under study.
2. To study the recovery performance against the priority sector advances of banks over the years.
3. To examine the level of NPAs in priority sector advances of commercial banks in the area under study.
4. To identify the determinants of PSL by commercial banks over the years.

Hypotheses Framed:

The following operational hypotheses have been framed to meet the objectives of the study-

1. There exists a wide variation between deployment of bank credit and priority sector loans in the area under study.
2. The mounting overdue has significantly restricted the bank's lending capacity to priority sector over the years.
3. The priority sector advances have direct bearing on increasing quantum of NPAs of banks in the study area.

Methodology Adopted:

The secondary data collected from RBI Trend and Progress of Banking in India, RBI Report on Currency and Finance, RBI Annual Reports, RBI, Statistical tables Relating to Banks in India, IBA Bulletins, Regional offices of banks and Lead bank office of the study area has been considered for the purpose of the study. The entire study is subjected to statistical techniques like correlation analysis, regression analysis, skewness, growth rate analysis, parametric tests etc. The extent of credit channelization has been tested with the correlation matrix analysis. The annual growth rate and compound growth rate analysis have been used to assess the growth of bank credit in the area under study. A comparison of credit targets and actual achievements has been made to judge the credit performance in priority sector. Besides this the analysis of skewness, simple tabulation, and percentage analysis has been used. The banks lending capacity has been studied with the percentage of recovery in priority sector. Regression model has also been fitted to study the determinants of PSL by identifying independent variables which are mentioned in appropriate places.

Empirical Analysis:

Sector-wise Break up of Commercial Bank Credit:

The socialization of bank credit has been the subject matter of PSL by the banks. The attainment of the socio economic priorities of the government like growth of agriculture, promotion of small entrepreneurs and development of backward area etc is the major responsibility of commercial banks. Table -4 presented the data on the total bank advances to the priority and non-priority sector for the period between December 2000 and December 2009 in the districts of the valley. The percentage share of priority sector advances of banks in the region is much higher than the national level during the period. The banks in the study area are able to maintain the priority sector lending prescription of 40 per cent as per revised guidelines. It is exposed from the table that the share of priority sector advances to total

advances has been declined in the area under study except Karimganj district while the same has increased at the national level. It has also been observed that the average annual growth (agr) of priority sector advances was 4.0 per cent, 3.4 per cent and 6.1 per cent in the Karimganj, Cachar and Hailakandi district respectively during 2000-2009. This indicates a wide gap between deployment of bank credit to priority sector and the development of the backward regions. It is imperative to take appropriate strategy for financing priority sector like micro and small sector, agriculture etc in backward regions.

Table 4: Sector Wise Break-Up of Bank Credit in Barak Valley (2000-2009)

Year (End December)	Karimganj district			Cachar district			Hailakandi district		
	Priority Sector	Non-Priority Sector	Total	Priority Sector	Non-Priority Sector	Total	Priority Sector	Non-Priority Sector	Total
2000	2022 (63.4)	1167 (36.6)	3189 (100)	4025 (57.0)	4200 (43.0)	8225 (100)	1682 (51.3)	1595 (48.7)	3277(100)
2001	2038 (50.8)	1975 (49.2)	4013 (100)	4987 (52.5)	4511 (47.5)	9498 (100)	1695 (49.8)	1705 (50.2)	3400(100)
2002	1875 (58.6)	1324 (41.4)	3199 (100)	5595 (49.0)	5821 (51.0)	11416 (100)	1945 (53.5)	1688 (46.5)	3633(100)
2003	2159 (60.9)	1386 (39.1)	3545 (100)	5294 (47.0)	6060 (53.0)	11354 (100)	2300 (49.8)	2314 (50.2)	4614(100)
2004	2980 (60.7)	1873 (39.3)	4853 (100)	6432 (48.9)	6934 (51.1)	13366 (100)	2430 (50.8)	2393 (49.2)	4823(100)
2005	3421 (64.0)	2309 (36.0)	5730 (100)	6890 (51.2)	6700 (48.8)	13590 (100)	2751 (45.6)	3024 (54.5)	5775(100)
2006	2653 (50.8)	2510 (49.2)	5163 (100)	7534 (48.0)	7890 (52.0)	15424 (100)	3230 (52.0)	3129 (48.0)	6359(100)
2007	3120 (57.9)	2751 (43.1)	5871 (100)	7834 (49.1)	7908 (50.9)	15742 (100)	3904 (56.6)	3079 (43.4)	6983(100)
2008	3452 (53.1)	3048 (46.9)	6500 (100)	7980 (49.9)	8001 (50.1)	15981 (100)	4109 (56.9)	3110 (43.1)	7219(100)
2009	3760 (55.4)	3020 (44.5)	6780 (100)	8562 (51.6)	8020 (48.4)	16582 (100)	3908 (51.6)	3658 (48.4)	7566(100)
agr	4.0	2.2	3.3	3.4	14.7	8.0	6.1	5.6	3.8

Figure in the parentheses indicate percentage to total credit of the respective district.

Source: Lead Bank office, UBI, Cachar, Karimganj and Hailakandi districts

Deployment of Bank Credit under Annual Credit Plan:

The banks operating in the study area, keeping in view of their aim and objectives for the economic development under the lead bank schemes, have made an effort in providing financial support to agriculture and small scale sector. The sector-wise bank credit deployment under annual credit plan in the districts is shown in table- 5. The table reveals that agriculture is one of the single dominant sectors that absorbed major portion of the credit outstanding. In March 2000, credit outstanding for agriculture was Rs 21,132 thousands, Rs 14,673 thousands and Rs. 21,862 thousands for Karimganj, Cachar and Hailakandi districts respectively. The same has increased to Rs 28,764 thousands for Karimganj district and Rs. 38,602 thousands for Cachar district in March 2009. The district Hailakandi, however, experienced a marginal increase of Rs. 25094 thousands in March 2009. The total amount of PSL stands at Rs. 1039.85 lakhs with 5181 number of accounts in Karimganj district, Rs. 1060.80 lakhs with 8024 number of accounts in Cachar district and Rs. 813.96 lakhs with 6168 number of accounts in Hailakandi district as on March 2009. The bank credit deployed to small sector and service sector in absolute term has been increased throughout the period in the districts. The service sector has experienced relatively more deployment of credit in terms of quantum. The growth of bank credit in different sectors may be assessed by compound growth rate (cgr) of bank credit sanctioned during the period. The results obtained are displayed in table 6.

