

A Comprehensive Study of Microfinance in India (With Special Reference To Gwalior)

K. S. Thakur, Peyush Kant Sharma and Ravi Jain

Abstract

The number of the poor in Gwalior is enormous but ironically, the number of Micro Finance Institutions (MFIs) catering to them is handful. During the present research work while talking to some eminent officers from different fields involved in micro financing it came to fore that the problem of the lack of availability of financial resources comes not only from the demand and supply side but also from the lack of the state government's support. There is a plethora of welfare schemes initiated by the state government outlaid with crores of rupees but only a fraction actually reaches the true beneficiaries. Despite huge demand for credit by the poor the problem of exclusion still exists. The government of Madhya Pradesh needs to play a pivotal role in enhancing the activities of the Micro Finance Institutions (MFIs) and to rule out the loopholes from the system through their incentives.

The authors have attempted to study the situation of microfinance, models of microfinance, agents of microfinance, structure of microfinance institutions, and the present position of microfinance institutions in Gwalior. They have discussed various problems regarding microfinance and have given suggestions for betterment of microfinance institutions.

Keywords: *Microfinance institutions, Financial exclusion, Models, Agents, Structure.*

Introduction

The system of micro credit started in early 1980's when **Muhammad Yunus**, a Bangladesh based economist started his **Grameen Bank (Village Bank)** founded on the principle of trust and solidarity. His foundation gave loans at lower rates to help people come out of poverty. Its popularity began to spread by late 1980s to other parts of the world. In India, the advent of microfinance was more in the south catering to the rural population but gradually by the 1990s it spread to other parts of the country and started serving the urban poor.

The microfinance revolution started with the recognition that the poor needed access to loans and that they could use these funds productively. It has also changed the perception that the poor are not creditworthy. Previous literature on microfinance has shown that, instead, they are a good risk, with higher repayment rates than the conventional borrowers. It has been observed that the recovery rate in this sector has been as high as 95 %.

There are different faces to it. The microfinance has been able to reach to only the 7 % of the Gwalior poor i.e. out of a total of 16 lakhs plus Gwalior poor only 1.12 lakhs have been touched. There has been a huge problem of financial exclusion. Many of the Gwalior MFIs are untouched with people living in degraded conditions. There can be multiple reasons for it but the vital being the poor support extended by the state government, unlike the governments in the southern states where micro finance has been a huge success story. Other major problems involved are those of high interest capital, less amount of the loan disbursed, the problem of multiple loans, multipurpose borrowings by the poor etc.

Objectives of the Study

The objectives of the present study are as follows:

- (1) To discuss the various models and agents of microfinance,
- (2) To study the structure and present position of microfinance institutions, and
- (3) To discuss various problems of microfinance and suggest few parameters for betterment of microfinance institutions.

Methodology

Primary data have been collected from Gwalior district of Madhya Pradesh through interviews and survey. The secondary data have been collected from various publications, journals, reports of NGOs, RBI, NABARD, SIDBI and web-sites etc.

Microfinance in Various States of India

The microfinance institutions have been very successful in the south and the credit for it goes to the efforts made by the state governments there. Nearly two thirds of the MFIs are situated in the southern states. Several successful schemes and innovative steps were taken by the states which provided a conducive environment to the MFIs. Thus the role of the state government is to facilitate the working of the MFIs and not just to regulate them.

(1) Andhra Pradesh:

In Andhra Pradesh the state government and the banks have been lending life to the people through Self Help Groups. They help babies to be born healthy and weighing better than their counterparts elsewhere, all for micro credit of Rs. 9,000 which the state provides to its pregnant women.

The microfinance scheme comes with two meals a day in the community kitchens specially set up for pregnant women by self-help groups in about 300 plus villages in more than 20 districts. The cost of running the kitchen is met through the revolving fund of Rs. 2.5 lakhs per kitchen which is provided by the government to the village organisation. The cost of the two meals comes to Rs. 25 per day. The supplementary nutrition programme spends Rs. 2.30 daily on pregnant women. The women under the Andhra Pradesh state scheme can return the money in instalments in the size and period decided by them. The instalments can be as small as Rs. 100 per month. The interest charged is 3 %, which is subsidised by the government.

Thus with the help of Rs. 9000 or 10,000 the government has secured that the future of India is healthy. We see that the microfinance schemes have worked in the sphere

where the crores of Rupees spent by the National Rural Health Mission in government funded schemes have failed.

(2) TAMIL NADU:

The Nagapattinam District Administration has taken steps to promote various activities, like training for adolescent girls, entrepreneurship training for women from self help groups, workshop on women rights, etc. The effort of the district administration has contributed towards the achievement of the primary objective of the women empowerment in the society. The following data give the SHGs particulars in Nagapattinam district in 2006:

Total Number of SHGs	:	11095
Total Number of Members of SHGs	:	175495
Number of SHGs Older than six months	:	11055
Number of SHGs Rated as per Credit Guidelines	:	9969
Number of SHGs Rated and Eligible	:	9821
Number of SHGs Credit Linked	:	9100
Total linked Amount (SHGs)	:	Rs. 5288.76 lakhs.

(Source: www.nagapattinam.tn.nic.in)

SHG's Under Income Generation Activities: Many income generation activities are initiated by the District Rural Development Agency for the rated and eligible SHGs. Certain activities such as production of country bricks at Thetthi Village, Thendral SH is running the Canteen at Collectorate Campus, paper cups are being manufactured by the Annai SHG at Sitharkadu.

(3) Gujarat and Maharashtra:

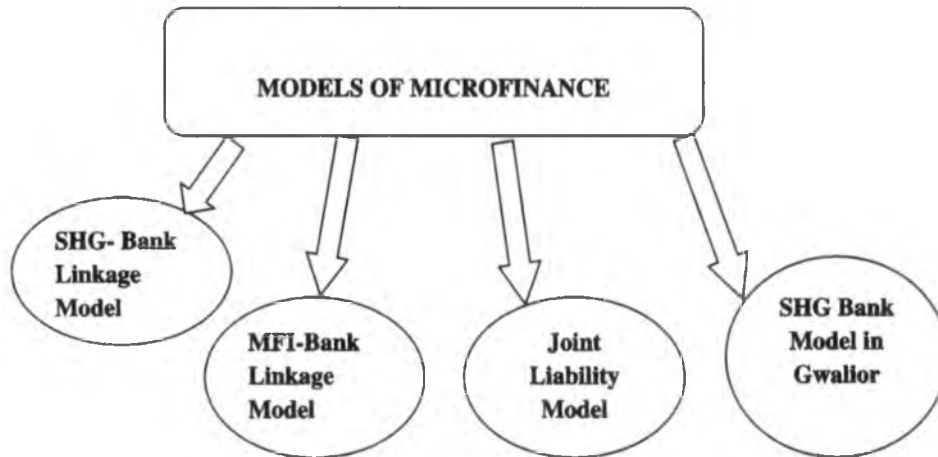
Under the government of Gujarat there are schemes for providing financial assistance to the poor minorities groups. Under the scheme a subsidy of Rs. 3000 or 33.33% of value advanced by the nationalised banks whichever is less is provided.

