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EDITORIAL

With the objective of extending research in the wide-ranging and ever expanding field of Management, College of Management, Shri Mata Vaishno Devi University, Jammu, Publishes its current edition of Arth Anvesan, a Refereed, Bi-annual Journal of the department. Our emphasis remain as ever to incorporate the Empirical Studies, latest Case Researches, Policy Papers, Book Reviews that are helpful or path finder or those that have a pioneering and positive impact towards effective Management practices. The present issue i.e. Volume 7 Number 1 incorporates five Research Papers and one Book Review from the varied fields of Management. The selection method is based on Double Blind Peer Review process. Our humble attempt was to choose from among the papers that we received, those which reflect the latest trends and happenings in the field of Management science. Our endeavour was to put forth for our esteemed readers, the material that was as varied as it was original. In these ever changing, ever evolving and ever learning times, we hope our readers will benefit from the compiled publication. We, at Arth Anvesan, fervently hope the present issue unveils fresh concepts and research findings in the concerned field. A brief summary of the articles is as highlighted below.

The observation of the first article by Bhavana Adhikari, Harkiran Kaur Sidhu and Ridhi Arora is that there is a significant correlation between emotional intelligence and job performance. Therefore hiring people with higher level of Emotional Intelligence adds up to an organization's value chain as well as contributes towards its financial gains. Lipishree Das in her paper on Urbanization establishes a positive co-relation between urbanisation and economic growth of a country. According to this study, a country, as a policy, may increase the rate of urbanisation and at the same time achieve economic growth which in turn would accelerate the overall development process. An interesting study by Maniklal Adhikary and Papita Dutta reveal that a mother's education has a directly disproportionate effect on spending towards children's education, the higher the level of Mother's education, the lower the spending towards Children's education, whereas the same study finds father's education to have an insignificant impact on the same. This study also postulates that the relation between monthly per capita household income and spending on children's education is positively significant. They suggest that government and NGOs should take necessary steps or conduct training camps to educate mothers. Job satisfaction which is a multi- dimensional activity, as observed by Tripta Kaur Grewal and A.S. Sidhu is still a challenge to the education system. The study recommends creating a conducive working atmosphere in the form of adequate salaries, timely promotion, work autonomy etc., to improve the satisfaction level of the Employees. Tarun Soni investigates the Linear and Non-linear Causality between Spot and Future returns of four notional Indices maintained by Multi Commodity Exchange of India (MCX) in his present work. This study could be helpful for the policy makers and market participants to take future decisions effectively and efficiently based upon its deductions. The present issue of Arth Anvesan ends with a book review by Hari Sundar.G.Ram. The Book is titled, "A new beginning- the turnaround story of Indian bank" authored by Ms. Ranjana Kumar. The book is all about the real life experiences that a lady executive officer had to face when she took over the responsibility as the Chairman and Managing Director of Indian Bank. According to the reviewer this book could serve as a reference material for all Management students and practitioners and could also be studied as case in Strategic and Financial Management.

Dr. Kakali Majumdar

CONTENTS

RELEVANCE OF EMOTIONAL INTELLIGENCE FOR EFFECTIVE JOB PERFORMANCE

Bhavana Adhikari*, Harkiran Kaur Sidhu and Ridhi Arora****

Abstract

Emotional intelligence is catching the interest of many researchers as it is a growing area of behavioral research. It can be described as "ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions." Emotional intelligence is conceptually relevant for predicting employee's job performance. The promotion of emotional development assumes that the ability to regulate emotions is a positive trait, which is associated with positive workplace performance. Feelings in work place are as significant as achieving organizational goals in way of interaction between individuals, cooperation and managing emotions which proves to be a key to effective performance. However, currently there is very little evidence which support this relationship. The purpose of this research paper is to examine the relationship between emotional intelligence and job performance amongst four service organizations in Jalandhar city. The study showed that there is a significant moderate correlation between emotional intelligence and job performance.

***Key words**: Emotional Intelligence, Emotionality, Job Performance and wellbeing.*

JEL Classification J62, L25

INTRODUCTION

In this era of competition, companies are investing substantial amount of time and money in order to enhance the skills of employees. The motive behind these investments is to increase the performance of employees but they don't realize that apart from all common factors there is something called emotional intelligence which directly effects how a person performs? Emotional intelligence is thoughts and feelings behind people's actions which help them to control and manage their behavior under different circumstances. It plays a significant role in guiding the employees to cope with this dynamic change in business environment. Employees need to enhance their emotional intelligence skills apart from technical skills.

* Professor and Deputy Dean Academics, Amity University, Haryana.
** Lecturer, Lovely Professional University, Punjab
***Assistant Professor, Lovely Professional University. Punjab

The inclusion of emotional intelligence in training programs can help employees to better interact with co workers and to increase motivation level which will eventually lead to higher performance.
Emotional intelligence can give an edge to an employee over the others as it helps a person to:

- Manage his/her interpersonal skills
- Recognize and manage impact of his/her emotions on behavior
- Improve or manage relationships with others by understanding their emotions

OBJECTIVES OF THE PAPER

As studied by a lot of researchers emotional intelligence is one of the significant predictors of job performance. This paper explores the relationship between emotional intelligence and job performance amongst four service organization located in Jalandhar city. This relationship is statistically analyzed in this paper in order to see, if there is any significant relationship between them or not.

EMOTIONAL INTELLIGENCE – THEORETICAL FRAMEWORK

Mayer, salovey and caruso's perspective

Salovey and Mayer(1990) defined Emotional intelligence as a subset of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions. It was analyzed that emotional intelligence also helps in identifying problems and further creativity and flexibility for finding alternative course of action. This definition was contradicted by Mayer and Salovey (1997) as it was vague and lacked thinking of feelings. They modified it as the ability to perceive emotions, to access and generate emotions so as to assist thought to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth. Again Mayer, Salovey and Caruso in (2004) constructed a four branch model of EI. This model conceived EI as ability to perceive emotions, to access and generate emotions to assist thought, to understand emotions and emotional knowledge and to regulate emotions reflectively to promote emotional and intellectual growth. The revised model was based on the capacity to reason in four areas or branches: 1) Perceive emotions, 2) Facilitating thought, 3) Analyzing emotions and 4) Managing emotions.

Goleman's Perspective

Among other claims, Goleman (1995) defined emotional intelligence as comprising awareness, emotional management, motivation, empathy and social skills. Later on in 2001, he modified it to abilities named 1) self awareness, 2) self management, 3) social awareness and 4) relationship management. Further in 1998 he claimed that more the

emotions in an organization higher will emotional intelligence but there are certain requirements like: self reflection, the desire to know the feelings of others, develop emotional control, desire to learn more listening skills etc. Whereas Gardner (1983) suggested that a person who is good in one domain may not be good in other domains. Goleman acknowledged this point with the example that a person who deals easily with anger and frustration may be facing great problem while dealing fear.

Other Researchers' perspective

In (2000) Bar-On et al examined the model revised by Mayer, Salovey and Caruso in 1997 and 1999, he explained that first branch involves registering, attending to and decoding emotional message as they are expressed through voice tone, pitch, objects of art, stories or facial expressions. Second branch concerns the ability to use emotion to attract attention, communicate feelings and engage in cognitive process such as problem solving and decision making. Third branch concerns reasoning about or with emotions and it includes ability to understand the causes of emotions, their progress and how they change. The fourth branch concerns with the regulation and management of emotions of self and others. It helps to use emotions in decision making and problem solving. EI is useful only when people use it at right place, Lanser (2000) described that those who use their emotional intelligence to support their thoughts and behavior have trust in relationships, harness energy under pressure and have ability to make sound decisions thus increasing their overall potential for success. Chadda (2001) defined EI in his way as ability of an individual to appropriately and successfully respond to a vast variety of stimuli being elicited from inner self and immediate environment. Emotional intelligence also assesses other person's needs, wishes and even anticipates them, in order to fulfill a person's needs at best. For that self awareness, self control on own emotions, empathy and social skills to recognize other's emotions are needed (Cavelzani et al. 2005). Further adding to it, Gabel et al. (2005) analyzed that EI dissolves the differences between the host and home country cultures which eventually play an important role in cross cultural adjustments and help internationally assigned managers to be comfortable in new environment. It shows how EI guides a person in difficult situations. On the same aspects Morrison (2005) explored that EI also provides a person the ability to cope with interpersonal conflicts. The ability to handle conflict in a constructive way can be done by learning and enhancing EI as it guides a person about what is right or wrong and provide skills to make correct decisions to resolve conflicts. Sewell (2011) gave his views that EI is holistic in nature and that's the reason its competencies influence resiliency in a positive way and increases mental fitness. An emotionally intelligent person can easily balance life and develop appropriate responses to adversity and bounce back quickly. Reuben et al. (2009) tried to find out whether EI can be taught. They found that a course dedicated to teaching emotional intelligence can actually increase EI and that there was a greater increase in EI of students who attend more classes as compared to students who attended less number of classes.

EMOTIONAL INTELLIGENCE AND JOB PERFORMANCE

There is lot of interaction among the employees at their work places; they share their emotions, excitement, anger and fear. There are certain emotions which are required by the employees to become better performer like: Enthusiasm in sales person, perseverance in bill collectors and empathy in social workers (Hochschild,1983; Sutton,1991). Contributing to the same Ashforth et al. (1995) stated that emotional intelligence competencies of a person, manages and controls his behavior, mood and impulses on the job. Knowing one's emotion as they occur and tuning one's self to changing situation requires emotional competency. In an organization, performance of the employees depends on people or group they work with and as their thinking, ideas and opinions have a strong impact. Effective use of emotional intelligence gives edge to a person to be a good team player and perform better by understanding other people's emotions and behavior. On the same aspect Goleman (1998) provided his view that while deciding about promotion, performance and hiring new employees the base should be EI as it is an important factor. Whereas Gottfredson, (1998) analyzed that general intelligence has a significant contribution to the prediction of individual performance. George (2000) expressed that perfect judgment of another person's emotions is necessary to have good and healthy interpersonal relationships and interaction which eventually help to manage work relationships and increase the performance. In order to test it, Nel and Villiers (2004) proceeded with a sample of 135 call centre agents who worked in client services, sales and administrative. They found that were two competencies having stronger correlation with job performances i.e. self management and self confidence. Study also showed that a high level of emotional intelligence has a tendency to show high level of performance. Discussing about the relation of cognitive intelligence and performance, Lam and Kirby (2002) examined that emotional intelligence i.e. perceiving emotions and regulating emotions all contribute positively to individual cognitive based performance. Further Law et al. (2008) argued that Emotional Intelligence is a significant predictor of job performance beyond the effect of General Mental Ability (GMA) battery on performance, among Chinese employees, especially in context to jobs which needs high educational qualifications. In recent research, it was found that team performance is positively and significantly influenced if team members are able to recognize emotions of other teammates (Stough et al., 2009). Later on Malik and Rahim (2010) explained that people work together or cooperatively, coupled with technical expertise and ability to make social circle and strong network in order to speed up their work and overcome problems so that organizational goals can be achieved. This leads to increased performance of employees as they use their EI to work more effectively by consulting others. Another study by Jorfi et al. (2010) analyzed that there is a significant positive correlation of 76%, between emotional intelligence and performance of employees. The study indicates a great impact of EI on job performance. Combining EI with performance in nursing, Choudary (2011) concluded that emotional intelligence is an important characteristic for building successful nursing leadership, enhancing nursing performance and reducing nurse burnout.

Apart from the role of EI in increasing employee's performance, it also enhances the managerial effectiveness. Weiss and Cropanzano (1996) shared that manager having high emotional intelligence exhibit optimistic work attitude and unselfish behavior which lead to higher employee satisfaction and performance at job. Having the same opinion,

Goleman (1998) pointed out that those with the higher EQ measure rise to the top in the organizations and become leaders. Star employees of organizations possess more EQ than other employees. Another interesting finding was that different jobs call for different types of EQ. Many studies indicated a strong positive correlation between EI and managerial effectiveness. For example, Daftuar et al. (2000) analyzed the relationship between EQ and 16 dimensions of managerial effectiveness and found self awareness to be positively correlated with 9 dimensions, resilience with 12 dimensions, interpersonal connection with 12 dimensions and intuition with 14 dimensions of managerial effectiveness. Shipper et al. (2003) carried out a study with 3785 managers using a cross cultural sample of US, UK and Malaysia. The study examined that when managers use their interactive and controlling skills the effectiveness of performance tends to be higher. While referring to interactive skills he included the ability of a person to regulate his own emotions and read or understand others emotions in order to build healthy interpersonal relations. Controlling emotions was defined as "to keep schedules, meet deadlines and apply control to all details". Study found that empathy, self awareness and self regulation are highly related to managerial effectiveness as there is strong positive correlation between them. On the same note, Diggins (2004) stated that managers must have high EI so that they can connect well with the people in the organization on both intellectual and emotional basis as an emotionally intelligent manager can easily realize and respond to strong feelings that employees have in a timely and appropriate manner. Adding to the same, Langhorn (2004) revealed that emotional intelligence of general managers have a impact on their key performance results and it depends on the ability to understand own emotions, social responsibility towards organization and community, interpersonal relationships (dealing calmly with challenges and stressful conditions when working in team) and optimism i.e. positive thinking. In contrast Law et al. (2004) analyzed that EI is distinct from personality dimensions and is a significant predictor of a bunch of desired results, such as life satisfaction and supervisory ratings of job performance.

Further Yuvaraj and Nivedita (2007) conducted a study with sample of 90 managers from 11 organizations. It was found that managerial innovation and managerial effectiveness have a significant positive correlation with emotional intelligence. Study revealed that all skills of EI are necessary for managerial effectiveness in order to complete their activities with desired results. In a study, Kulkarni et al. (2009) analyzed that low level of Emotional intelligence of managers and supervisors has a direct impact on the level of performance as performance is poor. He found that managers have lower EI level in key areas like achievement drive, teambuilding, flexibility and adaptability as these are very critical factors of job performance. He suggested a training program that focused on increasing emotional intelligence and to apply it on job to enhance performance. Adding to it, Khokhar and Kush (2009) analyzed that executive who are highly emotionally intelligent are more active, punctual, take maximum initiatives and efforts to expand their job to achieve better results or performance. Further on different parameters, Mishra and Mohapatra (2010) examined that there are three dimensions of EI: emotional competency, emotional maturity and emotional sensitivity. Each dimension contains four skills which Indian managers should master to be star performer at the workplace as these are the key to managing inner self and other people around. The managers should seek to evolve these skills to enhance their performance: interpersonal relations, communication of emotions and empathy. Whereas Srivastava and Nair (2010) conducted a study with 305 managers from different industries in public and private

sectors and analyzed that EI is a strong predictor of managerial effectiveness. Also the ability to behave in a rationally emotive way by emotionally intelligent mangers would enhance the managerial effectiveness. Adding to it, Bostjancic (2010) conducted a study with 56 Slovenian head managers or executive staff and analyzed that women are friendlier and emotionally stable managers than man. The study correlated EI with some personality sub dimensions like cooperation, openness to culture and emotion control. Understanding other people's emotions help managers to have better relation with associates and managers who are successful in this will show good job performance. Taking decision making and leadership skills into consideration, Azouzi and Jarboui (2011) examined that emotional consciousness of a person affects how a person react in a certain situation. It also guides a person to use his motivation in effective completion of his tasks and towards rationality which helps him to be aware of factors leading to positive and negative emotions. This awareness supports to choose appropriate measure which leads to improved decision making and leadership or managerial skills. Study showed EI as a prerequisite skill or competency to improve controller's perceptive and evaluation of alternatives.

METHODOLOGY

Sample Size

In order to collect the data, a sample size of 70 managerial level employees from two hotels and two retail sector organizations located in Jalandhar city was taken. The selection of the sample was according to the convenience in order to ensure the accuracy of the data.

Data Collection

Data was collected using standardized questionnaires of EI and Job performance. Employees were administered with the Questionnaires of EI whereas to get performance results of employees, Job performance questionnaire were administered among respective supervisors of employees.

Instruments

Two Instruments used to collect data: Global Trait Emotional intelligence Questionnaire and Job performance Questionnaire designed by Bakshi (2011) have been explained below.

In order to assess the relationship of emotional intelligence with job performance of the employees a scale developed by Pertrides and Furnham (2006) named Trait emotional intelligence (Short Form) which is based on full form of TEIQue was used. It was designed to measure global trait emotional intelligence. This Trait emotional intelligence Questionnaire focuses on the following 15 facets: Adaptability, Assertiveness, Emotion perception (Self and others), Emotion expression, Emotion management (others), Emotion regulation, Impulsiveness, Relationships, Self-esteem, Self-motivation, Social awareness, Stress management, Trait empathy, Trait happiness and trait optimism. All these facets scores are combined to give overall EI score. These facets are organized

under four factors: well-being, self-control, emotionality and sociability. It contains 30 items and every 2 items represent one facet. These four factors can be described as:

Well Being: A high well-being score indicates an overall sense of well-being. In general, individuals with a high score on this factor are fulfilled and satisfied with life.

Self Control: The self-control factor refers to one's degree of control over their urges and desires. Individuals with a high self-control score have the ability to manage and regulate external pressures.

Emotionality: Individuals with a high emotionality score possess a wide array of emotion related skills: recognizing internal emotions, perceiving emotions, and expressing emotions. In turn, these skills are often used to form and nurture close relationships with family and friends.
Sociability: The sociability factor focuses on one's social relationships and social influence. This factor differs from the emotionality factor in that it evaluates one's influence in a variety of social contexts, rather than just in personal relationships with family and friends. Individuals with a high sociability score are good listeners and effective communicators. (Petrides, 2001).

For the measurement of job performance an index developed by Bakshi (2011) was administered to respective supervisors of employees to collect unbiased and accurate results. Bakshi's (2011) job performance measure was developed for the measurement of job performance by measuring following dimensions: Cooperation, Attendance and Punctuality, Initiative, Dependability, Attitude, Judgment, Communications, Productivity, Interpersonal Relationships, Organizational Skills and Safety. It contains total 43 questions which cover all the dimensions mentioned. The reliability of this measure is .78 which shows that it is a reliable scale to be used for this study.

ANALYSIS AND DISCUSSION

The purpose of this study was to examine if a relationship exists between emotional intelligence and job performance. For this, the total scores of emotional intelligence and job performance was calculated by adding all their dimensions. The emotional intelligence score ranged from 79.667 to 180.667 and job performance score ranged from 44.67 to 162.51. Table 1 shows the mean, standard deviation, minimum, maximum values for emotional intelligence and job performance.