Table 6: CGR of Bank Credit Deployed

District	Agriculture and Allied	SSI and Rural Artisans	Trade and Service	Total Credit
Karimganj	0.26	2.45	8.23	11.27
Cachar	3.24	13.08	11.58	14.08
Hailakandi	1.29	0.32	6.05	4.71

The inter-sectoral growth rate analysis reveals that there is an increase in respect of credit sanctioned in agriculture and allied activities (cgr = 0.26), small scale sector (cgr=2.45) and trade and

service (cgr = 8.23) in Karimganj district. In the same manner, district Cachar and Hailakandi experienced a positive growth rate of credit sanctioned in small sector (cgr= 13.08), agriculture and allied activities (cgr = 3.24) and trade and service (cgr = 11.58). It is therefore evident from the growth rate analysis that the priority sector guidelines implemented from time to time had a positive impact on the sectoral credit deployment in the area under consideration.

Year(As on March)	Agriculture and Allied activities		Small Sector and Rural Artisans		Trade and Services		Total	
	Account	Amount	Account	Amount	Account	Amount	Account	Amount
Karimganj district								
2000	4132	21132	784	21285	1290	24832	6206	67249
2001	2496	24349	817	23541	1393	20800	4706	68690
2002	2560	26965	743	15833	1638	27754	4941	70602
2003	2189	26565	773	16954	1624	34393	4586	77912
2004	1444	15419	484	8771	1448	30339	3376	54529
2005	1238	15977	565	10571	1836	45026	3639	71574
2006	1453	16530	462	10923	1983	46312	3780	73765
2007	1762	18756	643	21789	1867	49032	4272	89577
2008	1460	19870	548	23470	1795	53219	3839	96559
2009	1981	28764	890	22841	2310	52380	5181	103985
Cachar district								
2000	2369	14673	624	14019	1635	31118	4628	59810
2001	2159	19609	952	20090	2022	40784	5133	80433
2002	2255	29517	648	19839	2869	65709	5772	115065
2003	2136	34412	796	24190	2965	79623	5890	135323
2004	2350	32378	1265	37584	3126	94407	6741	164369
2005	2450	33478	1528	39281	3028	83408	7006	156167
2006	2590	32598	1674	40965	3210	97502	7623	171065
2007	2457	32967	1290	36095	3100	87207	7847	156269
2008	2709	35097	1873	41230	3490	103980	8072	180507
2009	2983	38602	1932	43096	3109	104382	8024	186080
Hailakandi district								
2000	2639	21862	613	24139	1123	23689	4106	69690
2001	2416	18674	580	21017	1359	12536	4355	52227
2002	1938	26312	728	12829	1439	18390	4105	57913
2003	1539	22392	791	15312	1408	17890	3738	55594
2004	2560	21831	865	18316	1506	27831	4931	67978
2005	1961	14326	871	15109	1458	26091	3490	55526
2006	1980	23564	901	16534	1643	27325	5424	67423
2007	2690	19740	987	18652	1894	29034	5571	67426
2008	2381	26932	870	19056	1705	31983	4956	77971
2009	2984	25094	1093	22092	2091	34210	6168	81396

Recovery Performance of Banks in Priority Sector Lending:

The liquidity of banks largely depends on the recovery of advances. The recovery position of banks in the area is, quite unsatisfactory, presented in table - 7. It has been observed that the recovery position was very much poor in almost all the sector in the area under study. At the end September 1996, the recovery rate was 27.0 per cent in agriculture and allied activities followed by 31.6 per cent in small sector and 22.6 per cent in trade and service sector for Karimganj district while 17.7 per cent, 15.8 per cent and 49.7 per cent in the respective sectors for Cachar district as on end December 1994. The recovery position in agriculture and allied activities is relatively discouraging to other priority sectors in three districts under consideration.

The lower recovery indicates erosion of banks profitability and blocking up bank credit from developmental project of the area. The gravity of the situation will be cleared when we found Rs. 243.2 lakhs (37.1 per cent) was realized against the total outstanding dues of Rs. 655.5 lakhs under agricultural sector in Karimganj district as on 30-03-10. While in Cachar district Rs. 432.3 lakhs (38.5 per cent) was realized against the total dues of Rs. 1123.6 lakhs in 30-12-09 and in Hailakandi district Rs. 456.0 lakhs (35.3 per cent) was realised against total dues of Rs. 1290.4 lakhs in 30-03-10. The similar trend was noticed in small sector and service sector in the districts. However, in Hailakandi district, the recovery position of small sector (43.9 per cent) is relatively better than that of agriculture (35.3 per cent) in March 2010. The service sector has experienced a recovery of 51.7 per cent as on March 2010

Table 7: Sector-wise Recovery Position of Banks in Barak Valley

(Amount Rs. in Lakhs)