Under the microfinance scheme of the Gujarat government a loan of Rs. 25,000 is extended to the individuals belonging to the minorities working in the area of respective NGO for small types of self employment. Loan given under this scheme is to be reimbursed within 36 months. The loan is granted at subsidised rate of interest.

The Gujarat and the Maharashtra governments have organised a forum for the MFIs where the MFIs in the respective states are given a platform to raise their voices in terms of their needs and the problems confronted by them. This brings the government a step closer to the management system of the MFIs and ensures involvement from all the segments of the society. This is an innovative measure taken by the government in the functioning of the MFIs.

Models of Microfinance

The authors contemplate certain models in the direction of betterment of microfinance. Most of these models are very popular at national level. Following are the important models of microfinance:



(1) SHG- Bank Linkage Model:

SHG- Bank Linkage Model was launched by NABARD. Under this model the SHGs are directly financed by the banks viz. Commercial banks, regional rural banks, and co-operative banks. SHGs or self help groups are the groups of 10-20 people preferably with the same economic background. These groups can be registered or unregistered. The loan is given to the group as a whole.

The group members are also liable to save and deposit with bank within the group's name and the deposited money is later used for internal lending making them self sufficient. Once the SHG has accumulated savings for about 3-4 months, the members may be allowed to avail loans against their savings for emergency consumption and supplementary income generating needs. SHGs can be all-women, all-men or mixed groups. But it has been observed that all-women SHGs are much more successful because women are considered to be much better in management of finance.

(2) MFI-Bank Linkage Model:

This model covers financing of MFIs by the banks for on-lending to the SHGs and other small borrowers. Due to lack of understanding between banks and non-government organizations over the issue of interest rates to be charged from SHGs, the utility of this model is no longer in existence.

(3) Joint Liability Model:

This is a comparatively recent model. There are small groups of about 5 members and many such groups come together at the central level. Thus as many as 25-30 members are catered to at a time. The meeting is held fortnightly where the money is lent and recovered from the people. The group is also not liable to save unlike

the SHGs. The group members here are held liable for each other and thus the liability acts as collateral here.

(4) SHG Bank Model in Gwalior:

The existing microfinance institutions, banks and self help groups have come up with sort of an arrangement for giving loans and charging interest at the instance of some non-government organizations. Here we are discussing some highlights of this model in table 1.

Table: 1: SHG Bank Model in Gwalior

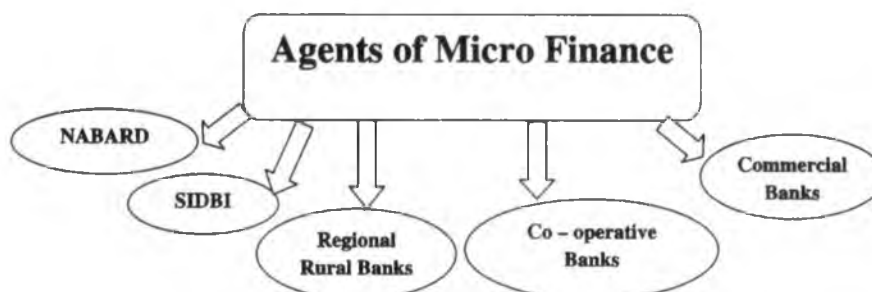
Total No. of Groups	513
No. of Members	5198
Total Savings (Rs.)	22,09,432
Linked with Banks	170
No. of Borrowers	149
Loan given (Rs. In Lakhs)	22.43
Villages Covered	140
Population of Villages	1,40,000
Households	24,561

(Source: www.sambhavindia.com)

There are 456 groups operating in urban and rural Gwalior district, which comprise of 5,198 members. Their total savings amount to Rs. 22, 09, 432. The groups which are linked with banks are 37% of the total number of groups. The number of borrowers is 149. The Total amount disbursed as loan is Rs. 22.43 lakh. The SHG bank model of Gwalior covers a large number of villages, that is 140 having a population of 1, 40,000 covering 24,561 number of households.

Agents of Microfinance

Informal institutions that take microfinance services as their main activity are called microfinance institutions. MFIs are mainly in the private sector.



Microfinance services providers include the apex bodies such as National Bank for Agricultural and Rural Development (NABARD) and Small Industries Development Bank of India (SIDBI). It also plays an important role in the facilitation

of the SHG bank linkage programme through their priority sector lending. At the retail level we have Commercial Banks, Regional Rural Banks, Cooperative Banks, etc. that play a major role in microfinance.

(1) NABARD:

NABARD is a development bank which facilitates credit flow for promotion and development of agriculture, small-scale industries, cottage and village industries, handicrafts and other rural crafts. Its Financial Inclusion Department (FID) is the nodal agency which oversees the Financial Inclusion Fund (FIF) and Financial Inclusion Technology Fund (FITF) which promote microfinance initiatives.

(2) SIDBI:

SIDBI's Foundation for Micro Credit is the apex wholesaler for micro finance in India. It provides a range of financial and non-financial services such as loan funds, grant support, equity and institution building support to the retailing Micro Finance Institutions (MFIs) including two-tier MFIs so as to facilitate their development into financially sustainable entities, besides developing a network of service providers for the sector.

(3) Regional Rural Banks:

Regional Rural Banks were established under the provisions of an ordinance promulgated on 26th September 1975 and the RRB Act, 1976 with an objective to ensure sufficient institutional credit for agriculture and other rural sectors. The RRBs mobilize financial resources from rural or semi-urban areas and grant loans and advances mostly to small and marginal farmers, agricultural labourers and rural artisans. The area of operation of RRBs is limited to the area as notified by Government of India covering one or more districts in the State. RRBs are jointly owned by Government of India, the concerned State Government and Sponsor Banks (27 scheduled commercial banks and one State Cooperative Bank). The issued capital of an RRB is shared by the Government of India, Concerned State Government and Sponsor Bank in the proportion of 50%, 15% and 35% respectively.

(4) Co – operative Banks:

Co-operative Banks in India are registered under the Co-operative Societies Act. The co-operative banks are also regulated by the Reserve Bank of India. They are governed by the Banking Regulations Act 1949 and Banking Laws (Co-operative Societies) Act, 1965.