Table 1
Descriptive statistics of EI and Job Performance

	N	Minimum	Maximum	Mean	Std. Deviation
Job performance	70	79.667	180.667	47.246	3.900149
Emotional intelligence	70	44.67	162.51	20.613	1.53664
Valid N (list wise)	70				

Emotional intelligence comprises of four parameters Well being, Self control, Emotionality and Sociability. The Mean, Standard deviation, Minimum, Maximum scores of each of the emotional intelligence factors are listed in Table 2. These dimensions of emotional intelligence may range from 1 to 5. However, for this study, well-being score ranges from 2.36 to 4.60, self-control score ranges from 2.50 to 5.00, sociability score ranges from 2.31 to 4.76 and emotionality score ranges from 1.67 to 3.33.

Table 2
Descriptive Statistics of Dimensions of Emotional Intelligence

	N	Minimum	Maximum	Mean	Std. Deviation
Well-being	70	2.36	4.60	3.2850	.32691
Self control	70	2.50	4.79	2.8096	.30642
Sociability	70	2.31	4.76	2.5970	.25307
Emotionality	70	1.67	3.33	1.0825	.20856
Valid N (list wise)	70				

To analyze the relationship between emotional intelligence and job performance among the participants, Pearson correlation was utilized as a statistical tool. Correlation is said to be positive if it is between 0 to 1, more it will be near to 1 stronger will be the relationship between two variables and correlation will be negative if it will be between 0 to -1, more near to -1 will indicate high/strong negative correlation. The results obtained after applying correlation are as depicted below in Table 3.

Table 3
Correlation Analysis

		EI	Job performance
EI	Pearson Correlation	1	.428**
	Sig. (2-tailed)		.000
	N	70	70
Job performance	Pearson Correlation	.428**	1
	Sig. (2-tailed)	.000	
	N	70	70
**. Correlation is significant at the 0.01 level (2-tailed).			

Above findings indicated that there exists significant positive but moderate relationship between emotional intelligence and job performance among the employees with correlation coefficient of 0.428**, at p=0.000<0.01.

This indicates that more emotionally intelligent an employee is at the workplace, greater is his performance at the workplace thereby leading to greater productivity and greater organizational effectiveness. Goleman (1998) suggested that EI should be a major criterion when it comes to promotion, performance and hiring of individuals. Hence, organizations are taking initiatives such as testing emotional intelligence of the candidates at the time of hiring and selection process. Besides this, organizations should establish a suitable model where those employees who are low in emotional intelligence can be trained on various aspects of EI using specific mentoring programs and socialization programs can be launched in this context.

CONCLUSION

Emotional intelligence is predictor of job performance as inferred by the study's conceptual framework and analysis of data. So hiring people with higher level of emotional intelligence is associated with organizations financial gains. Though the findings suggest that there is an average relationship between emotional intelligence and job performance but still EI has a role in effecting performance of an employee. It shows that high emotional intelligence could lead to higher job performance. Making connections or links with individuals is always emotionally challenging as different people or groups have their own values and ways to work. Emotional intelligence helps people to manage emotional discomforts and connect with others. Organizations take various measures to upgrade the technical and soft skills of their employees but they overlook one important factor i.e. emotional intelligence. They should arrange training programs for their employees in order to increase their self control, emotions regulation and good behavior which can help them to enhance their work performance. It will give them a power to manage issues related to emotions which ultimately increases their self confidence and control and they perform better.

FUTURE IMPLICATIONS FOR RESEARCH

As EI is still a growing field there is a wide scope for research. Since the scope of this study is limited to study the relationship between emotional intelligence and job performance. This research can be further extended to measure the impact of emotional intelligence on the job performance. Besides this, the same research can be done using larger sample size as studies with sample size can provide with useful findings. A job performance evaluation instrument can be developed that is sensitive to the emotional intelligence or a 360 degree feedback instrument for rating and evaluating EI of a person. This will open a new door of knowledge for everyone. It can further be examined that whether the relationship between emotional intelligence and job performance depends on the nature of the job or various levels of the organizations. Apart from this a comparison

can be made between two types of measures of EI i.e. Task based and Self-reported measure as they both have pros and cons.

LIMITATIONS

The study was conducted in Jalandhar city so it is restricted to that area and even the sample size of the study was small. This may limit the generalizability of results. Different findings may occur with different population groups and various levels of an organization in different settings/environment. Some biasness is also expected in case of emotional intelligence questionnaire as people were conscious that they can be rated as having low EI level. Moreover, the measure of job performance is newly developed.

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URBANIZATION AND ECONOMIC DEVELOPMENT

Lipishree Das*

Abstract

The present study seeks to establish a relationship between urbanization and economic growth in 17 states in India for the period 1980's, 1990's and 2000's.The study shows that the trend in the rate of urbanization (average annual rate of change in per cent urban) in India is not very smooth. Across states in India it is observed that the rate of urbanisation in Kerala is the highest. The results are consistent with some previous research findings which show that there is a positive relationship between the two variables that is urbanisation and economic growth. The present study also established that both the variables are affecting each other in a positive manner.

Key words: *Urbanization, economic growth.*

JEL Classification O01, P25

INTRODUCTION

Urbanization and economic development have long been regarded as inter-connected process. As the economy develops, there is an increase in the per capita income and also in the demand for non farm goods in the economy. Economy growth influences the rate of urbanization while urbanization in turn, affects the rate at which the economy grows. Urbanization usually results in both economic and social consequences. Economic consequences relates to inadequate growth of formal employment, growth of urban informal sector, open urban unemployment and underemployment. Social consequences relates to over population and deterioration of quality of urban life. As the country urbanizes, the share of National Income that originates in the urban sector also increases. According to UN[1] estimates by 2030, over 60 per cent of the world's population (4.9 billion out of 8.1 billion people) will live in cities.

*Lecturer, Department of Economics, Ravenshaw University, Cuttack

[1] United Nations. 2005. *World Population Policies.* New York: United Nations Publishing.

The latest data on world urbanization shows that at the beginning of the 21st century, number of developing countries have less than one third of their population residing in urban areas. Besides this, there is a noticeable slowing down of the rate of urbanization in past two three decades in most of the developing countries.
In India Census of 2001 also confirms that urbanization in India has slowed down. But after that it has increased during 2001-2011. According to 2001 census, India's urban population is 285.3 million, that is, 27.8 percentage of the total population which has increased to 31.16 per cent during 2011 census.

In this perspective it is required to study about the recent trends in urbanisation, various factors that help in urbanization process and the probable consequences. Past studies show that urbanization and economic development have long been regarded as inter-connected processes Daniel Lo (2010).Urban economists sometimes determine the economic status of a nation by simply counting the number of large cities it has. In fact, the history of development of many present-day developed nations has clearly demonstrated a dramatic rise in urbanization as their economies grew (Hughes and Cain, 2003). Studies have revealed that the simple correlation coefficient across countries between percentage of urban residents in a county and GDP per capita is about 0.85 (Henderson, 2003), which appears that urbanization is an inevitable part of a modern society. There has been an enormous literature on the role of urbanization for promoting economic growth. Moomaw and Shatter (1993) related growth and different measures of urbanization using regression techniques and concluded that urban concentration might stimulate economic growth. The authors further revealed that urbanization not only increases with per capita GDP but also with industry's share in GDP. Similar empirical evidences can be found in study conducted by Abdel-Rahman et al. (2006),in a cross sectional analysis which showed a statistically significant positive relationship between level of urbanity and standard of living, measured by real per capita GDP. McCosky and Kao (1998) found out that even if urbanization is crucial to economic development, its impact varies greatly across countries and time.

Majority of literature assumes that urbanization and economic growth affect each other simultaneously over time – i.e., the former could be both the cause and consequence of the latter. With this background, in this paper a humble attempt has been made to analyse the trends of urbanization in India and in major states. It also focused on some of the important aspects of country's urbanization process in the past four decades and the relationship between urbanization and economic development assuming economic growth to be the factor responsible for urbanisation and its implications.

OBJECTIVES

The major objectives of the study are;

i) To study the magnitude (level), trend and regional pattern of urbanization in India.
ii) To study the relationship between urbanization and economic development.
iii) To ascertain the factors responsible for urbanization in India.

METHODOLOGY

The study is based on secondary data. In order to understand the (demographic and geographical) dimensions of urbanization, the following indicators have been considered. Some of these indicators are taken as variables for the purpose of analysis.

i) Level of urbanization: This is percentage of urban population to total population.
ii) Rate of urbanization: This is average annual rate of change in urban population in percentage.

The indicators of urbanization have been analysed for the period 1971-2011 both at the national and state level. For the purpose of analysis seventeen major states have been included in our study. They are Andhra Pradesh, Assam, Bihar, Gujrat, Haryana, HimachalPradesh, Jammu&Kashmir, Karnataka, Kerala, Madhyahya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, and West Bengal.To study the relationship between economic growth and urbanization two variables are taken, i.e., state gross domestic product (SGDP) and rate of urbanization. Data has been taken from census to calculate the rate of urbanisation and SGDP data is taken from CSO. Economic growth is measured by SGDP at constant prices (2000).To make the data truly comparable, they are converted to real terms by GDP deflator. Average GDP deflator of each decade is calculated separately for the purpose of analysis. For the purpose of analysis cross sectional and three time period data, i.e., of 1980's 1990's and 2000's are considered. To know the impact of economic growth on urbanization and the effect of urbanization on economic growth two regression equations have been fitted. They are:

i) $y = f(x)$ where, y= log SGDP and x= Urbanisation
$Y = a + bx + u_1$ ---------- (1)

ii) $x = g(y)$ where, y= log SGDP and x= Urbanisation
$x = c + dy + u_2$ ---------- (2)
a and c are constants and u_1 and u_2 error terms.

TREND OF URBANISATION IN INDIA

According to Human Development Report (2011) the share of world's population living in urban centres has increased from 39 per cent in 1980 to 48 per cent in 2000 and 53 per cent in 2010. The developed countries have higher urbanization level (79 per cent in 2000) compared to developing countries (46 per cent). The trend of urbanization in India from1901-2011 is presented in table -1. A quick glance at the table shows that there has been a steady increase in the size of urban population in the past 110 years. The urban population of the country has increased from 26 million in 1901 to 377 million in 2001. India now not only has the second largest urban population of the world; the size of its urban population exceeds even the total population of each country of the world except China. In 1901 nearly 10.6 per cent of the country's population lived in urban areas which increased to 31.2 per cent in 2011, nearly 3 times increase in the percentage of urban population in 110 years.

The trend in the rate of urbanization (average annual rate of change in per cent urban) is not very smooth. The trend shows that urban population of India grew by less than 1 per cent per annum up to 1931. During 1941-51, the growth rate is maximum i.e., 1.50 per cent in 1941 to 2.54 per cent in 1951. During 1951-61 the growth rate of urban population declined from 2.54 to 0.40 per cent because of the declassification of a number of towns due to definitional changes. In the next two decades i.e., during 1961-71 and 1971-81 there was a steady acceleration in the growth rate of urban population from 1.06 to 1.72 per cent. But in 1981-91 and 1991 to 2001, the rate of urban population growth decelerated.

Table 1
Trend of Urbanisation in India, 1901-2011

Census Years	Number of Towns	Urban Population (In millions)	Percent Urban	Rate of Urbanization
1991	1916	25.9	10.8	-
1911	1908	25.9	10.3	-.46
1921	2048	28.1	11.2	.87
1931	2220	33.5	12	.71
1941	2422	44.2	13.8	1.50
1951	3060	62.4	17.3	2.54
1961	2700	78.9	18	.40
1971	3126	109.1	19.9	1.06
1981	4029	159.5	23.3	1.72
1991	4689	217.6	25.7	1.02
2001	5161	286.1	27.8	.82
2011	7935	377.1	31.16	1.29

Source: Calculated from Census of India 1991, 2001, 2011 Series -1 General Population Tables

As evident from the table, the process of urbanization in the post independence period was the fastest during1971-81. In this period the level of urbanization increased from 20 per cent to 23.3 per cent. In the subsequent period i.e., from 1981-91 to 1991-2001 the rate of urbanization decreases and in 2001 it became less than 1 per cent (0.82). But again during 2001- 11 it shows an increasing trend though not much. It has been found out from detailed studies that, the slowdown between 1981-2001was genuine and could not be attributed to under enumeration, though it was accepted that urban population of 1981 was slightly overstated due to wholesale administrative notifications of town in some states (Mohan Rakesh, 1996). Again this slowdown is a temporary phenomenon and the trend may not be continued (census 2011)

Table 2
Trend of Urbanisation in the States of India, 1971-2011

India/States	Percent Urban					Rate of urbanization			
	1971	1981	1991	2001	2011	1971-81	1981-91	1991-01	2001-11
Andhra Pradesh	19.31	23.32	26.89	27.08	33.48	2.08	1.53	0.07	2.36
Assam	8.82	9.88	11.1	12.72	14.08	1.2	1.23	1.46	1.07
Bihar	10	12.47	13.14	13.36	14.37	2.47	0.54	0.17	0.75
Gujarat	28.08	31.1	34.49	37.35	42.58	1.08	1.09	0.83	1.39
Haryana	17.66	21.88	24.63	29	34.79	2.39	1.26	1.77	1.9
Himachal Pradesh	6.99	7.61	8.69	9.79	10.04	0.89	1.42	1.27	0.25
Jammu & Kashmir	18.59	21.05	23.83	24.88	27.21	1.32	1.32	0.44	0.96
Karnataka	24.31	28.89	30.92	33.98	38.57	1.88	0.7	0.99	1.35
Kerala	16.24	18.74	26.39	25.97	47.72	1.54	4.08	-0.16	8.37
Madhya Pradesh	16.3	20.3	23.21	26.67	27.63	2.45	1.43	1.45	0.36
Maharashtra	31.17	35.03	38.69	42.4	45.23	1.24	1.04	0.96	0.66
Orissa	8.41	11.79	13.38	14.97	16.67	4.02	1.35	1.19	1.14
Punjab	23.73	27.68	29.55	33.95	37.49	1.66	0.68	1.49	1.04
Rajasthan	17.63	21.05	22.88	23.38	24.89	1.94	0.87	0.22	0.64
Tamil Nadu	30.26	32.95	34.15	43.86	48.45	0.89	0.36	2.84	1.05
Uttar Pradesh	14.02	17.95	19.84	21.02	22.28	2.8	1.05	1.98	0.6
West Bengal	24.75	26.47	27.48	28.03	31.89	0.69	0.38	0.2	1.38
INDIA	19.91	23.34	25.71	27.78	31.16	1.72	1.02	0.81	1.29

1.Including Jharkhand,
Source: Census of India, 1991, Series – 1, India, General population Tables, Part-II – A (i)
Census of India, Population Totals, Paper – 2 of 2001of states, Rural-urban Distribution
Census of India, Provisional Population Totals, Paper – 2 of 2011of states, Rural-urban Distribution.

STATE-WISE PATTERN AND TREND OF URBANISATION

The urban outlook of India cannot be understood properly without understanding the spatial dimension of urbanization and urban growth. Table 2 provides trend in the level of urbanization during 1971-2011 for seventeen major states of India. Till 1991 Maharastra was the most urbanized state of India, followed by Gujarat and Tamil Nadu. 2001 census data with respect to level of urbanization shows Tamil Nadu to be most urbanized and Himachal Pradesh least urbanized with only 10 per cent of its population living in urban areas. In the subsequent census of 2011, the census data shows again Tamil Nadu to be most urbanized followed by Kerala, Maharastra and Gujarat. The people living in urban area in Tamil Nadu are 48.45 percent followed by Kerala 47.72 per cent and Maharastra 45.23 per cent. Kerala achieved exceptional results where the rate of urbanization became more than doubled (4.08 percent in 1981 to 8.37 per cent in 2011). The reason is due to high literacy rate people mostly work in manufacturing and service sector and some of the area come under the classification of urban area where 75 per cent male workforce are engaged in non agricultural work according to the new definition of census. In both the census Tamil Nadu has emerged as the state with highest level of urbanization mainly due to a change in definition when following the Nagarpalika act of 1994 all 611 town Panchayats were brought under the statutory towns. Regional pattern of urbanization shows western and southern states remained more urbanized than northern, central and eastern states due to spatial diversity in agriculture and Industrial development. Thus with few exceptions the regional pattern of urbanization has remained quite stable over the past 40 years. All the four southern states i.e., Tamil Nadu, Kerala Karnataka and Andhra Pradesh and two western states Gujarat and Maharashtra generally had the level of urbanization higher than the national average whereas in northern states only Punjab and in eastern states only West Bengal have that distinction. There is no consistent trend in the state wise data in the rate of urbanization during last four decades. However with the exception of few states like Andhra Pradesh, Gujarat, Kerala and West Bengal the rate of urbanization declined significantly during the last decade. During 1991-2001, Tamil Nadu has experienced the highest rate of urbanization (2.8 percent per annum) because of the administrative declaration of a large number of rural settlements as urban in 2001. The same is true for Kerala in 2011.

Since rate of urbanization does not say anything about the level of urban or rural population growth rates, in Table 3 average annual growth rate of urban and rural population and urban rural growth differentials are presented for 1971-81, 1981-91 and1991-2001 periods. It shows that the average annual growth rate of rural population has remained more or less stable during the period 1971-2001. The table shows in general economically developed states have registered lower urban growth rates compared to economically backward states with low and moderate levels of urbanization during 1971 to 2001with few exceptions like Haryana and Karnataka. It is interesting to note that in the states like Gujarat, Kerala and most backward states have also experienced higher growth rate of rural population mostly due to higher natural increase rates. The growth rate differentials between rural urban populations across the states also do not show any consistent pattern over the three decades. At the national level there is a steady decline in the urban rural growth differential from 2.05 in 1971-81 to 1 percent in 2001.