Year	Agriculture & Allied			Small Sector & Rural Artisans			Trade & Service		
	Demand	Recovery	Overdue	Demand	Recovery	Overdues	Demand	Recovery	Overdue
Karimganj District									
30-09-96	363.2 (100)	98.2 (27.0)	265.0 (73.0)	143.0 (100)	45.2 (31.6)	97.8 (69.4)	1530.8 (100)	345.6 (22.5)	1185.2 (77.5)
30-03-99	458.8 (100)	115.8 (25.2)	343.0 (74.8)	206.3 (100)	92.6 (44.8)	113.7 (55.2)	1960.3 (100)	558.2 (28.4)	1402.1 (71.6)
30-03-05	543.2 (100)	231.1 (27.9)	320.9 (72.1)	245.7 (100)	110.8 (43.6)	134.2 (56.4)	2134.0 (100)	602.8 (27.6)	1432.0 (72.4)
30-03-08	599.1 (100)	250.0 (35.4)	349.1 (65.6)	287.4 (100)	140.2 (45.8)	147.2 (55.2)	2359.0 (100)	879.0 (29.9)	1480.0 (70.1)
31-03-10	655.5 (100)	243.2 (37.1)	412.3 (62.9)	329.8 (100)	139.3 (42.3)	190.5 (57.7)	2765.5 (100)	1090.1 (39.4)	1675.4 (60.6)
Cachar District									
31-12-94	638.3 (100)	113.0 (17.7)	525.3 (82.3)	299.2 (100)	45.8 (15.8)	253.4 (84.7)	853.2 (100)	424.6 (49.7)	428.6 (50.3)
31-03-98	758.6 (100)	215.6 (28.4)	543.0 (71.6)	345.2 (100)	96.2 (27.8)	249.0 (72.2)	1022.8 (100)	511.2 (49.9)	511.6 (50.1)
31-03-05	875.9 (100)	298.7 (27.9)	576.5 (72.1)	398.5 (100)	100.5 (32.1)	298.0 (67.9)	2563.9 (100)	1263.8 (48.1)	1300.1 (51.9)
30-03-08	915.8 (100)	314.7 (32.7)	601.1 (67.3)	450.5 (100)	210.2 (35.1)	240.3 (64.9)	3290.3 (100)	1687.0 (50.9)	1603.3 (49.1)
30-12-09	1123.6 (100)	432.3 (38.5)	691.3 (61.5)	549.1 (100)	270.5 (49.3)	278.8 (50.7)	4309.3 (100)	1980.6 (45.9)	2328.7 (54.1)

Hailakandi District

31-03-94	258.3	45.0	213.3	85.3	41.6	43.7	512.6	213.9	298.7
	(100)	(17.4)	(82.6)	(100)	(48.7)	(51.3)	(100)	(41.7)	(58.3)
31-12-99	482.9	102.9	380.0	90.6	45.2	45.4	418.2	219.0	199.2
	(100)	(21.3)	(78.7)	(100)	(49.8)	(50.2)	(100)	(52.3)	(47.7)
31-03-05	879.6	278.6	601.0	201.6	95.3	106.3	657.2	321.1	336.1
	(100)	(25.3)	(74.7)	(100)	(47.4)	(52.3)	(100)	(49.1)	(50.9)
30-06-08	970.8	290.1	680.7	234.8	103.5	131.3	879.4	432.1	445.3
	(100)	(26.5)	(73.5)	(100)	(46.0)	(54.0)	(100)	(49.8)	(50.2)
31-03-10	1290.4	456.0	834.4	342.3	150.3	192.0	1097.3	567.3	530.0
	(100)	(35.3)	(64.7)	(100)	(43.9)	(56.1)	(100)	(51.7)	(48.3)

Figure in the parenthesis indicates percentage to total demand.

Source: Lead Bank Statements (LBS), Lead Bank Office, Cachar, Karimganj and Hailakandi Districts of Assam

It is observed that despite mounting over dues in each year, the agriculture and allied sectors enjoyed relatively major portion of bank credit. The agriculturists and poor people of the area could not repay the loans because they spend their loan on consumption purposes rather than productive purposes without bothering the liability of making repayment because of illiteracy. Further, in the perspective of economic development, there have been many disparities in the area in the distribution of resources. The flow of institutional loans has particularly benefited the richer section. In that content, the PSL provides privileges to the poor people in order to lift their economic structure and condition. But they do not use the loan in the proper way for productive exercise. Thus, the loanee can not return loan. The constant failure of monsoon, natural calamities as famine flood etc, willful default, deficiencies in lending policies are the chief reasons for non-recovery of loans. The reasons for poor recovery may also be attributed to various other factors such as lack of supervision of end use of fund, defective processing of loan applications, political interference's, communication gap between banker and customer etc. The loan sanctioning authority begins to take undue advantage from such people. No effort is made for recovery of such loan. As a result the mounting over-dues restricted the banks lending capacity. Therefore, an immediate action from appropriate authority to accelerate the recovery position in all sectors is necessary.

Interrelationship between Priority Sector Advances and Non-Performing Assets:

Due to non-availability of information relating to priority sector NPAs in the area under study, an attempt has been made hereunder to study the relationship between NPA and PSL to identify with contribution of the same to total NPA. The table- 8 shows the position of the variables relating to NPAs and priority, non-priority sector advances per bank branch. For this purpose, we have calculated 'r' between NPAs per branch (a) and priority sector advances per branch (b) and non-priority sector advances per branch (c) during the period 2000-09. The results are summarized here under

	'r' value	't' value (cal)	't' value (tab) at 8 d.f.
r_{ab}	0.864	4.858	1 per cent = 2.306
r_{ac}	0.926	7.431	5 per cent = 3.355

The analysis reveals that the positive correlation 0.864 is statistically significant at 1 per cent and 5 per cent level of significance at their respective degree of freedom for priority sector advances. Since calculated value of 't' is greater than the critical value, the relationship between PSL and NPAs is

not due to change. The 'r' value 0.926 for non-priority sector advances is also significant at 5 per cent level and 1 per cent level of significance. Hence there is a positive relationship between NPAs and non-priority sector advances. This implies that with the increase of priority sector lending, there has been corresponding increase in the volume of NPAs. However, it can not be argued that priority sector lending is the sole factor in enhancing the volume of NPAs in the area under study. The non-priority sector advances also responsible for the current quantum of NPAs.