Co-operative banking is retail and commercial banking organized on a cooperative basis. Co-operative banking institutions take deposits and lend money in most parts of the world. Co-operative banking includes retail banking as carried out by credit unions, mutual savings and loan associations, building societies and co-operatives, as well as commercial banking services provided by mutual organizations (such as co-operative federations) to co-operative businesses.

The Co-operative banks in India started functioning almost 100 years ago. Though the co-operative movement originated in the West, yet the importance such banks have assumed in India is rarely paralleled anywhere else in the world. The co-operative banks in India play an important role even today in rural financing. The

business of co-operative banks in the urban areas also has increased phenomenally in recent years due to the sharp increase in the number of primary co-operatives banks.

(5) Commercial Banks:

A commercial bank is a type of financial intermediary and a type of bank. Commercial banking is also known as business banking. It is a bank that provides recurring accounts, savings accounts, and money market accounts and accepts term deposits. Commercial banking may also be seen as distinct from retail banking, which involves the provision of financial services direct to consumers. Many banks offer both commercial and retail banking services. Some major banks in this category are State Bank of India, Central Bank of India, Allahabad Bank, Syndicate Bank, Oriental Bank of Commerce, Punjab National Bank, Canara Bank, Bank of Baroda, and Union Bank etc.

Structure of Microfinance Institutions

Structure of microfinance institutions in India can be broadly divided into the following categories:

<i>Types of MFIs</i>	<i>Legal Acts under which Registered</i>
Non Profit MFIs	
(1) NGO – MFIs	Societies Registration Act, 1860 or similar Provincial Acts Indian Trust Act, 1882
(2) Non-profit Companies as MFIs	Section 25 of the Companies Act, 1956
Mutual Benefit MFIs	
(3) Mutually Aided Cooperative Societies (MACS)	Mutually Aided Cooperative Societies Act enacted by State Government
For Profit MFIs	
(4) Non-Banking Financial Companies (NBFCs)	Indian Companies Act, 1956 Reserve Bank of India Act, 1934

(1) NGO-MFIs:

There are a large number of NGOs that have undertaken the task of financial intermediation. Majority of these NGOs are registered as Trust or Society. Many NGOs have also helped SHGs to organize themselves into federations and these federations are registered as Trusts or Societies. Many of these federations are performing non-financial and financial functions like social and capacity building activities, facilitate training of SHGs, undertake internal audit, promote new groups, and some of these federations are engaged in financial intermediation.

The NGO-MFIs vary significantly in their size, philosophy and approach. Therefore these NGOs are structurally not the right type of institutions for undertaking financial intermediation activities as the byelaws of these institutions are generally restrictive in allowing any commercial operations. These organizations by their

charter are non-profit organizations and as a result face several problems in borrowing funds from higher financial institutions. The NGO MFIs, which are large in number, are still outside the purview of any financial regulation.

(2) Non-Profit Companies as MFIs:

Many NGOs felt that combining financial intermediation with their core competency activity of social intermediation is not the right path. It was felt that a financial institution including a company set up for this purpose does better banking function. Further, if MFIs are to demonstrate that banking with the poor is indeed profitable and sustainable, they have to function as a distinct institution so that cross subsidization can be avoided. On account of these factors, NGO-MFIs are of late setting up separate Non-Profit Companies for their micro finance operations.

(3) Mutually Aided Co-operative Societies:

In India, several State Governments therefore enacted the Mutually Aided Co-operative Societies (MACS) Act for enabling promotion of self-reliant and vibrant co-operative societies based on thrift and self-help. MACS enjoy the advantages of operational freedom and virtually no interference from government because of the provisions in the Act that societies under the Act cannot accept share capital or loan from the State Government. Many of the SHG federations, promoted by NGOs and development agencies of the State Government have been registered as MACS. Reserve Bank of India, even though it may be providing financial service to its members, does not regulate MACS.

(4) Non -Banking Financial Companies:

Non-Banking Financial Companies (NBFC) are companies registered under Companies Act, 1956 and regulated by Reserve Bank of India. Earlier, NBFCs were not regulated by RBI but in 1997 it was made obligatory for NBFCs to apply to RBI for a certificate of registration and for this certificate NBFCs were to have minimum Net Owned Funds of Rs 25 lakhs and this amount has been gradually increased. RBI introduced a new regulatory framework for those NBFCs which want to accept public deposits. All the NBFCs accepting public deposits are subjected to capital adequacy requirements and prudential norms. There are only a few MFIs in the country that are registered as NBFCs.

Present Position of Microfinance Institutions in Gwalior

The scenario of microfinance in urban states in India particularly Madhya Pradesh has been poor. Comparing to the large size of poor population in need of finances, the availability of capital is low. This is because of the late advent of these institutions here as compared to other states particularly in the south. The microfinance activities in Gwalior began in late eighties. This was when the MFIs began to realise the opportunity for large profits and optimism by catering to the urban population. Gwalior has the following MFIs.

- (1) **Sambhav Samaj Sevi Sanstha:** Formed more than 250 groups under NB project and working in Gwalior and Shivpuri Districts.
- (2) **Bal Mahila Vikas Samiti:** Formed more than 150 groups under NB projects and actively working in Gwalior District.

- (3) **Gwalior Catholic Seva Samaj:** Formed more than 70 groups. Not interested in associating with other organizations for the present.
- (4) **Centre for Integrated Development:** Formed around 15 groups and actively working in urban area of Gwalior.
- (5) **Prayas Samaj Sevi Sanstha:** Formed 15 groups and limited working in rural area of Gwalior.
- (6) **Gopal Kiran Samaj Sevi Sanstha:** Formed 13 groups and actively working in 4 – 5 villages of Gwalior rural area.
- (7) **Parahit Samaj Sevi Sanstha:** Actively working in Datia District in limited activities.

Problems of Micro Finance

According to the authors the present research the problems of microfinance in Gwalior are as follows:

(1) Lack of Awareness:

The level of education amongst the women is higher in the south than in the northern states of India, due to which the women here were not able to compete in the male dominated markets. Thus the adaptability of such a system by the communities in Gwalior was low because of low participation rates from the women (SHGs need women participation to a large extent).

(2) Transitory Nature:

Not only this, the transitory nature of the population amongst the Gwalior poor was also looked upon as a disincentive to provide credit, as it increased the risk involved, said a correspondent from Sambhav.

The population in Gwalior is mainly of the service-cum-rural class. People work as daily wage earners or as household servants, that is, they are basically self-employed and thus have irregular flow of income. Despite the fact that their need for capital is subdued and is left mainly to that of the consumption need the availability of a credit window will create goodwill and help bring optimism in the market. But it is also very necessary for the MFIs to identify their beneficiaries correctly. In this respect the SHGs play a very important role where the peer pressure acts to monitor the productive use of the capital given.