Table 3
Average Annual Growth Rate of Urban and Rural Population and Urban Rural Growth Differentials (URGD) in the Major States of India, 1971-2001

Country/ States	Rural			Urban			URGD		
	1971-81	1981-91	1991-2001	1971-81	1981-91	1991-2001	1971-81	1981-91	1991-2001
Andhra Pradesh	1.57	1.84	1.36	3.96	4.32	1.46	2.39	2.48	0.1
Assam	2	2.26	1.67	3.27	3.96	3.62	1.27	1.7	1.95
Bihar	1.88	2.26	2.13	4.37	3.02	2.55	2.49	0.76	0.42
Gujarat	2.01	1.52	1.71	3.47	3.44	3.27	1.46	1.92	1.56
Haryana	2	2.29	2.06	4.67	4.34	5.08	2.67	2.05	3.02
Himachal Pradesh	2.06	1.94	1.61	2.98	3.78	3.24	0.92	1.84	1.63
Jammu & Kashmir	-	2.44	2.87	-	4.59	3.62	-	2.15	0.75
Karnataka	1.75	1.77	1.21	4.1	2.96	2.89	2.35	1.19	1.68
Kerala	1.46	0.36	1.01	3.19	6.1	0.76	1.73	5.74	0.25
Madhya Pradesh	1.76	2.24	1.82	4.45	4.39	2.79	2.69	2.15	0.97
Maharashtra	1.62	1.87	1.52	3.36	3.89	3.13	1.74	2.02	1.61
Orissa	1.46	1.79	1.38	5.22	3.62	2.98	3.76	1.83	1.6
Punjab	1.61	1.77	1.23	3.68	2.9	3.76	2.07	1.13	2.53
Rajasthan	2.43	2.55	2.75	4.62	3.96	3.12	2.19	1.41	0.37
Tamil Nadu	1.22	1.33	-0.52	2.47	1.96	4.28	1.25	0.63	4.8
Uttar Pradesh	1.8	2.26	2.13	4.74	3.87	2.82	2.94	1.61	0.69
West Bengal	1.85	2.3	1.69	2.76	2.95	2.02	0.91	0.65	0.33
INDIA	1.78	1.8	1.7	3.83	3.09	2.7	2.05	1.29	1

Source : calculated from Census of India, 1991, Series – 1, India, General population Tables, Part-II – A(i) and Census of India, Provisional Population Totals, Paper – 2 of 2001of states , Rural-urban Distribution

The above analysis suggests that India has already passed the phase of rapid urban growth. Tamil Nadu is the first state to experience a negative rural growth rate during 1991-2001.

As several studies show that urbanization and economic development have long been regarded as inter-connected processes (Daniel Lo 2010, Hughes and Cain, 2003,Abdel Rahman et.al,2006) in the next part the relationship between Economic Growth and Urbanisation is analysed with the help of a regression analysis.

RELATIONSHIP BETWEEN ECONOMIC GROWTH AND URBANISATION

Although urbanization causes a multitude of practical problems in development, there has been very little research on the relations between development and urbanization. As economic growth is an indicator of development, in this analysis the Gross Domestic Product is taken as a variable to measure it. From different literature (Daniel Lo 2010, Hughes and Cain, 2003) it has been found that urbanization and economic growth affect each other simultaneously over time. To verify it a regression analysis has been done. To study the relationship between economic growth and urbanization two variables are taken, i.e., state gross domestic product (SGDP) and rate of urbanization. Economic growth is measured by the Gross State Domestic Product at constant (1999-2000) prices (calculated from CSO data) Urbanisation is measured by the rate of urbanization (calculated from census India). Regression analysis has been carried out by taking both the variables as independent and dependent variable. Table 4a shows the effect of economic growth on urbanization.

REGRESSION RESULTS

Table 4a
Effect of State gross domestic product SGDP on Urbanisation

Dependent Variable	Urbanisation		
Independent Variable	1980	1990	2000
Constant	-123.498** (43.83)	-147.35*** (42.16)	-161.25*** (69.63)
Log SGDP	18.003*** (5.34)	19.438*** (4.71)	20.90** (7.58)
No. of Observations	17	17	11
Adjusted R^2	0 .39	0.50	0.39
F Statistic	11.53	17.00	7.60
Prob(F-Statistic)	0.0042	0.0009	0.022

Note: Figures in the parentheses indicate standard error of the estimated co-efficient.
** Significant at 5% level of significance
*** Significant at 1% level of significance

In the first regression state gross domestic product i.e., log (SGDP) is taken as independent variable and rate of urbanization is taken as dependent variable. The result shows that there is positive relationship between the variables. The figure shows that as SGDP increases the rate of urbanization also increases. That is 1 per cent increase in state GDP leads to 18 per cent, 19.45 per cent and 21 per cent growth in urbanization in the 80's, 90's and in 2000 respectively. Thus the result shows that a small increase in GDP affected the urbanization process in a positive manner and it is increasing steadily over three decades time period.

In the second regression, rate of urbanization is taken as independent variable and State GDP as dependent variable. Table 4b shows the effect of urbanization on State gross domestic product.

Table 4b
Effect of Urbanisation on State gross domestic product SGDP

Dependent Variable	Log SGDP		
Independent Variable	1980	1990	2000
Constant	7.62*** (0.181)	8.21*** (0.186)	8.5066 *** (0.262)
Urbanisation	0.024*** (0.007)	0.027*** (0.006)	0.022** (0.007)
No. of Observations	17	17	11
Adjusted R^2	0 .39	0.50	0.39
F Statistic	11.53	17.00	7.60
Prob(F-Statistic)	0.0042	0.0009	0.022

Figures in the parentheses indicate standard error of the estimated co-efficient.
** Significant at 5% level of significance
*** Significant at 1% level of significance

The result shows that there is positive relation between the two variables. The figure implies that as urbanization increases the state GDP also increases. That is 1 per cent growth in urbanization leads to an almost consistent growth in State GDP i.e., 2.4 per cent, 2.7 and 2.2 per cent in 1980's, 1990's and 2000's respectively. That is the impact of urbanization on economic growth is comparatively less than the impact of GDP on urbanization, but both are stimulating each other.

Thus it can be inferred from the above regressions that in both the cases the variables (urbanisation and economic growth) are positively related and affect each other simultaneously over a time period. That is, if one variable increases the other also increases. But the impact of increase in State GDP on urbanisation is stronger over the time period. While creation of more urbanization may lead to economic growth and thereby affect development process, it can be accelerated more when the state GDP increases. So if a country wants more economic development then it must increases the GDP due to which urbanization grows and along with brings all the facilities like industrialization, employment, water supply and sanitation. Again when urbanization grows GDP is also positively affected. Thus both are self propelling after a certain level.

The Adjusted R^2 values in both the equations indicate that the dependent variable is explained by the independent variable up to 50 per cent as only one variable is taken. The dependent variable will be explained more by the independent variables if more variables have been taken such as per capita income, literacy rate, percentage of

workforce in non-agricultural sector, nature of technology etc.(Daniel Lo, 2010,Bhagat R. B.2001,Leaf, 2002)

Apart from economic growth there are many other factors that affect the urbanization process in any country. The factors so far responsible for urbanization from different studies are presented below.

FACTORS RESPONSIBLE FOR URBANISATION

From our analysis it is clear that there exists positive relationship between economic growth and urbanisation and economic growth is one of the factors affecting urbanisation in a significant way. Economic growth facilitates urbanisation through structural changes and spread effect. From several literatures it has been found that besides economic growth there are other factors responsible for urbanisation process.
The latest study reviewed is that of Daniel Lo (2010) who tried to establish a causal link between urbanisation and economic growth. According to him the causal relationship between the two variables is dependent on the economic development status of a nation. His study suggests that urbanisation leads to economic growth in developing countries while in developed country it is just the reverse. He is of opinion that economic growth accelerated when a country moves from labour intensive to capital or technology intensive production and thereby urbanised.

Foreign direct investment and inflow of foreign capital can transform a rural economy into urban industrial economy (Sit and Yang,1997). In another study it has been observed that rising incomes due to economic reforms are instrumental in bringing economic growth and ultimately the process of urbanisation (Leaf, 2002).

Globalisation helps to relocated the production and capital investments in developing countries therby increasing the economic growth and urbanisation. (Shumway and Otterstron,2001).
Globalisation may affect the pattern of urbanisation in developed or developing countries differently, but the later (urbanisation) is affected by some other underlying factors like advances in telecommunications, transportation and production technologies (Mieszkowski and Mills,1993; Irwin and Bockstael,2004).

In another study by Fulton et al.(2001) came up with an interesting results that though mostly urbanisation is the result of economic growth, but the former also occurs in the absence of economic growth. According to him despite little or no population growth many metropolitan areas of US is still urbanising. In this case urbanisation occur independent of regional economic growth.
Observation by some scholar shows that in developing countries like sub-Saharan Africa development has occurred to a large extent independent of economic development. Evidence indicates that the process of urbanisation in sub Saharan African cities is mainly residential rather than production based and is driven by indigenous investment and migrants remittances.(Briggs and Yeboah, 2001).

Thus from the above studies it can be inferred that, there are some other factors responsible for urbanisation except economic growth. They are changes in technologies, globalisation and transportation along with opportunities available in urban areas.

In India as evident from the census data rural to urban migration has not been a very important factor in India's urban growth in the past three and its share in urban population growth almost remain constant. The process of reclassification of rural settlements in the category of urban has also slowed down. Thus it seems that the level of urban population growth rate has remained tied up with the level of natural growth rate of urban population. But the rate of natural growth in urban population has declined from 1.97 per cent per annum during 1971-81 to 1.44 during 1991-2001. So it is expected that the overall urban growth rate may decline further in the coming decades unless there is an increase in the net rural to urban migration or faster reclassification of rural settlements into urban category.

CONCLUSION

In the conclusion it may be inferred that economic development has resulted in population growth, improves peoples standard of living and improvement in the peoples standard of living due to economic growth has positive impact on urbanisation which has been proved in our analysis. The vice versa is also true though the impact is less in the present analysis. On the other hand, population growth makes the urban infrastructure overloaded and is one of the main limitations for long term economic development. Appropriate development policies are, therefore necessary for urbanizing areas. It is necessary to limit economic development which causes environmental degradation.

While a variety of factors influence economic growth, a commonly held view is that it results from productivity gains due to technological innovations and investments in human capital. Endogenous growth theory (e.g., Romer, 1986; Lucas, 1988) argues that the accumulation of knowledge is the key determinant of economic growth and that knowledge spillover, e.g., in the form of information exchange among firms, create positive externalities that generate growth among all firms. Because such spillovers (or more generally, agglomeration economies) are often a function of spatial proximity, the geographic distribution of firms influences economic growth. Likewise, negative spillovers from urbanization, including congestion and high land rents, may deter firms from locating in larger cities and thus have a dampening effect on economic growth in these places. As in our analysis the growth in State Gross Domestic Product has significant impact in the rate of urbanisation our planners must emphasize on achieving higher growth rate for our country. Simultaneously, it is also proved that by more urbanisation a country can also achieve economic growth. Thus, from this point of view a country can give importance to increase the rate of urbanisation in order to achieve economic growth which would accelerate the development process.

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MOTHER'S EDUCATION AND SPENDING FOR CHILDREN'S EDUCATION: A MICRO STUDY

Maniklal Adhikary* and Papita Dutta**

Abstract
Mother's education contributes to children's welfare in general and children's education in particular. But it is difficult to measure the contribution of mother's education on children's welfare. This study has investigated the impact of mother's education along with her personal and household characteristics on the expenditure for primary education (up to class-IV) of children. Our investigation has been carried out on the basis of a set of primary data collected from 124 households residing at rural area of Bankura district, West Bengal. Our empirical study reveals that mother's education level reduces the spending for children's education, whereas father's education has come out insignificant. This result is likely to be the consequence of government intervention in primary education. Monthly per capita household income and spending on children's education have been found to be positive and significant. Households belonging to scheduled castes in contrast to general castes spend less for children's education. Besides, occupation and self-help-group membership of mother appeared to be significant for children educational expenditure.
Keywords*: Children's Educational Expenditure, Primary Education, Mother's Education*

JEL Classification: D10, R58

INTRODUCTION

Productive human capital is essential for economic development. Developing countries have emphasized on human development which includes the aspects of education, health and nutrition of the common people etc. A person with qualitative primary education has every possibility to be effective human capital. A qualitative childhood comprises of physical, cognitive and mental development. No body would deny that major part of these developments depend on quality of mother and social environment. Conventionally women in India are engaged in unpaid household job including the nurturing and teaching of their children. But these household jobs remain invisible in accounting GDP. In India women account for 60% of unpaid households workers and 98% of those, engaged in domestic work (Acharya, et al. 2005). That means women's contribution in human capital formation does not get the credit it deserves. It indicates that women population is neglected in mainstream developmental process.

*Professor of Economics, Burdwan University, West Bengal
**Assistant Professor of Economics, Guskara Mahavidyalaya, West Bengal

Women play important role in family welfare and social welfare which is necessary for economic development. The UNDP Human Development Report, 1995 has highlighted 'Human Development if not Engendered is Endangered'. So we need to include the women in mainstream development process facilitating comprehensive education, health, participations in active polities, controlled and accessed over resources etc. Once women have access to these facilities they can earn and thereby contribute to family income and broadly national income. It increases women's dignity, potentiality, self-reliance and self-consciousness. These impacts are nothing but women's self-improvement. It is not the end of the story; once women improve their own status in society, they contribute society by increased child education, improved sanitation, and cultural improvement etc. Conscious mothers always desire that their children should be educated. Education is the main gateway to create knowledge, skill, and efficiency of a person. Women's education not only improve their own capability but also improves the quality of children and as well as nations. Children's educational expenditure is likely to be affected by mother's education. With this end in view, this study seeks to examine the effect of mother's education on the spending for children's education.

LITERATURE REVIEW AND OBJECTIVES

Several studies have tried to explain the contribution of women to investment and income generation, to child welfare, broadly, to social welfare. In the context of this study we have cited a few of them. In an exhaustive empirical study in Bangladesh Pitt, et al (1998) has revealed that women's participation in credit program increases their non-land assets value and participation in labour force. This study has shown that credit to women not to men in each microcredit program in Bangladesh has some favourable impact on boy's school enrolments. Only the Grameen bank, which is successful to increase the school enrolment of boys' and girls' through extending credit to women. Analyzing the data from Bangladesh, Indonesia, Ethiopia and South Africa Quisumbing, et al. (1999) have studied the impact of women's assets at marriage on expenditure shares of food, education, health, children's clothing alcohol/tobacco use and child schooling. This study has reported that more the resource controlled by women increases the share of expenditure on child education, but not equally for boys' and girls' across the surveyed countries. Quisumbing, et al. (2000) has also conducted a case study in Bangladesh exclusively to estimate the impact of wife's and husband's assets at marriage and current assets on expenditure shares of food, clothing and children's education. This study reveals that wife's assets have some positive effect on the share of expenditure on children's clothing and education. Reddy (2002) has reported that the organization of women's SHG improves the literacy rate and health of the child. According to Lillykutty (2003) education enhance women's status in the society and leads to greater inputs in family and community decision. It makes people conscious about health, nutrition, sanitation and environment. Schaedel, et al. (2007) has discussed the role of mother's empowerment in advancing the education of their children under the School Family Partnership program (SFP) in Israel. This study has found that the mother's involvement and familiarity with the SFP program is suitable for student's achievement. However, her education is not so important for her ward's achievement. In a study conducted in Bankura district, West Bengal, Adhikary, et al. (2011) has shown that participation in

SHG increases the household expenditure on education. Adhikary, et al. (2011) has found that education is an important factor for enhancing women's empowerment in Burdwan district, West Bengal. Empowered mother are ready to spend more for children's education. Therefore, women's economic empowerment and participation in different socio economic developmental programs are increasing the spending for children's education. However, these studies do not depict the clear picture of the impact of mother's education on spending for children's education in rural India.

Under this backdrop, we have set two objectives. First, we have explained the nature of education of the rural women in the district of Bankura, West Bengal. Second objective of this study is to examine and analyse the role of mother's education along with her some personal and household characteristics on children's educational expenditure.

FACTORS AFFECTING THE SPENDING FOR CHILDREN'S EDUCATION

The educational expenditure for children in a family is one of the major indicators of the family's development. It is expected that the development of the family increases the expenditure for children's education. Current spending for children's education absolutely augments the future development of the family. That means there is two-way relationship between educational expenditure and development of family. A country cannot achieve the goal of advancement in education if it bypasses primary education. Primary education is the base of higher education. This study has planned to identify the nature of spending for children's primary education. We have considered those children who are studying in primary school. Bankura is one of the backward districts of west Bengal. As per West Bengal Human Development Report, 2004, educational index for this district is 0.62 where as in West Bengal it is 0.69. Literacy rate is also low in this district compared to the state. Basically the district of bankura is rural and inhabitance of poor people. During the course of field survey we have observed that most of the children have to engage in job for earning their livelihood amenities. Against this backdrop, many students could not complete their primary education which results in high dropout rate in the area under study. To increase the level of education index India has emphasized on primary education. In this area educational infrastructure is provided by the government, there is no private educational institution. Primary education has been made compulsory and free by the government of India for all the children. For reducing dropout rate government has also ensured free mid-day meal for the school children up to eighth class. Despite the fact that government has taken these steps to ensure primary education, parents have to spend some money for their children education. Most of the cases infrastructures of schools are far below the expected level. As for examples high Pupil-teacher ratio, inadequacy of class rooms, noisy and overcrowded class room, distance of school etc becomes hindrance for providing education. In this situation parents have to depend on alternative arrangement such as private coaching. In our study the expenditure for education implies the cost of private tuition and cost of purchasing stationeries for educational purpose. In poor families there is some opportunity cost of sending their children to educational institution, because these children can earn some money by engaging them as wage labour rather than studying. For the sake of simplicity, in our study the opportunity cost of taking education has not been considered. It should be

noted that this study has considered the spending for children's education up to primary level only. We have taken monthly educational expenditure per children (PEREDUX) of a family as dependent variable in our regression model. It is computed by dividing the total monthly education expenditure of a family for the children of age 5-10 years by the number of children of the family of this age group. It is a quantitative variable and measured in term of rupee as unit.

Education Level of Mother (EDUMO): The examination of the impact of mother's education on children educational expenditure is our prime objective. In this study mother's education has been considered as the main determinant of children educational expenditure. Education level of mother is a crucial factor in determining the education level of children. An educated mother wants her children to be educated. Educated mother is a cognizant mother. She understands how education can help her children in building his/her future. She is ready to pay more for her children education. In our study educational expenditure for children takes into account of the expenditure on private tuition and cost of purchasing educational kits. The children of an educated mother do not need to take private tuition because the mother can teach her children by her own. Hence, educated mother compared to uneducated mother incurs lower cost of education for their children's primary education. So our main hypothesis is that the higher the education level of mother the lower is the expenditure for children's primary education. This study has treated the education level of mother as a quantitative variable. We have measured it by the numbers of years attaining formal educational institutions. In addition to mother's education we have considered some other personal and household traits as determinants of educational expenditure for children. Now we define them and discuss their nexus with the children's educational expenditure.