Factors Influencing Priority Sector Lending by Commercial Banks:

The above analysis, therefore, shows that the bank credit support to priority sector lending is not satisfactory. Thus, it is very important at this juncture to identify the factors affecting bank financing of priority sector. For this we have used regression analysis considering independent variables like percentage of overdue in priority sector, interest rate, performance of banks measured with credit-deposit (C/D) ratios, credit delivery centers, ie, branch expansion of banks and volume of business (deposit plus advance) per bank branch. The following multiple regression model has been employed on the basis of the identified variables presented in table 8.

$$Y_t = \hat{a}_1 + \hat{a}_2 X_1 + \hat{a}_3 X_2 + \hat{a}_4 X_3 + \hat{a}_5 X_4 + \hat{a}_6 X_5 + U_t$$

- where,
- Y_t is the deployment of bank credit to priority sector.
 - X_1 is the percentage of Overdue to total demand in priority sector.
 - X_2 is the interest rate
 - X_3 is the performance of credit delivery institution i.e., C/D ratio
 - X_4 is the bank branch expansion.
 - X_5 is the volume of business (deposit plus advances) per bank branches.
 - U_t is the error term.
 - \hat{a}_1 is the intercept.
 - \hat{a}_i ($i = 1, 2, 3, \dots, 6$) is the regression coefficients.

Table 8: Position of variables of NPAs of Commercial Banks

Year	NPAs	Priority sector advances	Non-priority sector advances	NPA per branch	Priority sector advances per branch	Non-priority sector advances per branch	Number of Branches in Priority excluding RRB	Volume of Business	Percentage of Overdues per branch	Credit Deposit Ratio
	(Rs.)	(Rs.)	(Rs.)	(Rs.)	(Rs.)	(Rs.)		(Rs.)		
2000	761.8	8310	4608	5.8	89.3	49.5	92	1202.6	64.6	36.9
2001	829.9	8720	6412	5.5	91.7	67.5	94	1032.9	69.0	32.3
2002	1154.9	9135	6644	12.1	96.2	69.9	94	1320.8	61.6	22.3
2003	1016.2	9753	8466	10.6	102.7	89.1	94	1387.3	59.4	20.8
2004	1997.5	9980	9754	22.0	105.0	87.9	95	1298.2	63.2	19.0
2005	3686.9	12780	9831	30.6	132.9	121.0	97	1324.8	58.6	20.7
2006	2976.2	14328	10895	28.5	186.0	113.9	99	1450.9	57.9	18.6
2007	5143.0	16453	11342	48.4	166.2	128.6	99	1659.4	60.1	19.6
2008	5239.1	15541	14159	37.5	156.9	143.0	99	1570.7	56.0	17.0
2009	5540.7	16230	14698	42.0	163.9	148.5	99	1874.2	62.0	18.6

ANOVA of dependant variable is shown below:

	df	SS	MS	F	Significance F
Regression	5	96857018	19371404	78.06332	0.000446
Residual	4	992599.6	248149.9		
Total	9	97849618			

Note: SS = Sum of Squares, MS= Mean sum Square

The other results obtained from the regression analysis are summarized in table 9.

Independent variables	' \hat{a} ' value	t stat	Sig.	SE	Adjusted R ²	R ²	SE
Intercept (\hat{a}_1)							
Percentage of overdues (\hat{a}_2)	-75.6425	-1.1076	0.3301	68.288			
Interest rate on credit (\hat{a}_3)	229.019	0.4180	0.6974	547.881			
Credit/Deposit ratio (\hat{a}_4)	119.747	2.5568	0.06284	46.833	0.977176	0.989856	498.146
Branch expansion of banks (\hat{a}_5)	1027.795	8.9536	0.00086	114.79			
Volume of business (\hat{a}_6)	4.7405	3.5671	0.02343	1.3289			

The aforesaid analysis relating to determinants of priority sector lending by banks shows a high degree of explanatory power ($R^2=0.989$). This indicates 98 per cent variation in the bank financing of priority sector in the district is explained by independent variables. It is further confirmed by 'F' ratio which turned to be statistically significant. This implies that the independent variables like mounting over dues, interest rate, credit-deposit ratio, branch expansion and volume of business are the perfect determinants of dependent variable viz., priority sector advances. The \hat{a} (beta) value of C/D ratio, volume of business and branch expansion are positive and statistically significant. However, the \hat{a} coefficient of interest rate is positive and of mounting overdues of bank is negative, but both are not statistically significant. The aforesaid analysis indicates that three factors viz., volume of business, C/D ratio and branch expansion out of five identified factors are the most affecting factors of deployment of bank credit to priority sector. The stumpy performance intensity of credit delivery institutions, ie, unhealthy C/D ratio, does present an impression that flow of credit to priority sector has come down substantially despite various measures undertaken. The adequacy of credit delivery centers i.e., branch expansion of banks, is also a credit supporting variable to activities relating to small business entrepreneurs and agricultures. The volume of business per branch ensures to achieve higher degree of productivity and hence improve the health of the banks so that it gets strength to support the required sector of the economy. Higher recovery ensures banks to endorse higher quantum of credit to priority sector. It may be suggested that there should be proper recovery of loan amount from loanee in order to restore the performance of commercial banks in the area under study other wise banks would face liquidity crisis for recycling the fund.

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Factors Influencing Growth of Microinsurance Organisations – An Empirical Study on Selected Organisations in West Bengal

Sreemoyee Chaudhuri*
Jita Bhattacharyya**

Abstract

Microinsurance is a low-value product (involving modest premium and benefit package), thus, requiring different design and distribution strategies such as premium based on community-risk rating (as opposed to individual-risk rating), active involvement of an intermediate agency representing the target community and so forth. Although the types of risks faced by the poor are no different from those faced by others, they are more vulnerable to such risks. Enhancing the ability of the poor to deal with various risks is increasingly being considered integral to any poverty-alleviation strategy. In this study, the researchers interviewed, with the help of a structured questionnaire, 8 MFIs in West Bengal in order to evaluate the factors expected to influence the growth of microinsurance providers and could identify the major factors based on Factor Analysis. The factors reflecting social dimension of performance are termed as social performance and the factor relating to financial efficiency is termed as financial performance.