(3) The interest Rates:

People from different strata of the Indian society are treated differently even in this segment. While the big corporate houses get loans at an interest rate of about 10-14%, those from the marginalised sections get a loan of few thousand rupees at a rate of 30-35%. In a way the poor have to pay a price for coming out of poverty themselves. One of the reasons for such high interest rates by the MFIs is to incorporate the high administration and transaction costs. This is because the microfinance is a low margin high volume business.

The breakup of interest rates is as follows;

- Loan cost by the banks is about 9-12%
- Cost of delivery and transaction is about 10-13%

Hence the overall rate of interest charged by the MFIs becomes as high as 25-28%. However this rate can be reduced by carefully managing the transaction costs. But since MFIs are by far on their own, they are less concerned about reducing the overall costs as these can be incorporated and presented as the higher interest rates charged by them. Hence in a certain manner the MFIs make huge profits in the name of priority lending.

(4) Financial Literacy:

The meaning of financial literacy is the ability to process financial information and make informed decisions about personal finance. Housewives that are not familiar with the workings of a bank, for example, are unlikely to open a bank account and may instead choose to store cash in the home, or invest in other store values (like gold) which may give unattractive returns. Thus they remain unaware of the importance of saving in the bank and earning interest on it.

Also the results show that small borrowers are able to identify the size and duration of the loan and their weekly instalment on their loan. However, they know very little about the interest rate and total interest expense on the loan.

(5) Multiple Loans:

The massive growth of the microfinance sector has led to multiple financing by banks and multiple loans by the clients. This will pose a high risk to the financial institutions. There are two faces to it again.

Since the loans disbursed by the banks are small, the clients if in need of more money approach multiple banks to fulfil their credit needs. But the other aspect is that they acquire such loans without looking at their ability to repay. Secondly, sometimes in order to pay back the loan to one bank people approach other bank for loans and thus ultimately fall into the debt trap. Since the banks do not have unique identity of clients it becomes a challenge to regulate multiple loans. Most MFIs are not regulated and collection of credit information from them may be very difficult.

Another problem from the supplier side is the easy spread of rumours amongst the poor. For example, from an experience of Sambhav, a NGO working in urban cities, shared that the rumour spreads very easily in context of the bankruptcy of an MFI. Thus people become callous and don't come forward to pay their dues and the process of extracting money from them becomes difficult and costly.

Suggestions

The authors suggest some important parameters for betterment of the working of microfinance institutions.

- (1) The basic problem with the government schemes is that they have no accountability in terms of the number of population they have served or in terms of the benefits one has received. This gives rise to the problem of duplication i.e. same person enjoying double bonus whereas quantum of people doesn't even receive support. The M. P. State government should learn from the other state governments like Tamil Nadu, Andhra Pradesh, Gujarat, Maharashtra etc. as discussed earlier in the present paper, that by extending financial help through

- SHGs would lead to better implementation of the programmes. This will help to decentralise the government policies.
- (2) The problem of exclusion also needs to be tackled. The government cannot implement financial assistance when a huge population of poor is already excluded from the list. Many of the MFIs as we have seen during the research are reluctant to give finance in certain areas of Gwalior. Here the state government has a major role to play in order to provide incentives for these institutions. The government should create a forum in which all the major players in the MFIs can raise their voices and update the government in terms of the volume of credit disbursed, or the areas in Gwalior they are catering to or certain problems (if any) they face which can be rectified with the help of the Madhya Pradesh government. The Madhya Pradesh government just like the Tamil Nadu government should provide various incentives to the MFIs so that their participation would increase. Incentives can be like the MFI disbursing highest capital to the SHGs or poor can be given benefits in the form of raised equity share etc.
 - (3) Another policy can be to have a card issued by the central information cell to all the beneficiaries seeking financial help from the banks. The central information cell can be a part of the Madhya Pradesh finance department where all the information about a person seeking financial help from any bank can be recorded in terms of the amount of loan, his background, area of residence, economic status, date of repayment etc. If a person goes to bank he will be issued a card from that bank and when if he wishes to take his second instalment he is required to produce the same card before the bank. This will help to keep a track record of the person in terms of his creditworthiness. This creditor's information is to be maintained electronically and every bank should have access to it. But you may say that this might lead to the problem of luring away the SHG groups by banks to gain money as the information of the active groups will be available to everyone. Thus to curtail this problem we can have a patent system here as well. For example, if a bank or an MFI puts in its money to form a group then they shall be allowed to finance the group for a year or so and no other bank can finance it unless the tenure is over. Secondly, the MFIs out of their greed to earn money give away multiple loans. Thus it should be made mandatory that the bank or the MFI which initially forms the group can give loans to the SHGs. But as it is also the case that many people are a part of many SHG groups within the sector and thus enjoy the benefits from all. Something similar to this has also been started by the government which is issuing SSS cards for the BPL people. These cards can as well be used as client information cards and any withdrawal or deposit of money can be tracked on the card itself. But now as we are focusing on disseminating the govt schemes etc through the SHGs they should be unique in identity.
 - (4) One person should not be made a number of two or more groups otherwise the accountability will again be challenged. Thus if a person has a unique identity in an SHG group, he shall be issued a card on availing finance from the MFI or the bank and this information will be available to all. This will not only make the system efficient but will also instil a sense of competition amongst the MFIs

to cater to as many people as possible. This will also rectify the problem of risk involvement of the MFIs in terms of unstable population.

It is also very necessary that a person has minimal financial literacy required. Even if he is not able to calculate the actual interest, he should be made aware of the different schemes of savings available in the banks or the accessibility of different banks in the vicinity. This awareness can be extended through the MFIs as they are more decentralised than any other organisation.

- (5) Minimal or zero balance savings bank accounts should be initiated for all the poor individuals and not only for the SHGs. The government can play a major role in this. This step would not only create a safe window for them but also help them to multiply their money. The government can probably come up with its scheme of providing subsidized loans from nationalized banks.
- (6) All in all the government should keep an eye on the MFIs and facilitate their working through making a structured regulatory framework for NGOs, Self help groups and other microfinance institutions.

Conclusion:

The authors would like to conclude that in spite of certain limitations in the field of microfinance in the state of Madhya Pradesh, if the suggestions and observations made are carefully implemented through various government bodies they will certainly enhance the flow of microfinance and create a balance between the rich and the poor in Gwalior region. It is essential to develop a smooth credit system with the help of major changes in the regulatory framework for microfinance institutions in the state of Madhya Pradesh.