Father's Education (EDUFA): we are interested to examine the impact of father's education level on spending for children education. Usually, in rural poor households male persons work whole day in farm of off-farm occupation for earning the household livelihood. In this situation in spite of his willingness an educated father could not spend time for guiding his children to learn. Father wants to spend more for their children and his education increases the willingness to make their children educated. It is expected that the higher the level of education of father higher will be the expenditure for education of children. The level of education of father of the children is a quantitative variable measured by the numbers of years attending educational institution. We have asked educational qualification of father of the concerned children and have included how many years he attended the school or college. Finally, the number of years completing in the formal educational institution has been considered for measuring the father's education.

Per capita monthly Household Income (PCMIN): Any kind of expenditure absolutely depends on income. Expenditure for children education depends on household income. Usually, the more the income the greater is the possibility of spending for children education. To examine the expected relation we have considered the per capita household income as determinant of the children educational expenditure. In the course of field survey we have found that respondents are not smart enough to tell the annual household income, rather they tell the expenditure on different heads and occasions. Based on this information we have computed total annual expenditure and savings if any. The total of

expenditure and current savings has been considered as proxy for annual income. Dividing the total income by family size we have computed the per capita household income. Finally, the division of the per capita annual household income by 12 gives per capita monthly household income.

Occupational Status of Mother (OCCUP): Occupation is that work in which an individual spends the most of the hours of a day in general. It is fact that earning of person closely related with her occupation. Nature of the occupation determines the degree of freedom to spend for children. It is expected that if the mother is engaged in organized manufacturing sector or service sector she spend more for children's education. In our study area not a single woman is engaged in these two sectors. We have divided the occupation of the mother into two categories namely, Farming and Off-farming. Farming occupation includes all kinds of works of agricultural and allied sector. Off-farm occupation includes all the works of unorganized non-agricultural sector. Occupational status is considered as a dichotomous variable indicating the occupational status of the individuals farming or off farming. We have OCCUP = 1, if the mother is involved in farm activity and 0, otherwise.

Membership of Self-Help Group (SHGM): Formation of Self-Help Group (SHG) in the grass root level is a contemporary issue to the social planners for improving the socio-economic status of women. The SHGs are the organizations of rural poor particularly of women who make small recurrent savings and take credit from the group for income generating activities and consumption. Various recent studies relating to women's empowerment suggest that membership of SHG has positive influence on women's empowerment. Being a member of SHG a woman can get financial support through the micro credit package. It improves the literacy, leadership power and decision-making power in familial and social fields among the members (Reddy, 2002). It organizes meeting at regular interval about health, hygiene, and education etc. It makes woman conscious about good health, hygiene and necessity of education. So member of SHG are ready to spend more on their children education. Therefore, it is expected that the SHG membership of mother have a positive impact on the children's education expenditure. To measure it we scale it in such a manner that if she is a member of SHG then it takes value 1 otherwise 0. So the membership of SHG is a dummy variable.

Type of Family (FTYPE): Type of family is a one of the traditional determinants of education expenditure. In study we consider two types of family – nuclear and joint. In nuclear family mother has freedom in taking decision about her children. Nuclear family is a small by size. This type of family can expend more on education for their children. In general we can expect that in nuclear family education expenditure per family is higher than joint family. We take the type of family as a dichotomous variable taking value 1 when the mother belongs to nuclear family and 0 otherwise. Therefore type family is taken as dummy variable in our study to compare the influence of type of family on the education expenditure of children.

Caste of Mother (SCASTE): we all know that the general caste women are more advances in various dimension of economic development relative to non-general women. In our study area most of the family belongs to scheduled caste category. Generally scheduled caste family is resource poor; they are generally marginal farmer or wage labour. They

are forced to employ their children in their own land or household job or as wage labour. It is expected that the scheduled caste women are more eager to employ their children as supportive earning member of the family in remunerative jobs than to send them school. In our study we scale the caste of the family in such a manner that the family, which belongs to schedule caste, takes value 1 and 0 for other castes. So, caste is considered as a dummy variable to study the impact of caste on the educational expenditure of the children.

Therefore, educational expenditure for children = *f* (education of the mother, father's education, per capita monthly household income, SHG membership, type of the family, caste, and occupation of mother). We cannot say that these are the only factors that have an effect on the educational expenditure of the children. There are many other factors that influence this expenditure. Apart from the educational attainment of mother and father, educational background of the family, region where the children live, religion of family, distance from educational institution etc also affect it. But due to limitation of scope we take only above stated seven factors as determinants of per children educational expenditure.

DATA AND METHODOLOGY

Statistics of several development indices of india in general and of bankura district in particular like literacy rate, enrollments in educational institutions, participations in active polities, controlled and accessed over resources etc. have focused that women are far below their men counterpart. In Bankura district the value of HDI is only 0.52 whereas in west Bengal as a whole it is 0.61. The value of GDI is 0.494 in this district which has occupied 10th position in West Bengal. Therefore the district of Bankura is one of the backward districts in West Bengal. Our main purpose is to evaluate the impact of mother's education on children's education of a backward region. So the selection of Bankura district is justified. In order to carry out this study we have collected a set of primary data during 2011. The condition of women and children is not satisfactory. This study covers 5 remote villages where we have randomly interviewed 124 women having children of age 5-10 years for required information. Hence this empirical study is based on a sample size of 124. The required information is collected through personal interview and observation.

In this study we have planed to estimate a linear regression model for analyzing the impact of mother's education along with some other factors, which are mentioned above, on the expenditure of child education.

RESULTS AND DISCUSSIONS

Table-1 presents the descriptive statistics for the quantitative variables in this study. Average women do not complete primary education. The sample women have studied in formal educational institutions only for 3.23 years in average. In average every household wants to spend ₹104.35 per month per child. It is not a poor amount but there is wide dispersion in this amount. The average per capita monthly income is ₹535. Fathers have

attended the formal educational institution only 4.18 years in average. This implies that educational background of family is very poor.

Table-1
Descriptive Statistics of the quantitative Variables

	PCMIN	EDUFA	EDUMO	PEREDUX
Mean	535.1963	4.18	3.23	104.35
Median	447.2222	4.00	0.00	75.50
Std. Dev.	302.69887	4.179	4.056	96.103
Skewness	1.320	0.672	0.941	2.378
Kurtosis	1.274	-0.527	-0.065	6.662
C V	56.55	99.976	125.573	92.097
Minimum	85.42	0	0	3
Maximum	1527.78	15	17	560

Source: Authors' computation

Table-2 shows that 51% of respondents are engaged in firm activity for earning their livelihood. A large number, nearly 62%, of sample households belong to scheduled caste community. Among the respondents 60% belongs to nuclear family. In this study major portion, nearly 75%, of the sample members are member of self-help groups.

Table-2
Descriptive Statistics of the Qualitative Variables

Categorical Variable	Percentage distribution	
	1	0
Occupation	51	49
Scheduled Caste	62	38
Family Type	60	40
Membership of SHG	75	25

Source: Authors' computation

Table-3 presents the educational status of the sample mothers. It shows that more than half of mothers have no formal education at all. Nearly 55% of sample mothers remain out of reach of formal education. Only 45% (65) of the respondents entered into the formal educational institutions. Of them 19 respondents discontinued their education in primary level, yet from the data yet we see the 26.62% of the total sample member is able to get secondary education. At the higher secondary and higher education level this

number is negligible. Only 1.61% has education level up to higher secondary level. Very negligible percentage, only 0.80% has Graduate level education and more than graduate level education. This analysis reveals that most of the women (mother) are beyond the reach of the formal education i.e. they are illiterate. As they have no education they take others' help to teach their children.

Table-3
Mother's Accessibility to Education (N=124)

Level of Education	Cumulative Number	Number	%
No Schooling	124	68	54.84
Primary education (1-5 years of schooling)	56	19	15.33
Secondary Education (6-10 years of schooling)	37	33	26.62
Higher Secondary Education (11-12 years of schooling)	4	2	1.61
Graduate (13-15 years in educational institution)	2	1	0.80
Above Graduate (more than 15 years in educational institution)	1	1	0.80
Total		124	100

Source: Authors' computation

Table-4 presents the results of the empirical estimates of the regression model. Value of F statistic and Durbin-Watson's statistic justify that our model is properly specified. We, now, analyze the statistical findings in a systematic way. We get a very surprising result about the impact of mother's education level on the educational expenditure per children in the family. With the increase in mother's education the educational expenditure per children in the family decreases significantly. With one-year increase in education level of mother the educational expenditure per children in the family decreases nearly by almost ₹7.00. We accept education level of mother as a determinant of women's empowerment at 2.6% level of significance. Yet this result is surprising, it is the reality of our society.

Table- 4.
Estimates of per Children Monthly Expenditure for Education

Dependent Variable: PEREDUX
Method: OLS method
Sample size: 124

Independent Variables	Coefficients	Std. Error	t Statistics	Sig.
CONSTANT	50.123	31.861	1.573	.118
EDUMO (Year)	-6.905	3.064	-2.253	.026
EDUFA (Year)	3.991	2.557	1.561	.121
FTYPE (1= Nuclear Family)	14.154	16.276	.870	.386
SCASTE (1= Scheduled Caste)	-81.910	19.622	-4.174	.000
SHGM (1= SHG Member)	59.816	19.063	3.138	.002
PCMIN (Re)	.066	.031	2.168	.032
OCCUP (1= Farming)	39.597	18.100	2.188	.031

Summary statistics			
R^2	Adjusted R^2	F-Statistics(Sig)	D-W d-statistic
0.232	0.186	5.007 (0.000)	1.947

Source: Authors' computation

In our society there is parallel system of private education vis-a-vis public education system. Parents cannot fully depend on public education system. In rural area student-teacher ratio is very high. Educational environment is not very much effective in rural for the students. So the mothers who are educated can teach their children by their own. But those who have not required education level have to depend on private tutor. In primary level there is no cost for studying in school. Hence the cost for private tuition is the main educational expenditure in rural area for primary education. We get a very surprising result about the impact of mother's education level on the educational expenditure per children in the family. With the increase in mother's education the educational expenditure per children in the family decreases significantly.

Per capita monthly income of the family is another important and significant determinant of children's education expenditure. This study shows that with the increase of monthly per capita income by ₹100.00, monthly education expenditure per children in a family increases by almost ₹7.00. This result is significant at 1% level. Higher income means higher freedom to spend. So with the increase in income it becomes easy for the family to spend more for children education.

Our study shows that the per capita education expenditure on child of a family is lower if mother belongs to schedule caste community. The per capita education expenditure in a scheduled-caste family is lower than that of other family by the amount of ₹81.91. This result is statistically significant at 1% level. In the costless public education system,

scheduled caste spends less for children education, not due to higher education level of the scheduled caste mothers, rather, due to less consciousness of these mother and income poverty of the households. These families are so poor that parents want their child should work as wage labour rather than going to school.

The membership of SHG has a positive and significant impact on per child educational expenditure in the family. The education expenditure per children in a family level is higher for a family where the mother of the children is the member of self-help group than the other family by the amount of ₹59.61. The SHG membership makes the mother more conscious regarding their child education and public education system. It also has some income generating impact on women. Most of the mothers are not happy with the quality of education in the public education system in the primary level. But due to low level of education they cannot teach their children of their own rather they are compelled to send their children to the private tuition. It raises the expenditure on child education.

This study also shows that if the mother farming sector then the family spends ₹39.60 more for the education of a child than other family where the mother works off-farming job.

However, this study has reported that education of the father is positive and significant at 12.1% level. Father's education is not as significant as mother's education. Actually in our study area the father's education and family type are immaterial in the determination of the educational expenditure per children in the family.

SUMMARY AND CONCLUSION

This study empirically shows that education of mother is an essential factor in the determination of educational expenditure for children in the district of Bankura. It is seen that educated mother compared to illiterate mothers spend less for their children. Another important problems related to child development is malnutrition. By taking the advantage of costless private education an educated mother can save some money which she can spend to increase the nutrition of children. They can easily guide their children and take the benefit of costless public education system. On the other hand households belonging to scheduled castes blindly depend on costless education system for their children. SHGs help the rural poor households in the district of Bankura to spend more for their children. Therefore, in order to improve the child education we need to create an environment that educates women. This study reveals that to take the full benefit of the costless education mother has to be educated. Therefore, government and NGOs should take necessary steps or training camps to educate mothers. Finally, we have to inspire the rural poor women to participate in SHG that help them undertake income generating activities and thereby spend more for their children.

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DETERMINANTS OF JOB SATISFACTION: A STUDY OF TEACHERS WORKING IN UN-AIDED PUBLIC SCHOOLS IN PUNJAB

Tripta Kaur Grewal* and **A.S. Sidhu****

Abstract

Job satisfaction is a multi-dimensional activity which affects all aspects of human life. A person, with high level of satisfaction has more positive attitude towards himself and others in the society. This attitude is influenced by various variables. The present paper is an attempt to identify the factors, which influence the level of job satisfaction amongst the teachers. A total of 300 teachers of different grades i.e. Primary Teachers (PRT), Trained Graduate Teachers (TGT) and Post-Graduate Teachers (PGT) were randomly selected from different schools representing three regions of Punjab i.e. Majha, Doaba and Malwa. The study has found that majority of the teachers in the schools were females, belonged to upper caste and lived in nuclear families .The study also found that though B.Ed. is compulsory for the teachers in the schools but nearly 25% of them were non B.Ed. The study also revealed that designation has a close relationship with the level of job satisfaction of the teachers. As they move to the higher grade their dissatisfaction increases but their level of satisfaction increases with the length of service.

***Key words**: Job satisfaction, positive attitude.*

JEL Classification A29, J28

INTRODUCTION

Education plays an important role in transforming the society. It requires high quality education having focus on making good human beings. However, a quality education cannot be provided without committed and dedicated teachers, particularly at school level. This is the reason that now a days; it has been observed that the teachers are under tremendous pressure to deliver quality education to the students. The recent enactment of RTE Act in the country has further increased the responsibility of the teachers. They are also expected to play a constructive role in the society to be role models for others. But it is only possible if they are satisfied with their job. The term Job Satisfaction which came into vogue in 1935 when Hoppock published his classic work, JOB SATISFACTION' in which job satisfaction is defined as, "any combination of psychological, physiological and environmental circumstances that cause a person truthfully, to say, 'I am satisfied with my job'.

*Ph.D Scholar,Department of Commerce and Business Management ,Guru Nanak Dev University ,Amritsar

** Professor, Department of Commerce and Business Management, Guru Nanak Dev University, Amritsar .

He mentioned the following major components of job satisfaction:

1. The facility with which he adjusts himself to other persons,
2. His relative status in the socio- economic group with which he identifies himself,
3. The nature of the work in relation to the abilities and interests of the employees,
4. Security,
5. Loyalty

Further, Gerhart (1987) is of the view that, 'Job satisfaction or dissatisfaction is the result of various attitudes the person holds towards his job related factors and towards life in general.' All emotional, logical and behavioural tendencies of the individual in relation to their work result in the person taking a negative or positive position. Besides, according to Kim and Loadman (1994), "Teachers' job satisfaction is an effective response to one's situation at work i.e. it refers to a teacher's effective relation to his/her teaching role." F. Herzberg (1959) in his two factor theory has explained that the job satisfiers are related to job content (Motivators) and job dissatisfiers are related to job context (Hygiene factors). The Motivators include factors like Responsibility, Recognition, Work itself, Advancement, etc. and Hygiene Factors include Policies, Salary, Supervision, Working conditions, etc.

The present study made an attempt to identify the variables which have association with the job satisfaction level of employees. The study is divided into four sections. Section I depicts the studies conducted on different aspects of job satisfaction, methodology and socio-economic profile of the respondents. The job related aspects of the respondents are covered in Section II. Whereas Section III deals with the factors which have association with the level of their job satisfaction and conclusions are presented in section IV.

REVIEW OF LITERATURE

The studies at various period of time has emphasized the different factors associated with job satisfaction. In this direction, Friedler (1964), is of the opinion that job content factors are more important for the feeling of job satisfaction, while context factors are of minor importance. Armstrong (1971), further explained that, Job content factors such as feelings of achievement, use of abilities, challenging assignments, growth on the job and recognition are ranked among the most important for both job satisfaction and job dissatisfaction, regardless of the respondents' occupational level while on the other hand, job context factors like, employee benefits, effect of job on home life, merit increase, working conditions and the technical competence of the supervisors are the least important for both job satisfaction and job dissatisfaction. Some give more value to the income while the others to the job situation or the type of work as the predictor of job satisfaction. Khaleque and Choudhury (1984), perceived job satisfaction and dissatisfaction as a function of the perceived relationship between what one expects and obtains from one's job and how much importance or value he attributes to it.