Keywords microinsurance, MFI, poverty-alleviation, social performance, financial performance

Introduction

Microinsurance is the process of delivering and servicing relevant and affordable insurance products to the people in the low-income socio-economic strata. Microinsurance is a financial arrangement to protect low-income people against the occurrence of specific problems/crises in human life in exchange for regular premium payments proportionate to the likelihood and cost of the risk involved.

Microinsurance is different from insurance in general as it is a low-value product (involving modest premium and benefit package), thus, requiring different design and distribution strategies such as premium based on community-risk rating (as opposed to individual-risk rating), active involvement of an intermediate agency representing the target community and so forth.

Although the types of risks faced by the poor, such as those of death, illness, injury and accident, are no different from those faced by others, they are more vulnerable to such risks because of their economic conditions. Indeed, enhancing the ability of the poor to deal with various risks is increasingly being considered integral to any poverty-alleviation strategy.

In the past, insurance, as a pre-paid risk-managing instrument, was never considered as an option for the poor. The poor people were considered too poor to be able to afford insurance premium. Thus, the need for building up of a social safety net especially for poor population groups, a very important instrument for reducing world poverty, has gained importance over the years. Often the poor were considered uninsurable, given the wide variety of risks they face.

A Brief of Review of Literature

A variety of institutions can and do serve the poor people with microinsurance products. The

* Lecturer, Department of Commerce, Shri Shikshayatan College, Kolkata. Email: sreemoyee@rediffmail.com

**Professor, Department of Commerce, University of Calcutta, Kolkata. Email: bhattacharyya_jita@yahoo.com

challenge is to ensure that different entities are able to offer services that are customized for diverse segments of the poor population. This goal entails building the capacity of the community-based organizations and providing them with greater technical and regulatory support. An ideal microinsurance market creates a field for different models which collectively meet the demands of different population segments, offering high-value insurance products at appropriate price points. So far, evaluation of the impact of insurance in the low-income countries is not just relatively limited; it is also rather unbalanced so far as different types of insurance are concerned. Morduch (2006) has pointed towards a possible negative price effect of insurance during times of shocks when insured individuals drive up the price of goods. In fact, there are few studies that rigorously evaluate the welfare or other benefits which arise from insurance. It is quite difficult to evaluate the impact, the key issue being the methodology to be followed. Cohen and Sebstad (2006) have highlighted the need to carefully study clients' insurance needs before introducing a new microinsurance product.

There is a difference between the two microfinance activities – microinsurance and micro-credit. In the latter, money is offered first and then lenders have to find ways of ensuring that clients repay the loan. In other words, lenders have to find ways to ensure that they can trust their clients with respect to repayment. In insurance, clients first part with their money and then they have to trust the insurer in the sense that they will indeed get money when problems arise. Lenders have to trust borrowers, while insurers have to be trusted by clients. Radermacher and Dror (2006) have underlined the importance of trust along these two dimensions: first, that the insurer is willing to make payments to clients; and second, that the insurer is able to deliver the payments. Trust is also essential for customer retention. Trust of individuals and communities can be developed by education, building on existing structures or through careful marketing and sales strategies. McCord (2008) has underlined that a fine balance is required between acquisition of new technologies (which decreases costs by making the insurance products less labour-intensive) and human contact to educate policy-holders and build trust. Despite its importance, there is little systematic knowledge about instruments and mechanisms to build trust (Schneider, 2005). Willingness to pay could be enhanced by simplifying premium collection methods and making premium payable in higher frequencies could be helpful in promoting enrolment by low-income households. Paying premium should be in line with households' cash flows (Cohen and Sebstad, 2006).

A Brief Discussion on the Role of Microinsurance Providers in West Bengal

In the process of socio-economic development, the development sector and the private sector have to work independently or together. West Bengal is highly committed to pro-poor reforms and development with redistribution and the government's involvement over the years in socio-economic welfare. This has given rise to distinctive developmental trends in West Bengal (Kohli, 1990). Among these developments are public-private and public- 'third sector' partnerships (henceforth, referred to as PPP) that are aimed at poverty alleviation and the provision of banking and social safety for poor people. While these PPPs are relatively omnipresent across the country and particularly in the development sector, the case of West Bengal is distinct (Kohli, 1990). Here, the government is heavily involved in the process of designing and creating structures of these partnerships and in their operations.

In West Bengal, a few microinsurance schemes have been initiated either by some NGOs or by some trust hospitals. These schemes have now gathered momentum partly due to the growth of microfinance activities and partly due to the regulation that makes it mandatory for all the insurance companies to extend their activities to the rural and well-identified social sectors in the country.

As a result, increasingly, microfinance institutions (MFIs) and NGOs are negotiating with the for-profit insurers for the purchase of customized group insurance schemes or standardized individual insurance schemes for the low-income people. Although the reach of such schemes is still very limited, their potential is viewed to be considerable in West Bengal in the context of the overall market in India estimated to reach Rs.250 billion by 2008 (Cohen and Sebstad 2006).

An attempt has been made to analyse the unique features of microinsurance in West Bengal by examining the different types of microinsurance organisations operating in West Bengal. Though a number of organisations are involved in providing non-subsidised insurance to low-income communities, only a few organisations really provide meaningful microinsurance to the poor people in West Bengal. While much of the development in West Bengal has been and is almost wholly government-initiated and operated in partnership with the rural Panchayati Raj institutions, microinsurance in this state is characterized by partnerships either between the public sector and the private sector or between the public sector and the third sector. Thus, while in earlier times, services like microinsurance were provided solely by the state government, operating through village panchayats and public organisations, the government later warmed up to the notion of PPPs in diverse sectors, including microinsurance for the rural agrarian classes, comprising nearly 72% of West Bengal's total population (Kohli, 1990).