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A Comparative Analysis of Historical Cost-Based and Inflation-Adjusted Financial Ratios of Some US Firms: A Possible Lesson for Bangladesh

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Abstract

This paper is an outcome of both literature survey and empirical investigation. This investigation was into the statistical properties of several common financial ratios as adjusted for the specific inflation encountered by some of the US firms. The technique used by the firms in the USA is likely to serve as a guideline for experimentation in Bangladesh. However, for the purpose of the present study, actual inflation accounting disclosures have been employed in financial properties to contrast time-series and cross-sectional distribution properties with their historical cost counterparts. The result shows that the inflation-adjusted financial ratios are more stable over time, but have resulted in more widely dispersed values cross-sectionally. Inflation-adjusted ratios have been found to provide conflicting time-series signals and different cross-sectional rankings of firms from the same ratios calculated on a historical cost basis, but both sets of ratios suffer from the same degree of non-normality. This study shows that statistical properties differ for the historical cost-based and inflation-adjusted ratios. This paper recommends that both sets of data should be provided to users of accounting information until it is established that one disclosure system reflects economic reality more accurately. This study might be a lesson for accounting firms as well as researchers in Bangladesh. This message about the lesson for Bangladesh is based on the result of expert opinion survey conducted in Bangladesh]

Keywords: *Historical cost, specific inflation, financial ratios, time-series, cross-sections, disclosures, economic reality, US Context and Bangladesh perspective.*

Introduction and Objective

The history of accounting developments shows that large companies in the United States are required to disclose the effects of inflation on their financial results. It is a well-known fact that the Securities and Exchange Commission (SEC) promulgated Accounting Series Release (ASR) 190, which required disclosure of replacement cost data in reports filed with the SEC. Around three decades ago, i.e., in 1979, the Financial Accounting Standards Board (FASB) required supplementary disclosure of constant dollar (general inflation) and current cost (specific inflation) adjustments in annual reports. In each case, the data were required because the SEC and FASB believed that the information was important and useful to users of accounting

information in periods of changing prices. With the belief that the information is useful, along with the fact that it is widely available, much experimentation is now in process regarding the disclosures. Because of this experimentation and the potential use of inflation-adjusted data by decision makers and researchers, investigation of the statistical properties of the disclosures is an important prerequisite to later studies using the data.

The objective of the study is to make a comparative analysis of historical cost-based and specific inflation-adjusted financial ratios. This study also aims to examine whether the study made in the US context on Historical cost-based and specific inflation-based accounting systems can be useful in Bangladesh context.

Literature Review

A large body of prior research has documented that it has investigated the effect of alternative measurement rules on computed financial ratios. Derstine and Huefner (1974), for example, investigated the effect of LIFO-FIFO choice on financial ratios. Others (Davidson & Weil, 1915; Peterson, 1973; Rosenfeld, 1969) have concentrated on differences arising from general price level inflation-adjusted accounting data. Now, as a result of the required disclosures of the SEC and FASB, specific inflation-adjusted data are available with limited knowledge of differences in computed financial ratios employing the new data.

Several recent studies (Peat, Marwick, Mitchell & Company, 1980; Price, Waterhouse and Company, 1980; Arthur Young, 1980) have reported on the differences in mean values for selected ratios, but differences between the historical cost and inflation-adjusted ratios can appear in several ways. First, differences may appear with respect to the time-series properties of ratios of the alternative systems. The time-series properties provide important information in the development of time-series models and stability measures may serve as the key to improving forecasts (Dambolena & Khoury, 1980). Recently, endeavours are being made to develop early warning systems (Foster, 1978) and the inflation-adjusted disclosures could prove to be useful if their time-series properties are different from their historical cost counterparts.

A second area in which differences could result between the historical cost and inflation-adjusted ratios is in the properties of cross-sectional distributions. Distributional characteristics such as the dispersion of values and their normality have important implications for financial statement analysis and choosing statistical tools for empirical analysis. Several studies (Deakin, 1976; Price, Waterhouse, 1980) have warned users against the blind application of financial ratios in models that assume an underlying normal distribution. Deakin (1976) found that ten out of eleven common financial ratios were distributed in a manner significantly different from a normal distribution. Such findings were reinforced by Donnithorne (1980) and Boughen and Drury (1980) who likewise found non-normal distributions for Canadian and U.K. Financial ratios, respectively. It is rather well established, therefore, that historical cost financial ratios are non normally distributed, but the evidence is limited regarding the distributional properties of inflation-adjusted financial ratios.

Differences can also potentially exist in terms of the cross-sectional correlation of a

financial ratio measured using historical cost with the same ratio measured on an inflation-adjusted basis. Independent of the time-series properties and distributional properties, correlations of the same financial ratio for two different valuation bases indicate the extent of overlap of the information provided. In other words, if the same relative ranking of the firms results from financial ratios measured with historical cost and inflation-adjusted systems, one could argue that similar information is being provided.

Statement of the Problem

The study endeavours to examine the statistical properties of several common financial ratios on both historical cost basis and specific inflation-adjusted basis. To some extent, the study serves as a partial replication and updating of distributional studies of historical cost financial ratios. However, it also makes an extension to the inflation accounting area by investigating the time-series and cross-sectional properties of specific inflation accounting adjustments. A direct comparison of historical cost results with specific inflation-adjusted accounting disclosures provides insight into the information content differences of the two systems. The paper enunciates the problem of the study in terms of the following questions:

1. Are certain financial relationships more stable over time when measured on an inflation-adjusted basis?
2. To what extent are conflicting time-series signals sent out from a historical cost system in comparison with an inflation-adjusted system?
3. Is there any difference in the cross-sectional distributions of financial ratios when measured on an inflation-adjusted basis from those measured on a historical cost basis?
 - a. Are the means significantly different?
 - b. Are the ratios normally distributed?
 - c. Does one system have less dispersion?
 - d. How do measures from a historical cost system correlate with the same measure from an inflation-adjusted system?
4. Is inflation-adjusted accounting system a suitable area for experimentation in Bangladesh?

Methodology

This study is an exploratory one. It is based on both literature review and empirical analysis. Both descriptive and inferential statistics have been used for the purpose of statistical analysis.

A random sample of firms was obtained from the population of companies on the Annual Industrial COMPUSTAT Tape that disclosed inflation adjustments under ASR 190. Industrial firms in this population were listed on the New York Stock Exchange and had \$100 million in the sum of inventory and gross property, plant and equipment. The final sample consisted of 95 firms from this population.

Ratios

Here it deserves mention that the following eight ratios shown in table #1 (on both historical cost basis and specific inflation-adjusted basis for 2004 and 2005) have been studied.