Singh and Suri (1985) were of the opinion that job satisfaction among the women workers is based on motivation level of employees. Gerhart (1987), is of the view that, 'job satisfaction or dissatisfaction is the result of various attitudes, the person holds towards his job related factors and towards life in general'. Daftuar and Anjali (1997) in their work has examined the impact of occupational stress, organizational commitment

and job involvement and personality of lower and middle level managers working in electrical manufacturing company. They showed a positive relationship between the above mentioned variables and job satisfaction. Bhatt (1997) explored the level of job stress, job involvement and job satisfaction of male and female primary teachers in public and private schools. It was found that the level of job stress was higher among the public school teachers. Joshi (1998) in his study made a comparative analysis of level of job satisfaction and job involvement of private and public sector employees. The outcome of the study was that the public and private sector employees differ significantly in terms of job satisfaction and job involvement. Janseen (2000) studied 170 non-management employees from a Dutch industrial organization in the food sector. Results showed a positive relationship between job demands and innovative work behaviour when employees perceive effort-reward fairness. Bovier and Perneger (2003) studied doctors practicing in Geneva, Switzerland on predictors of work satisfaction. They discovered that, in general, physicians were more satisfied with the aspects of their current work situation, such as, patient care, professional relation, and personal reward (intellectual stimulation, opportunities for continuing medical education, and enjoyment at work).. Chirayath (2006) analysed the relationship between organizational climate of schools and job satisfaction of teachers in Kerala. It was found that there is a close relationship between organizational climate and job satisfaction. Allam's (2007) work on bank employees showed that personnel accomplishment was found to be one of the important factors related to the job involvement among the bank managers. Sharma and Sharma (2007) investigated the determinants of job satisfaction. The 12 independent variables used in the study included 3 personal traits, 7 task characteristics and 2 dimensions of organizational climate. The results revealed that 4 out of 12 independent variables could explain only 29% of the total variance of job satisfaction. These 4 included 2 tasks related and 2 organizational related characteristics. Sen's (2008) work is related to a comparative study of the relationship between job satisfaction and job stress amongst teachers and managers in the National Capital Region. The study explained a possibility of negative relationship between job satisfaction and job stress among the managers. However in case of teachers, the greater the job satisfaction lowers would be the job stress. Sahoo and Sahu (2009), stated that in post Liberalisation, Privatisation and Globalisation era, employees in the organization are treated more than an "Employee". They further mentioned that Employee Engagement is a winning formula for making organizational excellence and human capital is the key asset if nurtured and developed appropriately. Pen-Yuan Liao (2011) in the study uses social exchange theory to develop a model of the processes linking work-family conflict to job attitudes. A sample of 236 employees in Taiwan's high technology industry was tested. It was found that the influences of work-family conflict on job satisfaction are both direct and indirect .This means that employees cannot be completely satisfied with their jobs if their organizations do their best to enhance the employees' perceived qualities of leader-member exchange and perceived organization support but do not put any effort into reducing the employees' work-family conflict. Corine Boon, (2011) in the study of 412 employees in two large organizations in Netherland- one in retail and one in health care, was done. It was found that HR practices help employees feel better and are able to meet the requirements of their jobs and feel that their needs are fulfilled by the job, which in turn enhances job satisfaction. The study shows a direct relationship as well as mediating and moderating role of person-organization and person-job fit in the relationship between perceived HR practices and employee job satisfaction.

The literature suggests that a number of studies have been conducted to identify the factors affecting job satisfaction. However, the studies pertaining to identification of determinants of job satisfaction of un-aided schools particularly in this part of region has not received much attention. The present study has been designed to fill that gap existing in the literature.

METHODOLOGY

Sample design

The study is based on primary sources mainly. The primary data was collected from the schools located in three regions i.e. Majha, Doaba and Malwa districts of Punjab. One district from each region namely, Amritsar, Jalandhar and Ludhiana respectively, was selected for the sample. The following categories of co-educational schools (both urban and rural) were covered under the study. These are-

1. Schools managed by D.A.V. Management 2. Schools managed by Chief Khalsa Dewan Committee 3. Christian Missionaries Schools 4. Others (Khalsa Public School, Springdale School etc.).

A sample of 300 teachers belonging to three different categories i.e. Primary Teachers (PRT), Trained Graduate Teachers (TGT), and Post- Graduate Teachers (PGT) was selected. Random sampling method was employed for the selection of the respondents in the selected schools. However, only 272 respondents' responses were taken for final analysis after the scrutiny of research schedule.

The data for the study was collected using a comprehensive research schedule which includes all important aspects of their socio-economic profile and job related variables. All the questions were close-ended. A survey was conducted to interview the respondents. A five point Likert scale was applied to assess the level of satisfaction of the teachers. On the basis of the responses on the five point Likert type scale, Weighted Average Score (WAS) was calculated. The weights assigned to five levels, namely, strongly agree to strongly disagree were 5, 4, 3, 2, and 1. Accordingly, weighted average scores were calculated on the different parameters to know the level of satisfaction and awareness among the teachers working in the sampled schools. In order to identify the factors which influence the level of satisfaction, cross tabulation analysis was applied and the value of contingency co-efficiency was used for identifying the variables which significantly influence the job satisfaction level of teachers.

Socio-Economic Profile of Sampled Teachers

The socio-economic profile of the teachers includes gender, age, caste, religion, education, marital status, family, place of living, etc.

The socio-economic profile of the sampled teachers shows that the majority of the teachers i.e. 209 (76.80%) were females while only 63(23.20%) were males. This finding is opposite to the general perception, that male dominate in all sectors of the economy. Further, the Table shows that the majority of the teachers i.e. 113 (41.50%) were in the age group of 31-40 yrs while 65 teachers (23.90%) each were in the age group of 20-30 yrs and 41-50 yrs of age group. The analysis further shows that only 29 teachers (10.70%) were falling in above 51yrs age category.

Table 1.1
Socio-Economic Profile of the Sampled Teachers

Variable		Frequency	Percentage
Gender	Male	63	23.20
	Female	209	76.80
Age	20-30	65	23.90
	31-40	113	41.50
	41-50	65	23.90
	Above 51	29	10.70
Caste-wise Distribution	Upper Castes	266	97.8
	Others	06	2.2
Religion-wise	Hindu	149	54.80
	Sikh	115	42.30
	Christian	08	02.90
	Muslim	--	--
Education-wise	Under Graduate	0 4	1.50
	Graduate	59	21.70
	Post-Graduate	190	69.85
	M Phil.	17	06.30
	PhD	02	00.70
Professional Qualifications-wise distribution	B.Ed Yes	196	72.10
	No	76	27.90
	M.Ed Yes	17	6.30
	No	225	93.70
Martial-Status wise	Married	237	87. 10
	Unmarried	29	10.70
	Others	06	02. 20
Type of Family	Nuclear	155	57.00
	Joint	108	39.70
	Others	09	03.30
Place of Resident-wise Distribution of Respondents	Village	36	13.20
	City below 1 lac. Population	30	11.10
	City above 1 lac Population	65	23.90
	City above 10 lac Population	141	51.80
Residential Status	Own House	218	80.10
	Rented	54	19.90
Type of House	More than 4 bedrooms	44	16.20
	3 to 4 bedrooms	104	38.20
	2 bedrooms	99	36.40
	2 rooms with kitchen	19	07.00
	2 rooms without kitchen	03	01.10
	1 room with kitchen	03	01.10

The data shows that the majority of the teachers were younger in age. Further the caste-wise distribution of sampled teachers clearly shows that the participation of the lower caste teachers particularly of the schedule castes and other backward castes is very low in private public schools or the schools managed by the religious/charitable organizations of Punjab. The foremost reason of it is that all these schools are controlled and managed by

the upper castes /classes and there is no reservation in the recruitment for the teachers belonging to these castes as in case of government schools. Besides, on the basis of religious background of the sampled teachers, the majority of the teachers were i.e. Hindus and Sikh as these are two major communities in the state. Though there are large number of Christian educational institutions in the state but, the majority of the teachers belong to either Hindu or Sikh religion. The absence of any Muslim teacher in these schools reflects the overall picture of the community' participation in the public school system as well as the exclusion of the community from one of the important sources of employment in the state. The Table further reveals that majority of teachers working in schools were with qualification of Graduate and Post Graduate. Moreover, the available data shows that 196 teachers (72.10%) had B.Ed. degree and 76 (27.9%) teachers were without B.Ed., in spite of the fact that B.Ed. is a pre-requisite condition for a teacher. Whereas, only 17 teachers (6.30%) were M.Ed. from the total sample. Further, the Table depicts that 237 teachers (87.10%) were married and 29 teachers (10.70%) were unmarried where as 6 teachers (2.20%) fall in the third category i.e. separated or divorcee. Also majority of the teachers lived in nuclear family structure. Moreover, the analysis reveals that 141 teachers (51.80%) out of 272 lived in cities with population more than 10 lacs i.e. Ludhiana, Amritsar and Jalandhar. 65 teachers (23.90%) lived in cities with population above 1 lacs i.e. semi-urban areas and only 36 teachers lived in villages. A close look at the table reveals that majority of the teachers were residing in cities .This may be due to the fact that majority of these schools are located in cities. Moreover, the better living conditions in the cities are continuously attracting people from rural areas as well. Furthermore, the present study reveals that 80.10% of the sampled teachers were living in their own house.

Additionally, in an attempt to see the type of house in which the teachers were living, Table exhibits that 104 teachers (38.20%) were living in a house with 3-4 bedrooms and 99 teachers (36.40%) had 2 bed rooms house. Only 44 teachers (16.20%) were found living in more than 4 bedrooms house.

JOB RELATED FACTORS

Designation Wise Description of Teachers

Table 2.1 explains that there are 3 designations of teachers in these schools i.e. Primary teachers (PRT), Trained graduate teachers (TGT) and Post graduate teachers (PGT). It is related to the level of salary they get and teaching of classes in the school. It shows that the largest category belongs to the TGT teachers i.e. 118 teachers (43.40%) followed by, 86 PGT (31.60%) and 68 PRT (25.0%). The description of data reflects the representation of all categories of teachers in the sample. However, majority of the teachers were from TGT and PGT, because they have more share in the total strength of the schools.

Table 2.1

Designation Wise Description of Teachers

Designation	Frequency	Percentage
PRT	68	25.00
TGT	118	43.40
PGT	86	31.60
Total	272	100.00

*Work Experience (Present Job) Wise Description of Teache*rs

Table 2.2 shows the work experience of the teachers at the present job. There is a close relationship between the work experience and level of satisfaction. 82 teachers (30.10%) fall in the category of up to 5 yrs. experience and 69 teachers (25.40%) have 6 to 10 yrs of experience. Only 31 teachers (11.40%) have more than 20 yrs. of experience. Further analysis may help us to understand the fact that which group of teachers has high level of satisfaction.

Table 2.2
Work Experience (Present job) wise Description of Teachers

Work Experience (years)	Frequency	Percentage
Up to 5	82	30.10
6 to 10	69	25.40
11 to15	54	19.90
16 to 20	36	13.20
Above 20	31	11.40
Total	27 2	100.00

Previous Job Experience Wise Description of Teachers

Table 2.3 depicts the mobility of the teachers from their previous work places i.e. they had shifted from one school to another. A total of 134 teachers had been working in some other schools before joining the present ones while 138 teachers did not change their schools. It shows that a large number of teachers frequently change their schools because of various reasons.

Table 2.3
Previous Job Experience Wise Description of Teachers

Change of School	Frequency	Percentage
Yes	134	49.30
No	138	50.70
Total	272	100.00

Reasons of Change of School Wise Description of Teachers

According to Table 2.4 there were two important reasons for the teachers to change the job i.e. permanent job and good salary.58 teachers(43.40%) changed because they got permanent job and 56 teachers (41.80%) for good salary. 9 teachers (6.70%) changed for getting promotion to a higher grade and 11 teachers (8.20%) had to shift because of marriage.

Table 2.4
Reasons of Change of School Wise Description of Teachers

Reasons	Frequency	Percentage
Permanent Job	58	43.30
Good Salary	56	41.80
Promotion	09	06.70
Marriage	11	08.20
Total	134	100.00

Ways of Getting Present Job wise Description of Teachers

Table 2.5 reveals that 244 teachers (89.70%) got the present job on merit basis. Only 22 teachers used some influence/connection to get the job. The results of the present study are opposite to the general perception that appointments are not made according to merit. The analysis reveals that majority of the teachers got their present appointments on the basis of merit.

Table 2.5
Means of Getting Present Job wise Description of Teachers

Means	Frequency	Percentage
Merit	244	89.70
Connection/Influence	22	8.10
No Response	06	2.20
Total	272	100

Promotion Wise Description of Teachers

Table 2.6 reveals that only 94 teachers (34.60%) were promoted from the lower to higher grades. There are three levels of teachers in these schools i.e. PRT, TGT and PGT. All these categories have different levels of qualifications. Unlike, Government schools there is no such promotion policy in these schools. The only available opportunity to get promotion is when a teacher with higher grade retires or leaves the school.

Table 2.6
Promotion Wise Description of Teachers

Promotion	Frequency	Percentage
Yes	94	34.60
No	178	65.40
Total	272	100

Basis of Promotion Wise Description of Teachers

According to the Table 2.7, 51 teachers (54.30%) had merit based promotion. 26 teachers (27.60%) were promoted on seniority basis. Only 6 teachers (6.40%) came in the category of others i.e. influence/recommendation.

Table 2.7
Basis of Promotion Wise Description of Teachers

Basis	Frequency	Percentage
Merit	51	54.30
Seniority	26	27.60
Both Merit and Seniority	11	11.70
Others	06	06.40
Total	94	100.00

PERCEPTION OF TEACHERS ON PERSONAL VALUES

An attempt has been made to know the opinion of the teachers on the personal values. To achieve this objective Weighted Average Score (WAS) was calculated. Table 3.1 reveals that the highest weighted average score i.e. 4.14 was of the statement (e) i.e. 'I manage to achieve my goals and plans for success' which means that the teachers under study are themselves confident and capable to achieve their respective goals. It was followed by statement (b) in which the role of money was found to be important to remain happy with job (WAS= 3.46). The WAS of 3.26 of statement (c) shows the spirit of competition among the teachers. Whereas, WAS of 2.74 and 2.43 on statements (d) and (e), respectively was found low, which implies that teachers do not want to indulge in activities which are not morally right and they remained in high spirits always.

Most of the teachers have disagreed or strongly disagreed with the statement that, 'Most decisions about my life are taken by others' (2.2), which reveals that education has made the teachers independent, to take decisions about their life. This shows the importance and relevance of education which makes particularly the fair sex more independent as large majority of the respondents (76.8%) were female.

Table 3.1
Perception on Personal values

No.	Statement	WAS
	I manage to achieve my goals and plans for success	4.14
	Money is very important to remain happy	3.46
	It is important to achieve more than the others	3.26
	Now a days one often has to do things which are not morally right	2.74
	I often feel lonely	2.43
	Most decisions about my life are taken by others	2.2

Level of Political and Social awareness

A set of six statements was taken to judge the level of political and social awareness among the teachers. Table 3.2 reveals the political and social awareness of the teachers. It was found that the highest weighted average score (4.42) was found on the statement that it is the citizens duty to vote during elections. Similar response was also found on the other two statements i.e. b and c. Moreover, response of teachers on role of political parties fall on the higher side as the value of WAS is higher. This shows that the teachers are well aware of the importance of the vote through which the governments are made. It also show that teachers have lukewarm response to participate in political activities as WAS of this variable was only (2.7). One of the reasons may be that there is absence of any teachers' unions in the sampled schools, except one school in Jalandhar. All these schools are unaided and managed by different management committees having their own rules and regulations and teachers /employees are always discouraged /checked to form any organization of the teachers.

Table 3.2
Level of Political and Social Awareness

No.	Statement	WAS
a.	It is citizens duty to vote during elections	4.42
b.	Politicians do not care about people	4.04
c.	In India power rests with few people	4.0
d.	Political parties are necessary in a democracy	3.91
e.	I find understanding politics too complicated	3.65
f.	I find politics interesting	2.7

Perception on Education, Health and Employment

The perception of teachers on the improvement of education, health and employment are presented in table 3.3.The analysis of data on the basis of five point Likert scale reveals that all these statements got high weighted average score. It implies that the teachers gave high importance to the provision of education, access to health services, guaranteed employment opportunities for the people for the achievement of higher level of development.

It shows that teachers are aware that a country can only develop with achievement of these three goals- Education, Health and Employment. The future of the country lies in having educated population, good health and security of employment as these three objects or goals would create a sense of belongingness among its citizens .The country like India having an asset of young population has the potential to become a

leading power in the world if it achieves these three goals. It shows the teachers of the sampled schools were well aware of the importance of access to these benefits.

Table 3.3
Perception about Employment, Education and Health

No.	Statement	WAS
	Providing good education	4.65
	Betterment of health services	4.58
	Guaranteeing employment for all	4.39

Perception on Job related issues

Table 3.4 shows the perception of sampled teachers about job related issues. Total ten issues were raised. It was found that highest WAS, was for the statement (a)- '(4.57) Work is worship', followed by statement(b)- 'Honesty is the best policy'(4.52). On the other hand lowest WAS (2.26), was found on the statement (j) 'Leisure is more important than work', followed by statement (i) (3.84). The overall analysis of Table 3.4 shows that the teachers were very concerned about the issues which can make their role as a teacher more meaningful in the society.

Table 3.4
Perception on Job related issues

No.	Statement	WAS
a.	Work is worship	4.57
b.	Honesty is the best policy	4.52
c.	I am as interested in quality of work as in quality of life	4.49
d.	Other things being equal permanent is better than temporary one	4.42
e.	In order to achieve something one has to sacrifice something	4.33
f.	I prefer work which is challenging and provides opportunities for personal growth and creativity	4.31
g.	Our accomplishments must be recognized by higher ups	4.21
h.	I wish to participate in decisions that affect my job	3.97
i.	One should know where one belongs and stick to his or her own place in the society	3.84
j.	Leisure is more important than work	2.26

Influence on Individual Decision making

The analysis of table 3.5 shows that teachers believe in secularism. They give less importance to the people belonging to their respective caste and religious groups

while taking decisions. This shows that the teachers have more faith and trust in their friends and colleagues in their respective schools while taking decisions.

Table 3.5
Influence on Decision Making

	No.	Statement	WAS
	a.	Your friends in the school	3.72
	b.	Your colleagues in the school	3.64
	c.	People from other caste and religion	2.81(both)
	d.	People from your own religion	2.68
	e.	People from your own caste	2.64

Perception about the Factors related to the Status

Table 3.6 reveals that for the teachers all the factors are almost equally important, but they have given more importance to better housing facilities where the WAS is 3.97, closely followed by *Izzat* and Job security with WAS of 3.96 and 3.93, respectively.

Table 3.6
Perception about factors related to Status

	No.	Factors	W.A.S.	
	a.	Housing facilities	3.97	
	b.	*Izzat*		3.96
	c.	Job security		3.93
	d.	Earnings	3.84	
	e.	Promotion opportunities	3.47	

ASSOCIATION BETWEEN LEVEL OF JOB SATSIFACTION AND SOCIO-ECONOMIC AND JOB RELATED FACTORS

Cross Tabulation technique has been used to study the association of independent variables with dependent variables.

LEVEL OF SATISFACTION AND GENDER

The relationship between the level of satisfaction of teachers and gender is presented in Table 4.1 .The respondents were divided into two categories i.e. Male and Female .It reveals that female teachers were more satisfied with job as compared to male teachers. However, the value of contingency coefficient comes out to be 0.037 and was found insignificant which implies that though female teachers have higher level of job satisfaction, the difference in the level was not significant statistically.