In the initial stage, it was intended to find out and examine only the application of the PPP model of microinsurance. This orientation led to enquiry specifically about the existence of PPP-based microinsurance at the offices of major insurance firms in Kolkata such as the Life Corporation of India (LICI), General Insurance Corporation of India (GICI), United Bank of India (UBI), and the Bajaj-Allianz Insurance Company Ltd. However, the responses to the queries were disappointing because these organisations are either not involved in provision for PPP-based microinsurance or their corporate-third sector partnerships in microinsurance are too nascent for the purposes of the study. Furthermore, the only forms of insurance for low-income groups, provided by these organisations, are non-PPP life insurance and accidental death insurance.

Investigation into the existence of private-NGO microinsurance initiatives in West Bengal has revealed that the embryonic nature of the corporate-NGO microinsurance model, along with the little understood human and non-human resource requirements, and the associated perils and lack of momentum in the movement, has deterred the concerned organisations from making provision for microinsurance in partnership with NGOs. Insurance requires door-to-door salesmanship. Microinsurance is not a priority for them (in comparison to regular insurance products) as there is less return for their time commitment. Against the backdrop of regular environmental disasters such as droughts, monsoon floods, hailstorms and landslides which exact heavy tolls on the crops, property, livestock and human life, the third sector organisations such as UNICEF, CARE, Save the Children, and DFID felt that their priority is vulnerability reduction through disaster preparedness, disaster management and relief programmes. The general view of the directors running the NGOs is that the PPP-based microinsurance is a good idea, no doubt, but they don't know what the actual time and resource requirements, pitfalls and benefits for the community are. Thus, due to its nascent stage and the little understood value of the corporate-third sector partnerships for make provision of microinsurance to the rural poor, currently in the places under study, microinsurance remains the domain of central government-established and state government-run institutions. Although this microinsurance does not feature the corporate-third sector, public-private or public-third sector partnerships which were the original focus of this study, finally, the researchers decided to conduct the analysis based on the existing form of microinsurance. In this regard, it may be stated that in spite of repeated requests and enquiries, covering the private and public insurance companies, government and

NGOs' offices, finally only 8 active microinsurance-providers, having operations in 4 districts, viz., Purulia, South 24 Parganas, Hooghly and Koch Bihar, participated in this research study.

Although the researchers were aware of the microinsurance programmes of the LIC (which, in fact, were the closest approximation to the PPP-based variegated microinsurance model that the researchers were originally seeking), the nascent state of its microinsurance programmes deterred the researchers from following this lead at the beginning of the study in those districts.

Objectives of the Study

The objective of this study is to evaluate the factors that are expected to influence the growth of selected microinsurance providers in West Bengal.

Research Methodology

The present study is exploratory and empirical in nature and based on primary data. The researchers could first prepare a list of 25 organisations involved in microfinance activities in West Bengal, the source being 'The Bharat Microfinance Quick Report, 2010' [developed and published by Sa Dhan (<http://www.sa-dhan.net/Publications.aspx>)]. The legal status of those 25 organisations: Society: 22; Section 25 Company: 3

Some of them declined to participate altogether, while others were willing to participate in a limited manner. Although this situation posed difficulties for this study, it indicates that they view microinsurance as a serious business venture, vulnerable to competition. In spite of repeated requests, the researcher could finally persuade only 8 MFIs under category (a) above, engaged, inter alia, in microinsurance activities, to participate in the study.

These 8 MFIs (details given below) operate in one or more of the 4 districts in West Bengal. The data relating to the district-wise populations of the microinsured households served by each of those 8 MFIs were collected from their offices, the details of which are given below in parentheses.

1. Vivekanondo Seva O Sishu Uddyan [South 24 Parganas District (500)]
2. Belgharia Janakalyan Samity [Hooghly District (410)]
3. Anjali Microfinance [South 24 Parganas District (200) and Hooghly District (230)]
4. Liberal Association for Movement of People [Hooghly District (200)]
5. Sahara Utsarga Welfare Society [Purulia District (375), South 24 Parganas District (189), Koch Bihar District (225) and Hooghly District (227)]
6. Society for Model Gram Bikash Kendra [Purulia District (400), South 24 Parganas District (157) and Koch Bihar District (200)]
7. Koch Bihar Khagrabari Relief Services [South 24 Parganas District (132), Koch Bihar District (400) and Hooghly District (500)]
8. Sarala Women Welfare Society [Purulia District (500), South 24 Parganas District (163) and Koch Bihar District (243)]

The district-wise populations of the microinsured households served by them were: South 24 Parganas: 1341, Hooghly 1567, Purulia: 1275 and Koch Bihar: 1068, thus, making a total of 5251. The MFI-wise populations were: Vivekanondo Seva O Sishu Uddyan: 500, Belgharia Janakalyan Samity: 410,

Anjali Microfinance: 430, Liberal Association for Movement of People: 200, Sahara Utsarga Welfare Society: 1016, Society for Model Gram Bikash Kendra: 757, Koch Bihar Khagrabari Relief Services: 1032, and Sarala Women Welfare Society: 906, thus, making a total of 5251.

A set of questionnaire was designed for the MFIs providing microinsurance with a view to gathering relevant data for the study and the said questionnaire was administered accordingly. The SPSS package was used for statistical analysis of the primary data. Apart from the usual descriptive statistical tools, Hypotheses Testing, ANOVA and Factor Analysis were done for analysis and interpretation of the primary data. Most of the primary data were collected during 2011-2012, the study period being 2010-2012.

Empirical Survey and Its Findings

In order to evaluate the factors that are expected to influence the growth of microinsurance providers in West Bengal, the researchers interviewed, with the help of a structured questionnaire, 8 microfinance institutions (MFIs) in West Bengal.

Table 1: Period of operation of MFIs

Period	Frequency	%
Less than 1 year		0.00
1-3 years	1	12.50
3-5years	4	50.00
5 years or more	3	37.50
Total	8	100

Source: Field Survey

It can be said that majority of the MFIs have been operating for more than 3 years.