Table 1: Financial Accounting Ratios

<i>Leverage:</i>	
1.	Times interest earned (TIE) [Operating Income/Interest]
2.	Inventory Turnover (IT1) [Sales/Inventory]
3.	Inventory Turnover (IT2) [Cost of Sales/Inventory]
4.	Net Fixed Asset Turnover (FAT) [Sales/Net Fixed Assets]
<i>Profitability:</i>	
5.	Profit Margin (P.M) [Operating Income/Sales]
6.	Return on Net Fixed Assets (RFA) [Operating Income/Net Fixed Assets]
<i>Others:</i>	
7.	Dividend Payout (DP) [Dividends/Operating Income]
8.	Price-Earnings Ratios (PE) [Price/Operating Income per Share]

The disclosures required under ASR 190 include the replacement cost of inventories, productive capacity, cost of sales, depreciation, depletion, and amortization. The ratios selected for this study, therefore, were ratios that emphasized the required disclosures.

An attempt was also made to select ratios commonly employed in financial ratio analysis and specifically designated for investigative research by the FASB. With these Adjusted accounting system for each ratio, this phase of the project counts the number of times that one system's ratio increases over time while the other system's identical ratio decreases, or vice versa. In this way, one can measure if different time-series signals are emerging from the different systems.

The cross-sectional properties investigated in this study measure the distributional characteristics of the alternative accounting systems. First, tests are used to determine whether or not significant differences exist in the mean values for each ratio under the alternative systems. Second, the assumption of normal distributions is investigated for each ratio and each alternative accounting system. Comparisons of normality are made utilizing the Kolmogorov Smirnov test. Third, comparisons are made to see which accounting system yields ratios with the most cross-sectional dispersion. The coefficients of variation will be compared for each ratio to evaluate dispersion. At last, rank correlations are run cross-sectionally for each ratio to determine if relative rankings differ for the two accounting systems.

Time-Series and Cross-Sectional Properties

The statistical properties analyzed are classified into two major groups. The first investigation is of the time-series properties of the two accounting systems followed by an analysis of the cross-sectional properties. The time-series properties are considered very preliminary because they are based only on two years' data. The cross-sectional properties, on the other hand, are analyzed each year and are based on a sample size of 95 firms. Nonetheless, both analyses provide insights into the statistical properties of the alternative accounting measurement systems.

The first time-series property examined is the stability of the ratios resulting from the alternative accounting systems. Stability is measured by the range of values for each ratio for each firm over time. If the absolute value of the historical cost range (RHC) is less than the absolute value of the inflation-adjusted range (RIA) for a ratio of a firm, the historical cost system is said to be more stable. The Wilcoxon matched-pairs Signed Ranks Test is employed across all sample firms to test the null hypothesis that the mean of Historical Cost-based Range (RHC) minus the mean of Inflation-Adjusted Range (RIA) equals zero. Rejection of the null hypothesis for one ratio will lead to the conclusion that one accounting system (historical cost or inflation-adjusted) is more stable with respect to that ratio. A second time-series property examined is the extent to which the historical cost system yields conflicting signals with the specific inflation-adjusted accounting system.

For the purpose of this study in Bangladesh context, opinions of ninety five Accounting & Finance Teachers of National University of Bangladesh (NUB), Dhaka University (DU), Jagannath University (JU), Independent University, Bangladesh (IUB), American International University of Bangladesh (AIUB), Dhaka International University (DIU) as well as of Institute of Chartered Accountants of Bangladesh and the Institute of Cost and Management Accountants of Bangladesh have been studied to know about their views in regard to the suitability of inflation-adjusted accounting system for application as well as for research studies in Bangladesh. In this situation convenience sampling method has been applied to draw sample. Data have been collected by using the following questionnaire:

Questionnaire used for collection of data from the respondents in Bangladesh

<i>Statements regarding inflation-adjusted accounting system</i>	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Undecided</i>	<i>Agree</i>	<i>Strongly Agree</i>
1. Specific inflation-adjusted accounting system is suitable for application in the industrial enterprises of Bangladesh.					
2. A comparative study on historical cost-based and specific inflation-adjusted accounting system is a fertile area of accounting research in Bangladesh.					
3. Comparison of ratios based on historical cost and specific inflation-adjustment is important for research in Bangladesh.					
4. Supplemental inflation accounting disclosures may be useful ingredients of the annual financial reports of the industrial enterprises in Bangladesh.					
5. Inflation-adjusted accounting system is likely to be an improvement over the existing accounting system in Bangladesh.					
6. Until it is established that one system reflects economic reality, more accurately both sets of disclosures should be required and investigated more thoroughly.					

Results of the Study

The results of the study are as follows:

Time-Series Properties

Table 2 contains the stability measures for each of the eight ratios as measured under each alternative accounting system. The absolute value of the mean range is smaller for the inflation-adjusted measures for six in the eight ratios. The standard deviation of the inflation-adjusted range is smaller for five of the eight ratios. Also,

the inflation-adjusted range is less than the historical cost range a significant number of times for five of the eight ratios. On the other hand, the profit margin, the dividend payout, and the price-earnings ratio have smaller historical cost ranges a significant number of times.

Table 2: Measures of Stability for Historical Cost and Inflation-Adjusted Ratios

Ratio	HC* Range Results			IA** Range Results		
	Mean Range	Standard Deviation	Number of Times Smaller than IA Range	Mean Range	Standard Deviation	Number of Times Smaller than HC Range
TIE	.39	10.63	39	.29	8.68	53*
IT1	-.10	1.44	25	.04	.90	66*
IT2	-.09	.93	32	.01	.60	62*
FAT	-.05	.71	26	-.04	.48	70*
PM	-.00	.03	61*	-.00	.05	35
RFA	-.02	.13	24	-.01	.11	72*
DP	-.03	.31	73*	.02	1.04	19
PE	-.44	4.75	70*	.89	18.83	26

Significant at α (alpha) = .05 using Wilcoxon Matched Pairs Signed Rank Test.

*Historical Cost.

**Inflation-adjusted [Adjusted for changes in the level of specific prices (replacement cost)]

The latter two ratios have operating income in the denominator and possibly have larger inflation-adjusted ranges because inflation-adjusted operating income is close to zero. However, the profit margin results are contrary to the general trend of smaller inflation-adjusted ranges.

Another interesting result in Table 2 is the fact that for four of the eight ratios, the mean range on an inflation-adjusted basis has the opposite sign of the mean range on a historical cost basis. The mean range for each ratio is defined as the cross-sectional mean at time t minus the cross-sectional mean at time $t+1$. If the time-series behaviour of the mean increases (decreases) over time, the mean range will be negative (positive). For both inventory turnover ratios, the dividend payout ratio and the price-earnings ratio, the trend in mean values increases on a historical cost basis but decreases on a specific inflation-adjusted basis. It is clear from Table #2 that, for half the ratios, the average values across all firms are moving in opposite directions when measured on alternative bases.