Table 4.1
Level of Satisfaction and Gender

Gender / Level Of Satisfaction	Male	Female	Column total
HIGH SATISFACTION	25	92	117
	21.4%	78.6%	100.0%
	39.7%	44.0%	43.0%
LOW SATISFACTION	38	117	155
	24.5%	75.5%	100.0%
	60.3%	56.0%	57.0%
ROW TOTAL	63	209	272
	23.2%	76.8%	100.0%
	100.0%	100.0%	100.0%

Contingency coefficient=0.037 Significance Level=0.542
(Bold Figures Represent Column Percentages and Others Are Row Percentages for All The Tables From 4.1 to 4.13

LEVEL OF SATISFACTION AND AGE

The relationship between level of satisfaction and age is presented in Table 4.2. The teachers on the basis of their age group were divided into 4 categories. The analysis of data reveals that the level of satisfaction among the teachers increases with the increase of their age. The value of contingency coefficient is 0.124 and is insignificant.

Table 4.2
Level of Satisfaction and Age

Age / Level of satisfaction/	20-30	31-40	41-50	Above 51	Column Total
HIGH SATISFACTION	24	45	32	16	117
	20.5%	38.5%	27.4%	13.7%	100.0%
	36.9%	39.8%	49.2%	55.2%	43.0%
LOW SATISFACTION	41	68	33	13	155
	26.5%	43.9%	21.3%	8.4%	100.0%
	63.1%	60.2%	50.8%	44.8%	57.0%
ROW TOTAL	65	113	65	29	272
	23.9%	41.5%	23.9%	10.7%	100.0%
	100.0%	100.0%	100.0%	100.0%	100.0%

Contingency Coefficient =0.124 Significance Level=0.238

LEVEL OF SATISFACTION AND RELIGION

The relationship between level of satisfaction of teachers and religion is presented in Table 4.3. It shows that the level of satisfaction among the teachers belonging to Christianity and Hinduism was higher as compared to teachers belonging to Sikhism. However, this relationship was found insignificant as the value of contingency coefficient was 0.083.

Table 4.3
Level of Satisfaction and Religion

Religion / Level of satisfaction	Hindus	Sikhs	Christians	Column total
HIGH SATISFACTION	69	44	4	117
	59.0%	37.6%	3.4%	100.0%
	46.3%	38.3%	50.0%	43.0%
LOW SATISFACTION	80	71	4	155
	51.6%	45.8%	2.6%	100.0%
	53.7%	61.7%	50.0%	57.0%
ROW TOTAL	149	115	8	272
	54.8%	42.3%	2.9%	100.0%
	100.0%	100.0%	100.0%	100.0%

Contingency Coefficient=0.083 Significance Level=0.391

LEVEL OF SATISFACTION AND EDUCATION

The relationship between the level of satisfaction of teachers and education is given in Table 4.4. The respondents were divided into five categories namely - Plus 2/Diploma, Graduate, Post -Graduate, M. Phil and PhD. The analysis of data shows that the level of satisfaction is higher among the graduate teachers than the post-graduate teachers. It may be due to the reason that the level of education affects the level of their understanding and awareness which is closely related to level of satisfaction. However, relationship was found insignificant as the value of contingency coefficient is 0.159.

Table 4.4
Level of Satisfaction and Education

Education / Level of Satisfaction	XII/DIP	Graduate	Post-Graduate	M. Phil	Ph.D	Column Total
HIGH SATISFACTION	2	33	74	7	1	117
	1.7%	27.2%	63.2%	6.0%	.9%	100.0%
	50.0%	54.4%	38.9%	41.2%	50.0%	43.0%
LOW SATISFACTION	2	26	116	10	1	155
	1.3%	16.8%	74.8%	6.5%	0.6%	100.0%
	50.0%	45.6%	61.1%	58.8%	50.0%	57.0%
ROW TOTAL	4	59	190	17	2	272
	1.5%	21.7%	69.9%	6.2%	.7%	100.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Contingency Coefficient =0.159 Significance Level=**0.125**

Table 4.5 presents the relationship between level of satisfaction of teachers and professional degree (B.Ed.).

Table 4.5
Level of Satisfaction and Professional Qualifications

B.ED. / Level of Satisfaction	NO	YES	COLUMN TOTAL
HIGH SATISFACTION	29	88	117
	24.8%	75.2%	100.0%
	38.2%	44.9%	43.0%
LOW SATISFACTION	47	108	155
	30.3%	69.7%	100.0%
	61.8%	55.1%	57.0%
ROW TOTAL	76	196	272
	27.9%	72.1%	100.0%
	100.0%	100.0%	100.0%

Contingency Coefficient=0.061 Significance level=0.341

LEVEL OF SATISFACTION AND CASTE

Table 4.7 shows the relationship between the caste status and level of satisfaction among the teachers. The value of contingency co-efficient comes out to be 0.021 which was found insignificant.

Table 4.7
Level of Satisfaction and Caste

Caste / Level of Satisfaction	General	Others	Column total
HIGH SATISFACTION	114	3	117
	97.4%	2.6%	100.0%
	42.9%	50.0%	43.0%
LOW SATISFACTION	152	3	155
	98.1%	1.9%	100.0%
	57.1%	50.0%	57.0%
ROW TOTAL	266	6	272
	97.8%	2.2%	100.0%
	100.0%	100.0%	100.0%

Contingency Coefficient =0.021 Significance Level=0.727

LEVEL OF SATISFACTION AND MARITAL STATUS

Table 4.8 explains the relationship between level of satisfaction and marital status of the teachers. It shows that the percentage of satisfaction is higher among the married teachers than the unmarried and others. It may be due to the fact that a married person has more emotional, social and economic support from his/her family. However, this relationship was found insignificant as the value of contingency coefficient is 0.090.

LEVEL OF SATISFACTION AND NATURE OF FAMILY

The relationship between the level of satisfaction of teachers and nature of family is given in Table 4.9. It shows that there is not much difference in the level of satisfaction among the teachers belonging to either nuclear or joint family. But as a whole it was marginally higher in the joint families. However, this difference was not significant as the value of contingency coefficient is only 0.088.

Table 4.8
Level of Satisfaction and Marital Status

Marital status / Level of Satisfaction	Married	Unmarried	Others	Column total
HIGH SATISFACTION	106	9	2	117
	90.6%	7.7%	1.7%	100.0%
	44.7%	31.0%	33.3%	43.0%
LOW SATISFACTION	131	20	4	155
	84.5%	12.9%	2.6%	100.0%
	55.3%	69.0%	66.7%	57.0%
ROW TOTAL	237	29	6	272
	87.1%	10.7%	2.2%	100.0%
	100.0%	100.0%	100.0%	100.0%

Contingency Coefficient=0.090 Significance Level=0.331

Table 4.9
Level of Satisfaction and Nature of Family

Nature Of family / Level of Satisfaction	Other	Nuclear	Joint	Column total
HIGH SATISFACTION	6	65	46	117
	5.1%	55.6%	39.3%	100.0%
	66.7%	41.9%	42.6%	43.0%
LOW SATISFACTION	3	90	62	155
	1.9%	58.1%	40.0%	100.0%
	33.3%	58.1%	57.4%	57.0%
ROW TOTAL	9	155	108	272
	3.3%	57.0%	39.7%	100.0%
	100.0%	100.0%	100.0%	100.0%

Contingency Coefficient =0.088 Significance Level=0.344

LEVEL OF SATISFACTION AND PLACE OF LIVING

The Table 4.10 shows the relationship of place of living with level of satisfaction. The place of living is divided into 4 categories: villages, city below 1 lacs and above 1 lacs and city above 10 lacs. The analysis of the data reveals that the level of satisfaction increases as we move from village to city with population less than 1 lacs but it declines as we move to bigger cities. The value of contingency coefficient is 0.140 which implies that difference was insignificant.

Table 4.10
Level of Satisfaction and Place of Living

Level of Satisfaction \ Place of living	Village	City less than 1 lac	City above 1 lac	City above 10 lac	Column total
HIGH SATISFACTION	18	17	30	52	117
	15.4%	14.5%	25.6%	44.4%	100.0%
	50.0%	56.7%	46.2%	36.9%	43.0%
LOW SATISFACTION	18	13	35	89	155
	11.6%	8.4%	22.6%	57.4%	100.0%
	50.0%	43.3%	53.8%	63.1%	57.0%
ROW TOTAL	36	30	65	141	272
	13.2%	11.0%	23.9%	51.8%	100.0%
	100.0%	100.0%	100.0%	100.0%	100.0%

Contingency Coefficient=0.140 Significance Level=0.143

LEVELOF SATISFACTION AND RESIDENTIAL STATUS

The Table 4.11 shows the relationship between level of satisfaction and residential status of the teachers. The analysis of the Table reveals that the level of satisfaction increases as the teachers move from rented residence to their own house .The contingency coefficient is 0 .060 which shows that the difference is insignificant.

Table 4.11
Level of Satisfaction and Residential Status

Level of Satisfaction \ Residential Status	Rented	Own	Column total
HIGH SATISFACTION	20	97	117
	17.1%	82.9%	100.0%
	37.0%	44.5%	43.0%
LOW SATISFACTION	34	121	155
	21.9%	78.1%	100.0%
	63.0%	55.5%	57.0%
ROW TOTAL	54	218	272
	19.9%	80.1%	100.0%
	100.0%	100.0%	100.0%

Contingency Coefficient=0.060 Significance Level=0.322

LEVEL OF SATISFACTION AND INCOME

Table 4.12 shows the monthly household income of the teachers. It has been divided into five categories i.e. below 10,000, 10,000-20,000, 20,000-30,000, 30,000-50,000 and above 50,000. The value of contingency coefficient is 0.117 which is statistically insignificant. It shows that the level of household income has no significant impact on the level of job satisfaction.

Table : 4.12
Level of Satisfaction and Income

Income / Level of Satisfaction	No response	Less than 10,000	10,000-20,000	20,000-30,000	30,000-50,000	50,000 and above	Column total
HIGH SATISFACTION	2	3	20	39	36	17	117
	1.7%	2.6%	17.1%	33.3%	30.8%	14.6%	100.0%
	25.0%	37.5%	45.5%	43.3%	40.9%	50.0%	43.0%
LOW SATISFACTION	6	5	24	51	52	17	155
	3.9%	3.2%	15.5%	32.9%	33.5%	11.0%	100.0%
	75.0%	62.5%	54.5%	56.7%	59.1%	50.0%	57.0%
ROW TOTAL	8	8	44	90	88	34	272
	2.9%	2.9%	16.2%	33.1%	32.4%	12.7%	100.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Contingency Coefficient=0.117 Significance Level=0.710

LEVEL OF SATISFACTION AND DESIGNATION

The designation of the teachers is divided into three categories i.e. PRT, TGT and PGT. The analysis of Table 4.13 reveals that the highest level (50%) of satisfaction was found amongst PRTs and the lowest (33.7%) in PGTs. The satisfaction level of the TGT was found higher than PGTs but less than PRT. It implies that the level of satisfaction among the teachers decreases as they move to higher positions. Furthermore, the significant value of contingency coefficient confirms this relationship. The value of contingency coefficient comes out to be 0.131 and is significant. It implies that designation of teachers has an impact on the level of satisfaction.

Table 4.13
Level of satisfaction and Designation

Designation / Level of satisfaction	PRT	TGT	PGT	Column Total
High Satisfaction	34	54	29	117
	29.1%	46.2%	24.8%	100.0%
	50.0%	45.8%	33.7%	43.0%
Low Satisfaction	34	64	57	155
	21.9%	41.3%	36.8%	100.0%
	50.0%	54.2%	66.3%	57.0%
Row Total	68	118	86	272
	25.0%	43.4%	31.6%	100.0%
	100.0%	100.0%	100.0%	100.0%

Contingency Coefficient =0 .131 Significant Level =0.093

CONCLUSION

Many inferences can be drawn from the study. It has been found that majority of the teachers are confident of achieving their set goals which leads to their satisfaction. Though money was not given overriding importance but it is still very important to remain happy in life. The conscientiousness of the teachers was found to be very high as majority of them were of the view that citizens must take part in political process to make politicians more accountable. Their concern for providing good education, health services and employment to all was also another indicator of their concerns about the social development in the country. Their faith and their belief in hard work, honesty and doing something for others to bring positive change in the society is an indication of their role as a nation builder. The difference in level of satisfaction between male and female respondents was found evident .The female teachers were more satisfied than their male counterparts. It may be that teaching job by the fair sex has more social approval than other occupations. The preference given to the female teachers in the unaided public schools may be due to the fact that they have inborn virtue of nurturing the students in better ways .The higher level of satisfaction of female teachers may also be due to the fact that they have more autonomy in their respective household activities. The increase in the length of service is correlated with greater satisfaction. Nagy and Davis (1985), also supports by stating that level of stress decreases with teaching experience. The study also stated that the job satisfaction level of teachers increases as they get older. Our study also corroborates it. It was found that level of job satisfaction level amongst teachers was low in the initial years of their joining teaching but after that it continuously increases till her/his retirement. The marital status of the respondents is also an important variable of job satisfaction as the married teachers were found more satisfied than the unmarried/others, though this relationship was found insignificant. There is close relationship between the nature of family and job satisfaction. It was found that teacher belonging to the nuclear families were more satisfied than those of joint families. The

family income of the teachers was found to affect the job satisfaction, as the highest level of job satisfaction was identified amongst the teachers having monthly house hold income more than 50,000 while on the other side, the teachers belonging to PRT group were found to be more satisfied than their counterpart TGT and PGT. Pay incentives have been found to be unsuccessful in motivating the respondents. In a study of 167 teachers Sylvia and Hutchinson (1985), concluded, "Teacher motivation is based in the freedom to try new ideas, achievement of appropriate responsibility levels and intrinsic work elements. Based on our findings schemes such as merit pay was predicted to be counter-productive.". The designation of the teachers has significant relationship with the level of satisfaction. It was found that lower the designation (PRT) higher the satisfaction of the teachers. On the other hand the level of dissatisfaction was higher in the (PGT). It may be that with moving to higher designation the expectations of the teachers also increased.

To sum up, it can be concluded that teacher's job satisfaction is still a challenge to the education system as most of the schools under study do not have satisfied teachers. It is the need of the hour that the management of these schools create a conducive working atmosphere by paying them good salaries and other benefits, timely promotion on the basis of academic merit, work autonomy, participation in the management of their respective schools, etc.

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TESTING FOR LINEAR AND NONLINEAR CAUSALITY IN SPOT AND FUTURE PRICES OF NOTIONAL MULTI-COMMODITY INDICES

Tarun Soni*

Abstract
The present study investigates the linear and nonlinear causality between spot and future returns of four notional indices maintained by Multi Commodity Exchange of India (MCX). The data covers two periods June 2005 – June 2008 and July 2008 - November 2011. Apart from the conventional linear Granger test we apply a new nonparametric test for nonlinear causality by Diks and Panchenko after controlling for calendar effects and long-run trends. The empirical results using both traditional and nonlinear causality tests indicate a stronger flow of information from futures to spot market which confirms that future market are on the right track in playing an effective role in price discovery, thereby leading the spot market to become more efficient in the long run.
Keywords*: Nonparametric nonlinear causality, Spot market, Future market, Price Discovery.*

JEL Classification C14, G14

INTRODUCTION

The commodity derivatives were reintroduced in Indian economy after realization of its role played in price discovery and risk management especially in the post liberalization era where government policies were more oriented towards free market economy. Following the setup of national wide commodity exchanges, markets have been in the high trajectory growth rate (Fig.1). However, its usefulness in price risk hedging and price discovery is still not clear. The present study aims at studying the nature of Indian commodity futures market in terms of price discovery and efficiency. Price discovery is considered as a major function of commodity future market as futures price serve as market's expectations of subsequent spot price (Garbade and Silber, 1983). This price discovery function implies prices that the futures and spot markets are systematically related in the short run and long run.

Further the issue of commodity market efficiency is a critical issue. Under efficient markets, new information is impounded simultaneously into cash and futures markets (Zhong et al. 2004). In other words, financial market pricing theory states that market efficiency is a function of how fast and how much information is reflected in prices. The rate at which prices exhibit market information is the rate at which this information is disseminated to market participants (Zapata et al. 2005).

*Doctoral Student, National Institute of Financial Management, Faridabad, Haryana

However, various institutional factors such as liquidity, transaction costs, market restrictions may produce an empirical lead-lag relationship between price changes in the two markets (Mahalik et al. 2009).

Thus temporal relationship among spot and future prices can be used as preliminary evidence for and against the price discovery and efficiency of the commodity derivatives markets. For the purpose of this study we make use four futures and spot indices maintained by Multi Commodity Exchange of India Ltd. (MCX) to comment on the price discovery function and efficiency of commodity derivatives market. These indices namely MCXSMETAL, MCXSENERGY and MCXSAGRI represent each commodity group viz. Metal, Energy and Agricultural products which are traded through the exchange and MCXSCOMDEX is a combined index with a proportion of all the three indices. Thus by analyzing the properties of these indices current scenario of the real-time performance of Indian commodity markets can be observed.

Thus the study is an attempt to examine the role played by Indian commodity derivatives market in price discovery by doing causality analysis between future prices (FP) and spot prices (SP) of four notional indices maintained by multi commodity exchange of India. It aims to determine whether there is linear and nonlinear causality between future and spot prices using both linear and nonlinear causality tests. A causal relation between future and spot prices can help in commenting whether the futures market are playing an efficient role in price discovery and price risk hedging which is the primary motive behind the government decision to revoke ban on commodity trading. The remainder of the article is organized as follows. Section 2 presents a brief review of literature. Section 3 describes the data sources and the adjustments made to remove systematic calendar and trend effects and the methodology of both linear and nonparametric Diks-Panchenko causality test. Section 4 presents the empirical results of linear and nonlinear Granger causality tests. Finally, Section 5 provides a summary and concludes.

LITERATURE REVIEW

Even though India have experienced a uncertain history of commodity derivatives market, the last decade commodity derivatives markets has gained attention from various stakeholder group including investors, government, corporate, academics etc. There is a vast amount of literature on the concerned subject world-wide however the literature in Indian scenario is limited. The empirical investigations on the performance of the Indian commodity derivatives market include (Singh, 2004; Raizada and Sahi, 2006; Ahuja, 2006; Nath and Lingareddy, 2007; Lokare, 2007; Bose, 2008; Kumar, Singh and Pandey, 2008; Tripathy, 2008; Bose, 2009; Sahoo and Kumar, 2009; Sen and Paul, 2010; Mukherjee , 2011) .