Table 2: Target customers of MFIs

Target customers	Frequency	%
Service-employed (men/women/both)	-	0.00
Self-employed (men/women/both)	3	37.50
Unemployed (men/women/both)	2	25.00
All of the above	3	37.50
Total	8	100

Source: Field Survey

It can be observed that the MFIs work for all classes of people whether they are unemployed, self-employed or in service. Different insurance products are designed for different classes. This is actually a challenging task for the MFIs.

Table 3: Frequency of promotional campaigns

Promotional campaigns	Frequency	%
less than 3 months	1	14.29
3- 6 months	4	57.14
6 months to less than one year	2	28.57
More than 1 year	-	0.00
Total	7	100

Source: Field Survey

Majority of the MFIs engage in promotional campaigns, indicating increasing competition among them in recent times. Their clients are not highly educated and, therefore, they have to be continuously educated about the new products and their features.

Table 4: Income (p.m.) group of clients

Income (p.m.) group	Frequency	%
Rs.4000 or more per household	4	57.14
Rs.3000 to Rs.3999 per household	1	14.29
Rs.2000 to Rs.2999 per household	2	28.57
Rs.1000 to Rs.1999 per household	-	0.00
Below Rs. 1000 per household	-	0.00
Total	7	100

Source: Field Survey

It is observed that majority of the clients of the MFIs fall in the highest income group. During the interviews with the concerned MFI officials, they pointed out that income of their clients has increased considerably due to microfinance activities.

During the interviews with them, it was also found that their customer awareness strategies are mainly references and repeat clients, and their product marketing strategies are door to door campaign, distribution of leaflets/brochures, and word of mouth.

Apart from the above analyses, primary data relating to few selected factors, that are expected to help the MFIs grow, have also been analysed.

Table 5: Cross-tabulation of the factors and the responses of the 8 MFIs

		Factors								Total	
		Retent- ion of clients	Service for clients	Clients are not educated about financial services	Not relevant infor- mation about clients	Education level of clients is low	Lang- uage barrier	Late pay- ments	Clients are not informed about consumer protection	Clients are not informed about basics of debt management	
Responses	Fully Disagree	0 .0%	0 .0%	0 .0%	1 14.3%	0 .0%	2 25.0%	2 25.0%	2 25.0%	3 42.9%	10 14.5%
	Disagree	0 .0%	0 .0%	1 12.5%	2 28.6%	1 12.5%	6 75.0%	2 25.0%	3 37.5%	0 .0%	15 21.7%
	Neither agree nor disagree	0 .0%	0 .0%	3 37.5%	4 57.1%	1 12.5%	0 .0%	3 37.5%	1 12.5%	1 14.3%	13 18.8%
	Fully Agree	1 14.3%	0 .0%	3 37.5%	0 .0%	4 50.0%	0 .0%	1 12.5%	0 .0%	2 28.6%	11 15.9%
	Agree	6 85.7%	8 100%	1 12.5%	0 .0%	2 25.0%	0 .0%	0 .0%	2 25.0%	1 14.3%	20 29.0%
Total		7	8	8	7	8	8	8	8	7	69

Source: Survey work

Null Hypothesis (H_0) – there is no significant difference in responses on the factors that are expected to help the MFIs grow

Alternative Hypothesis (H_1) – there is significant difference in response on the factors that are expected to help the MFIs grow

If P value < .05, the Null Hypothesis is rejected.

Chi-Square tests			
	Value	df	P Value
Pearson Chi-Square	83.904	32	<0.001

Source: worked out by the researchers

Based on the above Chi-Square value, the Null Hypothesis is rejected (as $P < .05$) and the Alternative Hypothesis is accepted, indicating that there is significant difference in responses on the factors that are expected to help the MFIs grow.

Difference in opinion is mostly noted with respect to the factors mentioned below.

- Late payments
- Clients are not informed about consumer protection
- Not having relevant information about clients
- Clients are not informed about basics of debt management

While these factors are major challenges before some MFIs, these can also be seen as opportunities. The researchers have also conducted one-way ANOVA and Factor Analysis.

ANOVA

ANOVA is used for examining the differences in the mean values of the dependent variable associated with the effect of the controlled independent variables, after taking into account the influence of the uncontrolled independent variables.

Table 6: Descriptive statistics relating to the factors and the responses of the MFIs

Factors	RESPONSE	
	Mean	Standard deviation
Retention of Clients	4.86	.378
Service for Clients	5.00	.000
Clients are not Educated about Financial Services	3.50	.926
Not having relevant information about Clients	2.43	.787
Education level of Clients is low	3.88	.991
Language barrier	1.75	.463
Late Payments	2.38	1.061
Clients are not well informed about Consumer Protection	2.62	1.598
Clients are not well informed about Basics of Debt Management	2.71	1.704
Total	3.23	1.447

Source: worked out by the researchers

Null Hypothesis (H_0) – response was not significantly different across MFIs

Alternative Hypothesis (H_1) – response was significantly different across MFIs

If P value < .05, the Null Hypothesis is rejected.

ANOVA					
Response					
	Sum of squares	df	Mean square	F	P value
Between groups	80.165	8	10.021	9.678	<0.001
Within groups	62.125	60	1.035		
Total	142.290	68			

Source: worked out by the researchers

Based on the above ANOVA values, the Null Hypothesis is rejected (as $P < .05$) and the Alternative Hypothesis is accepted, indicating that there is significant difference in response or opinion on factors influencing or causing hindrances across the MFIs. The unexplained variation within groups is treated as error which is negligible. The sum of squares between groups is the explained part, which is very high. The calculated value of F is 9.678. Critical value of F for 8 and 60 degrees of freedom is 2.10. Because the calculated value of F (9.678) is greater than the critical value, the Null Hypothesis is rejected.

Factor Analysis

The main purpose of using Factor Analysis in this context is that, from many observable variables, it will enable one to create one synthetic indicator for each dimension considered. This involves choosing the appropriate number of latent factors. The researcher has relied on some standard statistical and visual tools, commonly used in Factor Analysis, although one has to be aware that most of these are somehow ad hoc and cannot avoid value judgments. One method which has been put forth is to exclude factors with eigenvalues smaller than one, since the factors retained in this way account for more variance than the average for the variables.