The conflicting time-series signals can also be measured on an individual firm basis. Table 3 shows the number of firms having one system yields an increasing trend while the other system yields a decreasing trend.

The ratios have conflicting signals generated by more than ten percent, the firms in the sample, with five of those ratios yielding conflicting signals for close to 20 percent of the sample. Clearly, conflicting time-series signals are being sent out by the alternative accounting systems for a large portion of the sample.

Table 3: Firms with Conflicting Time-Series Signals

(n = 95)

<i>Ratio</i>	<i>Number of Times HC Up and IA Down*</i>	<i>Number of Times IA Up and HC Down**</i>	<i>Total Conflicts</i>	<i>Percentage of Sample</i>
TIE	2	1	3	3.1
IT1	6	2	8	8.2
IT2	9	4	13	13.3
FAT	10	11	21	21.4
PM	6	11	17	17.3
RFA	8	10	18	18.4
DP	7	10	17	17.3
PE	8	13	21	21.4

*This column represents the number of firms having the historical cost ratio indicate an increasing trend while the inflation-adjusted (replacement cost) ratio indicates a decreasing trend.

**The reverse of the above.

In summary, the time-series analysis found conflicting signals from the alternative accounting systems, both on average across all firms and individually for a large percentage of firms. The analysis also revealed that even when the two systems provide the same direction (increasing/decreasing) for the time-series behaviour, they rarely provide the same magnitude of movement over time. The stability of the ratios was not consistently better for either system across firms or ratios, but the inflation adjusted ranges were smaller for significant number of firms for a majority of ratios.

Cross-Sectional Properties

Table#4 shows cross-sectional distribution statistics for both accounting systems. Though there are no statistically significant shifts in mean values of the ratios in going from a historical cost to the. Inflation-adjusted system, there is, nonetheless, a consistent shift. The operating income is generally lower and the asset values higher on the inflation-adjusted basis, making all the mean ratios smaller on an inflation-adjusted basis except for those with earnings in the denominator (dividend payout and price-earnings ratio).

The dispersion of the ratios, as reflected in the coefficient-of-variation, reveals more variability on an inflation-adjusted basis except for the inventory turnover measures. This might be explained' by the fact that each firm is somewhat differently affected by inflation thereby increasing the differences between firms as measured on an inflation-adjusted basis. However, in the case of inventories, the fact that all firms utilize the same inventory valuation policy on an inflation-adjusted basis (that is, no LIFO, FIFO alternatives) appears to overwhelm the reality of each firm's inventories being affected differently by inflation. The net result is a reduction in differences of inventory turnover ratios among industrial firms.

The Kolmogorov Smirnov test of normality reveals no major differences between the historical cost distributions and the inflation-adjusted distributions with regard to normality. The historical cost ratios rejecting normality at the .05 level of significance remained that way on an inflation-adjusted basis. These results point to the problem of employing the inflation-adjusted ratios in models assuming underlying normal distributions. The financial ratios must either be transformed in a manner that makes the underlying distributions normal, or the models must incorporate nonparametric statistics.

Table 5 shows correlations for each ratio to measure the changes in the relative ranking of firms based on historical cost and inflation-adjusted cost. Spearman Rank correlations are used since significant non-normality is found for the financial ratios.

Table 4: Statistics for Cross-Sectional Distribution

(n = 95)

Ratio	Mean		Standard Deviation		Coefficient of Variation		K-S Value Normality Test	
	2004	2005	2004	2005	2004	2005	2004	2005
Historical Cost								
TIE	12.33	13.80	22.95	28.95	1.86	2.10	2.94**	3.17**
IT1	6.91	6.98	3.41	3.49	.49	.50	1.56**	1.61*
IT2	5.03	5.11	2.92	3.08	.58	.60	1.39**	1.71**
FAT	4.40	4.45	2.41	2.36	.55	.53	.87	.92
PM	.10	.10	.05	.05	.56	.50	.97	.86
RFA	.39	.41	.28	.27	.71	.67	.94	.93
DP	.17	.20	.13	.33	.73	1.62	1.38*	3.49**
PE	3.59	4.02	4.14	4.18	1.15	1.04	2.56**	2.28**
Inflation-Adjusted (Replacement Cost)								
TIE	9.14	9.82	18.64	21.22	2.16	2.16	2.69**	2.91**
IT1	5.57	5.50	2.62	2.53	.47	.46	1.71**	1.41*
IT2	4.11	4.08	2.32	2.35	.56	.57	1.69**	1.60*
FAT	2.73	2.77	1.58	1.46	.58	.53	.80	1.09
PM	.07	.07	.06	.06	.91	.87	1.15	.75
RFA	.19	.20	.18	.18	.96	.92	.08	.94
DP	.25	.23	.58	.177	2.34	3.40	3.02**	3.27**
PE	5.38	4.52	9.94	14.53	1.85	3.22	2.52**	3.36**

*p < .05. **p < .01.

Although significant correlations are found between the systems for each ratio, the correlations were not perfect, indicating that some shifting of rankings took place as one switched from a historical cost to an inflation-adjusted basis. Clearly, the

inflation-adjusted basis is not a uniform adjustment to the historical cost system, but rather, each firm's results are affected somewhat differently on an inflation-adjusted basis.

In summary, the cross-sectional distributions of financial ratios possess the same degree of non normality on an inflation-adjusted basis as on a historical cost basis. However, each measure results in different signals with respect to the financial ratios. The mean values of the ratios are different for the two measures. The coefficient-of-variation suggests that the dispersion between firms is slightly greater on an inflation-adjusted basis for all but two ratios, and the relative rankings of firms by each ratio also differ with each system.

Table 5: Spearman Rank Correlations of Corresponding Ratios under Alternative Systems

				<i>INFLATION-ADJUSTED (REPLACEMENT COST)</i>							
				TIE	TT1	IT2	FAT	PM	RFA	DP	PE
H	TIE	2004	.94								
I		2005	.85								
S	IT1	2004		.85							
T		2005		.85							
O	IT2	2004			.90						
R		2005			.91						
I	FAT	2004				.94					
C		2005				.93					
A	PM	2004					.89				
L		2005					.78				
	RFA	2004						.91			
C		2005						.87			
O	DP	2004							.68		
S		2005							.72		
T	PE	2004								.65	
		2005								.56	

Note. All correlations significant at the .05 level.

Bangladesh Panorama

This section presents the results of analysis of the views of accounting & Finance teachers of as many as six universities and two Professional Accountants' Institutes of Bangladesh. The purpose of devoting to the analysis and discussion in the Bangladesh context is to examine whether the study conducted in the US context on historical cost-based and specific inflation-based accounting systems can be useful as a guideline for experimentation in Bangladesh.