Raizada and Sahi (2006) in their study have shown that the wheat futures market is even weak-form inefficient and fails to play the role of spot price discovery. Further they found Spot market capturing the market information faster and playing the leading role thereby refuting the objective of price discovery of commodity futures markets. Lokare

(2007) found significant cointegration in spot and futures prices of the selected commodities thereby exhibiting operational efficiency of the concerned markets indicating that these markets are marching in the right direction of achieving improved operational efficiency, albeit, at a slower pace. Kumar, Singh and Pandey (2008) have examined the hedging effectiveness of futures contract on a financial asset and commodities in Indian markets. The authors found the necessary cointegration between the spot and derivatives markets and have concluded that both stock market and commodity derivatives markets in India provide a reasonably high level of hedging effectiveness. Roy (2008) in his study comprising a sample of 32 wheat futures contracts argues that Indian wheat futures markets are well cointegrated with their spot markets and found presence of bidirectional lead-lag causality in select contracts from 2004 to 2007. Tripathy (2008) found co-movement of prices between the wholesale wheat market and rice markets and vice versa at an all India level. The study also brought the evidence that the wholesale wheat market and black gram markets at an all India level are highly fragmented and have unilateral feedback between wholesale rice market and black gram market in India. Sahoo (2009) in his study found feedback from futures prices to spot prices leading to a price discovery mechanism for five commodities indicating efficiency of commodity futures markets in India. Bose (2009) has tried to investigate the efficiency, in terms of price dissemination, of Indian commodity indices, and found informational efficiency in metal and energy index leading to significant effect on stabilizing the volatility of the underlying spot market. On the other hand agricultural indices failed to exhibit the feature of market efficiency and price discovery. Sen and Paul (2010) found a granger causal link from future to spot prices for commodities on which futures are traded along with a steep increase in spot prices for major food items. Mukherjee (2011) found presence of bidirectional causation between the spot and futures market, even with stronger flow of information from futures to spot market, not only prove the efficiency of both the markets, but also confirm the stronger efficiency of futures market, leading the spot market to become more efficient. Dey, Maitra and Roy (2011) have explored the co-integrating vectors, nature/direction of causality, and subsequently, modeled volatility spillover in Indian pepper futures and spot markets drawing inferences from the study that unidirectional causality has been observed in case of pepper futures market. However, the adjustment of innovations or shocks in futures market is relatively faster than that of spot markets.

From the empirical literature cited above, it is clear that the Indian literature is limited to small sample period spanning between 2 to 3 years, or to very fewer commodities traded on national exchanges which does not gives the holistic picture of the Indian commodity derivative markets. Further, the empirical works published till date have contained a mix results with some studies providing evidence of markets to be playing an efficient role in price discovery on the other hand few studies also provide contradictory results where causality between future and spot was not observed. Furthermore, most of the studies involve measurement issues by neglecting the possible nonlinear relation between the spot and future returns as linear causality test have low power to detect nonlinear causal relations among variables (see, for example, Baek and Brock, 1992 and Hiemstra and Jones, 1994). Therefore, the broad objective of this study is to fill the gap by providing valuable insights about the efficiency of Indian commodity markets in price

discovery using a more robust methodology by employing both linear and the nonlinear causality tests for a sample period of seven years.

LINEAR GRANGER CAUSALITY AND THE NONPARAMETRIC DIKS-PANCHENKO CAUSALITY TEST

In 1969, Granger proposed a causality test to describe the dependence relations between economic time series. According to this, if two variables $\{X_t, Y_t, t \geq 1\}$ are strictly stationary, $\{Y_t\}$ Granger causes $\{X_t\}$ if past and current values of X contain additional information on future values of Y. Suppose $F_{X,t}$ and $F_{Y,t}$ denote the information sets consisting of past observations of X_t and Y_t for time t. $\{Y_t\}$ Granger causes $\{X_t\}$ if:

$$(Y_{t+1},\ldots,Y_{t+k})|(F_{X,t},F_{Y,t}) \sim (Y_{t+1},\ldots,Y_{t+k})|F_{X,t} \quad (1)$$

where '~' denotes equivalence in distribution and $k \geq 1$. However, in practice $k = 1$ is more oftenly used. In this case, Granger non-causality can be tested by comparing the one-step-ahead conditional distribution of $\{Y_t\}$ with and without past and current observed values of $\{X_t\}$. In order to test for Granger causality, we consider a two stationary time series model with a mean $E(Y_{t+1}|(F_{X,t}, F_{Y,t}))$. We compare the residuals of a fitted autoregressive model of Y_t with those obtained by the regression of Y_t on past values of $\{X_t\}$ and $\{Y_t\}$ (Granger, 1969). Suppose that $X_t^{l_X} = (X_{t-\ell_X+1},\ldots, X_t)$ and $Y_t^{l_Y} = (Y_{t-\ell_Y+1},\ldots, Y_t)$ are the delay vectors - where $\ell_X, \ell_Y \geq 1$. We examine the null hypothesis, that is whether past observations of $X_t^{l_X}$ contain any additional information about Y_{t+1} (beyond that in $Y_t^{l_Y}$):

$$H_0 = Y_{t+1} \left| (X_t^{l_x}; Y_t^{l_Y}) \sim Y_{t+1} \right| Y_t^{l_Y} \quad (2)$$

The null hypothesis becomes a statement about the invariant distribution of the $(\ell_X + \ell_Y + 1)$-dimensional vector $W_t = (X_t^{l_X}, Y_t^{l_X}, Z_t)$, where $Z_t = Y_{t+1}$. If we ignore the time index and we assume that $\ell_X = \ell_Y = 1$, the distribution of Z - given that $(X, Y) = (x, y)$ - is the same as that of Z - given $Y = y$. In that case, equation (5) is restructured to take into account the ratios of joint distributions. In that sense, the joint probability density function $f_{X,Y,Z}(x,y,z)$ and its marginals should satisfy the following relationship:

$$\frac{f_{X,Y,Z}(x,y,z)}{f_Y(y)} = \frac{f_{X,Y}(x,y)}{f_Y(y)} \cdot \frac{f_{X,Z}(y,z)}{f_Y(y)} \quad (3)$$

In other words, equation (3) states that X and Z are independent, when $Y = y$ for each fixed value of y. Diks and Panchenko (2006) show that the restated null hypothesis implies:

$q \equiv E\,[f_{X,Y,Z}(X,Y,Z)f_Y(Y) - f_{X,Y}(X,Y)f_{Y,Z}(Y,Z)] = 0$ (4)

Suppose $\hat{f}_W(W_i)$ is a local density estimator of a d_W-variate random vector W at W_i, defined by $\hat{f}_W(W_i) = (2\varepsilon_n)^{-d_W}(n-1)^{-1}\sum_{j,j\neq i} I_{ij}^W$, where $I_{ij}^W = I(\|W_i - W_j\| < \varepsilon_n)$, $I(\cdot)$ the indicator function and ε_n the bandwidth, which depends on the sample size n. Then, the test statistic is a scaled sample version of q in equation (7):

$$T_n(\varepsilon_n) = \frac{n-1}{n(n-2)} \cdot \sum_i (\hat{f}_{X,Z,Y}(X_i, Z_i, Y_i)\hat{f}_Y(Y_i) - \hat{f}_{X,Y}(X_i, Y_i)\hat{f}_{Y,Z}(Y_i, Z_i))$$

(5)

For $\ell_X = \ell_Y = 1$ and if $\varepsilon_n = Cn^{-\beta}\left(C > 0, \frac{1}{4} < \beta < \frac{1}{3}\right)$, Diks and Panchenko (2006) prove that the test statistic in equation (8) satisfies the following:

$$\sqrt{n}\frac{(T_n(\varepsilon_n) - q)}{S_n} \xrightarrow{D} N(0,1) \qquad (6)$$

where $\xrightarrow{D}$ denotes convergence in distribution and S_n is an estimator of the asymptotic variance of $T_n(\cdot)$ (Diks and Panchenko, 2006). In this study, the Diks and Panchenko's suggestion, to implement a one-tailed version of the test, has been employed. The null hypothesis is rejected if the left-hand-side of equation (9) is too large.

In order to test for non-linear causality, we need first to remove the linear dependence. For this reason, we apply a Vector Autoregression (VAR) model and we use the estimate residuals to test for non-linear causality. If $\mathbf{Y}_t$ is the vector of endogenous variables and l the number of lags, the VAR model is the following:

$$\mathbf{Y}_t = \sum_{s=1}^{l} A_s\ \mathbf{Y}_{t-s} + e_t \qquad (7)$$

where $\mathbf{Y}_t = [Y_{1t}, \ldots, Y_{lt}]$ is the lx1 vector of endogenous variables, A_s is the lxl parameter matrices and ε_t the residual vector, for which $E(\varepsilon_t)=0$, $E(\varepsilon_t\varepsilon_s) = \begin{cases} \Sigma_\varepsilon & t=s \\ \bullet & t\neq s \end{cases}$

More specifically, in the case of two stationary time-series $\{X_t\}$ and $\{Y_t\}$, the following VAR model is estimated:

$$\mathbf{X}_t = a_{11}X_{t-1} + a_{12}X_{t-2} + \beta_{11}Y_{t-1} + \beta_{12}Y_{t-2} + \varepsilon_t \sim \varepsilon_t \sim N(0, \sigma_e^2) \qquad (8)$$

$$\mathbf{Y}_t = a_{21}X_{t-1} + a_{22}X_{t-2} + \beta_{21}Y_{t-1} + \beta_{22}Y_{t-2} + u_t \sim u_t \sim N(0, \sigma_u^2) \qquad (9)$$

where t=1,2,…, N, a_{11}, a_{12}, a_{21}, a_{22}, β_{11}, β_{12}, β_{21} and β_{22} are the coefficients in the lag operator.

DATA SOURCE, PROPERTIES AND ADJUSTMENTS

Data

The raw data consist of the daily closing values (both spot and future) of the four MCX notional indices namely MCXSAGRI, MCXSMETAL, MCXSCOMDEX and MCXSENERGY for a period of 7 years, starting from June 2005 to November 2011. Two sub-periods were used in the study to take structural change occurred in financial sector into account. The first period starts in June 2005 and ends June 20, 2008. The second sub-period starts in June 21, 2008 and ends November 21, 2011. The historical data were obtained from the MCX website. The raw price of eight index series, were differenced in the logs to create the raw price change series using the following formula $100(\log Pt - \log Pt_1)$, where Pt indicates index value at time t. The following notation is used: "AGRISPT" is the spot return and "AGRIFUT", is the futures return for MCXSAGRI index whereas "ADJAGRISPT", "ADJAGRIFUT" refers to adjusted spot/future returns for the same index. Similar notations are used for rest three indices.

Time Series Properties

We first test for the stationary of the series used in the study using Dickey-Fuller (1979) ADF test, the Kwiatkowski et al. (1992) KPSS test, and Phillips-Perron (1988) PP test. The results indicate that all return series are stationary. The implication of these findings is that testing for causality should be based on unrestricted VAR approach. Further appropriate lag lengths are selected according to the Akaic info criterion. Fig. 2 displays the spot and future price and Fig. 3 displays the returns series of all the indices. Descriptive statistics for spot and future returns are reported in Table 1. Positive values of mean for all indices indicate and overall positive returns in the commodity markets. The high standard deviation in Metal and Energy indices indicate the riskiness of the investments and variability in the returns in this sector. Further the whole period witnessed negative spikes which can also be inferred from the negative values of skewness. Furthermore the differences between the two periods are quite evident in Table 1 where Period I exhibit high average return period for metal and energy indices and period II exhibit higher average return for agriculture indices. Additionally, high values of kurtosis and skewness indicate that distribution is not normal for all indices in favor of applying non parametric techniques for analyzing the data

Adjustments

We remove systematic day-of-the-week and month-of-the-year calendar effects from spot and future returns of indices using a two-step procedure similar to the one used by Hiemstra and Jones (1994) in which systematic effects are first removed from the mean and then from the variance. We use the following set of dummy and time-trend variables in the adjustment regressions to capture these systematic effects:

1. Day of the week dummies (one for each day, Tuesday through Saturday).
2. Dummy variables for each number of nontrading days preceding the current trading day (dummies for each of 1, 2, 3, and 4 nontrading days since the preceding trading day). These "gap" variables capture the effects of holidays and weekends.
3.Dummy variables for months of January, February, March, April, May, June, July, August, September, October, and November.
4. Dummy variables for each year, 2004 to 2010.

5. t, t^2, time trend variables. (Note: these variables are not included in the mean regressions for the price change. We adjust all the eight series in mean and variance series for both of these effects. For the returns series the two-step adjustment procedure involves estimating the following regression equations,

$$R_t = D_t\beta_R + \varepsilon_t \ (Mean\ Equation) \quad (10)$$

$$ln(\acute{\varepsilon}_t^2) = D_t\gamma_R + v_t (Variance\ Equation) \quad (11)$$

where D_t denotes a vector of daily, monthly, and year dummy variables, β_R and γ_R denote conformable parameter vectors, $\acute{\varepsilon}_t$ and v_t denote the error terms, and ϵ_t denotes the ordinary least squares (OLS) estimated error in equation (10).
For each series, the variance equation (11) is used to standardize the residuals from the mean equation (10). For example, the calendar-adjusted, standardized index returns are computed as,

$$R^{!}_t = \frac{\acute{\varepsilon}_t}{exp(D_t\gamma'_R/2)} \quad (12)$$

where γ'_R denotes the OLS estimate of γ_R. We use the calendar-adjusted, standardized index returns, $R^{!}_t$ for carrying out the analysis. Further it is argued that casualty tests through filtering procedure (which extracts trend from a set of variables) are likely to lead to bias results, for these reasons test were run both on filtered and unfiltered data sets to check for robustness of results.

Table 1
Descriptive Statistics

Full sample PO: June 2005 to November 2011								
	MCXSAGRI		MCXSMETAL		MCXSENERGY		MCXSCOMDEX	
	Spot	Future	Spot	Future	Spot	Future	Spot	Future
Mean	0.048	0.044	0.059	0.060	0.030	0.029	0.046	0.044
Std. Dev.	0.795	1.204	1.292	1.378	3.00	2.766	1.152	1.461
Skewn.	-3.332	-0.159	-1.037	-1.4	0.047	-1.377	-0.202	-0.878
Kurtosis	219.480	117.361	13.959	23.236	235.668	182.31	7.416	189.47

Pre Break: PI: June 2005 and ends June 20, 2008								
	MCXSAGRI		MCXSMETAL		MCXSENERGY		MCXSCOMDEX	
	Spot	Future	Spot	Future	Spot	Future	Spot	Future
Mean	0.013	0.007	0.079	0.0781	0.092	0.092	0.0783	0.078
Std. Dev.	0.855	0.944	1.323	1.575	3.546	3.533	1.004	1.759
Skewn.	-11.574	-8.22	-0.731	-1.562	0.098	-1.412	-0.428	-0.978
Kurtosis	253.614	159.022	9.235	26.255	260.224	148.425	5.378	194.579

Post Break: PII: June 21, 2008 and ends November 21, 2011								
	MCXSAGRI		MCXSMETAL		MCXSENERGY		MCXSCOMDEX	
	Spot	Future	Spot	Future	Spot	Future	Spot	Future
Mean	0.076	0.073	0.038	0.039	-0.0461	-0.0456	0.0069	0.006
Std. Dev.	0.707	1.410	1.272	1.183	2.462	1.892	1.275	1.153
Skewn.	9.051	1.970	-1.383	-1.011	-0.171	-0.339	-0.0853	-0.449
Kurtosis	185.407	91.616	18.991	9.330	10.999	5.212	7.626	5.891

EMPIRICAL RESULTS

Linear Granger Causality Test Results

The granger (1969) procedure is used to test for linear causality between spot and future returns. The results are reported in Table 2.

Table 2
Linear causality results

Variables	Linear Granger Causality											
	Raw Data						Adjusted Data					
	$S \rightarrow F$			$F \rightarrow S$			$S \rightarrow F$			$F \rightarrow S$		
	PO	PI	PII	PO	PI	PII	PO	PI	PII	PO	PI	PII
MCXSAGRI	***		***	***	***	***	*		***	***		***
MCXSENERGY	***	***	***	***	***	***	***	***	***	***	***	***
MCXSMETAL	***	***	***	***	**	***			***	***	***	
MCXSCOMDEX	***	***	*	***	***	***	***	***		***	***	***

(*), (**), (***), Denotes p-value statistical significance at 10%, 5% and 1% level.

$S \rightarrow F$: r_S does not Granger Cause r_F .

PO: June 2005 to November 2011; PI: June 2005 and ends June 20, 2008; PII: June 21, 2008 and ends November 21, 2011

There are bidirectional causalities in returns of all four indices for unadjusted return series as shown in left panel of Table 2. In case of adjusted series bidirectional causalities was detected in returns for three indices namely MCXSAGRI (Adj), MCXSCOMDEX (Adj) and MCXSENERGY (Adj). For MCXSMETAL (Adj), we found unidirectional causality from future to spot. In case of unadjusted return series for the first sub-sample we found bidirectional causality between three indices namely MCXSMETAL, MCXSENERGY and MCXSCOMDX whereas in case of MCXSAGRI, only unidirectional causality from future to spot was detected. In case of adjusted series bidirectional causality was found in MCXENERGY (Adj) and MCXSCOMDEX (Adj) and unidirectional causality running from future to spot in MCXSAGRI (Adj) and MCXSMETAL (Adj). It appears to be a difference between full period and first sub-period in terms of having causality between two series. We could not find bidirectional causality between MCXSAGRI, MCXSAGRI (Adj) in which we observed bidirectional causalities for the full sample. Further the results for the second sub-sample of the linear model show bidirectional causality in spot and future index return for three indices namely MCXSAGRI, MCXSENERGY and MCXSMETAL whereas in case of MCXSCOMDX, only unidirectional causality from future to spot was detected. Similarly in case of adjusted returns for the same period, bidirectional causality was found in MCXSAGRI (Adj) and MCXENERGY (Adj) and unidirectional causality running from future to spot in case of MCXSCOMDEX (Adj) and MCXSMETAL (Adj) was detected.

Non-linear Granger Causality Test Results

The non-linear Diks-Panchenko causality test was applied on the estimated residual series of the VAR model. Table 3 shows the results of the Diks-Panchenko testing. The test has been applied in both directions for $l_X=l_Y=1$, …, 8 and for bandwidth $\varepsilon=1.5$, which has been set according to the time series length n (Diks and Panchenko, 2006).