Table 7: Eigenvalues and Proportion of Variance Explained

Component	Total variance explained								
	Initial eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.59	44.93	44.93	3.59	44.93	44.93	2.84	35.51	35.51
2	2.67	33.40	78.32	2.67	33.40	78.32	2.43	30.40	65.91
3	1.01	12.56	90.89	1.01	12.56	90.89	2.00	24.98	90.89
4	0.58	7.29	98.18						
5	0.15	1.83	100.00						
6	0.00	0.00	100.00						
7	0.00	0.00	100.00						
8	0.00	0.00	100.00						

Extraction Method: Principal Component Analysis

Source: worked out by the researchers

Table 7 contains the eigenvalues as well as the associated proportion of variance explained by each latent factor. It is now possible to choose three factors where eigenvalues are higher than one and the proportion of variance explained is 90.89, which is fairly high.

Next, a rotation of these factors is applied to provide a more meaningful and easily interpretable solution loading matrix. As previously stated, it makes sense to allow the different dimensions of

performance to be correlated. Therefore, an oblique rotation has been applied that involves the introduction of correlation between factors. The resulting loadings are presented in Table 8.

Table 8: Rotated factor loadings and unique variances

	Rotated Component Matrix		
	Component		
	1	2	3
Retention of clients	0.182	-0.181	0.931
Clients are not educated about financial services	0.775	0.367	0.332
Not having relevant information about clients	-0.187	0.827	-0.202
Education level of clients is lo	0.336	0.732	-0.543
Language barrier	0.026	0.998	-0.021
Late payments	0.507	-0.155	0.797
Clients are not informed about consumer protection	0.949	-0.054	0.072
Clients are not informed about basics of debt management	0.950	-0.150	0.210

Extraction Method: Principal Component Analysis

Rotation Method: Varimax with Kaiser Normalization

a. Rotation converged in 5 iterations

Source: worked out by the researchers

Table 8 reveals that clients are not educated about financial services, clients are not informed about consumer protection, and clients are not informed about basics of debt management load positively and quite highly on the first factor, indicating that a higher value of these variables leads to a higher score on factor 1. On the contrary, not having relevant information about clients loads negatively, meaning that the MFI, which has a smaller value for one of these two variables, will have a higher score on factor 1, everything else being equal. For factor 2, not having relevant information about clients, education level of clients is low, and language barrier load highly and positively.

Since a deeper outreach is associated with a higher value of clients are not educated about financial services, clients are not informed about consumer protection, clients are not informed about basics of debt management, not having relevant information of clients, education level of clients is low, and language barrier, factor 1 and factor 2 clearly reflect the social dimension of performance and can be termed as “social performance”.

In case of the factor 3, retention of clients, and late payments load highly and positively and the other factors are not so strongly related and few factors have negative relationship. This factor is clearly related to financial efficiency and can be termed as “financial performance”.

Concluding Observations

The analyses based on the study have led to a number of findings related to microinsurance, a nascent field in West Bengal. Concluding observations presented below need to be appreciated in the light of such findings.

- (i) Majority of the MFIs covered in the study have been operating for more than 3 years, work for all classes of people (whether they are unemployed, self-employed or in service), and engage in promotional campaigns in less than one year period.
- (ii) There is significant difference in response on the factors that are expected to help the MFIs grow.
- (iii) Given irregular and uncertain income streams of the poor, flexibility in premium collection is needed to extend the microinsurance net far and wide.
- (iv) Discussion with a number of MFIs and NGOs has indicated that one of their major difficulties is the lack of or inadequate service from their insurance partners.
- (v) Linking microinsurance with microfinance makes better sense as it helps in bringing down the cost of lending.
- (vi) At present, microfinance business in the country is not adequately regulated. Meaningful regulation of the MFIs is needed not only to promote microfinance activity in the country but also to promote the linking of microinsurance with microfinance.

Recommendations

- Because of the quota system, the largest and the best known intermediaries (NGOs/MFIs) already have relationships with the commercial insurers that they often wish to maintain. The implication is that the commercial insurers will need to think more creatively about their products and relationships with the intermediaries. It also implies that the commercial insurers should start exploring newer distribution models not just based on partnership or agency.
- There are advantages and disadvantages associated with a variety of distribution models, not mutually exclusive, and therefore, a combination of those can be worked out and tried.
- It is likely that many life microinsurance policies are making a loss. If insurers want their life insurance products to be attractive not only to clients but also to potential agents like MFIs and NGOs, they would need to distinguish their products for competition on some basis other than price.
- Life microinsurance is the easiest cover to offer and also the most widely offered. An insurer would need to create a very attractive policy if it wants to stay in life microinsurance business. It is worth exploring other types of microinsurance as a means of attracting good partners.
- One important microinsurance marketing tool can be exposure tours, where village leaders from villages with policyholders are sent to other villages, to show the advantages of having insurance.
- Both public reimbursement of claims and careful, well-managed rejection of claims, making the reasons very clear, are important.
- Monitoring of customer satisfaction is critical, especially with respect to lapses and non-renewals, reinforced by a mechanism to act on the information that emerges from such monitoring.

- It would be useful to help establish consumer protection mechanisms for clients of unregulated microinsurers.

The IRDA already runs television campaigns aimed at middle-income consumers endorsing the safety and security of the insurance firms that it regulates. It would be good if such campaigns could be extended to microinsurance. Other mediums could be explored for this, including radio.

- There is a need to establish a council of microinsurance representatives, regulator and the government, which should meet regularly for discussing the relevant issues and formulating the appropriate strategies, helping frame regulations and facilitate the sharing of information among insurers.
- The regulator should take the responsibility of creating awareness among low-income people about microinsurance as it is for the public good, i.e., developing audio-visual and other insurance-literacy programmes.
- It would be helpful if microinsurance provided by the private sector insurers can be explicitly made a part of the government's social security mechanism and the IRDA can play a definite role in this regard.

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