Table 6: Analysis of Mean Scores based on the University Acct. & Fin. Teachers' and Professional Accountants' views regarding the suitability of inflation-adjusted accounting system in Bangladesh

S.L.Statements regarding inflation NO.adjusted accounting system	Mean Scores							
	NUB(40) Acct& Fin Teachers	DU(35) Acct&Fin Teachers	JU(20) Acct&Fin Teachers	IUB(20) Acct&Fin Teachers	AIUB(20) Acct&Fin Teachers	DIU(15) Acct&Fin Teachers	ICAB(15) Profess. Account- ants	ICMAB(15) Profess. Account- ants
1. Specific inflation-adjusted accounting system is suitable for application in the industrial enterprises of Bangladesh.	4.69	4.68	4.59	4.22	4.24	4.28	4.61	4.60
2. A comparative study on historical cost-based and specific inflation-adjusted accounting system is a fertile area of accounting research in Bangladesh.	4.62	4.50	4.52	4.51	4.21	4.25	4.52	4.53
3. Comparison of ratios based on historical cost and specific inflation-adjustment is important for research in Bangladesh.	4.34	4.35	4.44	4.28	4.29	4.26	4.56	4.58
4. Supplemental inflation accounting disclosures maybe useful ingredients of the annual financial reports of the industrial enterprises in Bangladesh.	4.38	4.66	4.60	4.25	4.23	4.25	4.50	4.51
5. Inflation-adjusted accounting system is likely to be an improvement over the existing accounting system in Bangladesh.	4.60	4.62	4.49	4.24	4.28	4.24	4.55	4.52

S.L.Statements regarding inflation NO.adjusted accounting system	Mean Scores							
	NUB(40) Acct&Fin Teachers	DU(35) Acct&Fin Teachers	JU(20) Acct&Fin Teachers	IUB(20) Acct&Fin Teachers	AIUB(20) Acct&Fin Teachers	DIU(15) Acct&Fin Teachers	ICAB(15) Profess. Account- ants	ICMAB(15) Profess. Account- ants
6. Until it is established that one system more accurately reflects economic reality, both sets of disclosures should be required and investigated more thoroughly.	4.62	4.61	4.50	4.23	4.27	4.23	4.56	4.54

NUB= National University of Bangladesh, DU=Dhaka University, JNU= Jagannath University, IUB= Independent University, Bangladesh, AIUB= American International University of Bangladesh, DIU= Dhaka International University, ICAB= Institute of Chartered Accountants of Bangladesh, ICMAB= Institute of Cost and Management Accountants of Bangladesh.

A questionnaire comprising 6 statements regarding inflation-adjusted accounting system was administered to the teachers. The questionnaire was developed along a five-point Likert-type scale from 1 = strongly disagree to 5 = strongly agree. Based on this scale, views of Accounting & Finance teachers and professional accountants with respect to each of the six statements were surveyed and thereafter, mean scores were computed. They are shown in table #6. The high mean scores of above 4.25 in almost all the cases of six statements indicate that an overwhelming majority of the accounting teachers and professional accountants of Bangladesh under study give recognition to specific inflation-adjusted accounting system as an important area for experimentation in the firms of Bangladesh. A great majority of them feel that comparison of ratios based on historical cost and specific inflation adjustments is important for accounting researchers in Bangladesh. They also feel that supplemental inflation accounting disclosures may be useful ingredients of annual financial reports of enterprises in Bangladesh. They are also of the view that inflation-adjusted accounting system is likely to be an improvement over the existing accounting system in Bangladesh. They also strongly feel that until it is established that one system more accurately reflects economic reality, both sets of disclosures should be required and investigated more thoroughly.

Summary of Findings and Conclusions

This study is primarily a comparative analysis of ratios from two different financial accounting disclosure systems. The two systems examined are the conventional historical cost system and a specific inflation-adjusted-system. Comparisons are made to evaluate time-series and cross-sectional properties of the two systems for each of eight common financial ratios. Because of the limited time-series of data

available, conclusions with respect to the time-series properties are tentative.

A sample of industrial firms was employed over a two year period in an attempt to determine which accounting system yielded more stable relationships over time. Measurements were also made in an attempt to determine the extent to which conflicting time-series signals were sent by the two accounting systems. Cross-sectional distributional differences were also examined for the two systems. The results suggest the following conclusions:

1. Although the financial ratios were generally more stable over time as measured on the inflation-adjusted basis, this was not consistently the case across firms or ratios.
2. Although analysis was limited to a two-year time series (i.e. time series of 2004 and 2005), it appears that conflicting time-series signals are being delivered by the two systems as measured by the financial ratios of this study. Conflicting signals exist both on averages across all firms and individually for a large percentage of firms.
3. Ratios distributed in a non-normal fashion on a historical cost basis remained that way on an inflation-adjusted basis. Those ratio distributions which did not reject normality on a historical cost basis likewise did not reject normality on an inflation-adjusted basis.
4. The cross-sectional distributions of the historical cost financial accounting ratios underwent several shifts when measured on an inflation-adjusted basis. Not only did the means shift to a new level but:
 - a. the distributions generally became fatter (except for inventory turnover) on an inflation-adjusted basis, and
 - b. Firms switched ranks within the distributions when proceeding from a historical cost to the inflation-adjusted disclosure system.

Such findings have important implications for financial analysis, the future of accounting, and research in finance and accounting. The non-normality findings suggest that users of accounting data must be careful in employing historical cost and inflation-adjusted financial ratios in models that assume underlying normal distributions. The data must be transformed to approximate normality, or nonparametric statistical methods should be employed.

If stability measures are not the same for both the systems, if rankings, mean values and variability measures differ, and if conflicting time-series signals result, one can only wonder which system is conveying the true picture. Until it is established that one system more accurately reflects economic reality, both sets of disclosures should be required and investigated more thoroughly. As a result, the users of accounting data would then hopefully benefit from both these sets of data for decision-making.

Finally, in the context of Bangladesh, it may be concluded that an overwhelming majority of the university teachers of Accounting & Finance as well as professional Accountants feel that:

- (i) Specific inflation-adjusted accounting system needs be experimented in the firms of Bangladesh.

- (ii) A comparative study of Historical cost-based and inflation-based accounting systems is a fertile area of research for the accounting researchers in Bangladesh.
- (iii) Inflation-adjusted accounting system is likely to be an improvement over the existing accounting system in Bangladesh.
- (iv) Supplemental inflation accounting disclosures may be useful ingredients of the annual financial reports of the industrial enterprises in Bangladesh.

In the end, the technique used by the firms in the USA is likely to serve as a guideline for experimentation in Bangladesh. The exercise done in this study might be a lesson for accounting firms as well as researchers of Bangladesh.

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