Table 3
Non Linear causality results

Variables	Non linear Causality											
	Raw Data						Adjusted Data					
	$S \rightarrow F$			$F \rightarrow S$			$S \rightarrow F$			$F \rightarrow S$		
	PO	PI	PII	PO	PI	PII	PO	PI	PII	PO	PI	PII
MCXSAGRI	***	***	***	***	***	***	***	***	***	***	***	***
MCXSENERGY	***	***	***	***	***	***	***	***	***	***	***	***
MCXSMETAL	***	***	***	***	***	***		***		***	***	***
MCXSCOMDEX	***	***	***	***	***	***	***	***		***	***	***

(*), (**), (***), Denotes p-value statistical significance at 10%, 5% and 1% level.

$S \rightarrow F$: r_S does not Granger Cause r_F .

PO: June 2005 to November 2011; PI: June 2005 and ends June 20, 2008; PII: July 21, 2008 and ends November 21, 2011

The results on the raw data as shown in the left panel of the table provide strong evidence of nonlinear bi-directional causality between spot returns and future returns for all the sample periods. Further bidirectional causality did not die out after adjusting MCXSAGRI index for calendar effects. However results indicate unidirectional casualty from future to spot returns for adjusted series for MCXSMETAL index. Similarly unidirectional causality was observed running from future to spot for the adjusted return of MCXSCOMDEX index for first sub period.

SUMMARY AND CONCLUSION

In this paper we investigated the linear and nonlinear causality tests to examine the dynamic relation between spot returns and future returns. We apply the tests on four MCX notional indices namely MCXSAGRI, MCXSMETAL, MCXSCOMDEX and MCXSENERGY for a period of 7 years, starting from June 2005 to November 2011. Two sub-periods were used in the study to take structural change occurred in financial sector into account. The first period starts in June 2005 and ends June 20, 2008. The second sub-period starts in June 21, 2008 and ends November 21, 2011. We remove systematic day-of-the-week and month-of-the-year calendar effects from spot and future returns of indices using a two-step procedure similar to the one used by Hiemstra and Jones (1994) in which systematic effects are first removed from the mean and then from

the variance. Further the causality tests were run both on filtered and unfiltered data sets to check for robustness of results.
The empirical findings from both linear and nonlinear causality indicate a stronger flow of information from futures to spot returns as causality from future to spot is not rejected in the complete study supporting Silvapulle and Moosa (1999) who attribute lower transaction costs and flexibility of short selling as main reasons for futures prices to respond to more quickly to new information than spot prices. Since purchasing in spot markets require more initial outlay and longer time to implement, futures transactions can be implemented immediately by speculators without an interest in the physical commodity and with little up-front cash. Moreover, hedgers having storage constraints prefer futures contracts. Therefore, both hedgers and speculators will react to the new information by preferring futures rather than spot transactions. (Silvapulle and Moosa, 1999). Further statistical significance is weaker after data is adjusted for systematic day-of-the-week and month-of-the-year calendar effects indicating the presence of systematic day-of-the-week and month-of-the-year calendar effects in Indian commodity markets.

The results are useful for regulators when crucial policy decisions regarding curbing inflation are to be taken as future prices can provide signals to the policy makers about the expected future spot price thereby helping them to take decisions effectively and efficiently. For market participants, the results are useful since they imply that future prices of commodity contracts can be used to predict spot prices, helping them to take decisions regarding level of inventory or framing there price risk hedging .

Our findings contribute to the empirical literature on Indian commodity markets by highlighting stronger flow of information from future to spot indicating that the future markets are on the right track of achieving improved operational efficiency, leading the spot market to become more efficient in the long run. The efficiency of commodity futures in sending right signals also emphasize the need for wider participation by building confidence and awareness among the its stakeholders like farmers, manufacturers, SME managers etc. so that they can use these contracts to hedge their risk and reduce their downside risks.

The study has used notional commodity indices of MCX to comment on the efficiency of Indian commodity markets, future research should be extended to include individual derivative contracts, so as to extract information about the efficiency of different constituents of the index. Further other nonlinear techniques can be used to unravel future spot dynamics that may be beyond the scope of linear analyses.

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Fig.-1 Total volume of trade from 2003 to November 2012

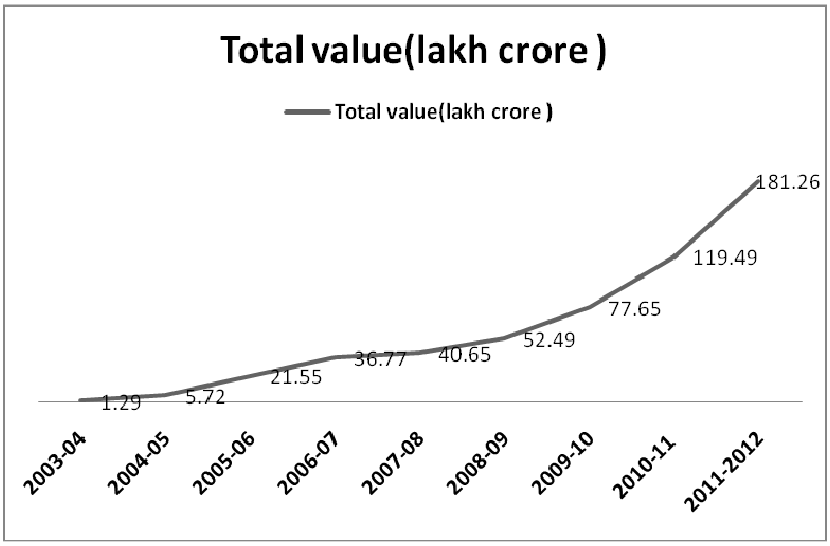


Fig.-2 Spot and future price time series of four indices from June **2005 to November 2011**

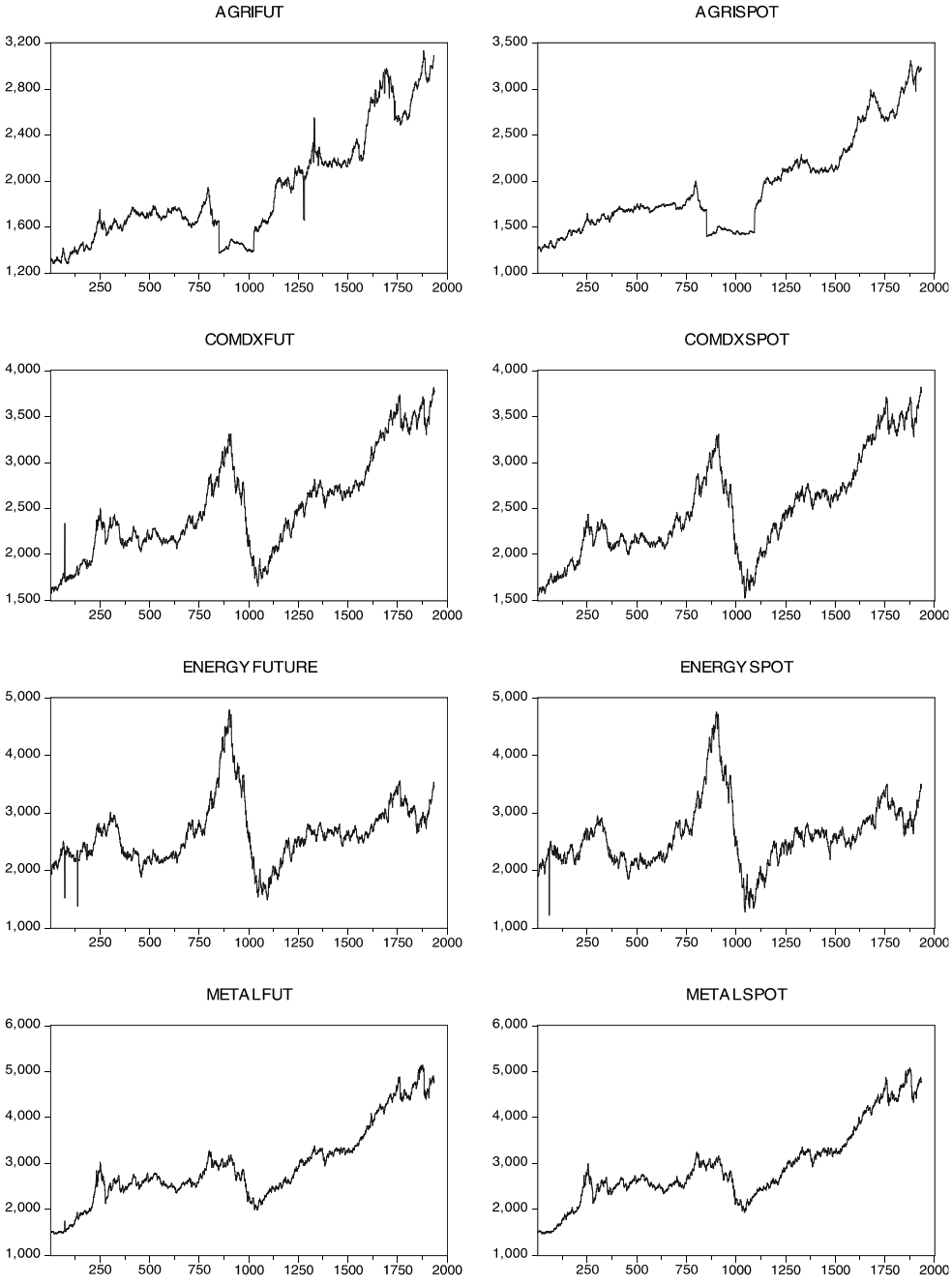
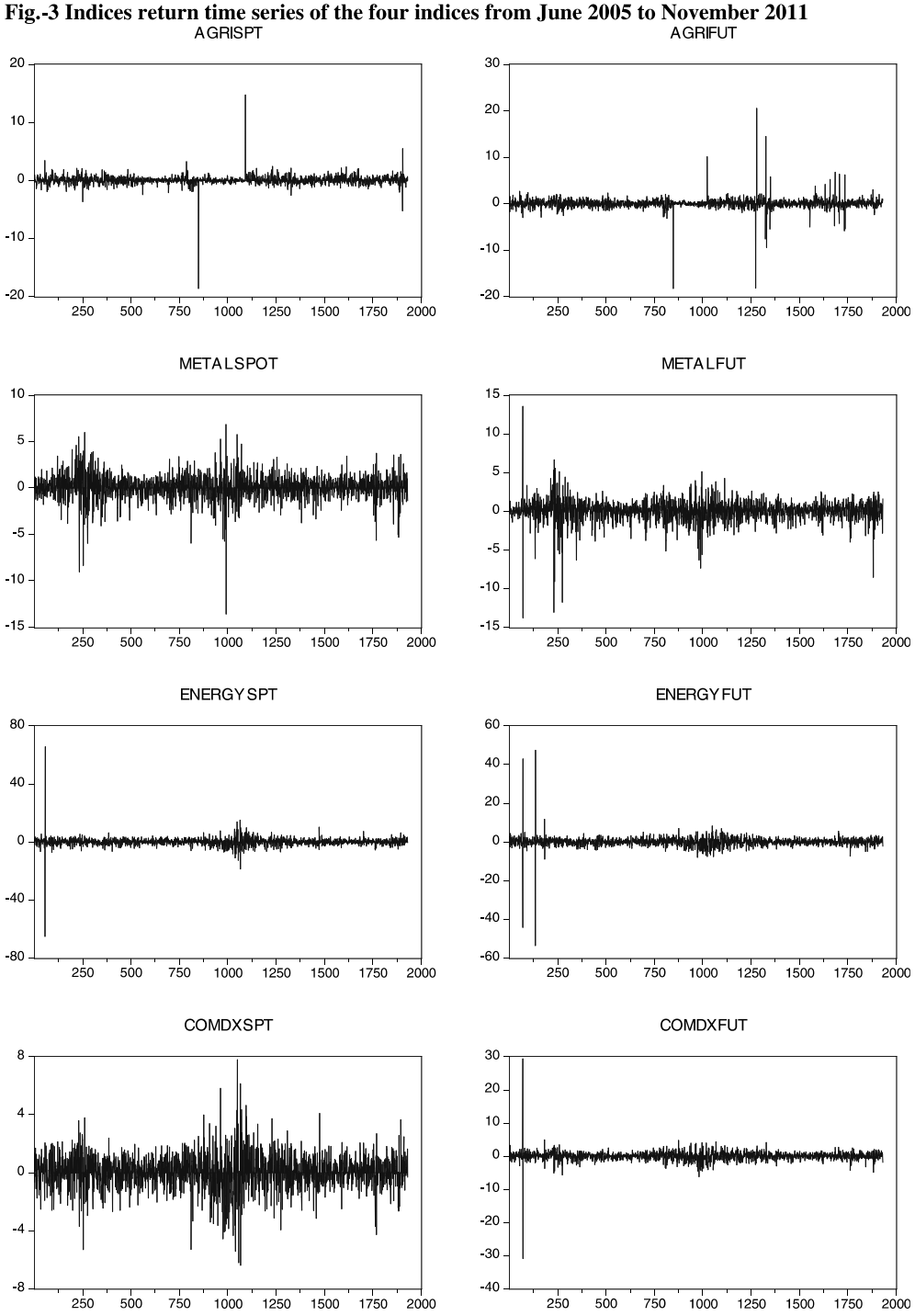


Fig.-3 Indices return time series of the four indices from June 2005 to November 2011



BOOK REVIEW "A NEW BEGINNING- THE TURNAROUND STORY OF INDIAN BANK"

[Authored by Ms. RANJANA KUMAR, Edition-2011,ISBN- 978-0-07-024883-0, Pages- 301, Price- Rs. 690, Publisher- Tata Mc Graw Hill Publishing Company Limited, New Delhi]

Hari Sundar.G.Ram*

REVIEW

Not the same old story of sticking on to management ideas or the words of management gurus- it's all about the real life experiences that a lady executive officer had to face when she took over the mantle as the Chairman and Managing Director of Indian Bank during its difficult time of crisis. The experiences of being a family together in the bank, never having a feeling of being in the sinking ship and all the more the teamwork which enabled for the turnaround of the Indian Bank- all these are elaborated in an elegant style in this book written by Ms. Ranjana Kumar, which was one among the hot sellers over the past few months.

The author who goes on to say that she was given advice and inspiration by Dr. A. P. J. Abdul Kalam for writing the experiences of the turnaround in the form of a book for being used by the future generation feels that motivation and leadership is what is lacking in many such organizations wherein things could change if proper training coupled with motivation is provided for the workers.

The story of the Indian Bank which had accumulated a loss of Rs. 4,000 crore which had wiped out its own equity due to various sorts of mismanagement over a period of 8 years along with very high NPA much higher than the industry average has been explained in the book clearly giving feelers of how financial mismanagement can lead to serious problems in a financial institution. The sense of lost identity among the employees in the bank clubbed with rumours of its merger, liquidation of the bank recommended by the industry association and accusatory comments- all these have been substantially described here by showing how such things can affect the morale of the workers.

* Associate Professor, CARE School of Business Management, Trichy, Tamil Nadu

The turnaround strategy adopted included efforts such as sending workers for orientation programmes, trainings, Ms. Kumar's personal visit to most of the branches with the view of shoring the morale of the workers, and instill the sense of confidence to resurrect the bank have found a place in the book.

The issues such as delayering of the office from a four tier system to a three tier system by doing away with 12 zonal offices and also to adopt to a two pronged approach- increasing the income and reducing the expenditure, which she had adopted to in a skillful way in the bank has been described in a beautiful way here.
The simple way to regain the lost trust was to show that the bank was getting back to normal, she says while adding that she had taken steps to restart the issuing of personal loans, vehicle loans and consumer loans which the bank had advertised in the dailies. A sum of Rs. 41 crore was disbursed as loan during 2001 and Indian Bank was able to be on par with the State Bank of India in terms of aggressive marketing of housing loans. The story of the vigour with which the bank started functioning finds place in this part.

The book also explains there are stages wherein one could go on for holiday marketing too ie marketing on Sundays and other holidays too for the resurrection of the bank. Better Customer relation Management, providing excellent service to the clients as well as improving the image – all these were the areas that were in the minds of the workers including me, she says.

From a place of real doomed level, the bank was able to rise up like a phoenix just because of the importance given for continuous monitoring of credit, risk management as well as management of standard assets, which have been described here.

And finally, the author feels that empowerment and accountability have to go together with sharing of credit, which the managers first were reluctant but later became used to.This well written book laden with real life examples by Ms. Ranjana Kumar, who is popularly called as "Turnaround queen" is worth reading not once but for several times especially by all management students to have a feel of how leadership, motivation and sheer willpower can turn things from a totally negative perspective to the opposite side just with the help of the employees as well as by encouraging the assertiveness in the workers.

The book also offers a kitty of the rich experiences that Ms. Ranjana Kumar was able to gain during her tenure as the Chairperson and Managing Director of the Indian Bank. She also feels that a person has to be positive in their outlook no matter whatever negativities come against them. She also goes on to say that one should be grateful to people in life as life had taught that gratitude is very important.

Ms. Kumar concludes the writing by stating these words of wisdom "If the force in our public sector banks is channeled properly, each worker to his or her abilities, the private sector would be left way behind."

The book has been aptly forwarded by the great son of India, Dr. A.P. J. Abdul Kalam, the former President of India- an apt foreward by a team builder to another person of the

same fold. Dr. Kalam has aptly mentioned the empowerment skills of the author for defeating the problems she had faced and states that it is the best sign of a good and effective leader. Dr. Kalam has also recommended this book to be used as a reference book in all libraries in the management schools in the country and also to discuss the facts in this book as case study analysis.

An excellent book written in a simple and lucid format just like a story- one can't miss at least a single reading of this book as it is sure to create vibrations in your thoughts as it provides all the effective lessons from real life for not only practicing managers but also to students and budding executives as well.

No doubt this book could serve as a reference material for all management students and practitioners and could also be used as a effective tool for role plays and case studies in strategic management, policy formulation and implementation as well as in the Financial management classes.

And it's worth paying for it too- as the royalties from the book is being used for Cancer Institute run by the Womens Indian Association, Chennai. You too can be a part of the team with social commitment.

ABOUT THE AUTHOR

Ms. Ranjana Kumar is the first woman officer in the Public sector banks in the country and has been the brain behind the robust recovery of the Indian Bank where she served as Chairman and managing Director during the crucial crisis period. A person who believes that speed and efficiency in execution is better than paper work, she is presently serving as Vigilance Commissioner, Central Vigilance Commission in the Government of India.

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